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Title: ADESH-16-015 AI856 P100R2 2015H2 semi-annual monitoring report

Author(s): Ramanathan, Brinda

Intended for: Air Quality Permit P100-R2 report to NMED Environmental Programs

Issued: 2016-08-29 (rev.1)

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New Mexico Environment Department
Air Quality Bureau
Compliance and Enforcement Section
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505
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Version 05.02.13

NMED USE ONLY	
TEMPO	

REPORTING SUBMITTAL FORM

NMED USE ONLY	
Staff	
Admin	

PLEASE NOTE: ® - Indicates required field

SECTION I - GENERAL COMPANY AND FACILITY INFORMATION

A. ® Company Name: Los Alamos National Security, LLC			**D. ® Facility Name:** Los Alamos National Laboratory		
B.1 ® Company Address: P.O Box 1663 MS J978			**E.1 ® Facility Address:** Same as Company		
B.2 ® City: Los Alamos	**B.3 ® State:** NM	**B.4 ® Zip:** 87545	**E.2 ® City:**	**E.3 ® State:**	**E.4 ® Zip:**
C.1 ® Company Environmental Contact: Anthony R. Grieggs	**C.2 ® Title:** ENV-CP Group Leader		**F.1 ® Facility Contact:** Steven L. Story	**F.2 ® Title:** Air Quality Permitting and Compliance Programs Team Leader	
C.3 ® Phone Number: (505) 665-0451	**C.4 ® Fax Number:** (505) 665-8858		**F.3 ® Phone Number:** (505) 665-2169	**F.4 ® Fax Number:** (505) 665-8858	
C.5 ® Email Address: grieggst@lanl.gov			**F.5 ® Email Address:** story@lanl.gov		
G. Responsible Official: (Title V only): Michael T. Brandt	**H. Title:** Associate Director for ESH		**I. Phone Number:** (505) 667-4218	**J. Fax Number:** (505) 665-3811	
K. ® AI Number: 856	**L. Title V Permit Number:** P100-R2	**M. Title V Permit Issue Date:** 02/27/2015	**N. NSR Permit Number:** 2195	**O. NSR Permit Issue Date:** Various	
P. Reporting Period: From: July 1, 2015 To: December 31, 2015					

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

A. ☐	Title V Annual Compliance Certification	Permit Condition(s):	Description:	
B. ☒	Title V Semi-annual Monitoring Report	Permit Condition(s): A109.A	Description: LANL Semi-Annual Monitoring Report for July 1–December 31, 2015	
C. ☐	NSPS Requirement (40CFR60)	Regulation:	Section(s):	Description:
D. ☐	MACT Requirement (40CFR63)	Regulation:	Section(s):	Description:
E. ☐	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:	Section(s):	Description:
F. ☐	Permit or Notice of Intent (NOI) Requirement	Permit No.☐: or NOI No.☐:	Condition(s):	Description:
G. ☐	Requirement of an Enforcement Action	NOV No. ☐: or SFO No. ☐: or CD No. ☐: or Other ☐:	Section(s):	Description:

SECTION IV - CERTIFICATION

After reasonable inquiry, I Michael T. Brandt (name of reporting official) certify that the information in this submittal is true, accurate and complete.

® Signature of Reporting Official:	® Title:	® Date	® Responsible Official for Title V?
	Associate Director for ESH	2/10/16	☒ Yes ☐ No

Reviewed By: _____ Date Reviewed: _____

Los Alamos
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EST. 1943

Environment Safety & Health
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Date: FEB 10 2016
Symbol: ADESH-16-015
LA-UR: 16-20529
Locates Action No.: N/A

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

Dear Compliance and Enforcement Manager:

Subject: Semi-Annual Monitoring Report for July 1- December 31, 2015 Air Quality Title V Operating Permit P100-R2 AI No. 856 – Los Alamos National Laboratory

Enclosed is Los Alamos National Laboratory's Semi-Annual Monitoring Report for Title V Operating Permit P100-R2 for 2015H2 covering the time period July 1–December 31, 2015.

This submission is required by permit condition A109.A. of the Operating Permit P100-R2 and is submitted within 45 days following December 31, 2015, the end of the six month reporting period.

This semi-annual monitoring report includes:

- Title V Report Certification Form
- Title V Semi-Annual Monitoring Report for Permit P100-R2
    - Part 1 – Monitoring Activity Reporting Requirements
- Monitoring Report Attachments A113 through A1307.H.

One permit deviation occurred during this reporting period for applicable requirement A1307.D. Specifically, this deviation occurred when the combustion turbine unit TA-3-22-CT-1 operated at less than 80%–100% load. The unit operated at less than 80% load on three (3) consecutive days, December 1, 2, and 3, 2015, with the operating load ranging 75%–80%. There were no excess emissions. Corrective action has been taken to address this deviation. All combustion turbine operators are required to review the startup/shutdown procedure for operating the combustion turbine, with emphasis on the requirement to maintain the load above 80% during the operation of the combustion turbines.

FEB 10 2016

If you have any questions or comments regarding this submittal or would like to discuss this submittal in greater detail, please contact Steven L. Story at (505) 665-2169.

Sincerely,

Michael T. Brandt, DrPH, CIH
Associate Director
Environment, Safety, and Health

MTB:SLS:BR/lm

Enclosure: (1) LANL Title V Semi-Annual Monitoring Report for P100-R2, July 1–December 31, 2015

Cy: Hai Shen, EM-SG, (E-File)
Richard Kacich, DIR, (E-File)
Kirsten Laskey, EM-LA (E-File)
Adrienne Nash, LASO-NS-PI, (E-File)
Craig Leasure, PADOPS, (E-File)
Amy De Palma, PADOPS, (E-File)
Michael T. Brandt, ADESH, (E-File)
Raeanna R. Sharp-Geiger, ADESH, (E-File)
John P. McCann, ENV-DO, (E-File)
Steven L. Story, ENV-CP, (E-File)
Kathleen Gorman, ENV-ES, (E-File)
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ENCLOSURE 1

LANL Title V Semi-Annual Monitoring Report for
P100-R2, July 1–December 31, 2015

ADESH-16-015

LA-UR-16-20529

Date: FEB 10 2016

Title V Report Certification Form

I. Report Type

☐ **Annual Compliance Certification**

☒ **Semi-Annual Monitoring Report**

☐ **Other Specify:**

II. Identifying Information

Facility Name: Los Alamos National Laboratory		
Facility Address: P.O. Box 1663, MS J978, Los Alamos	State: NM	Zip: 87545
Responsible Official (RO): Michael T. Brandt	Phone: 505-667-4218	Fax: 505-665-3811
RO Title: Associate Director, Environmental, Safety, & Health	RO e-mail: mtbrandt@lanl.gov	
Permit No.: P100-R2	Date Permit Issued: February 27, 2015	
Report Due Date (as required by the permit): 02/14/2016	Permit AI number: 856	
Time period covered by this Report: From: July 1, 2015	To: December 31, 2015	

III. Certification of Truth, Accuracy, and Completeness

I am the Responsible Official indicated above. I, (Michael T. Brandt) certify that I meet the requirements of 20.2.70.7.AE NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete.

Signature_____ Date: 2/10/16

Title V Semi - Annual Monitoring Report for Permit P100R2

Part 1 – Monitoring Activity Reporting Requirements

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

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

Stack Test Protocols and Stack Test Reports shall be submitted electronically to Stacktest.AQB@state.nm.us or as directed by the Department.

Excess Emission Reports shall be submitted as directed by the Department. (20.2.7.110 NMAC)

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

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

B108 General Monitoring Requirements (20.2.70. 302.A and C NMAC)

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

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

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

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

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

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

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

activity shall be conducted during the five year term of this permit.

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

F. For all periodic monitoring events, except when a federal or state regulation is more stringent, three test runs shall be conducted at 90% or greater of the unit's capacity as stated in this permit, or in the permit application if not in the permit, and at additional loads when requested by the Department. If the 90% capacity cannot be achieved, the monitoring will be conducted at the maximum achievable load under prevailing operating conditions except when a federal or state regulation requires more restrictive test conditions. The load and the parameters used to calculate it shall be recorded to document operating conditions and shall be included with the monitoring report.

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

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

B109 General Recordkeeping Requirements (20.2.70.302.D NMAC)

A. The permittee shall maintain records to assure and verify compliance with the terms and conditions of this permit and any applicable requirements that become effective during the term of this permit. The minimum information to be included in these records is (20.2.70.302.D.1 NMAC):

(1) equipment identification (include make, model and serial number for all tested equipment and emission controls);
(2) date(s) and time(s) of sampling or measurements;
(3) date(s) analyses were performed;
(4) the company or entity that performed the analyses;
(5) analytical or test methods used;
(6) results of analyses or tests; and
(7) operating conditions existing at the time of sampling or measurement.

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

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

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

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

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

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

(3) If the facility has allowable malfunction emission limits in this permit, the permittee shall record all malfunction events to be applied against

these limits. The permittee shall also include the date, the start time, the end time, and a description of the event. Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment beyond the control of the owner or operator, including malfunction during startup or shutdown. A failure that is caused entirely or in part by poor maintenance, careless operation, or any other preventable equipment breakdown shall not be considered a malfunction. (20.2.7.7.E NMAC) The authorization of allowable malfunction emissions does not supersede any applicable federal or state standard. The most stringent requirement applies. This authorization only allows the permittee to avoid submitting reports under 20.2.7 NMAC for total annual emissions that are below the authorized malfunction emission limit.
(4) The owner or operator of a source shall meet the operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup or shutdown. (20.2.72.203.A(5) NMAC)

B110 General Reporting Requirements (20.2.70.302.E NMAC)

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

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

C. The permittee shall submit reports of all deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. These reports shall be submitted as follows:

(1) Deviations resulting in excess emissions as defined in 20.2.7.7 NMAC (including those classified as emergencies as defined in section B114.A) shall be reported in accordance with the timelines specified by 20.2.7.110 NMAC and in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC)
(2) All other deviations shall be reported in the semi-annual reports required in section A109. (20.2.70.302.E.2 NMAC).

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

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

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

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

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

I. Emissions trading within a facility (20.2.70.302.H.2 NMAC)

(1) For each such change, the permittee shall provide written notification to the department and the administrator at least seven (7) days in advance of the proposed changes. Such notification shall state when the change will occur and shall describe the changes in emissions that will result and how these increases and decreases in emissions will comply with the terms and conditions of the permit.

(2) The permittee and department shall attach each such notice to their copy of the relevant permit.

FACILITY SPECIFIC REQUIREMENTS:

A109 Facility: Reporting B. A Semi-Annual Report of actual emissions from all permitted sources unless otherwise specified in this permit is due within 90 days following the end of every 6-month reporting period as defined at Condition A109.A. Emission estimates of pollutants NOx, CO, SO2, VOC, TSP, PM10, and PM2.5 shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. Emission estimates shall not include Insignificant or Trivial Activities, except that facility-wide emissions from all natural gas combustion sources shall be estimated. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits at Table 106.B.
Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.
☒ **Yes** **Date report submitted:** 9/22/2015 **Tracking Number:** SBR20150009
☐ **No** **Provide comments and identify any supporting documentation as an attachment.**
Comments: A semi-annual report of actual emissions for 2015H1 (January 1–June 30, 2015), was submitted for P100-R2 on September 22, 2015, within 90 days from the end of the reporting period as required by condition A109. The semi-annual report of actual emissions for 2015H2 (July 1–December 31, 2015) is not due until 90 days following December 31, 2015 which is after the submission of this report.

A113 Other Provisions (20.2.70.302.G.3 NMAC)

A. To verify Insignificant Activity 1.a and 1.b status of the TA-54 MDA L Soil Vapor Extraction System (SVE), the permittee shall perform the following actions.

(1) At least once every 3 months, the permittee shall calculate and record the tons of VOC and HAP emissions from both SVE units (east and west) using data collected from the SVE stack monitoring system and periodic sampling of the SVE stack gas. The record shall include both measured individual HAPs and total HAPs. These calculations and records shall begin upon startup of the SVE system and shall continue for a period of no less than 12-months to determine the actual ton per year emissions.

(2) The permittee shall report the available tons of HAPs (individual and total) and total VOC emissions data in the Semi-Annual reports required in Condition A109.A.

(3) Within 45 days of collecting 12 months of emissions data, the permittee shall submit the final ton per year VOC and HAPs emissions, the calculations, and the supporting data to AQB's Permit Programs Manager that verifies the Insignificant Activity status of TA-54 MDA L SVE. This submittal shall also cite the Title V Insignificant activity number that applies to the SVE units. Within 30 days of receipt of the submittal, the AQB will complete a review of the information and respond to the permittee in writing. Once AQB provides a written response of this Insignificant source verification, the monitoring, calculations, and reporting of the SVE system emissions no longer applies.

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

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

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

Comments: The VOC and HAPs emissions from both SVE units are calculated and are provided as ATTACHMENT A113.

EQUIPMENT SPECIFIC REQUIREMENTS:

A605 Fuel Requirements – Asphalt Production

A. Asphalt Plant Combustion Sources

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

Monitoring: N/A

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

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

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

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

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

Comments:

Requirement:
Pipeline quality natural gas was used at the asphalt plant during this certification period and is one of the fuels allowed under condition III.A.3 of the NSR permit GCP-3-2195G.

Recordkeeping:
Records are maintained in accordance with Section B109.

Reporting:
A109.A: This semi-annual monitoring report is being submitted within the allowed 45 days of this reporting period.

A109.B: The 2015H2 semi-annual emissions report (July 1–December 31, 2015) for operating permit P100-R2 is due ninety days following December 31, 2015, which is after the submission of this report. The 2015H1 semi-annual emissions report (Jan 1–June 30, 2015) was submitted on September 22, 2015 within the ninety days allowed following June 30, 2015

A109.C: The 2015 annual compliance certification reports for operating permits P100-R1-M3 (January 1–February 26, 2015) and P100-R2 (February 27–December 31, 2015) were submitted to New Mexico Environment Department (NMED) Air Quality Bureau (AQB) and U.S. Environmental Protection Agency (EPA) within 30 days of December 31, 2015, the end of the 12-month reporting period.

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

A607 Asphalt Production – Other

A. Asphalt Plant Baghouse – Differential Pressure

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

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

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

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

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

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

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

Comments: The differential pressure information is used to confirm proper operation of the baghouse. The differential pressure across the baghouse filters during rotary dryer drum operation is measured as follows:

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

Recordkeeping conditions are met using the data-logger, backup chart-recorder, and operator's differential pressure entries at the start and end of each operation daily.
The remote communication system was upgraded in September 2015 but had communication issues that are still being resolved. The backup chart recorder captured the baghouse pressure drop data continuously when the asphalt plant operated during this certification period; the pressure drop data and backup charts in ATTACHMENT A607.A. serve as evidence that pressure drop data capture occurred continuously when the phone communication to the remore unit was down.

Records are maintained in accordance with Section B109.

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

A607 Asphalt Production – Other

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

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

Monitoring: N/A

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

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

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

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

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

Comments: The height of the asphalt plant stack has been measured and is not less than 10 meters. The stack is a permanent structure attached to the baghouse fan outlet and its height does not change.

Records are maintained in accordance with Section B109.

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

A607 Asphalt Production – Other

C. Asphalt Plant Baghouse – Opacity

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

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

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

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

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

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

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

Comments: LANL has certified visible emission (opacity) readers on-site who perform monthly six (6) minute readings using 40 CFR Part 60, Appendix A, Reference Method 9 to determine compliance with the opacity limitation. No visible emissions exhibited an opacity of 20% or greater during this reporting period. Method 9 opacity reports for September–December 2015 are provided in ATTACHMENT A607.C. The asphalt plant did not operate in July and August 2015, and opacity measurements were not conducted for these months.

Records are maintained in accordance with Section B109.

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

A607 Asphalt Production – Other

D. Asphalt Plant Baghouse – Fines Cleanout

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

Monitoring: N/A

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

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

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

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

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

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

Records are maintained in accordance with Section B109.

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

A607 Asphalt Production – Other

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

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

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

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

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

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

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

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

Comments:

Monitoring:
Asphalt production is monitored and recorded on a daily basis. The weekly rolling 12-month total is calculated and compared against the production limit set in this permit condition. Data on asphalt production is recorded daily on an operation log. The asphalt production rate did not exceed 6,000 tons per year. The daily operation logs and 12-month rolling totals are provided in ATTACHMENT A607.E.

Recordkeeping:
Records are maintained in accordance with Section B109.

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

A607 Asphalt Production – Other

F. Asphalt Plant Operations – General

Requirement: The permittee shall:
1) Install, operate, and maintain equipment in accordance with standard operating procedures, and
2) equip and operate the asphalt processing equipment such as screens, conveyor belts, and conveyor transfer points with dust control systems to control particulate matter emissions, and
3) operate the Plant in accordance with NSR Permit GCP-3-2195G, Section III, A, B, C, D, E, F, and H.
4) Ensure that no visible emissions from the facility are observed crossing the perimeter of the restricted area for no more than 5 minutes during any 2 consecutive hours during facility operations.

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

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

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

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

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

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

Comments:

Requirement:
1) No new equipment was installed during this monitoring period. Operation and maintenance requirements are contained in internal plant procedures that are followed by plant operation staff.
2) Dust collection and control systems are in place on screens, conveyor belts, and transfer points to control particulate matter emissions.
3) The asphalt plant is operated in accordance with NSR Permit GCP-3-2195G.
4) Both EPA Reference Methods 9 and 22 are used at the plant to determine the extent of visible emissions. Fugitive dust emissions from the plant did not exceed the 5-minute visible emissions limit during any two consecutive hours of operation. EPA Method 9 reports are in ATTACHMENT A.607.C and EPA Method 22 reports are in ATTACHMENT A607.G. The asphalt plant did not operate in July and August 2015,and opacity measurements were not taken for these two months.

Monitoring: Preventive maintenance was performed on Sep 17, 2015, during this reporting period. Calibrations were conducted during this reporting period for differential pressure transmitter and chart recorder.

Recordkeeping:
Recordkeeping conditions are met using the following methods: Standard operating procedures are in place

and available on site. Maintenance on the plant and calibrations are performed annually, and records for this reporting period are provided in ATTACHMENT A607.F. The plant operation logs contains the start time, stop time and total hours of operation; production amounts summed daily and monthly, and number of truck trips. The rolling 12-month totals for production are calculated on the emission calculation spreadsheet. The operation logs and rolling 12-month totals are provided in ATTACHMENT A607.E. Records located at the facility include fuel delivery tickets for previous propane use, frequency of road sweeping, calibration procedures, and a procedure that outlines required maintenance.

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

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

A607 Asphalt Production – Other

G. Asphalt Plant Fugitive Dust

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

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

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

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

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

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

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

Comments:

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

Monitoring:
EPA Method-22 readings are taken once per month when the plant operates. The EPA Method 22 readings for this monitoring period are provided in ATTACHMENT A607.G. The asphalt plant did not operate in July and August 2015 and opacity measurement were not taken for these months. No visible emissions were observed for more than two (2) minutes during Method 22 test in this reporting period.

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

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

A707 Other – Beryllium Activities

A. Operational Requirements – Beryllium Activities

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

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

B. Emissions Monitoring Requirements – Beryllium Activities

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

C. Recordkeeping Requirements – Beryllium Activities

Source	Recordkeeping Requirements
Sigma Facility TA-3-66	Recordkeeping for this source is specified in Condition A707.B.
Beryllium Technology Facility	Generate and maintain beryllium inventory records to demonstrate compliance with the 10,000 pounds of beryllium per calendar year and the 1000 pounds of beryllium per day processing limit.

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

D. Reporting Requirements – Beryllium Activities

Source	**Reporting Requirements**
Sigma Facility TA-3-66	The permittee shall submit reports described in Section A109 and in accordance with Section B110.
Beryllium Technology Facility TA-3-141	Anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date. Actual date of initial startup of each new or modified source within fifteen (15) days after the startup date. Provide the date when each new or modified emission source reaches the maximum production rate at which it will operate within fifteen (15) days after that date. Notify the Department within 60 days after each calendar quarter of the facility's compliance status with the permitted emission rate from the

	continuous monitoring system. Provide any data generated by activities described in the Quality Assurance Project Plan (QAPP) that will assist the Air Quality Bureau's Enforcement Section in determining the reliability of the methodology used for demonstrating compliance with the permitted emission rate within 45 days of such a request. The permittee shall submit reports described in Section A109 and in accordance with Section B110.
Target Fabrication Facility TA-35-213	The permittee shall submit reports described in Section A109 and in accordance with Section B110.
Plutonium Facility TA-55-PF4	Stack emission test results and facility operating parameters will be made available to Department personnel upon request. Reports may be required to be submitted to the Department if inspections of the source indicate noncompliance with this permit or as a means of determining compliance. The permittee shall submit reports described in Section A109 and in accordance with Section B110.

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

☒ **Yes** **Date report submitted:** 7/22/2015; 10/23/2015 **Tracking Number:** SBR20150007; SBR20150010

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

Comments: A707.A Operational Requirements - Beryllium Activities:

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

TA-3-141 - The continuous emission monitor is maintained in accordance with LANL's quality program. Records of beryllium process records are available on-site for inspection. No process limits were exceeded during this reporting period.

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

TA-35-213 - All processes are exhausted through a HEPA filtration system prior to entering the atmosphere.

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

No process limits were exceeded during this reporting period.
The electric furnace did not operate during this reporting period.

A707.B - Emissions Monitoring Requirements - Beryllium Activities:

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

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

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

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

The electric furnace did not operate during this certification period.

A707.C Recordkeeping Requirements - Beryllium Activities:

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

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

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

TA-55-PF4 – A copy of the stack emission test results are retained at the source and available for inspection. HEPA filter challenge tests are performed annually and are provided in ATTACHMENT A707.C.b. Daily differential pressure readings are provided in ATTACHMENT A707.C.c. Filter replacement and control equipment maintenance and repair records are kept and available on site for inspection. Process records are available that contain the number and weight of classified parts processed during a 24-hour period and annual rolling total.
The electric furnace did not operate during this reporting period.

A707.D Reporting Requirements - Beryllium Activities:

All Beryllium Sources - Reports are submitted in accordance with permit conditions A109 and in accordance B110. For more information, see Section A605 in this report.
There were no new or modified emission sources during the reporting period.

TA-3-141 Quarterly beryllium reports, containing continuous monitoring system data from the Beryllium Technology Facility, are also submitted to NMED. Reports during this reporting period were submitted within 60 days following each calendar quarter. The reports was submitted on July 22, 2015 (SBR20150007); and October 23, 2015 (SBR20150010).

A805 Fuel Sulfur Requirements – External Combustion

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

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

Monitoring: None.

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

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

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

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

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

Comments:

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

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

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

A805 Fuel Sulfur Requirements – External Combustion

B. Units RLUOB-BHW-1 through -4

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

Monitoring: None.

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

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

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

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

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

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

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

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

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

A806 20.2.61 NMAC Opacity – External Combustion

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

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

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

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

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

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

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

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

Comments:

Requirement: LANL has certified visible emission readers on-site who perform observations using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation. Opacity did not exceed 20% over a 10-minute period and no visible emissions were observed during steady state operations during this reporting period.

Monitoring: The natural gas combusted by all boilers at LANL meets the requirement at Condition A805.A.

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

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

A806 20.2.61 NMAC Opacity – External Combustion

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

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

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

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

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

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

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

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

Comments:

Requirement: LANL has certified visible emission readers on-site who perform observations using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation. Opacity did not exceed 20% over a 10-minute period and no visible emissions were observed during steady state operations during this reporting period.

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

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

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

A806 20.2.61 NMAC Opacity – External Combustion

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

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

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

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

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

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

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

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

Comments:

Requirement: LANL has certified visible emission readers on-site who perform observations using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation. Visible emissions did not exceed 20% opacity during this reporting period.

Monitoring: No fuel oil was used during this reporting period. No opacity measurements were taken during this reporting period. An opacity observation is taken each day if fuel oil is used. A standard form is used for all opacity measurements.

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

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

A807 Other – External Combustion

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

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

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

Recordkeeping: The permittee shall:
1) Calculate the monthly rolling 12-month total natural gas fuel usage for the emission units listed in Table 800.A except Units RLUOB-BHW-1 through -4.
2) Calculate the actual emissions rate for the emission units listed in Table 800.A except Units RLUOB-BHW-1 through -4. The calculation shall be based on the actual fuel usage of Units equipped with individual flow meters and the Facility-Wide metered or estimated natural gas usage.
3) Calculate the semiannual and annual total emissions rate (tons/year) for this source category and compare them to the emission limits in Table 802.A. The permittee shall maintain records in accordance with Section B109.

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

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

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

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

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

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

Recordkeeping:
1) Monthly rolling 12-month total natural gas fuel use is calculated for the permitted units.
2) The actual emission rate is calculated for the units listed in Table 800.A. This calculation uses actual fuel use data from individual unit flow meters and facility wide metered natural gas.
3) The emission rate is calculated every six-months and annually for this source category, and compared to the limits.
Records are maintained in accordance with Section B109.

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

A807 Other – External Combustion

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

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

Monitoring: The permittee shall:
1) Monitor the monthly total volumetric flow of natural gas to Units RLUOB-BHW-1 through -4 using a totalizing flow meter. (NSR Permit 2195N-R2, Specific Condition 3.a., partial, revised)
2) Monitor the daily fuel oil consumption during which any of the 4 RLUOB boilers are fired with this fuel type. (NSR Permit 2195N-R2, Specific Condition 3.a, partial, revised)
3) Monitor the hours of operation for each boiler when fired on fuel oil and during non-emergency maintenance and readiness testing.

Recordkeeping: The permittee shall:
1) Calculate and record the annual fuel oil usage for Units RLUOB-BHW-1 through -4 as a daily rolling 365-day total.
2) Calculate and record the semiannual and calendar year total emissions rate (tons/year) for each fuel type and for the combination of both fuels compare to the emission limits in Table 802.B.
3) Record the annual hours of operation of each boiler when fired on fuel oil during non-emergency maintenance and readiness testing and compare to the limitation at Condition A804.B.
4) The permittee shall maintain records in accordance with Section B109.

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

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

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

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

Comments:
Monitoring:
1) A totalizing flow meter is in place and measures natural gas used by the RLUOB boilers. The natural gas fuel use data is provided in ATTACHMENT A807.A.
2) Daily fuel oil consumption is monitored using meters located on each boiler. The fuel use readings are monitored by facility personnel. No fuel oil was burned during this reporting period.
3) The hours of operation of each boiler are recorded by facility personnel each time a boiler is run on fuel oil. The purpose of running the boilers is also monitored.

Recordkeeping:
1) Annual fuel oil usage is calculated and recorded on a daily rolling 365-day total. No fuel oil was burned during this reporting period.
2) The emissions rate is calculated on a 6-month and annual basis for each fuel type and for both fuels combined. Emissions are compared to permit limits. This data is provided to NMED in accordance with Permit condition A109.
3) Annual hours of operation for each boiler are recorded when fired on fuel oil during non-emergency use. The total hours are compared to the hour limit in condition A804.B.
4) Records are maintained in accordance with condition B109.

A807 Other – External Combustion

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

Requirement: The units are subject to 40 CFR 60, Subpart Dc and the permittee shall comply with the following applicable requirements:
1. When combusting oil in the affected boilers, meet the 0.5 weight percent fuel sulfur standard in 40 CFR 60.42c(d). This standard applies at all times per §60.42c(i). The permittee shall demonstrate compliance per the requirements of §60.42c(h).

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

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

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

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

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

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

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

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

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

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

A807 Other – External Combustion

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

Requirement: This unit is subject to 40 CFR 60, Subpart Dc and the permittee shall comply with the following applicable requirements:
1. When combusting oil in the affected boilers, meet the 0.5 weight percent fuel sulfur standard in 40 CFR 60.42c(d), and (g). This standard applies at all times per §60.42c(i). The permittee shall demonstrate compliance per the requirements of §60.42c(h).
2. For new boiler RLUOB-BHW-4, the permittee shall demonstrate initial compliance with the SO2 standard through a certification from the fuel supplier per 40 CFR 60.44c(h).

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

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

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

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

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

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

Comments: LANL purchases fuel oil with ultra low sulfur content; fuel oil was not combusted during this certification period.

RLUOB-BHW-4 has not been purchased. When purchased, the requirements, monitoring, recordkeeping and reporting will be conducted in accordance with the requirements listed in permit P100-R2.

A807 Other – External Combustion

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

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

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

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

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

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

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

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

Comments: This unit has not been installed. Once installed, the requirements, monitoring, recordkeeping and reporting will be conducted in accordance with the requirements listed in permit P100-R2.

A807 Other – External Combustion

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

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

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

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

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

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

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

☒ **Yes** **Date report submitted:** 3/14/2015 **Tracking Number:** SBR20150006

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

Comments:

Monitoring: LANL conducts annual operational inspections on the permitted boilers listed in the current permit. The annual operational inspections were conducted during this certification period for the permitted boilers located at TA-16, TA-53 and TA-55 and records are provided in ATTACHMENT A807.F.

Recordkeeping: The records of operational inspections and results are maintained in the compliance folders and e-files saved on air quality servers.

Reporting: LANL submitted a procedure that will be used to carry out the operational inspections. This procedure was submitted on May 13, 2015 within 90 days after permit issuance. ATTACHMENT A807.F. includes the operation inspections on permitted boilers conducted during this period.

A907 Other – Chemical Usage

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

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

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

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

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

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

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

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

Comments:

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

Monitoring: Facility-wide chemical purchases are monitored using ChemDB, an electronic chemical tracking system. The chemical purchase information is used to calculate emissions. Chemical emission information is submitted to NMED every six-months in accordance with permit condition A109.B. The semi-annual emissions report for the first half of 2015 (January 1–June 30, 2015) was submitted to NMED on September 22, 2015, within 90 days of the end of the reporting period. Records of chemical purchases for this monitoring period are provided in ATTACHMENT A907.A.

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

A907 Other – Chemical Usage

B. Emission calculations (Unit RLUOB-CHEM)

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

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

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

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

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

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

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

Comments:

Requirement: The CMRR-CHEM facility laboratory activities started operations in May 2014. Chemical purchasing for the facility are monitored using ChemDB, an electronic chemical tracking system. Records of chemical purchases for the reporting period are provided in Attachment A907.B.a

Monitoring: The quantities of chemicals that are vented to the atmosphere are estimated on a monthly basis and are categorized as VOC, HAP, TAP, or a combination of these categories. The quantities of chemicals for this reporting period are provided in ATTACHMENT A907.B.b

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

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

A1007 Other – Degreasers

A. Operational Requirements (Degreasers)

Requirement: The permittee shall comply with the applicable requirements according to 40 CFR 63, Subpart T, including, but not limited to:
1) Ensure the degreaser is closed with a tight fitting cover whenever not in use, and
2) Maintain a freeboard ratio of 0.75 or greater, and
3) Collect and store all waste solvent and wipe rags in closed containers, and
4) Perform flushing within the freeboard area only, and
5) Allow cleaned parts to drip for 15 seconds or until dripping stops, and
6) Do not exceed the fill line on the solvent level, and
7) Wipe up spills immediately, and
8) Do not create observable splashing with agitation device, and
9) Ensure that the degreaser is not exposed to drafts greater than 40 meters/min, and
10) Do not clean sponges, fabric, wood, or paper.

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

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

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

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

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

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

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

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

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

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

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

6) The fill line has not been exceeded.

7) Spills are wiped up immediately.

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

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

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

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

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

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

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

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

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

A1104 Operational Limitations – Internal Combustion

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

Requirements:
1) Unit TA-33-G-1P is limited to eight (8) hours of daily operation at full capacity. Operation shall occur between the hours of 7:00 AM and 5:00 PM. (NSR Permit 2195F-R4, Condition A1104.A)
2) Unit TA-33-G-1P is limited to the emissions limits stated in Table 1102.A. (NSR Permit 2195F-R4, Condition A1104.A)

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

Recordkeeping: The permittee shall maintain the following records and in accordance with Section B109:
1) The permittee shall keep records of the time(s) of operation each day, and the daily, monthly, and the monthly rolling 12-month total hours of operation of the genset listed above, as indicated on the non-resettable hour meter. The permittee may record and subtract hours of operation that do not represent operating hours at the TA-33 site.
2) The permittee shall calculate the annual emissions of all criteria and hazardous air pollutants from Unit TA-33-G-1P. The permittee may subtract emissions that are not the result of operations at TA-33.

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

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

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

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

Comments: Requirement: Unit TA-33-G-1-P operated only for maintenance purposes during this reporting period. Emissions are lower than the limits stated in Table 1102.A. in NSR permit 2195F-R4

Monitoring: The operations are monitored each day and the generator is equipped with a non-resettable hour meter. The purpose of equipment use at TA-33 and other site(s) are identified in the log sheet provided in ATTACHMENT A1104.A.

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

Reporting: Reports are submitted as required by permit conditions.

A1104 Operational Limitations – Internal Combustion

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

Requirements:
1) Units TA-33-G-2 through -4 are authorized to operate 500 hours per generator per calendar year. (NSR Permit 2195P, Specific Condition 1.b.)
2) Units TA-33-G-2 through -4 shall each be certified to be in compliance with applicable non-road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 1.c.)

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

Recordkeeping: The permittee shall:
1) Record the total hours operation of the gensets listed above, as indicated on the non-resettable hour meter. (NSR Permit 2195P, Specific Condition 4.a., revised)
2) Calculate and record the semi-annual emissions of criteria and hazardous air pollutants from each genset, Units TA-33-G-2 through -4.
3) Maintain a copy of the engine certification to the applicable non road emission standards in 40 CFR 89. (NSR Permit 2195P, Specific Condition 4.c.)

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

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

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

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

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

The hour meters on these units are non-resettable.

Recordkeeping:
1) Equipment operating hours are recorded.
2) The emissions of regulated pollutants from Units TA-33-G-2, TA-33-G-3 and TA-33-G-4 are calculated and recorded semi-annually.
3) Certificates of compliance with applicable non-road emission standards are maintained on-site.

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

A1105 Fuel Sulfur Requirements – Internal Combustion

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

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

Monitoring: None.

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

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

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

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

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

Comments:

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

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

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

A1106 20.2.61 NMAC Opacity – Internal Combustion

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

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

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

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

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

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

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

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

Comments:

Requirement: No unit subject to requirements in this section exceeded 20% opacity during this certification period.

Monitoring: Section B108.D(2) of the permit allows for reduced frequency of opacity monitoring, if the unit operates less than 10% of the monitoring period (calendar quarter). The applicable CI-RICE units operated less than 10% of each monitoring period (less than 219 hours each quarter) during this reporting period. If the unit operates greater than 10% of the monitoring period, the unit will have an opacity observation performed on it, otherwise an opacity observation will be performed within 5 years of the issuance date of the operating permit.

Opacity measurements were conducted for units TA-33-G-2, TA-33-G-3 and TA-33-G-4 during this reporting period (ATTACHMENT A1106.A.).

Recordkeeping: Records are maintained in accordance with Section B109.

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

A1107 Other – Internal Combustion

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

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

Monitoring: None

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

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

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

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

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

Comments:
Requirement: The manufacturer's emissions certifications as required by §60.4205(a) are available on-site. Diesel sulfur requirements of 15 ppm are met by the LANL contract and policy of purchasing ULSD. §60.4211 (a) (b) and (f) - Manufacturer's certifications for nonroad engine are at site to demonstrate compliance with emission standards; Non-emergency maintenance checks and readiness testing of such units is limited to 50 hours per year per §60.4211(f)(3).

Recordkeeping: Hours of nonemergency and emergency operation are recorded at the facility during generator operation. The units subject to this condition operated less than 50 hours to date on non-emergency maintenance and readiness checks in accordance with conditon in §60.4211(f)(3).

Reporting: Hours of operations are reported in accordance with Section B110.

A1107 Other – Internal Combustion

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

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

Monitoring: None

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

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

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

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

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

Comments:

Requirement: The manufacturer's emissions certifications as required by §60.4205(a) are available on site. Diesel sulfur requirements of 15 ppm are met by the LANL contract and policy of purchasing ULSD. §60.4211 (a) (b) and (f) - Manufacturer's certifications for nonroad engine are on site to demonstrate the compliance with standards; non-emergency maintenance checks and readiness testing of such units are limited to 50 hours per year per §60.4211(f)(3).

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

Reporting: Hours of operations are reported in accordance with Section B110.

A1204 Operational Limitations – Data Disintegrator

A. Operational Throughput Limitation (Unit Data Disintegrator)

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

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

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

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

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

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

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

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

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

A1207 Other – Data Disintegrator

A. Emission calculations (Data Disintegrator)

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

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

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

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

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

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

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

Comments:

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

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

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

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

A1207 Other – Data Disintegrator

B. Cyclone/Cloth Tube Filters (Data Disintegrator)

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

Monitoring: N/A

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

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

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

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

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

Comments:

Requirement: Preventative maintenance and repair are performed on the data disintegrator cyclone and cloth tube filter(s) following manufacturer's recommendations.

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

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

A1207 Other – Data Disintegrator

C. Compliance Testing (Data Disintegrator)

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

Monitoring: N/A

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

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

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

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

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

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

Recordkeeping: No records have been generated.

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

A1305 Fuel Sulfur Requirements – TA-3 Power Plant

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

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

Monitoring: N/A

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

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

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

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

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

Comments:

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

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

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

A1305 Fuel Sulfur Requirements – TA-3 Power Plant

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

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

Monitoring: N/A

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

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

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

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

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

Comments:

Requirement: This requirement is satisfied since the natural gas transportation contract states that gas provided to LANL will be pipeline quality with total sulfur content of no more than three quarters (3/4) grains of total sulfur per one hundred (100) standard cubic feet.

Recordkeeping: The transportation contract is kept on site.

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

A1306 20.2.61 NMAC Opacity – TA-3 Power Plant

A. Sources Combusting Natural Gas

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

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

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

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

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

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

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

Comments:

Requirement: LANL has certified opacity readers on-site who perform opacity readings using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation. The opacity limit was not exceeded during this reporting period.

Monitoring: Natural gas fuel meets the requirement specified in Condition A1305.A and B. No visible emissions were observed during steady state operation during this reporting period.

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

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

A1306 20.2.61 NMAC Opacity – TA-3 Power Plant

B. Boilers Combusting No. 2 Fuel Oil

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

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

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

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

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

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

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

Comments:

Requirement: No fuel oil was combusted during this reporting period. LANL has certified opacity readers on-site who perform opacity readings using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation. The opacity limit was not exceeded during this reporting period.

Monitoring: Opacity is read at least once a quarter when boilers are combusting fuel oil and when required by monitoring provisions in condition B108.D. Opacity readings are measured over a 10-minute period and in accordance with 40 CFR 60, Appendix A, Method 9. A standard form is used for all opacity measurements. The form includes the date of measurement and opacity observed. No fuel oil was burned during this monitoring period, and no opacity readings were required.

Recordkeeping: Records are maintained in accordance with Section B109.

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

A1307 Other – TA-3 Power Plant

A. Emission calculations (TA-3 Power Plant)

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

Monitoring: The permittee shall perform the following calculations on a monthly basis:
1) Calculate the average hourly emissions rates (pph) for each emissions unit based on the monthly total fuel consumption and monthly actual hours of operation.
2) Calculate the actual annual emissions rates (tpy) for all emissions units based on the monthly rolling 12-month total fuel consumption and the monthly rolling 12-month total hours of operation.
3) All NOx emission rates for the boilers shall also be calculated in terms of lb/MMBtu heat input. (NSR Permit 2195B-M2, Specific Condition A801.A)

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

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

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

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

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

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

Emission spreadsheets are in place that calculate all required emissions and are used for monitoring and reporting purposes. The average hourly emission rates and actual annual emission rates are included in the spreadsheet. Emission rates are provided in ATTACHMENT A1307.A.

Condition A1307.A.3 - The units are based on the emission factor for NOx (lbs/MMscf), which is converted to lbs/MMBtu by dividing by 1020 (standard number of MMBtu in an MMscf). The NOx emission rate is a constant of 0.057 lbs/MMBtu unless the Btu value of the fuel changes significantly.

Records are maintained in accordance with Section B109.

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

A1307 Other – TA-3 Power Plant

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

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

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

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

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

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

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

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

Comments:

Requirement: The combined boiler natural gas use did not exceed 1,000 MMscf or 500,000 gallons of fuel oil in any 12- month period. All fuel use data are tracked monthly in a spreadsheet used for emission calculations.

Monitoring: Natural gas fuel meters are in place on each of the boilers. Fuel oil is measured using an inventory meter on the storage tank. Both natural gas and fuel oil are continuously monitored when being combusted.

A monthly and 12 month rolling total of both natural gas and fuel oil use are recorded and reviewed monthly to verify usage does not exceed allowable limits. The monthly and 12 month rolling totals for each fuel are provided in ATTACHMENT 1307.B.

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

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

A1307 Other – TA-3 Power Plant

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

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

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

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

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

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

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

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

Comments:

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

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

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

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

A1307 Other – TA-3 Power Plant

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

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

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

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

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

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

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

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

Comments:

Requirement: One permit deviation occurred during this reporting period in applicable requirement A1307.D. Specifically, the deviation occurred when the combustion turbine unit TA-3-22-CT-1 operated at less than 80%–100% load. The unit operated at less than 80% load on three (3) consecutive days, December 1, 2, and 3, 2015, with the operating load ranging 75%–80%. There were no excess emissions. Corrective action has been taken to address this deviation. All combustion turbine operators were required to review and follow the startup/shutdown procedure for operating the combustion turbine, with emphasis on the requirement to maintain the load above 80% during the operation of the combustion turbine.

Load range is calculated by the turbine operating system and is manually recorded each hour during operation. Daily operating logs showing the generator output/load are provided in ATTACHMENT 1307.D

Startup/shutdown procedures are in place and are followed by the unit operators.

The load is recorded at least once daily during normal operations. This data is collected in the daily operating log. Startup/shutdown procedures are in place and are followed by the unit operators.

Each time the unit is started or shut down the data is entered into a daily operating log which is maintained on-site. The record includes the date, start/end times, and duration.

Recordkeeping: Records are maintained in accordance with Section B109.

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

A1307 Other – TA-3 Power Plant

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

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

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

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

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

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

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

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

Comments:

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

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

Recordkeeping: No malfunctions occurred during this certification period. All inspection records contain the required data found in this section. Records are maintained in accordance with Section B109.

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

A1307 Other – TA-3 Power Plant

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

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

Monitoring: N/A

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

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

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

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

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

Comments:

Requirement: The Dry Low Emissions (DLE) control technology is an integral part of the combustion turbine design. The DLE control was evaluated during unit start-up and determined to be working as designed.

Manufacturer data are available on the DLE system.

Records are maintained in accordance with Section B109.

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

A1307 Other – TA-3 Power Plant

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

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

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

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

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

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

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

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

Comments:

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

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

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

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

A1307 Other – TA-3 Power Plant

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

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

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

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

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

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

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

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

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

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

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

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

Comments:
Requirement: The facility is in compliance with the allowable limits as demonstrated in the monitoring and reporting sections below.

Monitoring: An annual emission stack was last conducted on December 16, 2014; the test results demonstrated that the actual emissions were less than the allowable emissions. No additional stack testing is required this reporting period (See ATTACHMENT A1307.H.). The last test was performed as required following the monitoring requirements of Section B108 and general testing procedures found in section B111.

Test results from the test demonstrate compliance with NOx and CO emission limits. No limits were exceeded.

The tests are performed annually, or at a frequency as specified in General Condition B108.D based on the percentage of time the unit has operated. Records of periodic emissions test include all data required by this section.
A combustion analyzer is used for this periodic emissions test. Instrument and calibration data is included in the final test report. An ORSAT or other similar gas absorption analyzer is not used.

Recordkeeping: Records are maintained in accordance with Section B109.

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

A1407 Other – Open Burning

A. Operational

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

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

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

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

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

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

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

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

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

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

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

Comments:
No open burning occurred during this reporting period.

Part 2

Deviation Summary Report

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

SUMMARY OF DEVIATIONS PREVIOUSLY REPORTED		
Unit # and description	Date deviation reported	Tracking Number

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

Deviation Summary Table for deviations not yet reported.

No.	Applicable Requirement (Include Rule Citation)	Emission Unit ID(s)	Cause of Deviation	Corrective Action Taken
1	A1307.D.	TA-3-22-CT-1	The combustion turbine operated at less than 80% load on three (3) consecutive days in early December 2015. The operational load varied from 75-80% load on these days. Maximum load is highly dependent on ambient temperature. At colder temperatures the unit is capable of operating at higher loads, and therefore the 80% minimum load requirement is also higher. On December 1, 2, and 3 ambient temperatures ranged from 27 deg F to 40 deg F and Operators did not adjust the set load to account for the drop in temperature.	The Startup/shutdown Procedure for operating the combustion turbine was reviewed and clearly includes the requirement for maintaining the load above 80% during operation of this unit. All combustion turbine Operators were required to review this procedure with an emphasis on this requirement.
2				
3				
4				
5				

Deviation Summary Table (cont.)

	Deviation Started		Deviation Ended					Did you attach an excess emission form?
No.	Date	Time	Date	Time	Pollutant	Monitoring Method	Amount of Emissions	
1	12/1/2015	9:00 AM	12/1/2015	11:58 PM	CO, NOx	Daily Log Sheets	No excess emissions	☐ **Yes** ☒ **No**

2	12/2/2015	9:00 AM	12/2/2015	11:09 PM	CO, NOx	Daily Log Sheets	No excess emissions	☐ **Yes** ☒ **No**
3	12/3/2015	9:00 AM	12/3/2015	10:00 AM	CO, NOx	Daily Log Sheets	No excess emissions	☐ **Yes** ☒ **No**
4								☐ **Yes** ☐ **No**
5								☐ **Yes** ☐ **No**

Attachment List and Description

ATTACHMENT A113	MDA-L - Soil Vapor Extraction Monitoring Data
ATTACHMENT A607.A.	Asphalt Plant - Differential Pressure Records
ATTACHMENT A607.C.	Asphalt Plant - Method 9 Opacity Reports
ATTACHMENT A607.E.	Asphalt Plant - Daily Operation Log and 12-Month Rolling Production
ATTACHMENT A607.F.	Asphalt Plant - Maintenance Records
ATTACHMENT A607.G.	Asphalt Plant - Method 22 Opacity Reports
ATTACHMENT A707.B.a.	Beryllium - TA-03-0066 Beryllium Logs
ATTACHMENT A707.B.b.	Beryllium - TA-35-0213 Beryllium Operating Log
ATTACHMENT A707.C.a.	Beryllium - TA-03-0141 Beryllium HEPA Filter Differential Pressure Readings
ATTACHMENT A707.C.b.	Beryllium - TA-55-PF4 Annual HEPA Filter Challenge Test Reports
ATTACHMENT A707.C.c.	Beryllium - TA-55-PF4 HEPA Filtration Differential Pressure Readings
ATTACHMENT A807.A.	External Combustion - Natural Gas Usage and Rolling 12-Month Total
ATTACHMENT A807.F.	External Combustion - Boiler Annual Inspections
ATTACHMENT A907.A.	Chemical Usage - Chemical Purchases (From ChemDB)
ATTACHMENT A907.B.a.	Chemical Usage - CMRR-CHEM Chemical Purchases (From ChemDB)
ATTACHMENT A907.B.b.	Chemical Usage - CMRR-CHEM Chemical Quantity Total
ATTACHMENT A1007.A.a.	Degreaser - Degreaser Solvent Usage (From Tracking Database)
ATTACHMENT A1007.A.b.	Degreaser - Sample Work Practice Checklist
ATTACHMENT A1104.A.	Internal Combustion - TA-33-G-1P Daily Operating Logs
ATTACHMENT A1104.B.	Internal Combustion - Permitted Generator Hours
ATTACHMENT A1106.A.	Internal Combustion - Method 9 Opacity Reports
ATTACHMENT A1207.A.	Data Disintegrator - Operating Logs
ATTACHMENT A1207.B.	Data Disintegrator - Maintenance Performed
ATTACHMENT A1307.A.	TA-03 Power Plant - Emission Rate Calculations
ATTACHMENT A1307.B.	TA-03 Power Plant - Boiler Fuel Use and Hours of Operation
ATTACHMENT A1307.C.	TA-03 Power Plant - Combustion Turbine Fuel Use and Hours of Operation
ATTACHMENT A1307.D.	TA-03 Power Plant - Combustion Turbine Operating Logs

Attachment List and Description

ATTACHMENT A1307.E. TA-03 Power Plant - FGR Fan Inspection and Maintenance Records

ATTACHMENT A1307.H. TA-03 Power Plant - Combustion Turbine Emission Stack Test Report

ATTACHMENT A113

MDA-L Soil Vapor Extraction Monitoring Data

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LANL TA-54 MDA-L Soil Vapor Extraction System (SVE)

The Soil Vapor Extraction (SVE) units at LANL's TA-54 MDA-L site were granted a "No Permit Required" determination from NMED-AQB on May 29, 2014 and were issued Air Quality No Permit Required (NPR) No. 2195L-R1. This monitoring data satisfies Condition A113.A(1) and A(2) of Title V Permit P100-R2.

Both SVE units pull soil vapor from extraction wells with boreholes open from 65 to 215 feet below ground surface, and discharge through stacks located 21 feet above ground surface.

SVE-West began operation on January 9, 2015, and SVE-East began operation on January 26, 2015. Both units were shut down on November 18, 2015 and piping was disconnected and protected for the winter. The units are scheduled to start operating again in April 2016, pending weather conditions.

Stack Sampling

In-stack sampling systems are included in both stacks. A B&K instrument was used for the first few months, and was replaced with an Innova sampling instrument. The Innova instrument is a modern updated version of the B&K instrument. Both instruments provide real-time screening for a maximum of four analytes (TCA, TCE, Freon-11, PCE). Data from these systems is not complete for all compounds of interest.

SUMMA canister sampling is performed on a regular schedule in both stacks for all compounds of interest. All SVE SUMMA samples are analyzed by an independent analytical laboratory, Eurofins Air Toxics, Inc., using EPA TO15 method. The data are collected in the Environmental Information System database EIM. The EIM is an official database for environmental data for both LANL and NMED.

Calculations

Emissions reported are calculated from the quality assured SUMMA measurements. The calculations are based on two principles: the numerical integration of the data and the interpolation of the results to the desired date. Numerical integration is based on the trapezoid method and the interpolation is always linear. No results are extrapolated beyond the last measurement.

Results

The attached table provides monthly cumulative results since the units started operating in January 2015. Cumulative total HAPs are 1,052 lbs and total VOC are 407 lbs. Because some compounds are both a VOC and a HAP, total emissions are less than adding these values and are shown in the table as 1,175 total pounds for all compounds. In the table, cumulative values since the units started operating are shown, including the 5 months that the units operated during this reporting period. Individual monthly emissions continued to diminish over the reporting period as soil pore gas concentrations were lowered by the SVE systems.

MDA-L SVE Monthly Cumulative Summary of SUMMA Canister Sampling

PARAMETER_NAME	PARAMETER _CODE	HAP	VOC	Cumulative Total Pounds through 7/1/2015	Cumulative Total Pounds through 8/1/2015	Cumulative Total Pounds through 9/1/2015	Cumulative Total Pounds through 10/1/2015	Cumulative Total Pounds through 11/1/2015
Acetone	67-64-1	--	--	0.010	0.010	0.010	0.010	0.010
Benzene	71-43-2	x	x	0.509	0.593	0.669	0.739	0.812
Benzyl Chloride	100-44-7	x	x	0	0	0	0	0
Bromodichloromethane	75-27-4	--	x	0	0	0	0	0
Bromoform	75-25-2	x	x	0	0	0	0	0
Bromomethane	74-83-9	x	x	0	0	0	0	0
Butadiene[1,3-]	106-99-0	x	x	0	0	0	0	0
Butanone[2-]	78-93-3	x	x	0	0	0	0	0
Carbon Disulfide	75-15-0	x	--	0	0	0	0	0
Carbon Tetrachloride	56-23-5	x	x	1.803	2.003	2.180	2.332	2.478
Chloro-1-propene[3-]	107-05-1	x	x	0	0	0	0	0
Chlorobenzene	108-90-7	x	x	0.024	0.038	0.052	0.059	0.065
Chlorodibromomethane	124-48-1	--	x	0	0	0	0	0
Chloroethane	75-00-3	x	x	0	0	0	0	0
Chloroform	67-66-3	x	x	16.478	18.452	20.227	21.751	23.290
Chloromethane	74-87-3	x	x	0	0	0	0	0
Cyclohexane	110-82-7	--	x	0	0	0	0	0
Dibromoethane[1,2-]	106-93-4	x	x	0	0	0	0	0
Dichloro-1,1,2,2-tetrafluoroethane[1,2-]	76-14-2	--	--	0	0	0	0	0
Dichlorobenzene[1,2-]	95-50-1	--	x	0	0	0	0	0
Dichlorobenzene[1,3-]	541-73-1	--	x	0	0	0	0	0
Dichlorobenzene[1,4-]	106-46-7	x	x	0	0	0	0	0
Dichlorodifluoromethane	75-71-8	--	--	1.403	1.580	1.744	1.877	1.998
Dichloroethane[1,1-]	75-34-3	x	x	12.037	13.297	14.420	15.420	16.442
Dichloroethane[1,2-]	107-06-2	x	x	32.590	36.269	39.503	42.145	44.767
Dichloroethene[1,1-]	75-35-4	x	x	21.229	24.567	27.540	29.773	32.264
Dichloroethene[cis-1,2-]	156-59-2	--	x	0	0	0	0	0
Dichloroethene[trans-1,2-]	156-60-5	--	x	0	0	0	0	0
Dichloropropane[1,2-]	78-87-5	x	x	18.599	21.081	23.302	25.385	27.567
Dichloropropene[cis-1,3-]	10061-01-5	x	x	0	0	0	0	0
Dichloropropene[trans-1,3-]	10061-02-6	--	x	0	0	0	0	0
Dioxane[1,4-]	123-91-1	x	x	2.670	3.332	3.924	4.459	5.046
Ethanol	64-17-5	--	x	0.050	0.050	0.050	0.164	0.290
Ethylbenzene	100-41-4	x	x	0	0	0	0	0
Ethyltoluene[4-]	622-96-8	--	x	0	0	0	0	0
Hexachlorobutadiene	87-68-3	x	x	0	0	0	0	0
Hexane	110-54-3	x	x	0.046	0.067	0.089	0.090	0.090
Hexanone[2-]	591-78-6	--	x	0	0	0	0	0
Isooctane	540-84-1	x	x	0.186	0.187	0.187	0.187	0.187
Isopropylbenzene	98-82-8	x	x	0	0	0	0	0
Methyl tert-Butyl Ether	1634-04-4	x	x	0	0	0	0	0
Methyl-2-pentanone[4-]	108-10-1	x	x	0	0	0	0	0

MDA-L SVE Monthly Cumulative Summary of SUMMA Canister Sampling

Methylene Chloride	75-09-2	x	--	10.942	12.518	13.943	15.272	16.663
n-Heptane	142-82-5	--	x	0.022	0.051	0.084	0.090	0.091
Propanol[2-]	67-63-0	--	x	0	0	0	0	0
Propylbenzene[1-]	103-65-1	--	x	0	0	0	0	0
Styrene	100-42-5	x	x	0	0	0	0	0
Tetrachloroethane[1,1,2,2-]	79-34-5	x	x	0	0	0	0	0
Tetrachloroethene	127-18-4	x	--	72.157	81.226	89.565	97.507	105.776
Tetrahydrofuran	109-99-9	--	x	0.667	0.795	0.919	1.057	1.190
Toluene	108-88-3	x	x	1.193	1.357	1.502	1.682	1.872
Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1	--	--	77.960	88.062	96.636	104.417	112.603
Trichlorobenzene[1,2,4-]	120-82-1	x	x	0	0	0	0	0
Trichloroethane[1,1,1-]	71-55-6	x	--	374.002	419.184	458.591	491.694	524.025
Trichloroethane[1,1,2-]	79-00-5	x	x	0	0	0	0	0
Trichloroethene	79-01-6	x	x	182.649	201.825	218.346	234.354	250.811
Trichlorofluoromethane	75-69-4	--	--	4.521	5.123	5.666	6.120	6.572
Trimethylbenzene[1,2,4-]	95-63-6	--	x	0	0	0	0	0
Trimethylbenzene[1,3,5-]	108-67-8	--	x	0	0	0	0	0
Vinyl Chloride	75-01-4	x	x	0	0	0	0	0
Xylene[1,2-]	95-47-6	x	x	0	0	0	0	0
Xylene[1,3-]+Xylene[1,4-]	Xylene[m+p]	x	x	0.079	0.134	0.188	0.202	0.210
Total all Compounds Detected (lbs)				831.828	931.801	1019.335	1096.786	1175.118
Total HAPs (lbs)		Total HAPs		747.194	836.130	914.226	983.051	1052.365
Total VOC (lbs)		Total VOC		290.833	324.098	353.180	379.889	407.472

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ATTACHMENT A607.A.

Asphalt Plant

Differential Pressure Records

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Asphalt plant did not operate in July 2015
Differential pressure readings are not required

Asphalt plant did not operate in Aug 2015
Differential pressure readings are not required

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
6-Sep-15	12:00		U	Hours of operation 6-Sep-2015; 12:20-1:18 PM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
16-Sep-15	10:20		U	Hours of operation 16-Sep-2015; 10:20-11:35 AM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
17-Sep-15	7:30		U	Hours of operation 17-Sep 2015; 7:45-8:15 AM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
19-Sep-15	8:00		U	Hours of operation 19-Sep-2015; 8:00-8:45 AM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
19-Sep-15	13:15		U	Hours of operation 19-Sep-2015; 1:15-2:10 PM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
24-Sep-15	8:45		U	Hours of operation 8:45-9:20 AM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
2-Oct-15	10:00		U	Hours of operation 2-Oct-2015; 10:06-10:39 AM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
3-Oct-15	8:45		U	Hours of operation 3-Oct-2015; 8:45-9:49 AM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
6-Oct-15	11:00		U	Hours of operation 6-Oct-2015;11:00 AM - 12:15 PM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
13-Oct-15	10:00		U	Hours of operation 13-Oct-2015; 10:00-10:44 AM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
14-Oct-15	10:24		U	Hours of operation 14-Oct-2015; 10:24-10:55 AM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
16-Oct-15	10:30		U	Hours of operation 16-Oct-2015; 10:31 AM - 12:05 PM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
19-Oct-15	10:50		U	Hours of operation 19-Oct-2015; 10:51-11:30 AM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.
29-Oct-15	9:36		U	Hours of operation 29-Oct-2015; 9:36-10:06 AM	Phoneline and sytem are being upgraded. See backup chart in Attachment A607.A. and & operator's logs in Attachment A607.E.

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
6-Nov-15	13:50:00	3.7		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	13:52:00	3.78		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	13:54:00	3.78		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	13:56:00	3.78		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	13:58:00	3.78		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:00:00	3.78		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:02:00	3.78		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:04:00	3.78		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:06:00	3.6		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:08:00	3.51		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:10:00	3.77		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:12:00	3.77		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:14:00	3.77		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:16:00	1.58		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:18:00	0		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:20:00	0		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:22:00	0		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:24:00	0		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:26:00	0		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:28:00	0		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:30:00	0		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
6-Nov-15	14:32:00	0		Hours of operation 6-Nov-2015; 1:50-2:32 PM	Datalogger operated continuously
7-Nov-15	8:38:00	4.06		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	8:40:00	4.06		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	8:42:00	4.06		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	8:44:00	4.2		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	8:46:00	4.31		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	8:48:00	4.31		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	8:50:00	4.23		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	8:52:00	4.02		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	8:54:00	3.88		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	8:56:00	4.39		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
7-Nov-15	8:58:00	4.92		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:00:00	5.12		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:02:00	5.33		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:04:00	5.38		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:06:00	5.21		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:08:00	0.98		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:10:00	0.24		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:12:00	0.59		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:14:00	0.83		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:16:00	0.68		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:18:00	0.37		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:20:00	0.09		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:22:00	0.3		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:24:00	0.56		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:26:00	0.26		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:28:00	0.09		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:30:00	0.09		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:32:00	0.12		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:34:00	0.35		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	9:36:00	0.58		Hours of operation 7-Nov-2015; 8:38-9:35 AM	Datalogger operated continuously
7-Nov-15	11:14:00	3.13		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:16:00	3.13		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:18:00	3.13		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:20:00	3.26		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:22:00	3.6		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:24:00	3.66		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:26:00	3.23		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:28:00	0.08		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:30:00	0.08		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:32:00	0.08		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:34:00	0.08		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:36:00	0.08		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
7-Nov-15	11:38:00	0.08		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:40:00	0.08		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:42:00	0.08		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
7-Nov-15	11:44:00	0.08		Hours of operation 7-Nov-2015; 11:14-11:43 AM	Datalogger operated continuously
12-Nov-15	10:34:00	3.43		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:36:00	3.43		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:38:00	3.64		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:40:00	3.69		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:42:00	3.69		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:44:00	3.69		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:46:00	3.51		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:48:00	3.43		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:50:00	3.43		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:52:00	3.36		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:54:00	3.33		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:56:00	3.63		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	10:58:00	3.45		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:00:00	3.45		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:02:00	3.45		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:04:00	2.53		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:06:00	0.1		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:08:00	0.1		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:10:00	0.1		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:12:00	0.1		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:14:00	0.1		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:16:00	0.1		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:18:00	0.1		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:20:00	0.1		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
12-Nov-15	11:22:00	0.1		Hours of operation 12-Nov-2015; 10:34-11:21 AM	Datalogger operated continuously
13-Nov-15	11:30:00	2.95		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:32:00	2.95		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:34:00	3.03		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
13-Nov-15	11:36:00	3.38		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:38:00	3.47		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:40:00	3.67		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:42:00	4		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:44:00	3.91		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:46:00	3.74		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:48:00	1.61		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:50:00	0		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:52:00	0		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:54:00	0		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:56:00	0		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	11:58:00	0		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
13-Nov-15	12:00:00	0		Hours of operation 13-Nov-2015; 11:30-11:59 AM	Datalogger operated continuously
18-Nov-15	10:56:00	3.25		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	10:58:00	3.14		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:00:00	3.29		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:02:00	3.07		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:04:00	2.89		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:06:00	2.89		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:08:00	3		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:10:00	3.52		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:12:00	3.67		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:14:00	3.45		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:16:00	3.4		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:18:00	1.01		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:20:00	0		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:22:00	0		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:24:00	0		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:26:00	0		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:28:00	0		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:30:00	0		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:32:00	0		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
18-Nov-15	11:34:00	0.02		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
18-Nov-15	11:36:00	0.2		Hours of operation 18-Nov-2015; 10:57-11:35 AM	Datalogger operated continuously
19-Nov-15	13:34:00	3.47		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:36:00	3.47		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:38:00	3.47		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:40:00	3.47		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:42:00	3.47		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:44:00	3.47		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:46:00	3.47		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:48:00	3.47		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:50:00	3.47		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:52:00	3.47		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:54:00	3.7		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:56:00	3.73		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	13:58:00	3.73		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
19-Nov-15	14:00:00	3.73		Hours of operation 19-Nov-2015; 1:35-2:00 PM	Datalogger operated continuously
20-Nov-15	12:34:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:36:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:38:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:40:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:42:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:44:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:46:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:48:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:50:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:52:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:54:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:56:00	3.28		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	12:58:00	3.22		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	13:00:00	0.08		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	13:02:00	0.05		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	13:04:00	0.05		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
20-Nov-15	13:06:00	0.05		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	13:08:00	0.05		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	13:10:00	0.05		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	13:12:00	0.05		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	13:14:00	0.05		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
20-Nov-15	13:16:00	0.05		Hours of operation 20-Nov-2015; 12:35-1:16 PM	Datalogger operated continuously
25-Nov-15	9:48:00	3.74		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	9:50:00	3.74		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	9:52:00	3.74		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	9:54:00	3.74		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	9:56:00	3.74		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	9:58:00	3.74		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	10:00:00	3.78		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	10:02:00	3.76		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	10:04:00	0.79		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	10:06:00	0		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	10:08:00	0		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	10:10:00	0		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	10:12:00	0.07		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	10:14:00	0.44		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	10:16:00	0.43		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	10:18:00	0.19		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously
25-Nov-15	10:20:00	0.19		Hours of operation 25-Nov-2015; 9:48-10:20 AM	Datalogger operated continuously

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
1-Dec-15	12:42:00	3.53		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	12:44:00	3.3		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	12:46:00	3.3		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	12:48:00	3.47		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	12:50:00	3.55		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	12:52:00	3.55		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	12:54:00	3.55		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	12:56:00	3.55		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	12:58:00	3.55		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:00:00	3.55		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:02:00	3.55		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:04:00	3.55		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:06:00	3.47		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:08:00	3.36		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:10:00	3.58		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:12:00	3.58		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:14:00	3.58		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:16:00	2.32		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:18:00	0.09		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:20:00	0.09		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:22:00	0.09		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:24:00	0.09		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:26:00	0.09		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:28:00	0.09		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:30:00	0.09		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:32:00	0.09		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
1-Dec-15	13:34:00	0.09		Hours of operation 1-Dec-2015; 12:43-1:33 PM	Datalogger operated continuously
2-Dec-15	12:44:00	3.32		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	12:46:00	3.23		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	12:48:00	3.23		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	12:50:00	3.23		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	12:52:00	3.23		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
2-Dec-15	12:54:00	3.23		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	12:56:00	3.23		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	12:58:00	3.23		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:00:00	3.23		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:02:00	3.23		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:04:00	3.23		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:06:00	3.47		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:08:00	3.49		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:10:00	3.49		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:12:00	3.49		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:14:00	3.49		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:16:00	3.49		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:18:00	0.98		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:20:00	0.1		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:22:00	0.1		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:24:00	0.1		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:26:00	0.1		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:28:00	0.1		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:30:00	0.1		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:32:00	0.09		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
2-Dec-15	13:34:00	0.02		Hours of operation 2-Dec-2015; 12:45-1:35 PM	Datalogger operated continuously
3-Dec-15	11:06:00	3.65		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:08:00	3.65		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:10:00	3.65		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:12:00	3.65		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:14:00	3.48		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:16:00	3.17		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:18:00	3.14		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:20:00	3.14		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:22:00	3.17		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:24:00	3.49		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:26:00	3.83		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
3-Dec-15	11:28:00	3.5		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:30:00	3.44		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:32:00	3.44		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:34:00	3.44		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:36:00	3.49		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:38:00	3.7		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:40:00	3.55		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:42:00	3.41		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:44:00	3.49		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:46:00	3.83		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:48:00	3.07		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:50:00	0.04		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:52:00	0.04		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:54:00	0.04		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:56:00	0.04		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	11:58:00	0.04		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	12:00:00	0.04		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	12:02:00	0.04		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	12:04:00	0.04		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	12:06:00	0.04		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
3-Dec-15	12:08:00	0.04		Hours of operation 3-Dec-2015; 11:07 AM-12:08 PM	Datalogger operated continuously
4-Dec-15	11:00:00	3.71		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:02:00	3.67		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:04:00	3.42		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:06:00	3.42		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:08:00	3.65		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:10:00	3.66		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:12:00	3.87		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:14:00	3.73		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:16:00	3.42		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:18:00	3.41		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:20:00	3.41		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
4-Dec-15	11:22:00	3.41		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:24:00	3.41		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:26:00	3.56		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:28:00	3.67		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:30:00	3.67		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:32:00	2.27		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:34:00	0.05		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:36:00	0.05		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:38:00	0.05		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:40:00	0.05		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:42:00	0.05		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:44:00	0.05		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
4-Dec-15	11:46:00	0.05		Hours of operation 4-Dec-2015; 11:01-11:45 AM	Datalogger operated continuously
9-Dec-15	10:18:00	5.52		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:20:00	4.39		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:22:00	3.88		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:24:00	3.79		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:26:00	3.29		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:28:00	3.27		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:30:00	3.27		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:32:00	3.27		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:34:00	3.27		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:36:00	3.27		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:38:00	3.27		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:40:00	3.27		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:42:00	3.36		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:44:00	3.66		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:46:00	3.79		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:48:00	1.35		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:50:00	0		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:52:00	0		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:54:00	0		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously

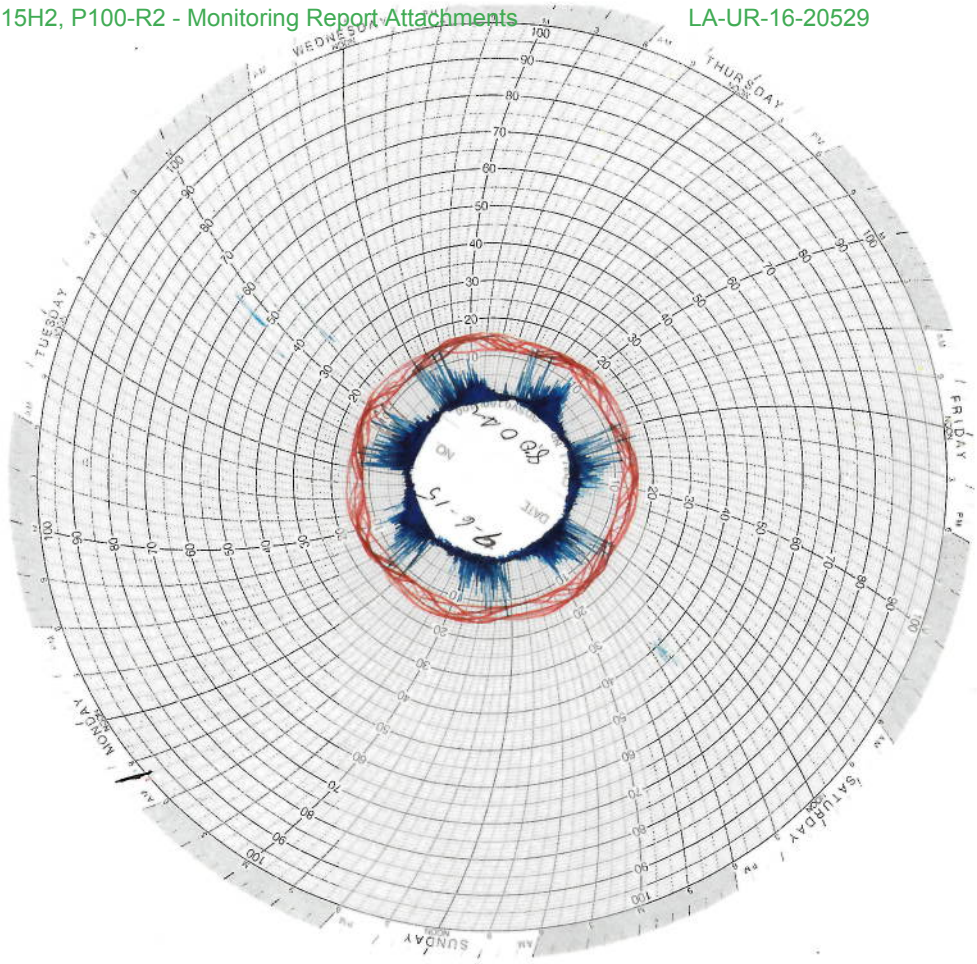
Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
9-Dec-15	10:56:00	0		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	10:58:00	0		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	11:00:00	0		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	11:02:00	0		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	11:04:00	0		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	11:06:00	0		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	11:08:00	0		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
9-Dec-15	11:10:00	0		Hours of operation 9-Dec-2015; 10:18-11:10 AM	Datalogger operated continuously
10-Dec-15	10:00:00	3.69		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:02:00	3.73		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:04:00	4.21		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:06:00	4.44		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:08:00	4.44		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:10:00	4.44		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:12:00	4.2		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:14:00	3.2		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:16:00	0		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:18:00	0		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:20:00	0		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:22:00	0		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:24:00	0		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:26:00	0		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:28:00	0		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:30:00	0		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	10:32:00	0		Hours of operation 10-Dec-2015; 10:00-10:32 AM	Datalogger operated continuously
10-Dec-15	12:08:00	3.52		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:10:00	3.52		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:12:00	3.52		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:14:00	3.52		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:16:00	1.12		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:18:00	0.01		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:20:00	0.01		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously

Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
10-Dec-15	12:22:00	0.01		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:24:00	0.01		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:26:00	0.01		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:28:00	0.01		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:30:00	0.01		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:32:00	0.01		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:34:00	0.01		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:36:00	0.01		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
10-Dec-15	12:38:00	0.01		Hours of operation 10-Dec-2015; 12:08-12:37 PM	Datalogger operated continuously
11-Dec-15	9:22:00	3.57		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:24:00	3.63		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:26:00	3.86		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:28:00	3.87		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:30:00	3.87		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:32:00	3.87		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:34:00	4.05		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:36:00	3.88		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:38:00	3.88		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:40:00	2.02		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:42:00	0.08		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:44:00	0.08		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:46:00	0.08		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:48:00	0.08		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:50:00	0.08		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:52:00	0.08		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:54:00	0.08		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:56:00	0.08		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	9:58:00	0.08		Hours of operation 11-Dec-2015 9:22-9:57 AM	Datalogger operated continuously
11-Dec-15	12:50:00	3.81		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	12:52:00	3.72		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	12:54:00	3.56		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	12:56:00	3.56		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously

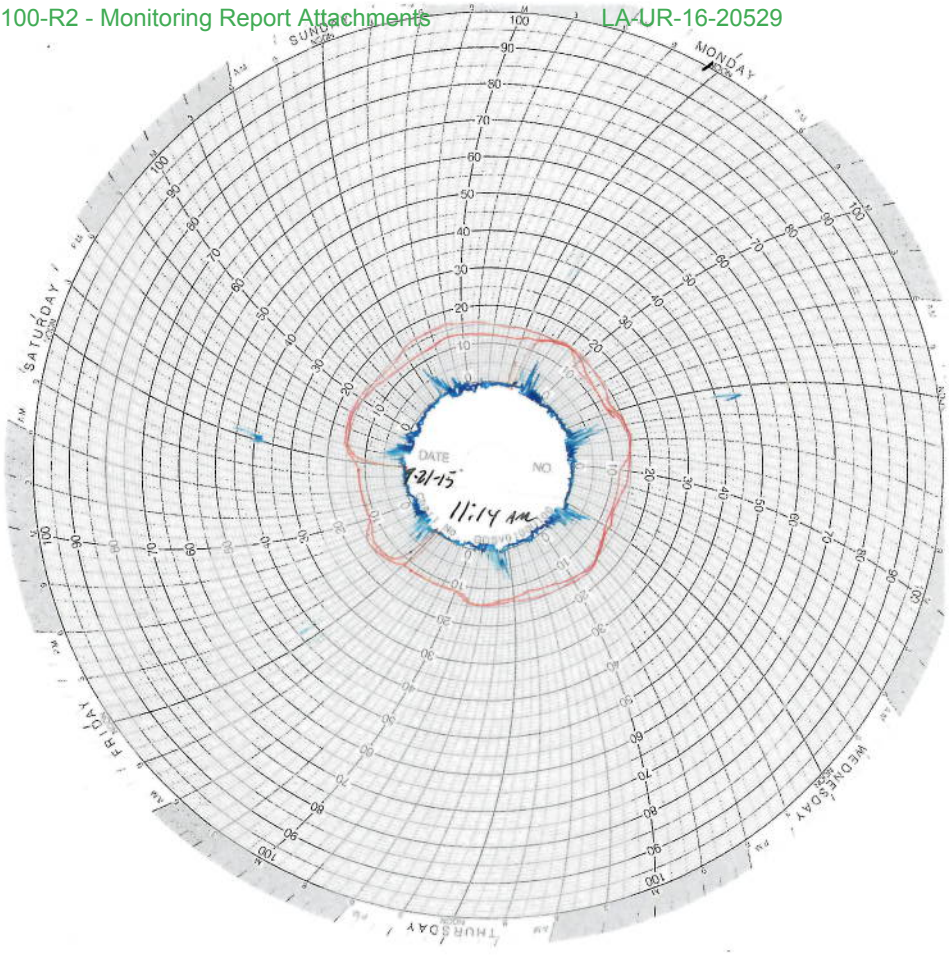
Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
11-Dec-15	12:58:00	3.56		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:00:00	3.56		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:02:00	3.56		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:04:00	3.56		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:06:00	3.56		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:08:00	0.57		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:10:00	0		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:12:00	0		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:14:00	0		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:16:00	0		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:18:00	0		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:20:00	0		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:22:00	0		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:24:00	0		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
11-Dec-15	13:26:00	0		Hours of operation 11-Dec-2015 12:51-1:25 PM	Datalogger operated continuously
21-Dec-15	10:54:00	3.86		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	10:56:00	3.04		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	10:58:00	2.82		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:00:00	2.88		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:02:00	3.36		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:04:00	3.33		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:06:00	3.17		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:08:00	3.34		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:10:00	3.47		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:12:00	3.87		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:14:00	3.82		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:16:00	3.69		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:18:00	3.69		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:20:00	3.97		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:22:00	3.77		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:24:00	3.72		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:26:00	3.72		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously

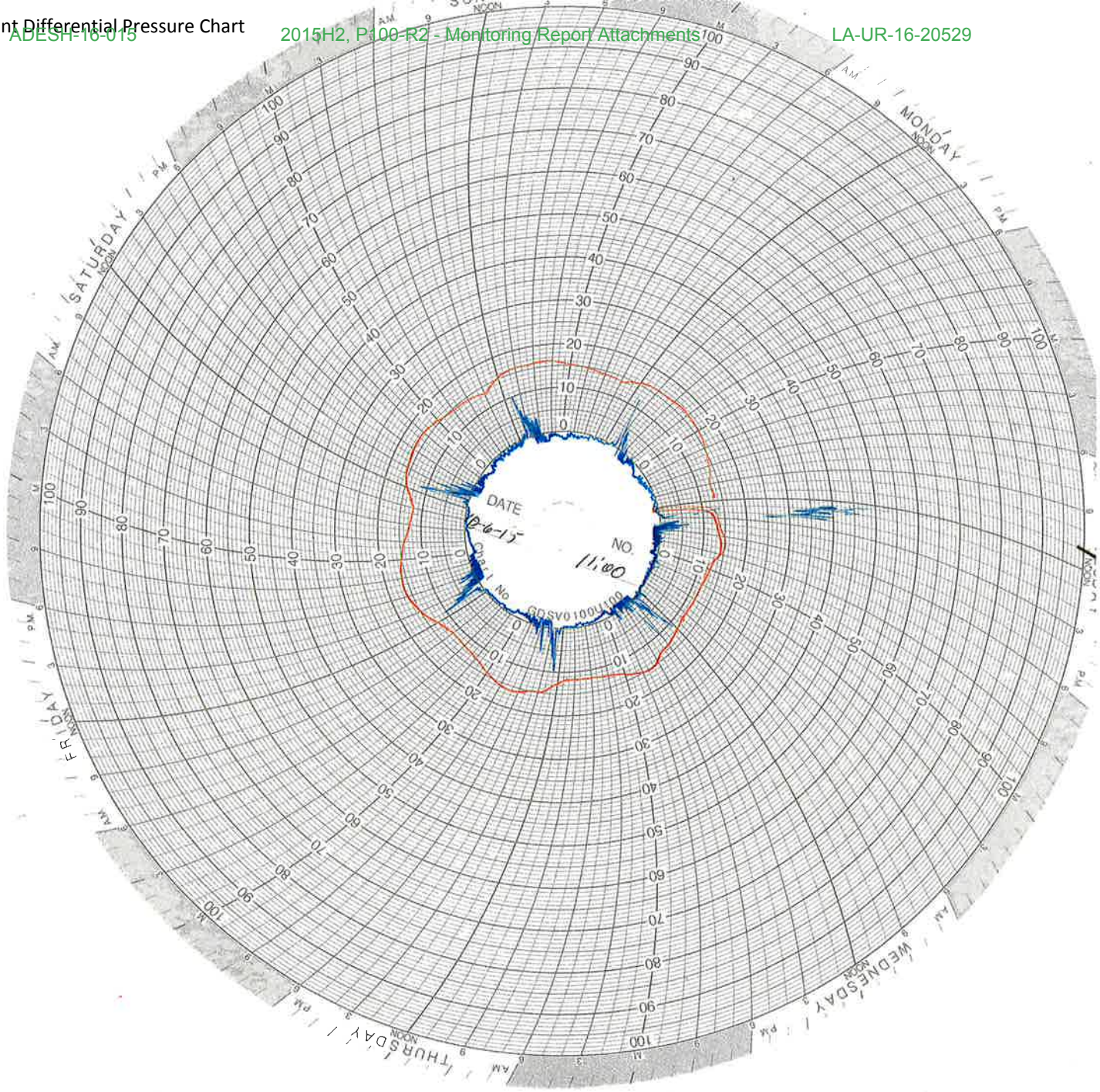
Date	Time	DiffPress inches	Available U=unavailable	Operator Log Time	Comment
21-Dec-15	11:28:00	3.72		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:30:00	3.5		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:32:00	3.47		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:34:00	3.72		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:36:00	3.74		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:38:00	3.74		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:40:00	3.83		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:42:00	0.58		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:44:00	0.05		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:46:00	0.05		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:48:00	0.05		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:50:00	0.05		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:52:00	0.05		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:54:00	0.05		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:56:00	0.05		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	11:58:00	0.05		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously
21-Dec-15	12:00:00	0.05		Hours of operation 21-Dec-2015 10:55-12:00 PM	Datalogger operated continuously

Asphalt Plant Differential Pressure Chart

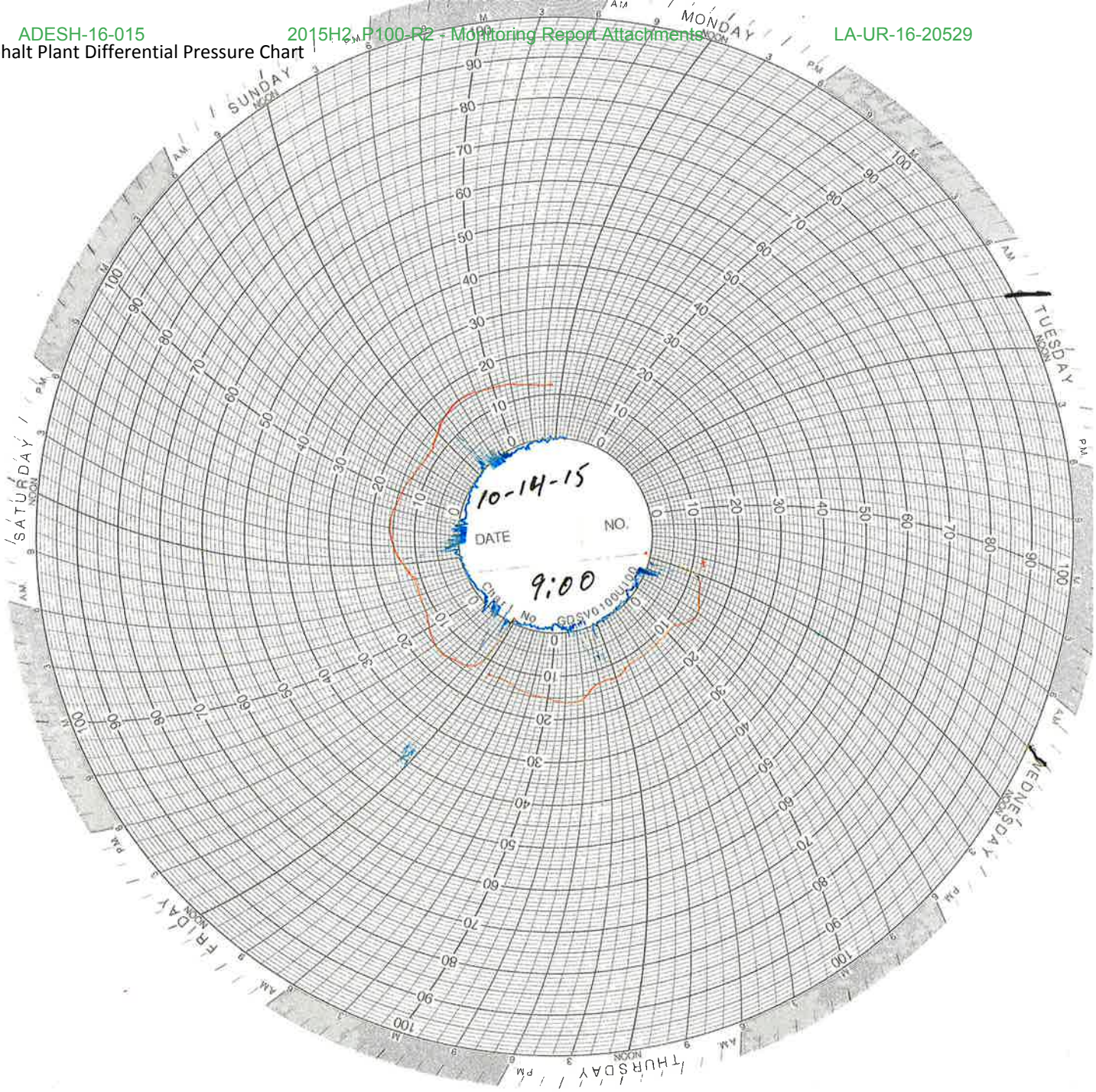


Asphalt Plant Differential Pressure Chart

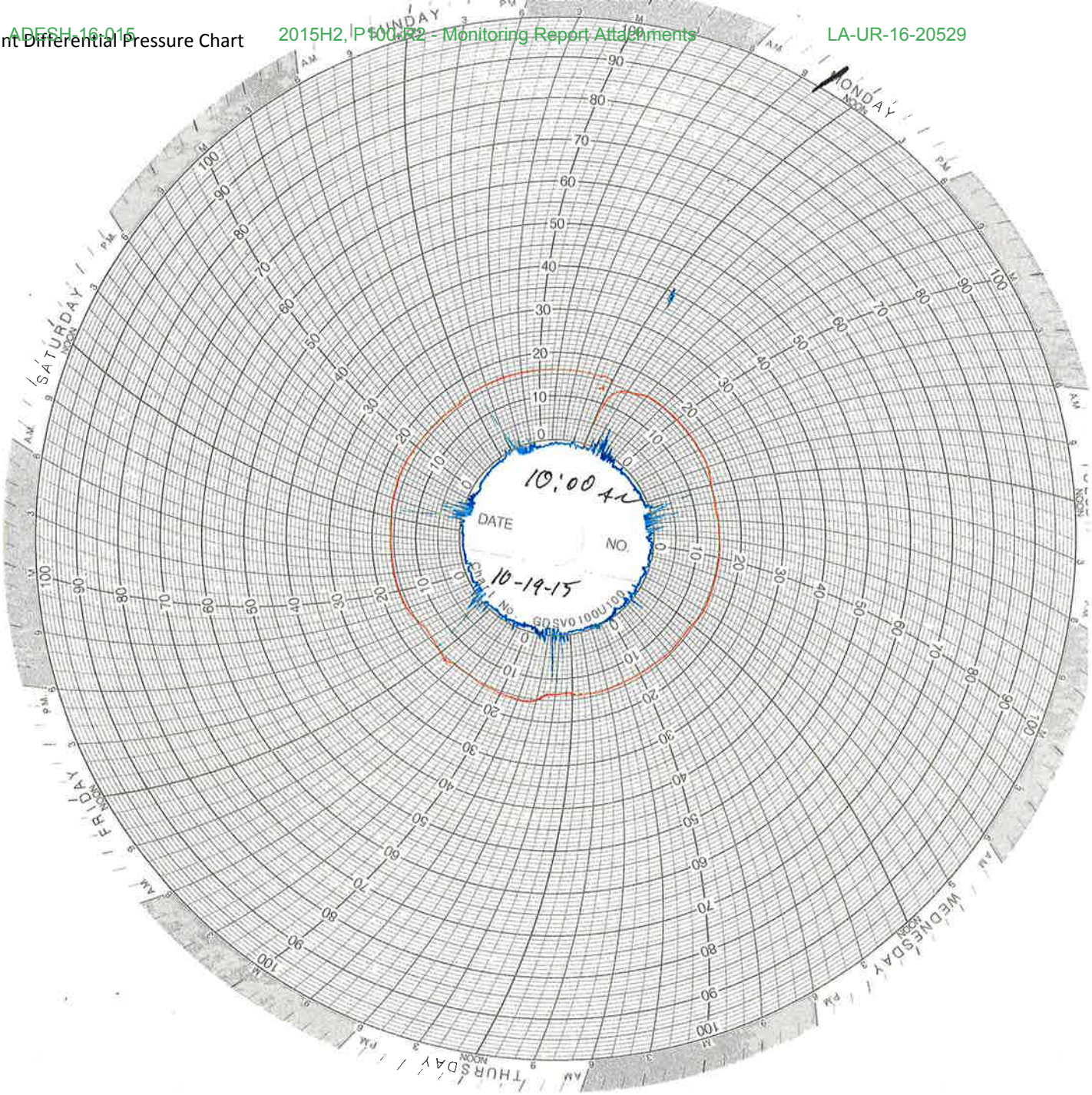


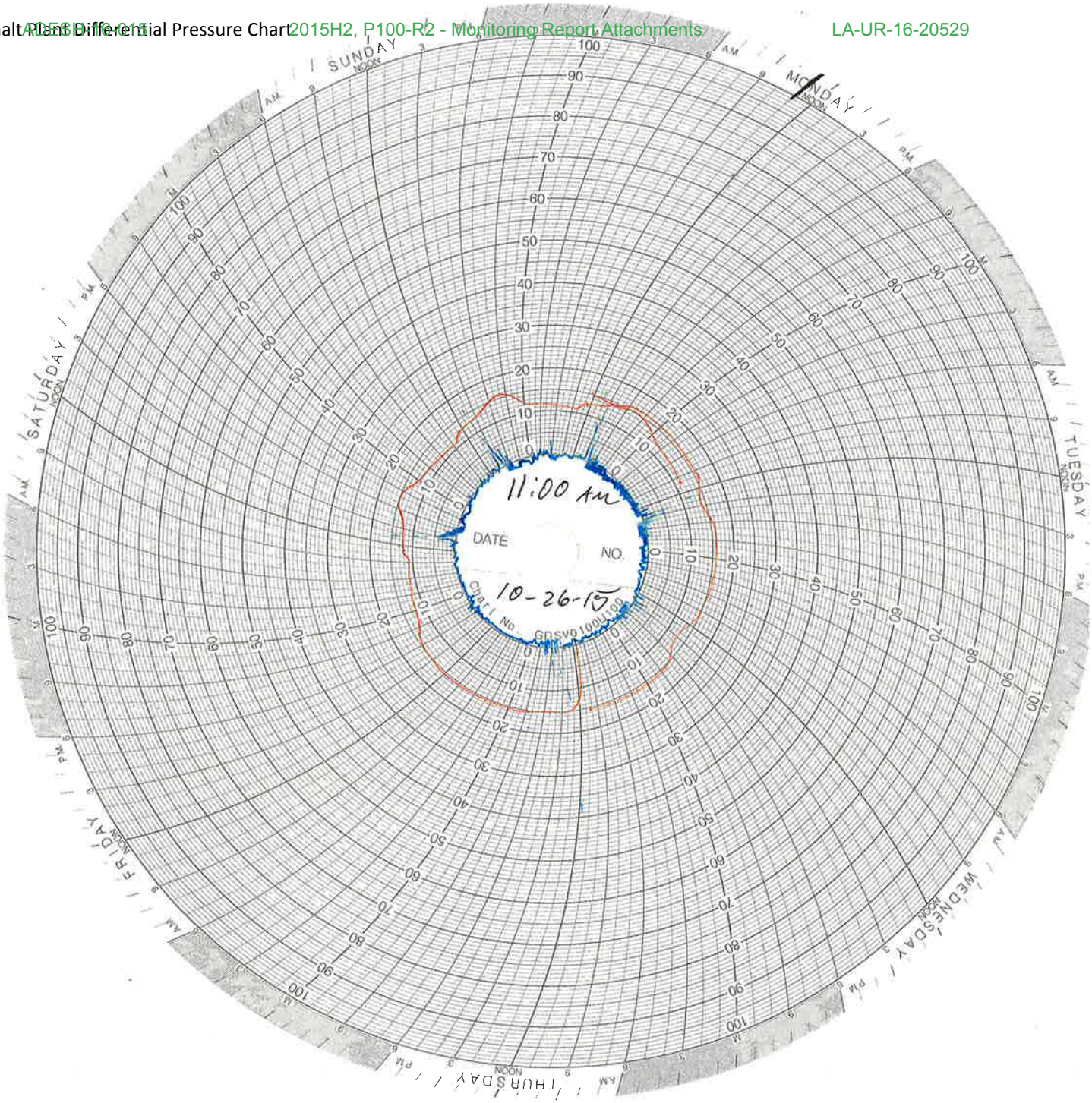

SATURDAY
MONDAY
FRIDAY
THURSDAY
WEDNESDAY
DATE
NO.
11:00

Asphalt Plant Differential Pressure Chart



Asphalt Plant Differential Pressure Chart




SUNDAY
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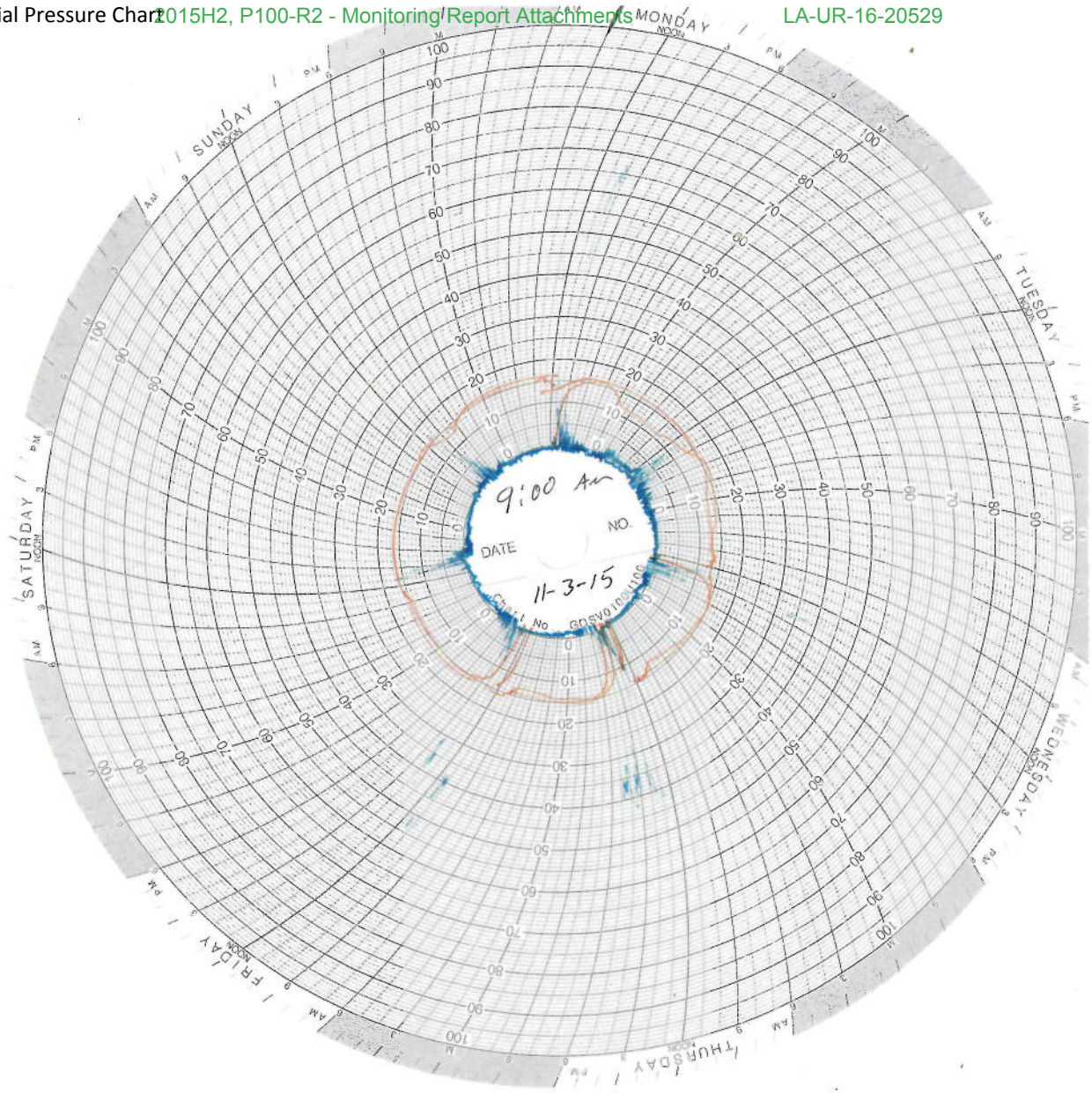
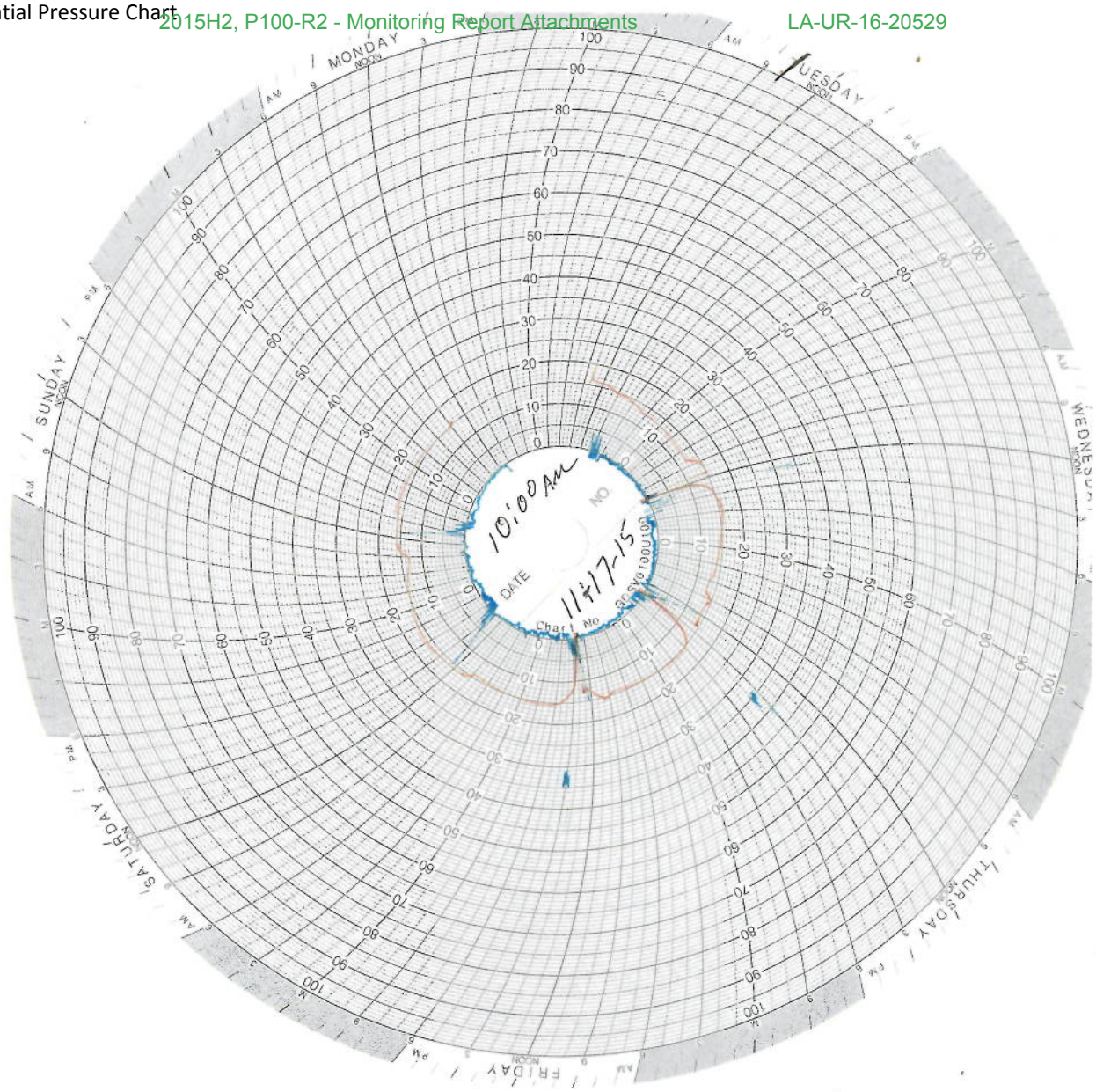
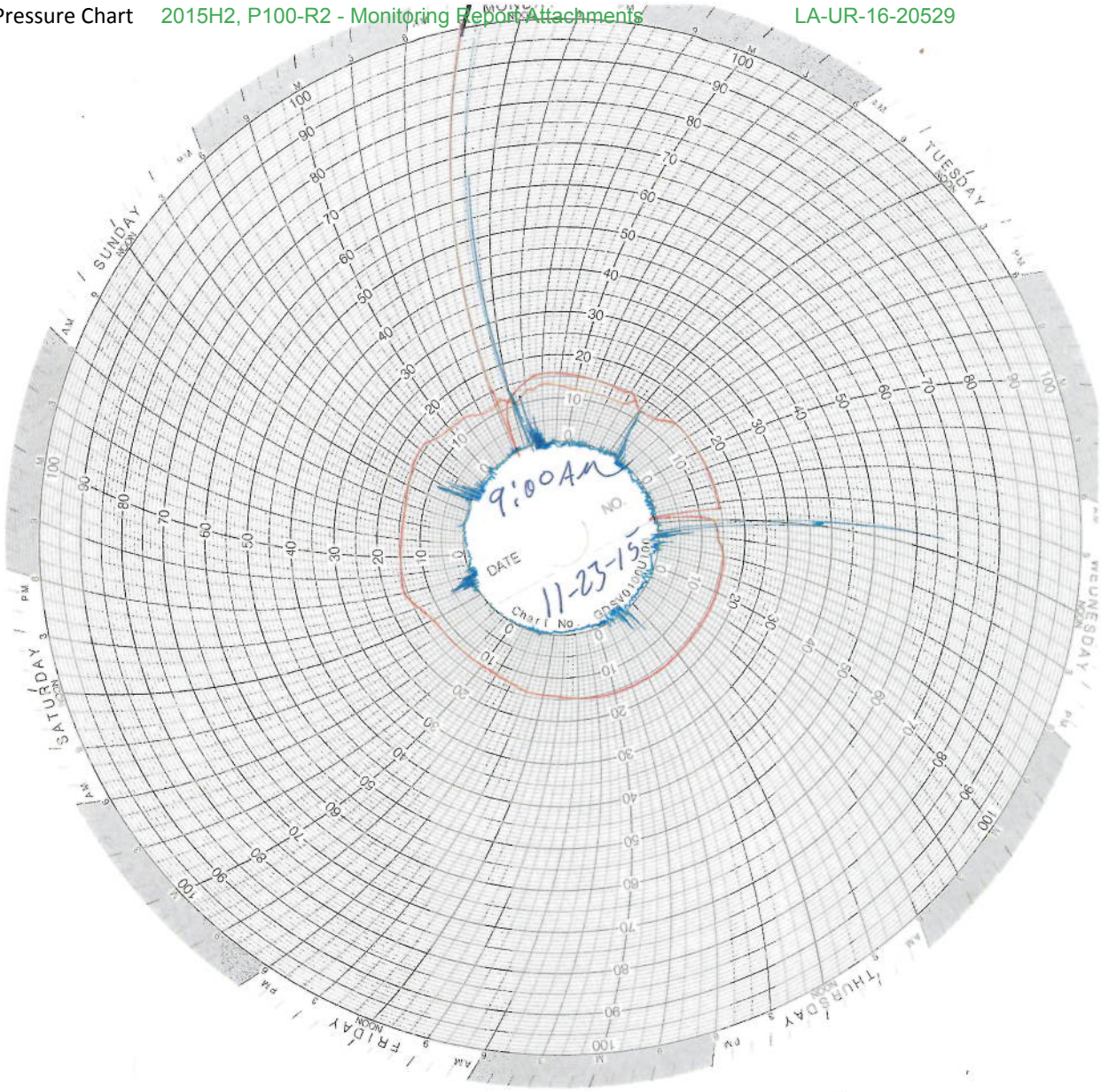
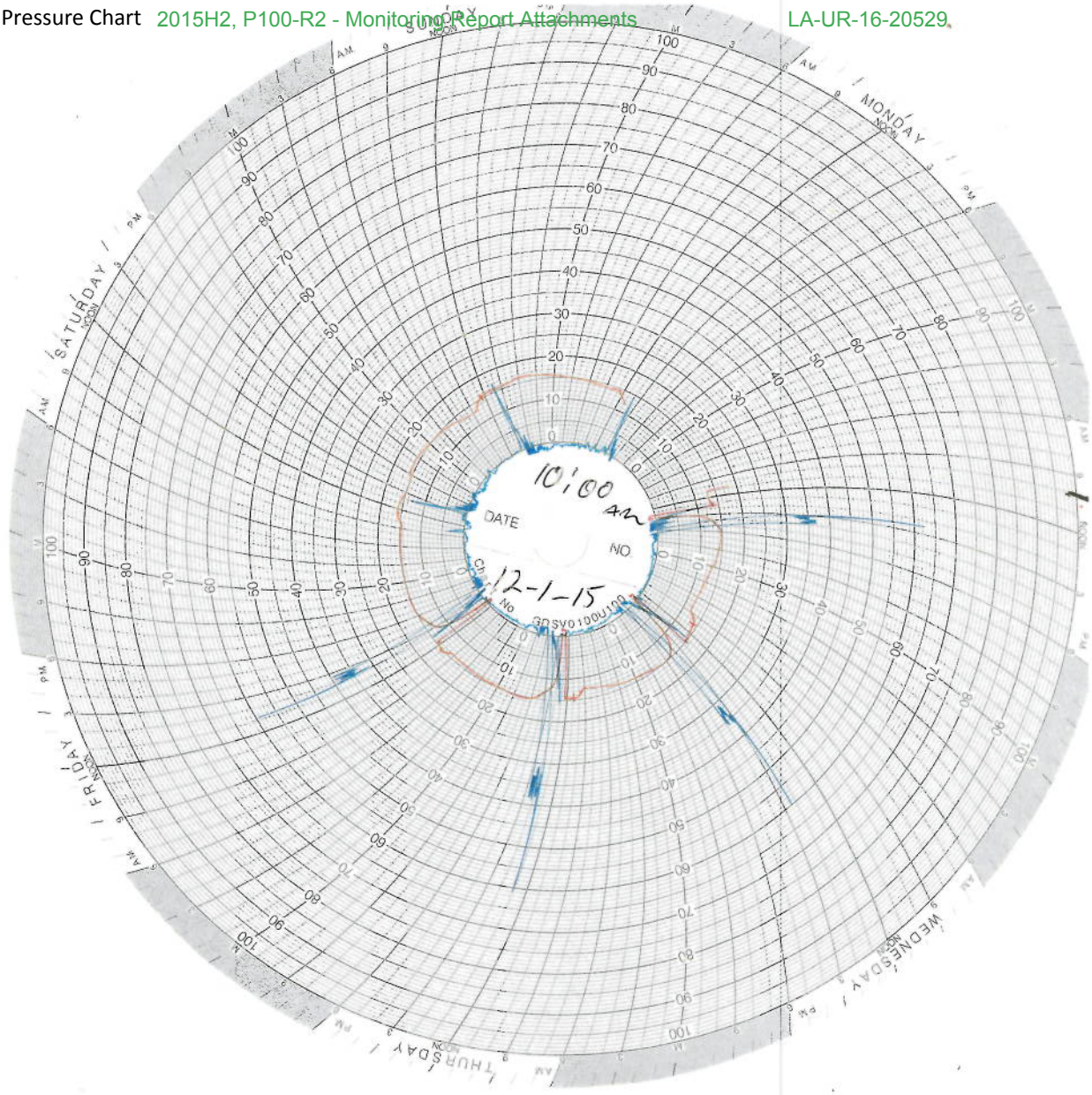
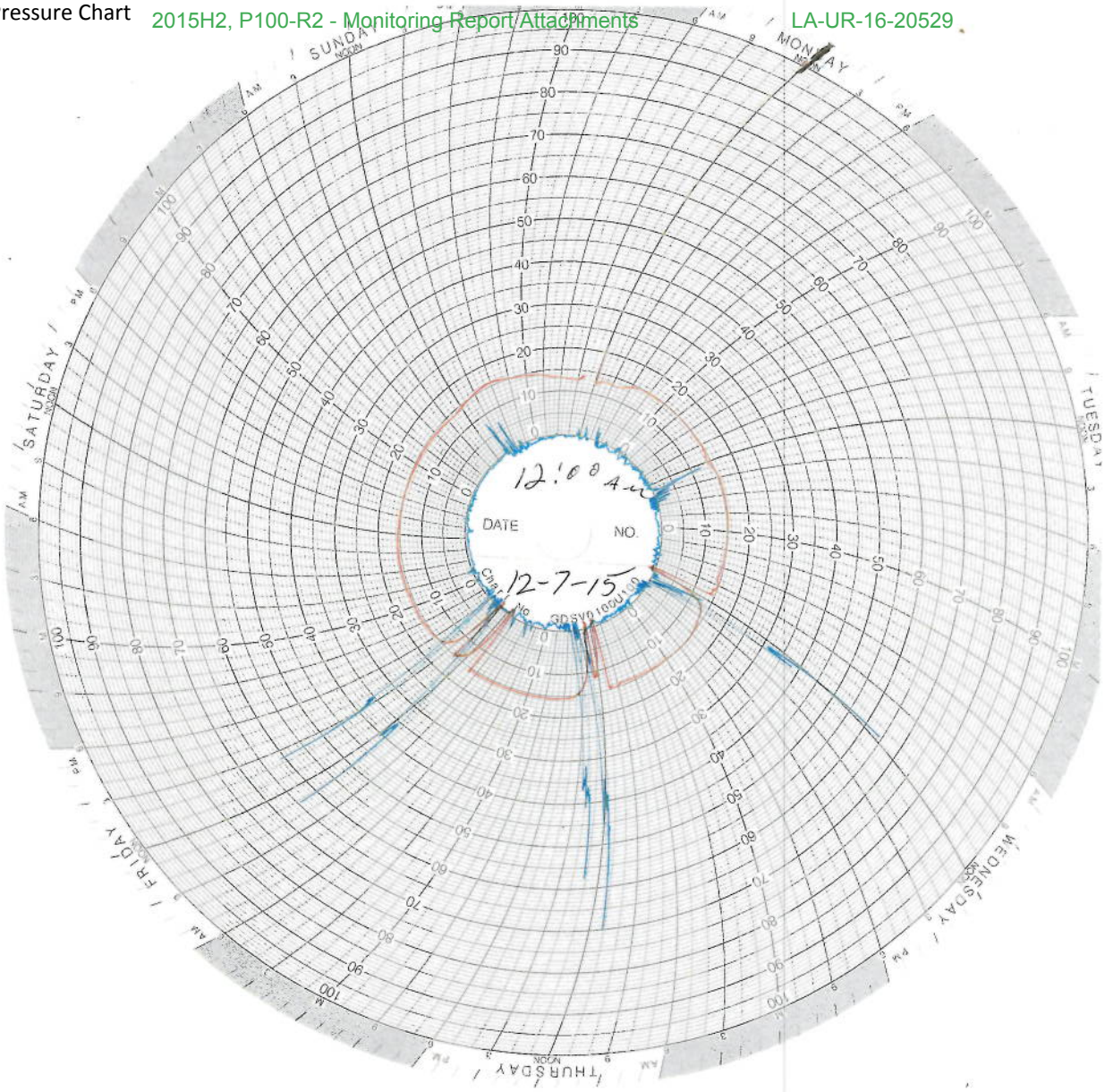
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY
11:00 AM
DATE
NO.
10-26-15


MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY
SUNDAY
9:00 AM
DATE
NO.
11-3-15

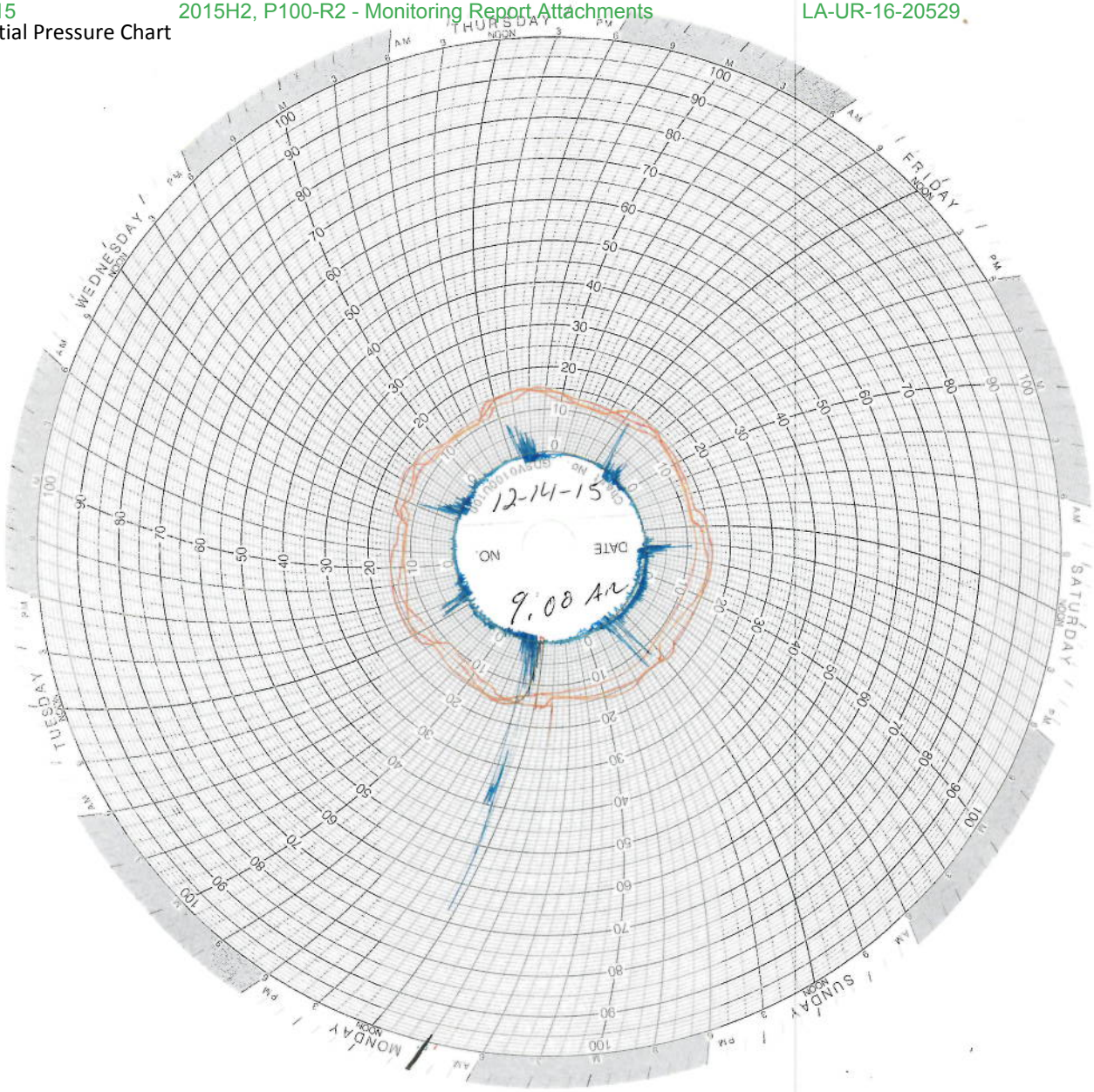

MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY
SUNDAY
10:00 AM
DATE
11/17/15
Chart No


SUNDAY
MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY
9:00AM
DATE
11-23-15
Chart No.


SUNDAY
MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY
DATE
NO.
10:00 AM
12-1-15


SUNDAY
MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY
DATE
NO.
12:00 AM
12-7-15

Asphalt Plant Differential Pressure Chart



ATTACHMENT A607.C.

Asphalt Plant

Method 9 Opacity Reports

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Los Alamos

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

Source Name: TA60 Asphalt Batch Plant

Source Location: TA60 - 233

Type of Source: Asphalt Plant

Type of Control Equipment: Bag House

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

Height Above Ground Level: 33 Feet

Height Relative to Observer: 27 Feet

Distance From Observer: 75 Feet

Direction of Source From Observer: West

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

Emission Color: N/A

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

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

At what point in the plume was opacity determined?
2' above stack top

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

Background Color: Blue

Sky Conditions: Clear

Wind Speed: 5-10 mph

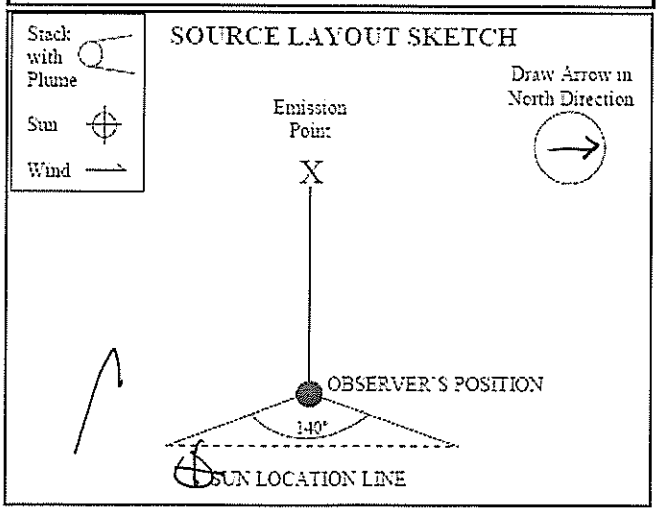
Wind Direction (provide from/to, i.e. from North to South): from E

Ambient Temperature: 65 °F

Relative Humidity: 38 %

Additional Comments/Information:

SOURCE LAYOUT SKETCH



Observation Date: 9/25/15

Start Time: 9:45

End Time: ~~9:47~~ 9:51 CH

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

Average 6-Minute Opacity: Ø

Range of Opacity Readings: Min. Ø Max. Ø

OBSERVER (please print)
Name: C. Heintschel
Title: DEP

Signature: Cliff Heintschel
Date: 9/25/15

Observer Organization: DSESH-VIMS

Certified by: ETA
Certification Date: 8/24/15

THIS FORM IS FROM EAQ-307, R4

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Date: Friday, September 25, 2015 | Time: 10:05 MDT (16:05 UTC) | Time Note »

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LOS ALAMOS NATIONAL LABORATORY

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LANL Observations > Table Summaries

The table below provides a snapshot of current conditions at each tower location. Wind variables are measured at 11 meters above the ground (36 meters at PJMT) and the atmospheric state variables (temperature, humidity, and pressure) are measured at 1.2 meters above the ground (2 meters at PJMT).

Other Text Summaries Available: 15-Minute Short Summary (English)

Current Observations: English | Metric

Tower (tower)	TA6	TA41	TA49	TA53	TA54
Date (mm/dd)	09/25	09/25	09/25	09/25	09/25
Time (hhmm)	0845	0845	0845	0845	0845
Wind Speed (mph)	6.5	2.2	6.5	3.4	4.0
Wind Direction (deg)	24	127	35	59	87
Max Gust (mph)	12.3	6.7	11.6	8.1	10.5
Max Gust Direction (deg)	24	270	350	59	265
Time of Max Gust (hhmm)	845	245	715	845	30
Temperature (deg-F)	65.1	62.8	64.0	57.6	61.3
Max Temp Since Midnight (deg-F)	65.1	62.8	64.0	57.6	61.3
Time of Max Temp (hhmm)	845	845	845	845	845
Min Temp Since Midnight (deg-F)	49.1	41.7	52.5	49.1	46.0
Time of Min Temp (hhmm)	600	600	500	615	600
Pressure (mb)	785.3	-	-	-	809.8
Relative Humidity (%)	38	-	37	40	48
Dew Point Temperature (deg-F)	39.2	-	37.9	33.6	41.9
Precip Last 15 Minutes (in)	0.00	-	0.00	0.00	0.00
Precip Since Midnight (in)	0.00	-	0.00	0.00	0.00
Downwelling Shortwave (BTU/hr*ft^2)	180	178	163	176	176
windchill (deg-C)	18.4	17.1	17.8	14.2	16.3

NOTE: All times are reported in Mountain Standard Time (MST).

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Los Alamos

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

Source Name: TA60 Asphalt Batch Plant

Source Location: TA60-233

Type of Source: Asphalt Plant

Type of Control Equipment: Bag House

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

Height Above Ground Level: 33 Feet

Height Relative to Observer: 27 Feet

Distance From Observer: 75 Feet

Direction of Source From Observer: West

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

Emission Color: N/A

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

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

At what point in the plume was opacity determined?
2' Above Stack Top

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

Background Color: Grey

Sky Conditions: Cloudy

Wind Speed: 0-5 mph

Wind Direction (provide from to, i.e. from North to South): From East

Ambient Temperature: 45 °F

Relative Humidity: 43 %

Additional Comments Information:

Observation Date	Start Time	End Time
10-29-15	9:51	9:57

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

Average 6-Minute Opacity: Ø

Range of Opacity Readings: Min. Ø Max. Ø

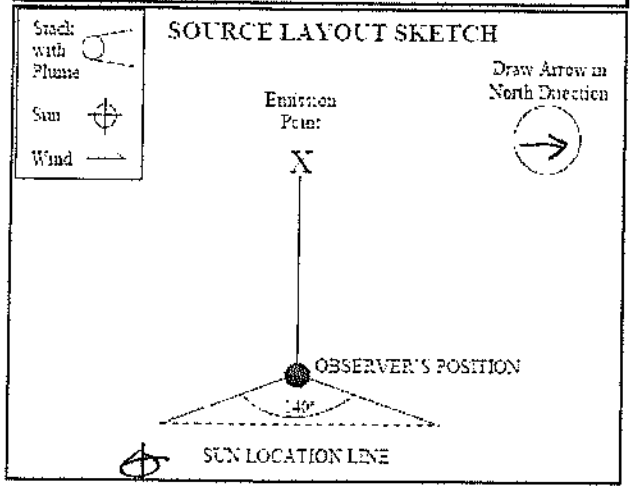
OBSERVER (please print)
Name: Cliff Heintschel
Title: DEP

Signature: Cliff Heintschel
Date: 10-29-15

Observer Organization: DSESH-UIMS

Certified by: ETA
Certification Date: 8-26-15

SOURCE LAYOUT SKETCH



THIS FORM IS FROM EAQ-307, R4

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Date: Thursday, October 29, 2015 | Time: 10:05 MDT (16:05 UTC) | Time Note »

The Weather Machine

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LANL Observations > Table Summaries

The table below provides a snapshot of current conditions at each tower location. Wind variables are measured at 11 meters above the ground (36 meters at PJMT) and the atmospheric state variables (temperature, humidity, and pressure) are measured at 1.2 meters above the ground (2 meters at PJMT).

Other Text Summaries Available: 15-Minute Short Summary (English)

Current Observations: English | Metric

Tower (tower)	TA6	TA49	TA53	TA54
Date (mm/dd)	10/29	10/29	10/29	10/29
Time (hhmm)	0845	0845	0845	0845
Wind Speed (mph)	5.1	1.8	1.6	2.5
Wind Direction (deg)	170	135	166	347
Max Gust (mph)	11.0	13.2	12.1	12.8
Max Gust Direction (deg)	238	244	263	264
Time of Max Gust (hhmm)	545	545	545	545
Temperature (deg-F)	46.0	44.8	42.6	43.5
Max Temp Since Midnight (deg-F)	46.0	46.2	47.1	43.5
Time of Max Temp (hhmm)	845	45	115	845
Min Temp Since Midnight (deg-F)	38.8	41.2	40.8	36.1
Time of Min Temp (hhmm)	545	730	515	715
Pressure (mb)	773.2	-	-	798.8
Relative Humidity (%)	43	45	48	55
Dew Point Temperature (deg-F)	25.0	25.3	24.6	28.8
Precip Last 15 Minutes (in)	0.00	0.00	0.00	0.00
Precip Since Midnight (in)	0.00	0.00	0.00	0.00
Downwelling Shortwave (BTU/hr*ft^2)	65	65	53	54
windchill (deg-C)	6.4	7.1	5.9	6.0

NOTE: All times are reported in Mountain Standard Time (MST).

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Los Alamos

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

Source Name: TA60 Asphalt Batch Plant

Source Location: TA60-233

Type of Source: Asphalt Plant

Type of Control Equipment: Baghouse

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

Height Above Ground Level: 33 Feet

Height Relative to Observer: 27 Feet

Distance From Observer: 75 Feet

Direction of Source From Observer: West

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

Emission Color: N/A

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

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

At what point in the plume was opacity determined? 2' Above Stack Top

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

Background Color: Grey

Sky Conditions: Cloudy

Wind Speed: 5-10 mph

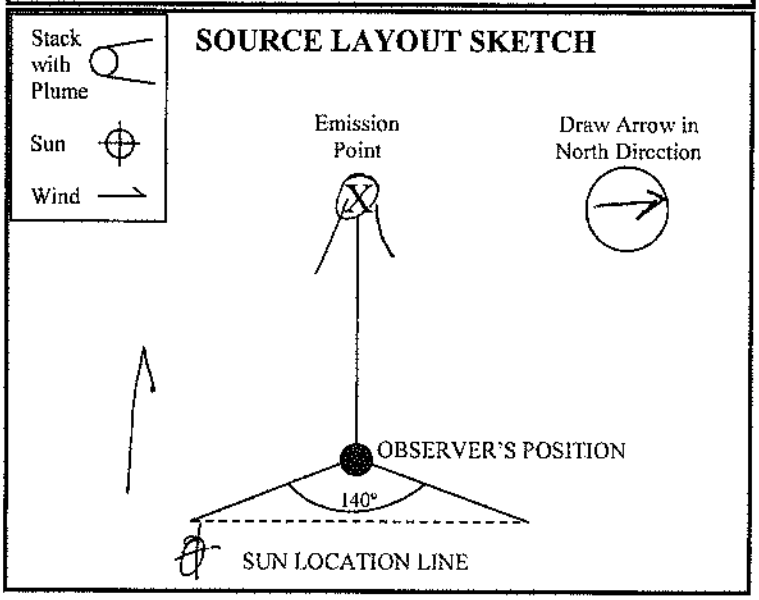
Wind Direction (provide from/to, i.e. from North to South): From East

Ambient Temperature: 45 °F

Relative Humidity: 34 %

Additional Comments/Information:

SOURCE LAYOUT SKETCH



Observation Date: 11/25/15 | Start Time: 10:03 | End Time: 10:09

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

Average 6-Minute Opacity: Ø

Range of Opacity Readings: Min. Ø Max. Ø

OBSERVER (please print)
Name: Cliff Heintschel Title: DEP

Signature: Cliff Heintschel Date: 10/20/15

Observer Organization: DSESH-UI

Certified by: ETA Certification Date: 8/26/15

ENV-CP-Form-1005 04/2015

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Date: Wednesday, November 25, 2015 | Time: 10:18 MST (17:18 UTC)

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LANL Observations > Table Summaries

The table below provides a snapshot of current conditions at each tower location. Wind variables are measured at 11 meters above the ground (36 meters at PJMT) and the atmospheric state variables (temperature, humidity, and pressure) are measured at 1.2 meters above the ground (2 meters at PJMT).

Other Text Summaries Available: 15-Minute Short Summary (English)

Current Observations: English | Metric

Tower (tower)	TA6	TA49	TA53	TA54
Date (mm/dd)	11/25	11/25	11/25	11/25
Time (hhmm)	1000	1000	1000	1000
Wind Speed (mph)	6.5	6.5	8.3	8.1
Wind Direction (deg)	173	163	185	192
Max Gust (mph)	18.6	11.0	14.3	13.0
Max Gust Direction (deg)	248	163	182	192
Time of Max Gust (hhmm)	215	1000	945	1000
Temperature (deg-F)	45.5	44.6	44.6	45.5
Max Temp Since Midnight (deg-F)	45.5	45.5	45.0	45.5
Time of Max Temp (hhmm)	1000	15	15	1000
Min Temp Since Midnight (deg-F)	36.7	37.0	37.2	31.3
Time of Min Temp (hhmm)	530	500	230	245
Pressure (mb)	772.5	-	-	798.1
Relative Humidity (%)	34	37	33	39
Dew Point Temperature (deg-F)	19.2	20.3	18.0	22.3
Precip Last 15 Minutes (in)	0.00	0.00	0.00	0.00
Precip Since Midnight (in)	0.00	0.00	0.00	0.00
Downwelling Shortwave (BTU/hr*ft^2)	72	101	78	118
windchill (deg-C)	5.5	5.0	4.4	5.1

NOTE: All times are reported in Mountain Standard Time (MST).

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Los Alamos

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

Source Name: TA60 Asphalt Batch Plant

Source Location: TA60-233

Type of Source: Asphalt Plant

Type of Control Equipment: Baghouse

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

Height Above Ground Level: 33 Feet

Height Relative to Observer: 27 Feet

Distance From Observer: 75 Feet

Direction of Source From Observer: West

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

Emission Color: N/A

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

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

At what point in the plume was opacity determined? 2' above stack top

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

Background Color: Blue

Sky Conditions: Clear

Wind Speed: 5-10 mph

Wind Direction (provide from/to, i.e. from North to South): From East

Ambient Temperature: 35 °F

Relative Humidity: 32 %

Additional Comments/Information:

Observation Date: 12-1-15

Start Time: 13:03

End Time: 13:09

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

Average 6-Minute Opacity: Ø

Range of Opacity Readings: Min. Ø Max. Ø

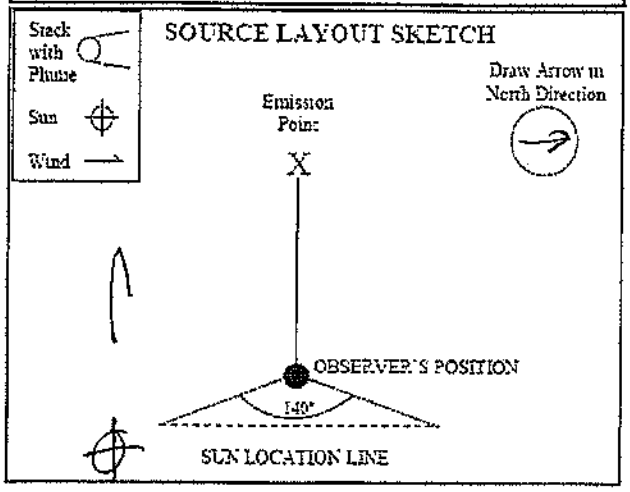
OBSERVER (please print)
Name: C. Heintschel
Title: DEP

Signature: [signature]
Date: 12-1-15

Observer Organization: DSESH-UI

Certified by: ETA
Certification Date: 8-26-15

SOURCE LAYOUT SKETCH



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ATTACHMENT A607.E.

Asphalt Plant

Daily Operation Log and

12-Month Rolling Production

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2015 TA-60 BDM Asphalt Plant

Data Reviewed By / Date: Margie Stockton/Jan 5, 2016

Month	Data Entry Asphalt Produced (Tons)	12-Month Rolling Total	Month	Data Entry Asphalt Produced (Tons)	12-Month Rolling Total
January	31	533	July	0	390
February	14	439	August	0	368
March	57	452	September	59	366
April	61	434	October	96	389
May	32	397	November	61	432
June	0	390	December	60	471
6 mo. Total	195		6 mo. Total:	276	

2015 Asphalt Produced (Tons):	471

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

Annual Hours			
Month	Hours	Month	Hours
Jan	5.2	Jul	0.0
Feb	2.8	Aug	0.0
Mar	12.2	Sep	5.0
Apr	8.7	Oct	6.8
May	3.9	Nov	6.0
Jun	0.0	Dec	7.5
Total:	32.7	Total:	25.3

Annual Total (to date): 58.03 Hours

Hours are Limited to 4,380 per Year

Logis[illegible] Division-HERG
Maintenan[illegible] peration Instruction
Asphalt Plant Operations

No Run
IN July 2015

DAILY TA-60 ASPHALT PLANT OPERATING LOG (REQUIRED READINGS)

Date	Hours of Operation			Asphalt Produced (tons)	Number of Truck Trips to Plant	Haul Road Swept? (check one)		Pressure Drop Across Baghouse				Propane Tank Reading (percent)	Operator Name (Person Taking Readings)
								Start		End			
	Start Time	End Time	Total (hrs.)			Yes	No	Pressure	Time	Pressure	Time		
													Leslie

40-20-001.3 (08/2012)

Logist Division-HERG
Maintenan peration Instruction
Asphalt Plant Operations

No Run
I August 2015

DAILY TA-60 ASPHALT PLANT OPERATING LOG (REQUIRED READINGS)

Date	Hours of Operation			Asphalt Produced (tons)	Number of Truck Trips to Plant	Haul Road Swept? (check one)		Pressure Drop Across Baghouse				Propane Tank Reading (percent)	Operator Name (Person Taking Readings)
								Start		End			
	Start Time	End Time	Total (hrs.)			Yes	No	Pressure	Time	Pressure	Time		
													Leslie

40-20-001.3 (08/2012)

Logistics Division-HERG
Maintenance Operation Instruction
Asphalt Plant Operations

Sep 2015

DAILY TA-60 ASPHALT PLANT OPERATING LOG (REQUIRED READINGS)

Date	Hours of Operation			Asphalt Produced (tons)	Number of Truck Trips to Plant	Haul Road Swept? (check one)		Pressure Drop Across Baghouse				Propane Tank Reading (percent)	Operator Name (Person Taking Readings)
								Start		End			
	Start Time	End Time	Total (hrs.)			Yes	No	Pressure	Time	Pressure	Time		
9-6-15	12:20	1:18	0.97	20	2			3:79	12:41	2.59	1:10		Leslie
9-16-15	10:20	11:35	1.25	22	2			4.20	10:50	3:58	11:15		Leslie
9-17-15	7:45	8:15	0.50	2	1			3.96	7:55	3:83	8:10		Leslie
9-19-15	8:00	8:45	0.75	4	1			4.10	8:15	3.90	8:37		Leslie
9-19-15	1:15	2:10	0.92	7	1			4.08	1:30	3.63	2:00		Leslie
9-24-15	8:45	9:20	0.58	4	1			3.83	8:55	3.70	9:15		Leslie
Monthly	Total												
			4.47 hrs	59 tons	8 trips								

40-20-001.3 (08/2012)

Logis[illegible] Division-HERG
Maintenan[illegible] Operation Instruction
Asphalt Plant Operations

Oct 2015

DAILY TA-60 ASPHALT PLANT OPERATING LOG (REQUIRED READINGS)

Date	Hours of Operation			Asphalt Produced (tons)	Number of Truck Trips to Plant	Haul Road Swept? (check one)		Pressure Drop Across Baghouse				Propane Tank Reading (percent)	Operator Name (Person Taking Readings)
								Start		End			
	Start Time	End Time	Total (hrs.)			Yes	No	Pressure	Time	Pressure	Time		
10/2/15	10:06	10:39	0.55	3	1			4.11	10:21	4:18	10:35		Leslie
10/13/15	8:45	9:49	1.07	11	1			3.79	9:09	3:85	9:33		Leslie
10/16/15	11:00	12:15	1.25	35	2			3.65	11:40	2:60	12:13		Panche
10-13-15	10:0[illegible]	10:44	0.73	3	1			4.12	10:22	4:10	10:37		Leslie
10-14-15	10:24	10:55	0.52	3	1			4.14	10:43	4:21	10:58		Leslie
10-16-15	10:31	12:05	1.57	35	2			4.02	11:16	3.79	11:35		Leslie
10-19-15	10:51	11:30	0.65	2	1			3:81	11:08	3:85	11:16		Leslie
10-29-15	9:36	10:06	0.50	4	1			3:62	9:47	3:70	9:57		Leslie
Monthly		Total	6.83 hrs	96 tons	10 trips								

40-20-001.3 (08/2012)

DAILY TA-60 ASPHALT PLANT REQUIRED READINGS

Nov 2015

Date	Actural Hours of Operation			Asphalt Production Rate (tons per day)	Number of Truck Trips (# trips made to plant)	Pressure Drop Across Baghouse (Two Readings Required per Day)				Name (Person Taking Reading)
	Start Time	End Time	Total			Start pressure	Time	End pressure	Time	
11-6-15	1:50	2:32	0.70	8	1	3.73	2:19	3.63	2:27	Leslie
11-7-15	8:38	9:35	0.95	12	1	3.96	9:08	3.37	9:19	Leslie
11-7-15	11:14	11:43	0.48	8	1	3.15	11:25	3.12	11:37	Leslie
11-12-15	10:34	11:21	0.78	8	1	3.42	11:04	3.21	11:12	Leslie
11-13-15	11:30	11:59	0.48	5	1	2.84	11:42	3.88	12:00	Leslie
11-18-15	10:57	11:35	0.63	3	1	3.69	11:09	3.71	11:25	Leslie
11-19-15	1:35	2:20	0.75	5	1	3.52	1:57	3.48	2:10	Leslie
11-20-15	12:35	1:16	0.68	8	1	3.37	1:04	3.17	1:09	Leslie
11-25-15	9:48	10:20	0.53	4	1	3.70	10:00	3.61	10:17	Leslie
Monthly Total			6 hrs	61 tons	9 trips					

Revised June 25, 2009

This record is required by the asphalt plant air permit must be kept for a minimum of 5 years.
Operation is limited to 1/2 hour after sunrise to 1/2 hour before sunset.

DAILY TA-60 ASPHALT PLANT REQUIRED READINGS

12/2015

Date	Actural Hours of Operation			Asphalt Production Rate (tons per day)	Number of Truck Trips (# trips made to plant)	Pressure Drop Across Baghouse (Two Readings Required per Day)				Name (Person Taking Reading)
	Start Time	End Time	Total			Start pressure	Time	End pressure	Time	
12-1-15	12:43	1:33		10	1	3.63	1:13	3.33	1:26	Leslie
12-2-15	12:45	1:35		12	1	3.12	1:08	3.37	1:21	Leslie
12-3-15	11:07	12:08		17	1	3.17	11:32	3.30	11:47	Leslie
12-4-15	11:01	11:45		5	1	3.67	11:16	3.54	11:27	Leslie
12-7-15	10:18	11:10		3	1	3.10	10:51	3.40	11:00	Leslie
12-10-15	10:00	10:32		3	1	3.60	10:14	3.45	10:22	Leslie
12-10-15	12:05	12:37		3	1	3.43	12:22	3.49	12:26	Leslie
12-11-15	9:22	9:57		4	1	3.65	9:33	3.67	9:45	Leslie
12-11-15	12:51	1:25		4	1	3.71	1:05	3.66	1:16	Leslie
12-21-15	10:55	12:00		4	1	3.60	11:40	3.57	11:51	Leslie
		452 min	Total =	60 TONS	10 trips					
		7.53 hrs of operation								

Revised June 25, 2009

This record is required by the asphalt plant air permit must be kept for a minimum of 5 years.
Operation is limited to 1/2 hour after sunrise to 1/2 hour before sunset.

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ATTACHMENT A607.F.

Asphalt Plant

Maintenance Records

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Los Alamos NATIONAL LABORATORY	*Maintenance & Site Services* Preventative Maintenance Instruction **Asphalt Plant Operation** **PM INSPECTION & LUBRICATION**	41-20-001.3 R1 Page 1 of 2

41-20-001.3 R1 | PM DATE: 9-17-15 | NEXT SCHEDULED PM DATE:

TA-60 BLDG-233 EQUIP. ID: Hot plant PM #: 993752

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

ASPHALT BATCH PLANT PREVENTATIVE MAINTENANCE INSPECTION AND LUBRICATION

STEP	ACTION / DESCIPTION	S	U	Comments
1.0	***PRE-MAINTENANCE INSTRUCTIONS***			
1.1	Before beginning maintenance, follow applicable LO/TO procedures at the main control panel	—		
2.0	***ASPHALT PLANT MAINTENANCE***			
2.1	Perform preventative maintenance checks/inspections and lubricate the asphalt plant every 100 hours of operating time or 6 calendar months, whichever occurs first.	✓		
3.0	***LUBE/INSPECTION POINTS***			
	FEEDER			
3.1	8 Pillow Blocks	✓		
3.2	1 Gear Box (Check Oil) ***Add if Necessary***	✓		
3.3	2 Wheel bearings	✓		
3.4	Clear away stones and dust build up from any moving parts	✓		
	CONVEYOR BELT			
3.5	4 Pillow Blocks	✓		
3.6	1 Gear Box (Check Oil) ***Add if Necessary***	✓		
3.7	Clear away stones and dust build up from any moving parts	✓		
	DRIER			
3.8	12 Pillow Blocks	✓		
3.9	1 Gear Box (Check Oil) ***Add if Necessary***	✓		
3.10	Clear away stones and dust build up from any moving parts	✓		
3.11	Inspect the drum roller drive chain for mechanical integrity. Replace or repair any broken parts	✓		
3.12	Lube chain and idle gear	✓		
	HOT ELEVATOR			
3.13	2 Pillow Blocks	✓		
3.14	2 Flat Bearings	✓		
3.15	1 Gear Box (Check Oil) ***Add if Necessary***	✓		
3.16	Clear away stones and dust build up from any moving parts	✓		
3.17	Inspect the elevator chain under the buckets for proper tension and mechanical integrity. Ensure no broken parts or damage exists. Adjust/replace if necessary	✓		
3.18	Inspect elevator buckets for aggregate buildup and metal wear. Repair and/or clean parts if necessary.	✓		
3.19	Inspect elevator bottom for excessive aggregate buildup. Remove and/or clean if evident.	✓		
	SHAKER AND SCREENING PLANT			
3.20	2 Bearing on Electric Motor	✓		
3.21	1 Gear Box (Check Oil) ***Add if Necessary***	✓		
3.22	Screen Cloth Tension	✓		
3.23	Inspect even material feed and distribution into screen.	✓		
3.24	Tighten Loose Bolts	✓		
3.25	Drive Belt Tension	✓		
3.26	Support Springs	✓		
3.27	Clear away stones and dust build up from any moving parts	✓		
3.28	Inside the screen, inspect the feed and discharge wear plates for excessive buildup and wear. Repair and/or clean as needed	✓		

Los Alamos NATIONAL LABORATORY	*Maintenance & Site Services* Preventative Maintenance Instruction **Asphalt Plant Operation** **PM INSPECTION & LUBRICATION**	41-20-001.3 R1 Page 2 of 2

ASPHALT BATCH PLANT PREVENTATIVE MAINTENANCE INSPECTION AND LUBRICATION

STEP	ACTION / DESCIPTION	S	U	Comments
	PUG MILL			
3.29	4 Pillow Blocks	✓		
3.30	1 Gear Box (Check Oil) ***Add if Necessary***	✓		
3.31	Clear away stones and dust build up from any moving parts	✓		
3.32	Inside the mill, inspect the 2 paddle assemblies and wear plates under the paddles for excessive buildup and wear. Repair and/or clean as needed	✓		
	BAG HOUSE			
3.33	3 Flat Bearings	✓		
3.34	4 Gear Box (Check Oil) ***Add if Necessary***	✓		
	EXHAUST FAN			
3.35	2 Pillow Blocks	✓		
3.36	2 Fittings on Electric Motor	✓		
	DAMPER CONTROL			
3.37	4 Flat Bearings	✓		
	AIR COMPRESSOR			
3.38	Clean Air Filter	✓		
3.39	Check Oil Level ***Add if Necessary***	✓		
	DUST RETURN SCREW			
3.40	1 Gear Box (Check Oil) ***Add if Necessary***	✓		
	HOT ASPHALT PUMP			
3.41	2 Fittings on Electric Motor	✓		
	HOT OIL PUMP AND ELECTRIC MOTOR			
3.42	2 Fittings on Electric Motor	✓		
	PROPANE PUMP			
.43	2 Fittings	N/A		
4.0	***POST-MAINTENANCE INSTRUCTIONS***			
4.1	After completing maintenance, follow applicable LO/TO procedures at the main control panel	✓		

REMARKS / ACTION REQUIRED:

VERIFICATION

CRAFT NAME: Carlos E. Atencio	Z-NUMBER	DATE
CRAFT SIGNATURE: Carlos E. Atencio	205291	9-17-15
SUPERINTENDENT NAME: Dana Parrett	Z-NUMBER	DATE 9-17-15
SUPERINTENDENT SIGNATURE:	170010	9/17/15

Calibration Certificate

Limited Calibration

Certificate Number 52520

Standards & Calibration Laboratory
Mail Stop: D478

Contact: **Jillian Burgin**
DSESH-ADPM **Mail Stop: P908**

File Number 102403

Instrument Information:

Description:	Pressure Transmitter	**File Number:**	102403
Manufacturer:	Omega	**Property No:**	N/A
Model:	PX292-01 010WDI	**Other ID:**	N/A
Serial Number:	06096608		

Calibration Information:

Calibration of the above item was achieved in a controlled environment through the use of equipment traceable to national standards. It is expected that for the duration of the calibration interval and under normal operational conditions, this item will remain within the tolerance limits specified.

Received Date:	October 28, 2015	**Location of Test:**	Area 102 - Pressure
Certified:	November 23, 2015	**Normal Temperature:**	23 ºC
Expires:	November 22, 2016	**Ambient Temperature:**	23.0 ºC
Cal Procedure/ Method:	SCL-DF-1267A	**Ambient Humidity:**	50 %RH
		Item Received:	Limited
		Item Returned:	Limited

Results:

Evaluation of the device under test had all test points within the previously assigned tolerance of ± 2.70% of full scale (0.27 in H20).

Calibration utilized customer provided Air Velocity Meter, File # 041309, Cal. Exp. Date: 4/8/2016.

This tolerance is limited because the calibration was done on site without the benefit of a controlled atmosphere or a precision pressure controller. This item was calibrated for pressure only.

Standards Used: N/A

Calibration Instructions: Standard Calibration

Before beginning work on this calibration, a review was performed to ensure that the requirements, including the methods to be used, were adequately defined, documented, and understood, and that the S&CL (or an approved subcontractor, if used) had the capabilities and resources to meet the requirements. Any differences between the request and Laboratory requirements or S&CL procedures or capabilities were resolved to the best of our ability before work commenced, with the goal of making the work performed acceptable both to the customer and to the LANL S&CL. Based on our review, an appropriate test or calibration method capable of meeting the requirements was selected; this method is indicated on this certificate on the line entitled "Calibration Procedure." Any deviations from S&CL standard calibration methods, procedures, or special requirements requested by the customer for calibration of this instrument were approved by S&CL and the customer prior to the commencement of work and are noted below.

File Number: 102403

Calibration Date: November 23, 2015

File Number

102403

Certificate No. 52520

Calibration Performed By:

Name	Title
Baer, Robert E	QA Specialist

Reviewed By:

Name	Date
David, Frank W	11/25/2015 1:50:44PM

Measurements and associated uncertainties supplied by the Standards and Calibration Laboratory (S&CL) are traceable to the International System of Units through an unbroken chain of calibrations linking individual measurements to international, national, or intrinsic standards of measurement. Each calibration in this chain is performed by a qualified calibration source meeting DOE/NNSA requirements, which generally specify adherence to ISO 17025 *General Requirements for the Competence of Testing and Calibration Laboratories.* Where traceability to international, national, or intrinsic standards is not available, traceability is achieved in accordance with the requirements of ISO 17025.

This certificate shall not be reproduced except in full without the written approval of the Standards & Calibration Laboratory.

End of Document

Los Alamos

National Laboratory

Standards and Calibration Laboratory

File number of Device Under Test (DUT): 102403
Category (Area & Subdivision): 102-04
Item Name: Pressure Transmitter
Manufacturer: Omega
Model Number: PX292-01 010WDI
Calibration date: 23-Nov-15
Calibrated by: Robert Baer
Air temperature: Ambient

File number(s) of the calibrated equipment used to calibrate the DUT:
41309 (Customer Provided)

DUT Range: **10** psi/psia/mm HG/in HG (circle one)
Enter # of Decimal Places: **2**
DUT tolerance ± **2.70** % of full scale
Calibration tolerance = ± 0.27 inH_2O

DUT Nominal Value	Standard Reading	Calibration Tolerance		
0.00	0.01	-0.27	to	0.27
2.50	2.49	2.23	to	2.77
5.00	5.02	4.73	to	5.27
7.50	7.45	7.23	to	7.77
10.00	9.92	9.73	to	10.27
0.00	0.00	-0.27	to	0.27

☑ In Tolerance
☐ Out of Tolerance

Calibration Certificate

Limited Calibration

Certificate Number 52516

Standards & Calibration Laboratory
Mail Stop: D478

Contact: **Jillian Burgin**
DSESH-ADPM **Mail Stop: P908**

File Number 102404

Instrument Information:

Description:	Magnehelic Gage	**File Number:**	102404
Manufacturer:	Dwyer	**Property No:**	N/A
Model:	2015	**Other ID:**	N/A
Serial Number:	RG20724CH16		

Calibration Information:

Calibration of the above item was achieved in a controlled environment through the use of equipment traceable to national standards. It is expected that for the duration of the calibration interval and under normal operational conditions, this item will remain within the tolerance limits specified.

Received Date:	October 28, 2015	**Location of Test:**	Area 103 - Flow
Certified:	November 23, 2015	**Normal Temperature:**	23 ºC
Expires:	November 22, 2016	**Ambient Temperature:**	23.0 ºC
Cal Procedure/ Method:	SCL-DF-1267A	**Ambient Humidity:**	35 %RH
		Item Received:	Limited
		Item Returned:	Limited

Results:

Evaluation of the device under test had all test points within the previously assigned assigned tolerance of ± 2.70% of full scale (0.27 in H20).

Calibration utilized customer provided Air Velocity Meter, File # 041309, Cal. Exp. Date: 4/8/2016.

This tolerance is limited because the calibration was done on site without the benefit of a controlled atmosphere or a precision pressure controller. This item was calibrated for pressure only.

Standards Used: N/A

Calibration Instructions: Standard Calibration

Before beginning work on this calibration, a review was performed to ensure that the requirements, including the methods to be used, were adequately defined, documented, and understood, and that the S&CL (or an approved subcontractor, if used) had the capabilities and resources to meet the requirements. Any differences between the request and Laboratory requirements or S&CL procedures or capabilities were resolved to the best of our ability before work commenced, with the goal of making the work performed acceptable both to the customer and to the LANL S&CL. Based on our review, an appropriate test or calibration method capable of meeting the requirements was selected; this method is indicated on this certificate on the line entitled "Calibration Procedure." Any deviations from S&CL standard calibration methods, procedures, or special requirements requested by the customer for calibration of this instrument were approved by S&CL and the customer prior to the commencement of work and are noted below.

File Number: 102404

Calibration Date: November 23, 2015

File Number

102404

Certificate No. 52516

Calibration Performed By:

Name	Title
Baer, Robert E	QA Specialist

Reviewed By:

Name	Date
David, Frank W	11/25/2015 2:00:46PM

Measurements and associated uncertainties supplied by the Standards and Calibration Laboratory (S&CL) are traceable to the International System of Units through an unbroken chain of calibrations linking individual measurements to international, national, or intrinsic standards of measurement. Each calibration in this chain is performed by a qualified calibration source meeting DOE/NNSA requirements, which generally specify adherence to ISO 17025 *General Requirements for the Competence of Testing and Calibration Laboratories.* Where traceability to international, national, or intrinsic standards is not available, traceability is achieved in accordance with the requirements of ISO 17025.

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Los Alamos

National Laboratory

Standards and Calibration Laboratory

File number of Device Under Test (DUT): 102404
Category (Area & Subdivision): 102-03
Item Name: Pressure Gauge
Manufacturer: Dwyer Instruments
Model Number: 2015
Calibration date: 23-Nov-15
Calibrated by: Robert Baer
Air temperature: Ambient

File number(s) of the calibrated equipment used to calibrate the DUT:
41309 (Customer Provided)

DUT Range: **10** psi/psia/mm HG/in HG (circle one)
Enter # of Decimal Places: **2**
DUT tolerance ± **2.70** % of full scale
Calibration tolerance = ± 0.27 inH_2O

DUT Nominal Value	Standard Reading	Calibration Tolerance		
0.00	0.01	-0.27	to	0.27
2.50	2.43	2.23	to	2.77
5.00	4.95	4.73	to	5.27
7.50	7.49	7.23	to	7.77
10.00	9.90	9.73	to	10.27
0.00	0.01	-0.27	to	0.27

☑ In Tolerance
☐ Out of Tolerance

Calibration Certificate

Limited Calibration

Certificate Number 52524

Standards & Calibration Laboratory
Mail Stop: D478

Contact: **Jillian Burgin**
DSESH-ADPM **Mail Stop: P908**

File Number 102405

Instrument Information:

Description:	Chart Recorder	**File Number:**	102405
Manufacturer:	Eurotherm Chessell	**Property No:**	N/A
Model:	392	**Other ID:**	N/A
Serial Number:	USA 6245-004		

Calibration Information:

Calibration of the above item was achieved in a controlled environment through the use of equipment traceable to national standards. It is expected that for the duration of the calibration interval and under normal operational conditions, this item will remain within the tolerance limits specified.

Received Date:	October 28, 2015	**Location of Test:**	Area 102 - Pressure
Certified:	November 23, 2015	**Normal Temperature:**	23 ºC
Expires:	November 22, 2016	**Ambient Temperature:**	23.0 ºC
Cal Procedure/ Method:	SCL-DF-1267A	**Ambient Humidity:**	50 %RH
		Item Received:	Limited
		Item Returned:	Limited

Results:

Evaluation of the device under test had all test points within the previously assigned tolerance of ± 2.70% of full scale (0.27 in H20).

Calibration utilized customer provided Air Velocity Meter, File # 041309, Cal. Exp. Date: 4/8/2016.

This tolerance is limited because the calibration was done on site without the benefit of a controlled atmosphere or a precision pressure controller. This item was calibrated for pressure only.

Standards Used: N/A

Calibration Instructions: Standard Calibration

Before beginning work on this calibration, a review was performed to ensure that the requirements, including the methods to be used, were adequately defined, documented, and understood, and that the S&CL (or an approved subcontractor, if used) had the capabilities and resources to meet the requirements. Any differences between the request and Laboratory requirements or S&CL procedures or capabilities were resolved to the best of our ability before work commenced, with the goal of making the work performed acceptable both to the customer and to the LANL S&CL. Based on our review, an appropriate test or calibration method capable of meeting the requirements was selected; this method is indicated on this certificate on the line entitled "Calibration Procedure." Any deviations from S&CL standard calibration methods, procedures, or special requirements requested by the customer for calibration of this instrument were approved by S&CL and the customer prior to the commencement of work and are noted below.

File Number: 102405

Calibration Date: November 23, 2015

File Number

102405

Certificate No. 52524

Calibration Performed By:

Name	Title
Baer, Robert E	QA Specialist

Reviewed By:

Name	Date
David, Frank W	11/25/2015 1:57:59PM

Measurements and associated uncertainties supplied by the Standards and Calibration Laboratory (S&CL) are traceable to the International System of Units through an unbroken chain of calibrations linking individual measurements to international, national, or intrinsic standards of measurement. Each calibration in this chain is performed by a qualified calibration source meeting DOE/NNSA requirements, which generally specify adherence to ISO 17025 *General Requirements for the Competence of Testing and Calibration Laboratories.* Where traceability to international, national, or intrinsic standards is not available, traceability is achieved in accordance with the requirements of ISO 17025.

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Los Alamos

National Laboratory

Standards and Calibration Laboratory

File number of Device Under Test (DUT): 102405
Category (Area & Subdivision): 102-03
Item Name: Chart Recorder
Manufacturer: Eurotherm Chessell
Model Number: 392
Calibration date: 23-Nov-15
Calibrated by: Robert Baer
Air temperature: Ambient

File number(s) of the calibrated equipment used to calibrate the DUT:
41309 (Customer Provided)

DUT Range: **10** psi/psia/mm HG/in HG (circle one)
Enter # of Decimal Places: **2**
DUT tolerance ± **2.70** % of full scale
Calibration tolerance = ± 0.27 inH_2O

DUT Nominal Value	Standard Reading	Calibration Tolerance		
0.00	0.01	-0.27	to	0.27
2.50	2.49	2.23	to	2.77
5.00	5.02	4.73	to	5.27
7.50	7.45	7.23	to	7.77
10.00	9.92	9.73	to	10.27
0.00	0.00	-0.27	to	0.27

☑ In Tolerance
☐ Out of Tolerance

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ATTACHMENT A607.G.

Asphalt Plant

Method 22 Opacity Reports

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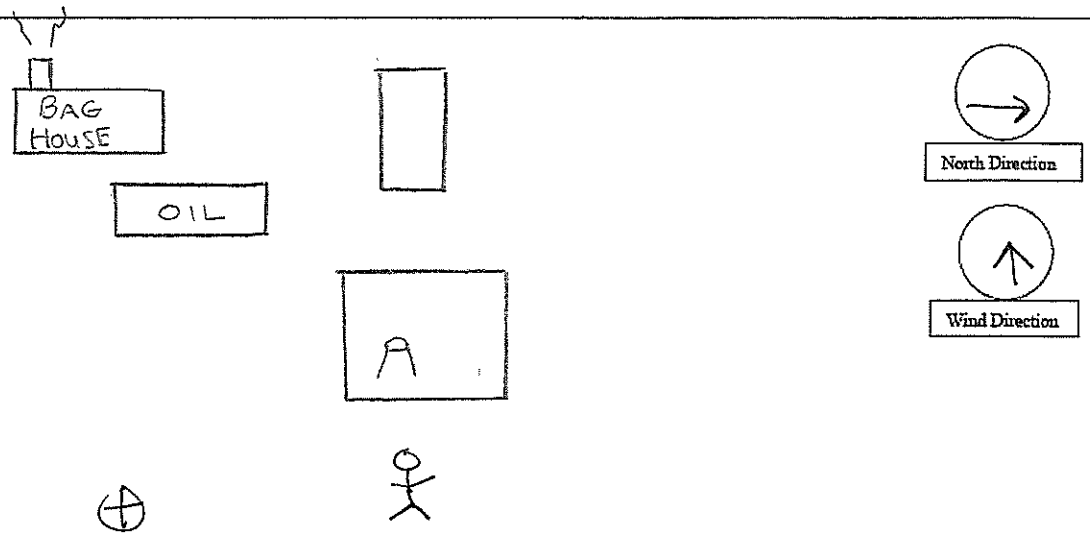
Los Alamos National Laboratory
METHOD 22 Visual Determination of Fugitive Emissions Form

Location: TA60 Asphalt Batch Plant	**Observer Affiliation:** DSESH-UIMS
Representative: C. Heintschel	**Date of Inspection:** 9/25/15
Sky Conditions: Clear	**Wind Direction:** From East
Precipitation: Ø	**Wind Speed:** 5-10 mph
Industry: National Lab	**Process Unit:** Fugitive Emissions

Sketch of Process Unit:

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



Observations:

	Clock Time	Observation period duration (min:sec)	Accumulated Emission Time(min:sec)
Begin	9:34		
		10:00	Ø
End Observation	9:44		

Notes:

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

SIGNATURE OF OBSERVER/INSPECTOR: Cliff Heintschel DATE: 9/25/15

THIS FORM IS FROM EAQ-307, R5

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Date: Friday, September 25, 2015 | Time: 10:05 MDT (16:05 UTC) | Time Note »

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LANL Observations > Table Summaries

The table below provides a snapshot of current conditions at each tower location. Wind variables are measured at 11 meters above the ground (36 meters at PJMT) and the atmospheric state variables (temperature, humidity, and pressure) are measured at 1.2 meters above the ground (2 meters at PJMT).

Other Text Summaries Available: 15-Minute Short Summary (English)

Current Observations: English | Metric

Tower (tower)	TA6	TA41	TA49	TA53	TA54
Date (mm/dd)	09/25	09/25	09/25	09/25	09/25
Time (hhmm)	0845	0845	0845	0845	0845
Wind Speed (mph)	6.5	2.2	6.5	3.4	4.0
Wind Direction (deg)	24	127	35	59	87
Max Gust (mph)	12.3	6.7	11.6	8.1	10.5
Max Gust Direction (deg)	24	270	350	59	265
Time of Max Gust (hhmm)	845	245	715	845	30
Temperature (deg-F)	65.1	62.8	64.0	57.6	61.3
Max Temp Since Midnight (deg-F)	65.1	62.8	64.0	57.6	61.3
Time of Max Temp (hhmm)	845	845	845	845	845
Min Temp Since Midnight (deg-F)	49.1	41.7	52.5	49.1	46.0
Time of Min Temp (hhmm)	600	600	500	615	600
Pressure (mb)	785.3	-	-	-	809.8
Relative Humidity (%)	38	-	37	40	48
Dew Point Temperature (deg-F)	39.2	-	37.9	33.6	41.9
Precip Last 15 Minutes (in)	0.00	-	0.00	0.00	0.00
Precip Since Midnight (in)	0.00	-	0.00	0.00	0.00
Downwelling Shortwave (BTU/hr*ft^2)	180	178	163	176	176
windchill (deg-C)	18.4	17.1	17.8	14.2	16.3

NOTE: All times are reported in Mountain Standard Time (MST).

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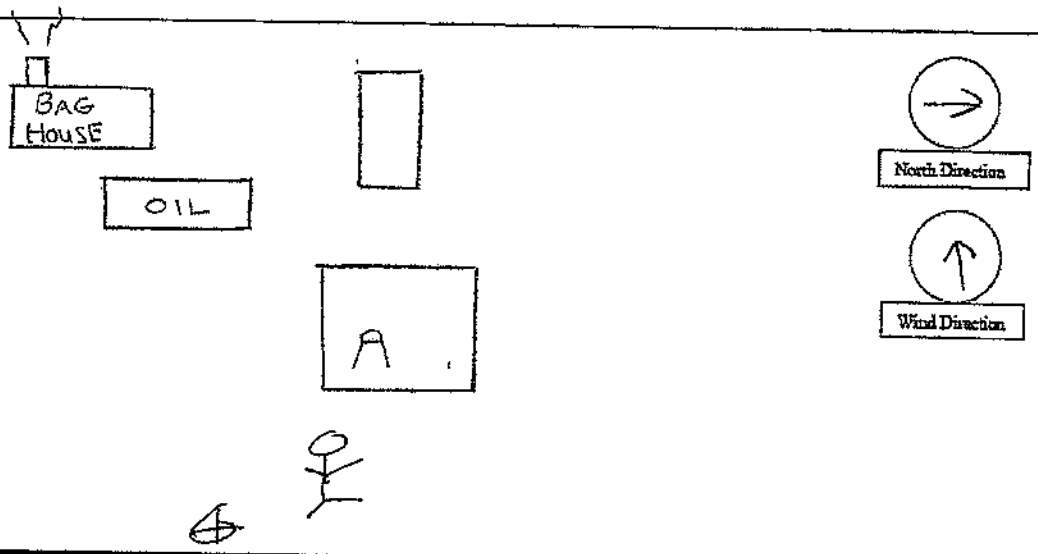
Los Alamos National Laboratory
METHOD 22 Visual Determination of Fugitive Emissions Form

Location: TA 60 Asphalt Batch Plant	**Observer Affiliation:** DSESH-UMS
Representative: C. Heintschel	**Date of Inspection:** 10-29-15
Sky Conditions: Cloudy	**Wind Direction:** From East
Precipitation: Ø	**Wind Speed:** 0-5 mph
Industry: National Lab	**Process Unit:** Fugitive Emissions

Sketch of Process Unit:

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



Observations:

	Clock Time	Observation period duration (min:sec)	Accumulated Emission Time(min:sec)
Begin	9:40		
		10:00	Ø
End Observation	9:50		

Notes:

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

SIGNATURE OF OBSERVER/INSPECTOR: Cliff Heintschel

DATE: 10/29/15

THIS FORM IS FROM EAQ-307, R5

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Date: Thursday, October 29, 2015 | Time: 10:05 MDT (16:05 UTC) | Time Note »

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LANL Observations > Table Summaries

The table below provides a snapshot of current conditions at each tower location. Wind variables are measured at 11 meters above the ground (36 meters at PJMT) and the atmospheric state variables (temperature, humidity, and pressure) are measured at 1.2 meters above the ground (2 meters at PJMT).

Other Text Summaries Available: 15-Minute Short Summary (English)

Current Observations: English | Metric

Tower (tower)	TA6	TA49	TA53	TA54
Date (mm/dd)	10/29	10/29	10/29	10/29
Time (hhmm)	0845	0845	0845	0845
Wind Speed (mph)	5.1	1.8	1.6	2.5
Wind Direction (deg)	170	135	166	347
Max Gust (mph)	11.0	13.2	12.1	12.8
Max Gust Direction (deg)	238	244	263	264
Time of Max Gust (hhmm)	545	545	545	545
Temperature (deg-F)	46.0	44.8	42.6	43.5
Max Temp Since Midnight (deg-F)	46.0	46.2	47.1	43.5
Time of Max Temp (hhmm)	845	45	115	845
Min Temp Since Midnight (deg-F)	38.8	41.2	40.8	36.1
Time of Min Temp (hhmm)	545	730	515	715
Pressure (mb)	773.2	-	-	798.8
Relative Humidity (%)	43	45	48	55
Dew Point Temperature (deg-F)	25.0	25.3	24.6	28.8
Precip Last 15 Minutes (in)	0.00	0.00	0.00	0.00
Precip Since Midnight (in)	0.00	0.00	0.00	0.00
Downwelling Shortwave (BTU/hr*ft^2)	65	65	53	54
windchill (deg-C)	6.4	7.1	5.9	6.0

NOTE: All times are reported in Mountain Standard Time (MST).

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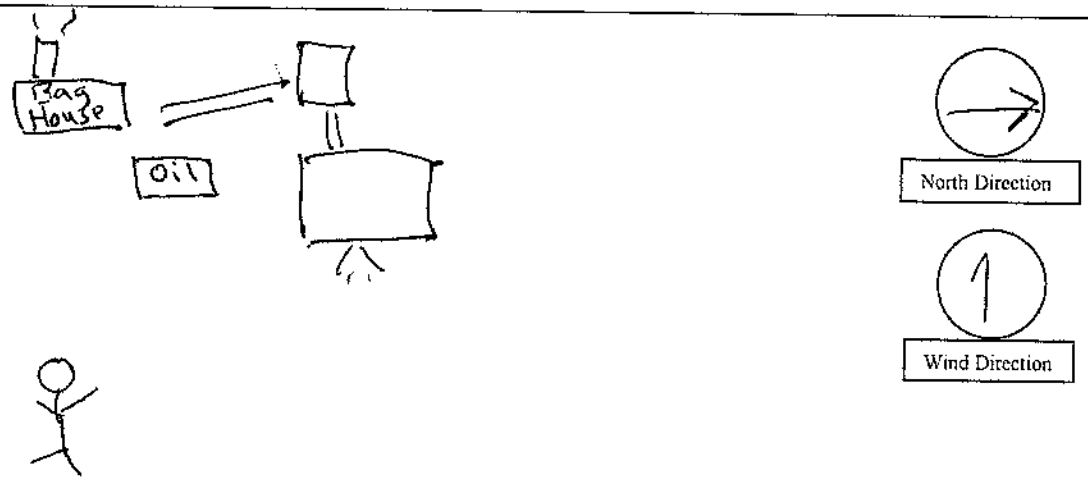
Los Alamos National Laboratory
METHOD 22 Visual Determination of Fugitive Emissions Form

Location: TA 60 Asphalt Batch Plant	**Observer Affiliation:** DSESH- UI
Representative: C. Heintschel	**Date of Inspection:** 11/20/15
Sky Conditions: Cloudy	**Wind Direction:** From East
Precipitation: Ø	**Wind Speed:** 5-10 mph
Industry: National Lab	**Process Unit:** Fugitive Emissions

Sketch of Process Unit:

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



Observations:	Clock Time	Observation period duration (min:sec)	Accumulated Emission Time(min:sec)
Begin	9:52		
		10:00	10:00
End Observation	10:02		

Notes: All OK

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

SIGNATURE OF OBSERVER/INSPECTOR: Cliff Heintschel

DATE 11/25/15

ENV-CP-Form-1006 04/2015

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Date: Wednesday, November 25, 2015 | Time: 10:18 MST (17:18 UTC)

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LANL Observations > Table Summaries

The table below provides a snapshot of current conditions at each tower location. Wind variables are measured at 11 meters above the ground (36 meters at PJMT) and the atmospheric state variables (temperature, humidity, and pressure) are measured at 1.2 meters above the ground (2 meters at PJMT).

Other Text Summaries Available: 15-Minute Short Summary (English)

Current Observations: English | Metric

Tower (tower)	TA6	TA49	TA53	TA54
Date (mm/dd)	11/25	11/25	11/25	11/25
Time (hhmm)	1000	1000	1000	1000
Wind Speed (mph)	6.5	6.5	8.3	8.1
Wind Direction (deg)	173	163	185	192
Max Gust (mph)	18.6	11.0	14.3	13.0
Max Gust Direction (deg)	248	163	182	192
Time of Max Gust (hhmm)	215	1000	945	1000
Temperature (deg-F)	45.5	44.6	44.6	45.5
Max Temp Since Midnight (deg-F)	45.5	45.5	45.0	45.5
Time of Max Temp (hhmm)	1000	15	15	1000
Min Temp Since Midnight (deg-F)	36.7	37.0	37.2	31.3
Time of Min Temp (hhmm)	530	500	230	245
Pressure (mb)	772.5	-	-	798.1
Relative Humidity (%)	34	37	33	39
Dew Point Temperature (deg-F)	19.2	20.3	18.0	22.3
Precip Last 15 Minutes (in)	0.00	0.00	0.00	0.00
Precip Since Midnight (in)	0.00	0.00	0.00	0.00
Downwelling Shortwave (BTU/hr*ft^2)	72	101	78	118
windchill (deg-C)	5.5	5.0	4.4	5.1

NOTE: All times are reported in Mountain Standard Time (MST).

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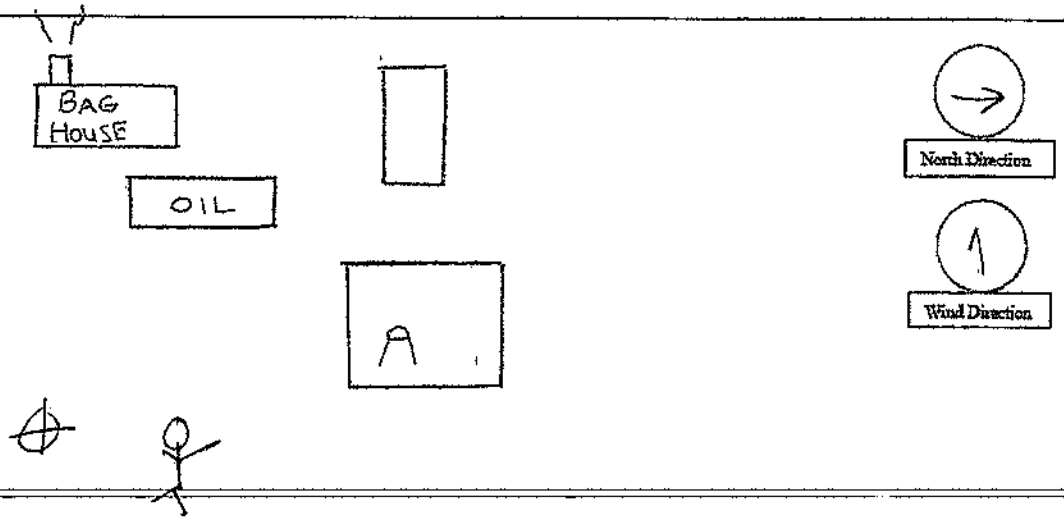
ENV-EAQ-307, R5 Attachment 3, page 1 of 1		Ecology and Air Quality Los Alamos National Laboratory

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

Location: TA 60 Asphalt Batch Plant	**Observer Affiliation:** DSESH-UI
Representative: C. Heintschel	**Date of Inspection:** 12/1/2015
Sky Conditions: Clear	**Wind Direction:** From East
Precipitation: Ø	**Wind Speed:** 5-10 mph
Industry: National Lab	**Process Unit:** Fugitive Emissions

Sketch of Process Unit:

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



Observations:

	Clock Time	Observation period duration (min:sec)	Accumulated Emission Time(min:sec)
Begin	12:52		
		10:00	10:00
End Observation	13:02		

Notes: Some Steam blowing due to temperature

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

SIGNATURE OF OBSERVER/INSPECTOR: Cliff Heintschel DATE: 12/1/15

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ATTACHMENT A707.B.a.

Beryllium

TA-03-0066 Beryllium Logs

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July 1, 2015 - December 31, 2015

Metallography	Date	Number of Metallographic Specimens Used in the Polishing Operation
	12/3/2015	8

Note: Information required under Title V Operating Permit P100-R2, Section A707.B, Emissions Monitoring Requirements and A707.D, Reporting Requirements

July 1, 2015 - December 31, 2015

Electroplating/Chemical Milling	Date	Weight or Volume of Beryllium Samples Processed	UOM
		No samples processed.	

Note: Information required under Title V Operating Permit P100-R2, Section A707.B, Emissions Monitoring Requirements and A707.D, Reporting Requirements

July 1, 2015 - December 31, 2015

Machining

Date	Weight or Volume of Beryllium Samples Processed	UOM
	No samples processed.	

Arc Melting/Casting

Date	Weight or Volume of Beryllium Samples Processed	UOM
	No samples processed.	

Note: Information required under Title V Operating Permit P100-R2, Section A707.B, Emissions Monitoring Requirements and A707.D, Reporting Requirements

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ATTACHMENT A707.B.b.

Beryllium

TA-35-0213 Beryllium Operating Log

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July		August		September		October		November		December	
Date	Hours	Date	Hours	Date	Hours	Date	Hours	Date	Hours	Date	Hours
6-Jul	6	3-Aug	3	1-Sep	6	1-Oct	7	2-Nov	2	8-Dec	6
7-Jul	6	4-Aug	5	2-Sep	5	2-Oct	5	3-Nov	4	9-Dec	8
13-Jul	2	5-Aug	5	3-Sep	6	5-Oct	6	9-Nov	4	14-Dec	7
14-Jul	2	6-Aug	7	4-Sep	7	6-Oct	8	10-Nov	2		
15-Jul	6	7-Aug	7	8-Sep	4	7-Oct	5	16-Nov	6		
17-Jul	8	10-Aug	5	9-Sep	7	8-Oct	7				
20-Jul	3	11-Aug	4	10-Sep	7	13-Oct	6				
21-Jul	7	12-Aug	2	14-Sep	5	14-Oct	5				
23-Jul	7	13-Aug	4	15-Sep	6	15-Oct	2				
24-Jul	5	18-Aug	2	16-Sep	8	16-Oct	3				
27-Jul	7	19-Aug	6	17-Sep	8	20-Oct	2				
28-Jul	6	20-Aug	6	18-Sep	6	21-Oct	7				
29-Jul	7	21-Aug	8	21-Sep	5	22-Oct	4				
7/30/2015	7	24-Aug	7	22-Sep	7						
		25-Aug	6	23-Sep	2						
		26-Aug	7	24-Sep	6						
		27-Aug	7	28-Sep	7						
				29-Sep	7						
				30-Sep	5						
Total Hours	**79**		**91**		**114**		**67**		**18**		**21**

Sum Total of hours for July 1 - December 30, 2015: **390**

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ATTACHMENT A707.C.a.

Beryllium

TA-03-0141 Beryllium HEPA Filter Differential Pressure Readings

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TA-03-0141 New Mexico State Report for July-2015

	EXHAUST_HEPA_1_DP			EXHAUST_HEPA_2_DP			DUST_COLLECTOR_DP		
	04:00	12:00	20:00	04:00	12:00	20:00	04:00	12:00	20:00
07/01/15	4.26	4.37	4.44	1.91	1.94	1.97	0.88	0.94	1.05
07/02/15	4.29	4.31	4.26	1.91	1.92	1.90	0.92	0.95	0.84
07/03/15	4.23	4.36	4.26	1.89	1.94	1.89	0.79	0.88	0.90
07/04/15	4.22	4.42	4.27	1.88	1.94	1.90	0.85	0.93	0.96
07/05/15	4.18	4.37	4.30	1.87	1.93	1.90	0.85	0.97	0.90
07/06/15	4.13	4.30	4.24	1.86	1.90	1.88	0.83	0.90	0.86
07/07/15	4.16	4.33	4.21	1.86	1.91	1.87	0.80	0.92	0.90
07/08/15	3.96	4.26	4.25	1.79	1.90	1.89	0.77	0.91	0.90
07/09/15	4.09	4.25	4.16	1.82	1.90	1.85	0.80	0.88	0.83
07/10/15	4.06	4.27	4.10	1.81	1.88	1.85	0.75	0.82	0.89
07/11/15	4.11	4.23	4.11	1.82	1.87	1.83	0.75	0.88	0.94
07/12/15	4.09	4.23	4.42	1.83	1.88	1.94	0.85	0.96	0.97
07/13/15	4.05	4.25	4.24	1.81	1.88	1.87	0.79	0.94	0.98
07/14/15	4.10	4.27	4.28	1.84	1.90	1.90	0.84	0.96	0.99
07/15/15	4.19	4.22	4.18	1.86	1.87	1.86	0.80	0.93	0.88
07/16/15	4.12	4.26	4.42	1.84	1.89	1.94	0.81	0.90	0.96
07/17/15	4.17	4.32	4.19	1.85	1.93	1.87	0.86	0.93	0.93
07/18/15	4.17	4.34	4.27	1.86	1.91	1.89	0.84	0.94	0.97
07/19/15	4.21	4.32	4.25	1.88	1.91	1.87	0.79	0.89	0.96
07/20/15	4.19	4.29	4.13	1.85	1.91	1.83	0.88	0.96	0.89
07/21/15	4.15	4.28	4.35	1.83	1.89	1.90	0.74	0.85	1.03
07/22/15	4.24	4.32	4.34	1.87	1.89	1.91	0.87	0.93	1.05
07/23/15	4.15	4.30	4.26	1.84	1.89	1.87	0.88	0.95	1.06
07/24/15	4.20	4.23	4.44	1.84	1.89	1.93	0.98	1.02	1.07
07/25/15	4.22	4.25	4.43	1.85	1.88	1.94	0.92	0.97	1.13
07/26/15	4.14	4.23	4.19	1.83	1.87	1.84	0.91	1.03	1.09
07/27/15	4.12	4.32	4.37	1.83	1.91	1.91	0.84	0.95	1.07
07/28/15	4.17	4.35	4.36	1.84	1.90	1.91	0.93	0.99	1.06
07/29/15	4.18	4.28	4.28	1.85	1.88	1.88	0.90	0.91	0.95
07/30/15	4.17	4.25	4.20	1.83	1.88	1.85	0.82	0.97	0.90
07/31/15	4.18	4.28	4.12	1.85	1.89	1.84	0.82	0.90	0.85

TA-03-0141 New Mexico State Report for July-2015

	EXHAUST_HEPA_1_DP	EXHAUST_HEPA_2_DP	DUST_COLLECTOR_DP
Average:	4.24	1.88	0.91
Median:	4.25	1.88	0.90
Min:	3.96	1.79	0.74
Max:	4.44	1.97	1.13

TA-03-0141 New Mexico State Report for August-2015

	EXHAUST_HEPA_1_DP			EXHAUST_HEPA_2_DP			DUST_COLLECTOR_DP		
	04:00	12:00	20:00	04:00	12:00	20:00	04:00	12:00	20:00
08/01/15	4.13	4.18	4.17	1.82	1.84	1.84	0.83	0.90	0.92
08/02/15	4.08	4.27	4.20	1.82	1.88	1.86	0.80	0.90	0.88
08/03/15	4.09	4.27	4.42	1.81	1.89	1.91	0.84	1.14	1.03
08/04/15	4.08	4.24	4.34	1.81	1.87	1.88	0.89	0.98	1.08
08/05/15	4.13	4.28	4.34	1.82	1.89	1.88	0.87	1.02	1.11
08/06/15	4.24	4.29	4.31	1.85	1.87	1.89	0.96	1.02	1.09
08/07/15	4.15	4.20	4.18	1.83	1.85	1.83	0.92	0.93	1.00
08/08/15	4.11	4.20	4.10	1.80	1.86	1.79	0.77	0.82	0.82
08/09/15	3.94	4.03	4.09	1.73	1.76	1.76	0.76	0.89	0.98
08/10/15	3.95	4.11	3.98	1.73	1.77	1.74	0.83	0.92	0.92
08/11/15	3.98	4.05	3.99	1.72	1.74	1.73	0.79	0.90	0.96
08/12/15	3.81	3.90	3.82	1.68	1.71	1.69	0.88	0.94	1.03
08/13/15	3.82	3.92	4.01	1.67	1.73	1.75	0.90	0.96	1.08
08/14/15	3.88	2.83	2.88	1.70	1.37	1.35	0.93	0.00	0.05
08/15/15	2.66	2.05	2.15	1.27	1.12	1.13	-0.10	-0.05	-0.06
08/16/15	2.08	1.99	1.98	1.13	1.09	1.08	-0.17	-0.07	-0.01
08/17/15	1.93	3.14	3.09	1.06	1.61	1.59	-0.12	0.96	0.94
08/18/15	3.11	3.12	3.21	1.59	1.61	1.63	0.82	1.04	1.05
08/19/15	3.09	3.17	3.23	1.58	1.62	1.63	0.91	0.84	0.97
08/20/15	3.11	3.15	2.21	1.59	1.61	1.20	0.79	0.85	-0.03
08/21/15	2.06	1.86	1.82	1.13	1.03	1.04	-0.11	-0.06	-0.01
08/22/15	1.81	1.70	1.64	1.02	0.86	0.85	-0.13	-0.13	-0.07
08/23/15	1.83	0.80	0.81	0.91	0.63	0.63	-0.13	-0.21	-0.05
08/24/15	0.78	1.53	1.51	0.61	1.08	1.07	-0.21	0.85	1.02
08/25/15	1.48	1.55	1.54	1.06	1.09	1.08	0.83	0.94	1.04
08/26/15	1.49	1.53	1.51	1.06	1.07	1.07	0.90	0.87	1.03
08/27/15	1.48	1.53	0.95	1.05	1.08	0.72	0.84	0.83	-0.07
08/28/15	0.90	0.94	0.93	0.70	0.71	0.69	-0.17	-0.12	-0.06
08/29/15	0.90	0.46	0.46	0.70	0.36	0.37	-0.18	-0.16	-0.09
08/30/15	0.45	0.46	0.73	0.35	0.37	0.54	-0.22	-0.17	0.96
08/31/15	0.70	0.72	0.72	0.54	0.53	0.54	0.91	0.96	1.03

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	EXHAUST_HEPA_1_DP	EXHAUST_HEPA_2_DP	DUST_COLLECTOR_DP
Average:	2.77	1.36	0.61
Median:	3.11	1.59	0.87
Min:	0.45	0.35	-0.22
Max:	4.42	1.91	1.14

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	EXHAUST_HEPA_1_DP			EXHAUST_HEPA_2_DP			DUST_COLLECTOR_DP		
	04:00	12:00	20:00	04:00	12:00	20:00	04:00	12:00	20:00
09/01/15	0.71	0.78	0.73	0.54	0.57	0.55	0.91	0.93	1.00
09/02/15	0.70	0.72	0.73	0.54	0.55	0.56	0.94	0.93	0.98
09/03/15	0.70	0.72	0.73	0.53	0.55	0.55	0.86	0.87	1.00
09/04/15	0.69	0.71	0.70	0.53	0.55	0.53	0.85	0.84	0.83
09/05/15	0.68	0.73	0.70	0.51	0.55	0.55	0.79	0.86	0.86
09/06/15	0.68	0.71	0.71	0.52	0.55	0.54	0.76	0.82	0.94
09/07/15	0.70	0.72	0.72	0.53	0.55	0.54	0.88	0.92	0.99
09/08/15	0.70	0.72	0.73	0.54	0.54	0.54	0.87	0.90	1.03
09/09/15	0.70	0.72	0.72	0.53	0.55	0.54	0.85	0.94	1.04
09/10/15	0.70	0.72	0.72	0.53	0.55	0.54	0.83	0.84	0.99
09/11/15	0.70	0.71	0.72	0.54	0.55	0.54	0.84	1.20	0.91
09/12/15	0.70	0.71	0.72	0.54	0.54	0.55	0.78	0.82	1.02
09/13/15	0.69	0.71	0.71	0.53	0.53	0.54	0.87	0.90	1.02
09/14/15	0.70	0.71	0.71	0.53	0.55	0.54	0.87	0.89	0.96
09/15/15	0.70	0.72	0.73	0.54	0.55	0.55	0.83	1.01	0.97
09/16/15	0.70	0.72	0.72	0.54	0.54	0.55	0.85	1.23	0.97
09/17/15	0.70	0.70	0.70	0.52	0.54	0.54	0.85	0.96	0.99
09/18/15	0.69	0.71	0.71	0.53	0.54	0.55	0.86	0.97	0.98
09/19/15	0.71	0.69	0.71	0.54	0.54	0.54	0.81	0.74	0.88
09/20/15	0.67	0.71	0.71	0.53	0.54	0.55	0.75	0.76	0.95
09/21/15	0.71	0.72	0.70	0.54	0.54	0.54	0.84	1.16	0.99
09/22/15	0.69	0.71	0.70	0.53	0.55	0.54	0.81	0.92	0.81
09/23/15	0.69	0.69	0.70	0.53	0.53	0.54	0.79	0.87	0.86
09/24/15	0.67	0.71	0.70	0.53	0.54	0.54	0.72	0.85	0.94
09/25/15	0.69	0.71	0.71	0.53	0.55	0.54	0.75	0.94	0.95
09/26/15	0.69	0.70	0.70	0.52	0.54	0.53	0.84	0.87	0.99
09/27/15	0.70	0.70	0.73	0.53	0.53	0.55	0.79	0.81	0.95
09/28/15	0.69	0.70	0.71	0.53	0.53	0.54	0.83	0.88	0.95
09/29/15	0.69	0.71	0.70	0.54	0.55	0.53	0.87	0.87	0.98
09/30/15	0.69	0.71	0.70	0.53	0.54	0.54	0.83	0.98	0.95
10/01/15	0.69	0.71	0.70	0.53	0.54	0.54	0.84	0.81	0.99

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	EXHAUST_HEPA_1_DP	EXHAUST_HEPA_2_DP	DUST_COLLECTOR_DP
Average:	0.71	0.54	0.90
Median:	0.71	0.54	0.88
Min:	0.67	0.51	0.72
Max:	0.78	0.57	1.23

TA-03-0141 New Mexico State Report for October-2015

	EXHAUST_HEPA_1_DP			EXHAUST_HEPA_2_DP			DUST_COLLECTOR_DP		
	04:00	12:00	20:00	04:00	12:00	20:00	04:00	12:00	20:00
10/01/15	0.69	0.71	0.70	0.53	0.54	0.54	0.84	0.81	0.99
10/02/15	0.70	0.71	0.71	0.53	0.54	0.54	0.87	1.17	0.96
10/03/15	0.69	0.69	0.67	0.52	0.54	0.53	0.78	0.79	0.76
10/04/15	0.68	0.71	0.69	0.53	0.53	0.54	0.81	0.80	0.71
10/05/15	0.70	0.66	0.66	0.53	0.53	0.51	0.81	1.05	0.82
10/06/15	0.70	0.73	0.66	0.54	0.55	0.51	0.77	0.81	0.80
10/07/15	0.70	0.68	0.65	0.55	0.53	0.51	0.73	0.96	0.81
10/08/15	0.70	0.69	0.67	0.54	0.54	0.52	0.83	0.81	0.83
10/09/15	0.69	0.72	0.66	0.53	0.54	0.52	0.76	1.02	0.81
10/10/15	0.70	0.71	0.69	0.53	0.55	0.53	0.79	0.78	0.84
10/11/15	0.69	0.67	0.69	0.52	0.51	0.53	0.79	0.85	0.90
10/12/15	0.64	0.68	0.70	0.50	0.52	0.52	0.84	0.82	0.93
10/13/15	0.66	0.68	0.68	0.52	0.51	0.52	0.83	0.82	0.88
10/14/15	0.66	0.68	0.68	0.50	0.52	0.53	0.83	0.99	0.93
10/15/15	0.66	0.68	0.69	0.50	0.54	0.53	0.80	0.82	0.89
10/16/15	0.71	0.44	0.72	0.54	0.37	0.56	0.79	0.74	0.80
10/17/15	0.70	0.66	0.67	0.53	0.52	0.52	0.69	0.84	0.89
10/18/15	0.66	0.68	0.69	0.51	0.53	0.53	0.91	0.92	0.95
10/19/15	0.66	0.69	0.68	0.52	0.53	0.52	0.95	0.94	0.93
10/20/15	0.66	0.70	0.66	0.52	0.54	0.52	0.91	1.27	0.91
10/21/15	0.66	0.68	0.65	0.52	0.53	0.50	0.86	0.88	0.84
10/22/15	0.65	0.69	0.70	0.51	0.53	0.54	0.78	0.91	0.92
10/23/15	0.66	0.70	0.69	0.52	0.53	0.53	0.83	0.90	0.92
10/24/15	0.66	0.66	0.68	0.52	0.51	0.52	0.89	0.89	0.84
10/25/15	0.66	0.68	0.67	0.51	0.53	0.52	0.84	0.92	0.93
10/26/15	0.67	0.69	0.68	0.51	0.53	0.53	0.87	0.97	0.95
10/27/15	0.68	0.69	0.70	0.52	0.53	0.53	0.89	0.89	0.91
10/28/15	0.68	0.70	0.69	0.52	0.54	0.53	0.81	0.92	0.90
10/29/15	0.68	0.69	0.69	0.52	0.53	0.53	0.86	0.89	0.86
10/30/15	0.66	0.68	0.68	0.53	0.53	0.53	0.85	0.88	0.89
10/31/15	0.66	0.69	0.68	0.52	0.53	0.52	0.82	0.82	0.88

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	EXHAUST_HEPA_1_DP	EXHAUST_HEPA_2_DP	DUST_COLLECTOR_DP
Average:	0.68	0.52	0.87
Median:	0.68	0.53	0.86
Min:	0.44	0.37	0.69
Max:	0.73	0.56	1.27

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	EXHAUST_HEPA_1_DP			EXHAUST_HEPA_2_DP			DUST_COLLECTOR_DP		
	04:00	12:00	20:00	04:00	12:00	20:00	04:00	12:00	20:00
11/01/15	0.68	0.69	0.69	0.51	0.53	0.53	0.89	0.92	0.87
11/02/15	0.68	0.67	0.68	0.53	0.54	0.53	0.88	1.08	0.92
11/03/15	0.67	0.69	0.67	0.53	0.53	0.52	0.88	0.92	0.86
11/04/15	0.68	0.69	0.70	0.52	0.54	0.54	0.82	0.89	0.84
11/05/15	0.67	0.72	0.67	0.53	0.55	0.52	0.80	0.77	0.85
11/06/15	0.68	0.69	0.68	0.51	0.54	0.52	0.80	1.11	0.88
11/07/15	0.66	0.68	0.68	0.52	0.53	0.53	0.84	0.84	0.82
11/08/15	0.67	0.67	0.68	0.52	0.53	0.52	0.85	0.82	0.83
11/09/15	0.67	0.70	0.66	0.53	0.54	0.52	0.83	0.92	0.88
11/10/15	0.66	0.69	0.70	0.51	0.55	0.53	0.80	0.87	0.83
11/11/15	0.68	0.69	0.69	0.53	0.53	0.52	0.81	0.76	0.81
11/12/15	0.67	0.68	0.68	0.51	0.53	0.52	0.78	0.82	0.88
11/13/15	0.66	0.68	0.67	0.52	0.54	0.52	0.86	0.87	0.79
11/14/15	0.66	0.67	0.66	0.51	0.52	0.52	0.82	0.83	0.86
11/15/15	0.66	0.69	0.65	0.52	0.53	0.50	0.86	0.91	0.85
11/16/15	0.65	0.70	0.70	0.52	0.54	0.53	0.84	0.89	0.80
11/17/15	0.68	0.69	0.69	0.53	0.54	0.54	0.78	0.85	0.81
11/18/15	0.67	0.38	0.69	0.52	0.31	0.53	0.82	-0.19	0.89
11/19/15	0.66	0.69	0.69	0.52	0.53	0.53	0.84	0.87	0.92
11/20/15	0.67	0.69	0.68	0.52	0.53	0.53	0.81	0.87	0.88
11/21/15	0.65	0.66	0.65	0.50	0.51	0.51	0.83	0.81	0.86
11/22/15	0.65	0.66	0.66	0.51	0.51	0.51	0.81	0.80	0.83
11/23/15	0.65	0.69	0.67	0.50	0.52	0.52	0.81	0.88	0.85
11/24/15	0.65	0.68	0.68	0.51	0.53	0.52	0.83	0.90	0.88
11/25/15	0.66	0.68	0.68	0.51	0.54	0.52	0.87	0.90	0.88
11/26/15	0.67	0.69	0.70	0.53	0.52	0.54	0.83	0.87	0.84
11/27/15	0.69	0.69	0.66	0.52	0.52	0.53	0.89	0.82	0.82
11/28/15	0.68	0.68	0.67	0.52	0.52	0.53	0.76	0.75	0.81
11/29/15	0.67	0.69	0.70	0.52	0.53	0.54	0.80	0.83	0.79
11/30/15	0.69	0.68	0.67	0.53	0.53	0.53	0.76	0.80	0.82
12/01/15	0.66	0.67	0.66	0.52	0.52	0.51	0.73	0.79	0.84

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	EXHAUST_HEPA_1_DP	EXHAUST_HEPA_2_DP	DUST_COLLECTOR_DP
Average:	0.67	0.52	0.83
Median:	0.68	0.52	0.84
Min:	0.38	0.31	-0.19
Max:	0.72	0.55	1.11

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	EXHAUST_HEPA_1_DP			EXHAUST_HEPA_2_DP			DUST_COLLECTOR_DP		
	04:00	12:00	20:00	04:00	12:00	20:00	04:00	12:00	20:00
12/01/15	0.66	0.67	0.66	0.52	0.52	0.51	0.73	0.79	0.84
12/02/15	0.66	0.66	0.68	0.51	0.53	0.52	0.78	0.78	0.86
12/03/15	0.66	0.69	0.68	0.52	0.53	0.52	0.83	0.86	0.86
12/04/15	0.64	0.69	0.68	0.51	0.54	0.53	0.83	0.87	0.90
12/05/15	0.68	0.69	0.67	0.53	0.53	0.52	0.90	0.87	0.83
12/06/15	0.66	0.67	0.66	0.52	0.52	0.51	0.81	0.82	0.83
12/07/15	0.65	0.68	0.67	0.51	0.53	0.51	0.81	0.90	0.87
12/08/15	0.64	0.68	0.67	0.51	0.53	0.52	0.85	0.92	0.86
12/09/15	0.64	0.68	0.66	0.51	0.52	0.51	0.82	0.88	0.86
12/10/15	0.64	0.68	0.68	0.50	0.52	0.52	0.79	0.92	0.86
12/11/15	0.66	0.70	0.68	0.51	0.54	0.53	0.82	0.90	0.90
12/12/15	0.66	0.65	0.66	0.52	0.50	0.51	0.81	0.79	0.82
12/13/15	0.66	0.66	0.66	0.52	0.52	0.51	0.85	0.74	0.79
12/14/15	0.65	0.66	0.70	0.51	0.52	0.55	0.77	0.82	0.80
12/15/15	0.70	0.70	0.69	0.54	0.53	0.53	0.72	0.93	0.73
12/16/15	0.67	0.68	0.72	0.52	0.53	0.55	0.72	0.78	0.72
12/17/15	0.66	0.67	0.66	0.52	0.52	0.52	0.74	0.73	0.78
12/18/15	0.70	0.72	0.70	0.55	0.57	0.54	0.79	0.80	0.69
12/19/15	0.65	0.66	0.66	0.50	0.52	0.51	0.79	0.84	0.86
12/20/15	0.66	0.70	0.65	0.52	0.53	0.52	0.83	0.86	0.82
12/21/15	0.66	0.68	0.66	0.52	0.52	0.52	0.75	0.99	0.87
12/22/15	0.63	0.66	0.68	0.51	0.51	0.53	0.76	0.84	0.84
12/23/15	0.68	0.71	0.69	0.53	0.55	0.53	0.81	0.77	0.83
12/24/15	0.66	0.66	0.66	0.51	0.52	0.51	0.77	0.77	0.81
12/25/15	0.66	0.65	0.66	0.52	0.51	0.52	0.80	0.84	0.79
12/26/15	0.68	0.66	0.66	0.52	0.52	0.51	0.75	0.74	0.68
12/27/15	0.71	0.72	0.70	0.55	0.55	0.55	0.66	0.70	0.77
12/28/15	0.70	0.73	0.71	0.55	0.57	0.55	0.77	0.77	0.80
12/29/15	0.71	0.73	0.72	0.55	0.56	0.55	0.76	0.77	0.80
12/30/15	0.70	0.73	0.71	0.54	0.55	0.55	0.77	0.80	0.79
12/31/15	0.70	0.72	0.72	0.53	0.56	0.55	0.80	0.80	0.76

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	EXHAUST_HEPA_1_DP	EXHAUST_HEPA_2_DP	DUST_COLLECTOR_DP
Average:	0.68	0.53	0.81
Median:	0.67	0.52	0.80
Min:	0.63	0.50	0.66
Max:	0.73	0.57	0.99

Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	100 Area GB exhaust In-Place HEPA Testing
Procedure no.:	TA55-STP-104A R3.2
Date of issue:	11/2/2015
Working copy issued to:	K Bailey
Working copy issued by:	J- Smeltz
	Certified Operations Center Operator (OCO)

OC Reviews Complete and TSR Status Board Updated

OCO Signature 11/2/15 Date

Training Checklist:

Workers Performing Surveillance	Applicable Surveillance Training Current	
	OCO Initials	Date
K. Bailey	KB	11/02/2015
M. Irish	MI	11/02/2015

Performance Type: ☑ Scheduled ☐ Partial *If partial, list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

For Information Only

Attachment A, 100 Area Glovebox Exhaust FF-852 Data Sheet

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Step 3.1[3]	Obtain Permission to conduct STP	Initials	**Step 3.1[2]**	Obtain current copy of STP	Initials
Step 5.1[2]	Plenum (Circle One) **SAT** **UNSAT**	Initial			

Valve	Required Position	Initials Step 5.1[3]
V-852-H	**Closed and Locked**	
V-852-G	**Closed**	
V-852-F	**Closed**	
V-852-D	**Closed**	
V-852-C	**Closed**	
V-852-B	**Closed**	
V-852-A	**Closed**	
V-852-AA	**Closed**	
TP-852-1	**Closed and Capped**	
TP-852-2	**Closed and Capped**	
TP-852-3	**Closed and Capped**	

Step 5.1[4]	Visually inspect the bag-out doors between the air plenum and the bag-out boxes (both sides). Ensure that the seals are intact and the doors are securely **dogged shut**.	Initials

Date: 11.2.15 **Photometer Cal. Expiration Date:** 8.18.16 **Photometer Serial #** 26785

5.1[6][a] 5.1[6][b] 5.1[6][c]

For Information Only

Attachment A, 100 Area Glovebox Exhaust FF-852 Data Sheet

(Page 2 of 3)

Step	Item	FF-852
5.2[1][b]	First-stage HEPA Filter ΔP	0.49 Inches wc
5.2[1][c]	Second-Stage HEPA Filter ΔP	0.45 Inches wc
5.2[2][d]	Third-Stage HEPA Filter ΔP	0.48 Inches wc

$	PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]
	Follow the HEPA test procedure
Cu = 41 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥ 30 meter reading**
Stable Downstream (Cd%) Meter reading = 0.007 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - 0.007 Cd% = 99.993 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** YES NO

FIRST STAGE TEST [defense-in-depth]	
Follow the HEPA test procedure	
Cu = 41 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥ 30 meter reading**
Stable Downstream (Cd%) Meter reading = 0.002 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - 0.002 Cd% = 99.998 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** YES NO

For Information Only

Attachment A, 100 Area Glovebox Exhaust FF-852 Data Sheet

(Page 3 of 3)

Valve	Required Position	Initials Step 5.2[4][c]	Independent Verification Step 5.2[4][d]
V-852-A	Closed	[signature]	[signature]
V-852-AA	Closed	[signature]	[signature]
TP-852-1	Closed and Capped	[signature]	[signature]
TP-852-2	Closed and Capped	[signature]	[signature]
TP-852-3	Closed and Capped	[signature]	[signature]

6.1.1 ISI 4

Step 5.2[4][e]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT / UNSAT	[signature]	N/A

$

Surveillance Test Procedure Acceptance			
Date of Test:	11.2.15	(unless already listed elsewhere on the attachment)	
Test Results:	SATISFACTORY / UNSATISFACTORY (circle one)		
Surveillance Personnel:	[signature] 183541 11.2.15 [signature] 182680/11/2/15 Signature/Z#/date		
OC Operator:	[signature] 11/2/15 Signature / Z# / Date	**OC On-Duty Supervisor:**	[signature] 11/3/15 218206 Signature / Z# / Date
Surveillance Test Results Review			
System Engineer:	[signature] 171532 11-4-15 Signature / Z# / Date		
Comments	None		

For Information Only

Attachment B, 100 Area Glovebox Exhaust FF-853 Data Sheet

(Page 1 of 3)

Step 3.1[3]	Obtain Permission to conduct STP	Initials	Step 3.1.[2]	Obtain current copy of STP	Initials
Step 5.1[2]	Plenum (Circle One) SAT UNSAT	Initial			

Valve	Required Position	Initials Step 5.1[3]
V-853-H	Closed and Locked	
V-853-G	Closed	
V-853-F	Closed	
V-853-D	Closed	
V-853-C	Closed	
V-853-B	Closed	
V-853-A	Closed	
V-852-AA	Closed	
TP-853-1	Closed and Capped	
TP-853-2	Closed and Capped	
TP-853-3	Closed and Capped	

Step 5.1[4]	Visually inspect the bag-out doors between the air plenum and the bag-out boxes (both sides). Ensure that the seals are intact and the doors are securely **dogged shut.**	Initials

Date: 11.2.15 **Photometer Cal. Expiration Date:** 08.18.16 **Photometer Serial #** 26785

5.1[6][a] 5.1[6][b] 5.1[6][c]

For Information Only

Attachment B, 100 Area Glovebox Exhaust FF-853 Data Sheet

(Page 2 of 3)

Step	Item	FF-853
5.3[1][b]	First-stage HEPA Filter ΔP	0.5 Inches wc
5.3[1][c]	Second-Stage HEPA Filter ΔP	0.45 Inches wc
5.3[1][d]	Third-Stage HEPA Filter ΔP	0.5 Inches wc

$	PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]
	Follow the HEPA test procedure
Cu = 33 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥ 30 meter reading**
Stable Downstream (Cd%) Meter reading = .001 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - .001 Cd% = 99.999 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** YES NO

FIRST STAGE TEST [defense-in-depth]	
Follow the HEPA test procedure	
Cu = 33 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥ 30 meter reading**
Stable Downstream (Cd%) Meter reading = .003 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - .003 Cd% = 99.997 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** YES NO

For Information Only

Attachment B, 100 Area Glovebox Exhaust FF-853 Data Sheet
(Page 3 of 3)

Valve	Required Position	Initials Step 5.3[4][c]	Independent Verification Step 5.3[4][d]
V-853-A	Closed		
V-852-AA	Closed		
TP-853-1	Closed and Capped		
TP-853-2	Closed and Capped		
TP-853-3	Closed and Capped		

6.1.1 ISI 4

Step 5.3[4][e]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT / UNSAT		N/A

$

Surveillance Test Procedure Acceptance			
Date of Test:	11.2.15	(unless already listed elsewhere on the attachment)	
Test Results:	SATISFACTORY / UNSATISFACTORY (circle one)		
Surveillance Personnel:	183541 11.2.15 / 186680 / 11/2/15 Signature/Z#/date		
OC Operator:	11/2/15 212512 Signature / Z# / Date	**OC On-Duty Supervisor:**	11/3/15 218206 Signature / Z# / Date
Surveillance Test Results Review			
System Engineer:	171532 11-4-15 Signature / Z# / Date		
Comments	None		

For Information Only

Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	300 AREA GLOVEBOX HEPA TEST
Procedure no.:	TA55-STP-104C, R 3.2
Date of issue:	10/28/2015
Working copy issued to:	K. Bailey
Working copy issued by:	J. Smith
	Certified Operations Center Operator (OCO)

OC Reviews Complete and TSR Status Board Updated

OCO Signature 10/29/15 Date

Training Checklist:

Workers Performing Surveillance	Applicable Surveillance Training Current	
	OCO Initials	Date
K. Bailey	JW	10/28/15
M. Irish	JW	10/28/15
J. Martinez	JW	10/28/15

Performance Type: ☒ Scheduled ☐ Partial *If partial list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

Field complete 10/28/15

For Information Only

Attachment A, Valve Alignment

Verify that the following valves on the aerosol injection ductwork are in the designated position:

Valve	Required Position	Initials Step 3.4[6]	Valve	Required Position	Initials Step 3.4[6]
V-854-J	Closed and Locked	JM	V-855-J	Closed and Locked	JM
V-854-H	Closed	JM	V-855-D	Closed	JM
V-854-G	Closed	JM	V-855-C	Closed	JM
V-854-D	Closed	JM	V-855-B	Closed	JM
V-854-C	Closed	JM	V-855-A	Closed	JM
V-854-B	Closed	JM	V-855-8	Closed and Locked	JM
V-854-A	Closed	JM	V-859-7	Closed	JM
V-854-8	Closed and Locked	JM	V-859-5	Closed	JM
V-858-7	Closed	JM	V-859-3	Closed	JM
V-858-5	Closed	JM	V-859-2	Closed	JM
V-858-3	Closed	JM	V-859-1	Closed	JM
V-858-2	Closed	JM			
V-858-1	Closed	JM			
V-854-AA	Closed	JM			

Ensure that the maintenance valves/doors are in the correct operating position:

Step 3.4[7]	Visually inspect the bag-out doors between the air plenum and the bag-out boxes (both sides). Ensure that the seals are intact and the doors are securely **dogged shut.**	**Initials** JM

For Information Only

Attachment B, 300 Area Glovebox Exhaust FF-854 Data Sheet

(Page 1 of 2)

Step 3.1[3]	Obtain Permission to conduct STP	Initials: KJZ	Step 3.1[2]	Obtain current copy of STP	Initials: [illegible]
Step 5.1[2]	Plenum (Circle One) SAT UNSAT	Initial: [illegible]			

Date: 10.28.15 ~~08.08.16~~ KGS 10.28.15 5.1[4][a]

Photometer Cal. Expiration Date: 8.8.16 5.1[4][b]

Photometer Serial # 26785 5.1[4][c]

Step	Item	FF-854	
5.2[1]	First-stage HEPA Filter ΔP	0.12	Inches wc
5.2[2]	Second-Stage HEPA Filter ΔP	0.13	Inches wc
5.2[3]	Third-Stage HEPA Filter ΔP	0.11	Inches wc

$	**PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]**
Follow the HEPA test procedure	
Cu = 40 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥30 meter reading**
Stable Downstream (Cd%) Meter reading = 0.001 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - 0.001 Cd% = 99.999 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** YES NO

FIRST STAGE TEST [defense-in-depth]	
Follow the HEPA test procedure	
Cu = 40 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥30 meter reading**
Stable Downstream (Cd%) Meter reading = 0.001 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - 0.001 Cd% = 99.999 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** YES NO

For Information Only

Attachment B, 300 Area Glovebox Exhaust FF-854 Data Sheet

(Page 2 of 2)

Valve	Required Position	Initials Step 5.4[8]	Independent Verification Step 5.4[8][b]
V-854-A	Closed	KGB	[illegible]
V-854-AA	Closed	KGB	[illegible]
V-870A	Open	KGB	[illegible]
V-890	Open	KGB	[illegible]
TP-854-1	Closed and Capped	KGB	[illegible]
TP-854-2	Closed and Capped	KGB	[illegible]
TP-854-3	Closed and Capped	KGB	[illegible]

6.1.1 ISI 4

$ Step 5.4[7]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT / UNSAT	KGB	N/A

Surveillance Test Procedure Acceptance			
Date of Test:	10.28.15 (unless already listed elsewhere on the attachment)		
Test Results:	SATISFACTORY / UNSATISFACTORY (circle one)		
Surveillance Personnel:	[illegible] 183541 / 10.28.15 / [illegible] 182680 10/28/15 Signature/Z#/date [illegible] 173964 10/28/15		
OC Operator:	[illegible] 10/28/15 212242 Signature / Z# / Date	OC On-Duty Supervisor:	[illegible] 10/29/15 218206 Signature / Z# / Date
Surveillance Test Results Review			
System Engineer:	[illegible] 171532 10-28-15 Signature / Z# / Date		
Comments			

For Information Only

Attachment C, SRL Exhaust FF-858 Data Sheet

(Page 1 of 2)

Step 3.1[3]	Obtain Permission to conduct STP	Initials	Step 3.1[2]	Obtain current copy of STP	Initials
Step 5.1[2]	Plenum (Circle One) SAT UNSAT	Initial			

Date: 10.28.15 (5.1[4][a]) Photometer Cal. Expiration Date: 8.8.16 (5.1[4][b]) Photometer Serial # 26785 (5.1[4][c])

Step	Item	FF-858
5.3[3]	First-stage HEPA Filter ΔP	0.08 Inches wc
5.3[4]	Second-Stage HEPA Filter ΔP	0.05 Inches wc
5.3[5]	Third-Stage HEPA Filter ΔP	0.03 Inches wc

$	PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]		
	Follow the HEPA test procedure		
Cu = 36 ug/l(%) Final Stable Upstream Meter reading		Acceptance: ≥30 meter reading	
Stable Downstream (Cd%) Meter reading = 0.001 (%)			
Removal Efficiency (%) =.100% - Cd% = 100% - 0.001 Cd% = 99.999 %			
Acceptance: ≥ 99.95%	Acceptable? (circle one)	YES	NO

	FIRST STAGE TEST [defense-in-depth]		
	Follow the HEPA test procedure		
Cu = 36 ug/l(%) Final Stable Upstream Meter reading		Acceptance: ≥30 meter reading	
Stable Downstream (Cd%) Meter reading = 0.001 (%)			
Removal Efficiency (%) =.100% - Cd% = 100% - 0.001 Cd% = 99.999 %			
Acceptance: ≥ 99.95%	Acceptable? (circle one)	YES	NO

For Information Only

Attachment C, SRL Exhaust FF-858 Data Sheet

(Page 2 of)

Valve	Required Position	Initials Step 5.4[8]	Independent Verification Step 5.4[8][b]
V-858-1	Closed	[signature]	[signature]
V-854-AA	Closed	[signature]	[signature]
V-870A	Open	[signature]	[signature]
V-890	Open	[signature]	[signature]
TP-858-1	Closed and Capped	[signature]	[signature]
TP-858-2	Closed and Capped	[signature]	[signature]
TP-854-3	Closed and Capped	[signature]	[signature]

6.1.1 ISI 4

$ Step 5.4[7]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT / UNSAT	[signature]	N/A

Surveillance Test Procedure Acceptance			
Date of Test:	10/28/15 (unless already listed elsewhere on the attachment)		
Test Results:	SATISFACTORY / UNSATISFACTORY (circle one)		
Surveillance Personnel:	[signature] 173908 10/28/15 [signature] 183541 10.28.15 Signature/Z#/date [signature] / 182680 / 10/28/15		
OC Operator:	[signature] 10/28/15 212242 Signature / Z# / Date	OC On-Duty Supervisor:	[signature] 10/29/15 218206 Signature / Z# / Date
Surveillance Test Results Review			
System Engineer:	[signature] 171532 10-29-15 Signature / Z# / Date		
Comments			

For Information Only

Attachment D, 300 Area Glovebox Exhaust FF-855 Data Sheet

(Page 1 of 2)

Step 3.1[3]	Obtain Permission to conduct STP	Initials KJB	Step 3.1[2]	Obtain current copy of STP	Initials KJB
Step 5.1[2]	Plenum (Circle One) SAT UNSAT	Initial KJB			

Date: 10.28.15 5.5[4][a] Photometer Cal. Expiration Date: 8.8.16 5.5[4][b] Photometer Serial # 26785 5.5[4][c]

Step	Item	FF-855	
5.6[1]	First-stage HEPA Filter ΔP	0.15	Inches wc
5.6[2]	Second-Stage HEPA Filter ΔP	0.20	Inches wc
5.6[3]	Third-Stage HEPA Filter ΔP	0.21	Inches wc

$	**PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]**
Follow the HEPA test procedure	
Cu = 43 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥30 meter reading**
Stable Downstream (Cd%) Meter reading = 0.003 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - 0.003 Cd% = 99.997 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** YES NO

FIRST STAGE TEST [defense-in-depth]	
Follow the HEPA test procedure	
Cu = 43 ug/l(%) Final Stable Upstream Meter reading	**Acceptance: ≥30 meter reading**
Stable Downstream (Cd%) Meter reading = 0.001 (%)	
Removal Efficiency (%) =.100% - Cd% = 100% - 0.001 Cd% = 99.999 %	
Acceptance: ≥ 99.95%	**Acceptable? (circle one)** YES NO

For Information Only

Attachment D, 300 Area Glovebox Exhaust FF-855 Data Sheet

(Page 2 of 2)

Valve	Required Position	Initials Step 5.8[8]	Independent Verification Step 5.8[8][b]
V-855-A	Closed		
V-854-AA	Closed		
V-870B	Open		
V-891	Open		
TP-855-1	Closed and Capped		
TP-855-2	Closed and Capped		
TP-855-3	Closed and Capped		

6.1.1 ISI 4

$ Step 5.8[7]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT / UNSAT		N/A

Surveillance Test Procedure Acceptance			
Date of Test:	10.28.15 (unless already listed elsewhere on the attachment)		
Test Results:	SATISFACTORY / UNSATISFACTORY (circle one)		
Surveillance Personnel:	183541 10.28.15 / 182680 10/28/15		
	Signature/Z#/date 173968 10/28/15		
OC Operator:	10/28/15 212242	OC On-Duty Supervisor:	10/29/15 218204
	Signature / Z# / Date		Signature / Z# / Date
Surveillance Test Results Review			
System Engineer:	171532 10-29-15		
	Signature / Z# / Date		
Comments			

For Information Only

Attachment E, SRL Exhaust FF-859 Data Sheet

(Page 1 of 2)

Step 3.1[3]	Obtain Permission to conduct STP	Initials KGS	Step 3.1[2]	Obtain current copy of STP	Initials KGS
Step 5.1[2]	Plenum (Circle One) SAT UNSAT	Initial KGS			

Date: 10.28.15 (5.5[4][a]) Photometer Cal. Expiration Date: 8.8.16 (5.5[4][b]) Photometer Serial # 26785 (5.5[4][c])

Step	Item	FF-859	
5.7[3]	First-stage HEPA Filter ΔP	.09	Inches wc
5.7[4]	Second-Stage HEPA Filter ΔP	.06	Inches wc
5.7[5]	Third-Stage HEPA Filter ΔP	.05	Inches wc

$ PLENUM EFFICIENCY TEST [SR #4.1.3.1.A, #4.1.3.1.B]

Follow the HEPA test procedure

Cu = 36 ug/l(%) Final Stable Upstream Meter reading **Acceptance: ≥30 meter reading**

Stable Downstream (Cd%) Meter reading = 0.001 (%)

Removal Efficiency (%) =.100% - Cd% = 100% - 0.001 Cd% = 99.999%

Acceptance: ≥ 99.95% **Acceptable? (circle one)** YES NO

FIRST STAGE TEST [defense-in-depth]

Follow the HEPA test procedure

Cu = 36 ug/l(%) Final Stable Upstream Meter reading **Acceptance: ≥30 meter reading**

Stable Downstream (Cd%) Meter reading = 0.004 (%)

Removal Efficiency (%) =.100% - Cd% = 100% - 0.004 Cd% = 99.996%

Acceptance: ≥ 99.95% **Acceptable? (circle one)** YES NO

For Information Only

Attachment E, SRL Exhaust FF-859 Data Sheet

(Page 2 of 2)

Valve	Required Position	Initials Step 5.8[8]	Independent Verification Step 5.8[8][b]
V-859-1	Closed		
V-854-AA	Closed		
V-870B	Open		
V-891	Open		
TP-859-1	Closed and Capped		
TP-859-2	Closed and Capped		
TP-855-3	Closed and Capped		

6.1.1 ISI 4

$	Step 5.8[7]	Visually inspect that the fire screens downstream of the first stage filters are structurally sound and bolted down (e.g. the zone 1 exhaust fire screens are to be visually inspected for signs of wear or degradation).	SAT / UNSAT	N/A

Surveillance Test Procedure Acceptance			
Date of Test:	10/28/15 (unless already listed elsewhere on the attachment)		
Test Results:	SATISFACTORY / UNSATISFACTORY (circle one)		
Surveillance Personnel:	183541 10.28.15 / 182680 10/28/15		
	Signature/Z#/date		
OC Operator:	10/28/15 212642	OC On-Duty Supervisor:	10/29/15 218206
	Signature / Z# / Date		Signature / Z# / Date
Surveillance Test Results Review			
System Engineer:	171532 10-29-15		
	Signature / Z# / Date		
Comments			

For Information Only

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ATTACHMENT A707.C.b.

Beryllium

TA-55-PF4 Annual HEPA Filter Challenge Test Reports

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Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	SURVEILLANCE ROUNDS
Procedure no.:	TA55-STP-004-R17
Date of issue:	7/1/15
Working copy issued to:	F. SREYBRAT
Working copy issued by:	J. LOVATO
	Certified Operations Center Operator

Operations Center Operator Review

[illegible] / 8-1-15

Signature Date

Required Reading for this Surveillance has been completed.

Training Checklist

Workers Performing Surveillance	Applicable Surveillance Training Current	
	Initials	Date
R. BARSCOR	[illegible]	7/1/15
B. CLANCE	[illegible]	
D. DONLAN	[illegible]	
J. LOVATO	[illegible]	
R. LUM	[illegible]	
A. ORTEZ	[illegible]	
F. SREYBRAT	[illegible]	
J. SMALTZ	[illegible]	
R. PRICE	[illegible]	
A. DUNSRETH	[illegible]	7/1/15

Comments:

Attachment B, Surveillance Training Checklist (continued)

(Page 2 of 2)

Training Checklist (continuation sheet)

Workers Performing Surveillance	Applicable Surveillance Training Current	
	Initials	Date
J. MARTINEZ	[illegible]	7/1/15
A. TRUJILLO	[illegible]	↑
T. LANGWORTHY	[illegible]	
R. HOHNER	[illegible]	
M. IRESH	[illegible]	
J. HERRERA	[illegible]	
J. SANCHEZ	[illegible]	↓
B. FORNHAM	[illegible]	7/1/15

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																
		Date:					7-1-15		07.02.15		7/3/15		7/4/15		07.05.15	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:					[illegible]	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]					-2.05	-2.05 -2.05	-2.04	-2.04	-2.03	-2.03	-2.02	-2.01	-2.02	-2.03
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]					-1.95	-1.94	-1.94	-1.94	-1.94	-1.94	-1.94	-1.94	-1.94	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]					-1.98	-1.97	-1.99	-1.98	-1.98	-1.99	-1.98	-1.99	-1.97	-1.98
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]					-1.97	-1.97	-1.97	-1.97	-1.97	-1.98	-1.97	-1.97	-1.97	-1.97
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]					-.21	-.22	-.21	-.21	-0.21	-.21	-0.21	-0.21	-.21	-.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]					-.24	-.25	-.24	-.24	-0.24	-.25	-0.25	-0.25	-.25	-.25
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]					-.20	-.20	-.19	-.20	-0.20	-.19	-0.20	-0.20	-.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]					-.21	-.21	-.20	-.20	-0.21	-.19	-0.20	-0.20	-.20	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc					-.19	-.19	-.19	-.19	-0.19	-.19	-0.19	-0.19	-.19	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc					-.10	-.10	-.10	-.10	-0.10	-.10	-0.10	-0.10	-.10	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc					-.11	-.11	-.10	-.10	-0.10	-.10	-0.10	-0.11	-.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc					-.108	-.114	-.105	-.105	-0.105	-.106	-0.108	-0.110	-.104	-.105

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note																	
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:					7-1-15		07-02-15		7-3-15		7-4-15		07-05-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:					7-1-15		07-02-15		7-3-15		7-4-15		07-05-15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS** Sat. / Unsat. (circle one)													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time							0730	1936	0726	1932	0724	1938	0737	1930	0729	1919
									RS		RS							

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc

Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 7/1/15 Time 1919 Reviewed by: [signature] Date: 7/6/15 Time: 1200
On-duty Supervisor

Comments: _____

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:			7-1-15	7-2-15	7-3-15	7-4-15	7-5-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:			DS	DS	PT	PT	PT
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	DS 7-1-15 ~~0.0~~		0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		DS 7-1-15 ~~0.0~~		0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H)	Record Calculated Value			0.0	0.0	0.0	0.0	0.0
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:			0826	0735	0721	0753	0759

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

(Page 2 of 4)

			Date:			7-1-15	7-2-15	7-3-15	7-4-15	7-5-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			AS	AS	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc			.10	.10	.10	.10	.10
		PDI-894-2	≤2.0 & > 0[1] in. wc			.51	.51	.52	.52	.52
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc			.13	.13	.14	.13	.14
		PDI-895-2	≤2.0 & > 0[1] in. wc			.60	.60	.60	.61	.61
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-81 9-3	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc			.28	.28	.28	.28	.28
		PDI-818-2	≤2.0 & > 0[1] in. wc			.32	.32	.32	.32	.32
		PDI-818-4	≤2.0 & > 0[1] in. wc			.32	.32	.32	.32	.32
		PDI-818-5	≤2.0 & > 0[1] in. wc			.31	.31	.30	.30	.30
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc			.40	.40	.40	.40	.40
		PDI-821-3	≤2.0 & > 0[1] in. wc			.45	.45	.45	.45	.45
		PDI-821-4	≤2.0 & > 0[1] in. wc			.39	.39	.39	.39	.39

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

			Date:			7-1-15	7-2-15	7-3-15	7-4-15	7-5-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			AS	AS	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc			.09	.09	.09	.09	.09
		PDI-823-2	≤2.0 & > 0[1] in. wc			.59	.59	.59	.60	.59
		PDI-823-4	≤2.0 & > 0[1] in. wc			.62	.62	.62	.62	.62
		PDI-823—5	≤2.0 & > 0[1] in. wc			.62	.62	.62	.62	.62
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc			.70	.70	.70	.70	.70
		PDI-830-2	≤2.0 & > 0[1] in. wc			.31	.31	.31	.31	.31
		PDI-830-3	≤2.0 & > 0[1] in. wc			.29	.29	.29	.29	.29
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc			.97	.97	.98	.98	.98
		PDI-836-2	≤2.0 & > 0[1] in. wc			.55	.55	.58	.58	.58
		PDI-836-3	≤2.0 & > 0[1] in. wc			.53	.53	.53	.53	.53
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc			.51	.51	.51	.51	.51
		PDI-837-2	≤2.0 & > 0[1] in. wc			.41	.41	.41	.41	.41
		PDI-837-3	≤2.0 & > 0[1] in. wc			.39	.39	.39	.39	.39

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:			7-1-15	7-2-15	7-3-15	7-4-15	7-5-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			RS	RS	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc			.49	.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc			.52	.52	.52	.52	.52
		PDI-838-3	≤2.0 & > 0[1] in. wc			.51	.51	.51	.51	.51
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc			.45	.45	.45	.45	.45
		PDI-839-2	≤2.0 & > 0[1] in. wc			.59	.59	.60	.60	.60
		PDI-839-3	≤2.0 & > 0[1] in. wc			.55	.55	.55	.55	.55
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc			off	off	OFF	OFF	OFF
		PDI-810-2	≤2.0 & > 0[1] in. wc			off	off	OFF	OFF	OFF
		PDI-810-3	≤2.0 & > 0[1] in. wc			off	off	OFF	OFF	OFF
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc			.11	.11	.11	.11	.11
		PDI -811 -2	≤2.0 & > 0[1] in. wc			.44	.45	.45	.43	.43
		PDI -811 -3	≤2.0 & > 0[1] in. wc			.45	.45	.45	.47	.45
			. Completion Time			0923	0816	0739	0743	0749
OC Operator Review and Page Count Complete (initials)						RS	RS			

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Paul Trujillo Date 7-5-15 Time 0750 Reviewed by: _____ Date: 7/6/15 Time: 1200
On-duty Supervisor

Comments _____

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

(Page 1 of 4)

			Date:			7-1-15	7-2-15	7-3-15	7-4-15	7-5-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			ns	ns	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc			STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc			.45	.45	.45	.45	.45
		PDI-841-2	≤2.0 & > 0[1] in. wc			.56	.56	.58	.58	.58
		PDI-841-3	≤2.0 & > 0[1] in. wc			.50	.50	.50	.50	.50
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc			.34	.34	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc			.40	.40	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc			.35	.35	.35	.35	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc			.34	.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc			.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc			.55	.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc			off	off	OFF	OFF	OFF
		PDI-807-2	≤2.0 & > 0[1] in. wc			off	off	OFF	OFF	OFF
		PDI-807-3	≤2.0 & > 0[1] in. wc			off	off	OFF	OFF	OFF
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc			.07	.07	.08	.07	.08
		PDI-809-2	≤2.0 & > 0[1] in. wc			.51	.51	.51	.50	.50
		PDI-809-3	≤2.0 & > 0[1] in. wc			.45	.45	.45	.45	.45

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:			7-1-15	7-2-15	7-3-15	7-4-15	7-5-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			RJ	RJ	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc			.11	.13	.12	.12	.12
		PDI-829-2	≤2.0 & > 0[1] in. wc			.29	.31	.30	.30	.30
		PDI-829-3	≤2.0 & > 0[1] in. wc			.22	.25	.25	.22	.22
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc			> 1.0	> 1.0	> 1.0	> 1.0	> 1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc			.46	.46	.46	.46	.47
		PDI-833-3	≤2.0 & > 0[1] in. wc			.45	.45	.45	.45	.45
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc			.16	.16	.16	.16	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc			.45	.45	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc			.43	.43	.42	.42	.42
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc			.22	.21	.21	.21	.21
		PDI-815-2	≤2.0 & > 0[1] in. wc			.50	.50	.49	.49	.49
		PDI-815-4	≤2.0 & > 0[1] in. wc			.41	.41	.41	.41	.41
		PDI-815-5	≤2.0 & > 0[1] in. wc			.46	.45	.45	.45	.45
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 4)

			Date:			7-1-15	7-2-15	7-3-15	7-4-15	7-5-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			DJ	DJ	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc			.16	.16	.16	.16	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc			.35	.35	.35	.35	.34
		PDI-812-3	≤2.0 & > 0[1] in. wc			.37	.37	.37	.37	.37
		PDI-812-4	≤2.0 & > 0[1] in. wc			.35	.35	.36	.37	.37
		PDI-812-5	≤2.0 & > 0[1] in. wc			.31	.31	.31	.31	.31
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc			STBY	STBY	STBY	STBY	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc			.03	.03	.04	.04	.04
		PDI-865-2	≤2.0 & > 0[1] in. wc			.32	.32	.32	.32	.32
		PDI-865-3	≤2.0 & > 0[1] in. wc			.40	.38	.39	.39	.39
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc			.07	.07	.07	.07	.08
		PDI-863-2	≤2.0 & >0[1] in. wc			.29	.29	.29	.29	.29

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 4)

			Date:			7-1-15	7-2-15	7-3-15	7-4-15	7-5-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:			DS	DS	PT	PT	PT
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc			.19	.19	.19	.19	.19
		PDI-857-2	≤2.0 & > 0[1] in. wc			.49	.49	.49	.49	.49
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc			.13	.13	.13	.14	.14
		PDI-856-2	≤2.0 & > 0[1] in. wc			.51	.51	.51	.51	.51
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	~~Sat~~ DS 7-1-15		Sat	Sat	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	DS 7-1-15 ~~Sat~~		Sat	Sat	SAT	SAT	SAT
			Completion time			0908	0800	0755	0754	0801
			OC Operator Review and Page Count Complete (initials)			RSB	RSB	BC	BC	BC

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Paul Trujillo Date 7-5-15 Time 0801 Reviewed by: _____ Date: 7/10/15 Time: 1205

On-duty Supervisor

Comments: _____

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

		Date:	7-6-15		7-7-15		07-08-15		07-09-15		7/10/15		7-11-15		7-12-15	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]	-2.04	-2.00	-2.01	-2.00	-1.99	-1.40 FCS -1.97	FCS -2.00 -1.40	-1.99	-1.98	-1.99	-1.98	-1.96	-2.00	-1.96 *
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]	-1.95	-1.96	-1.94	-1.99	-1.94	-1.94	-1.96	-1.95	-1.94	-1.96	-1.94	-1.91	-1.93	-1.94
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]	-2.00	-1.97	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.97	-1.98
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]	-1.97	-1.97	-1.96	-1.96	-1.97	-1.97	-1.99	-1.97	-1.98	-1.98	-1.98	-1.97	-1.97	-1.98
4.1.1.2 4.1.1.5 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.20	-.21	-.21	-.21	-.21	-.22	-.21	-.21	-.21	-.21	-.21	-.21	-.21	-.27
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.24	-.25	-.25	-.24	-.25	-.25	-.25	-.25	-.25	-.25	-.25	-.25	-.25	-.25
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.19	-.19	-.21	-.19	-.21	-.19	-.20	-.20	-.20	-.20	-.21	-.20	-.20	-.21
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.20	-.20	-.21	-.19	-.21	-.19	-.21	-.21	-.20	-.20	-.21	-.20	-.20	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.19	-.19	-.19	-.19	-.19	-.19	-.15	-.19	-.19	-.19	-.19	-.19	-.19	-.19
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.10	-.10	-.11	-.10	-.11	-.09	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.10	-.10	-.11	-.10	-.11	-.09	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.106	-.103	-.110	-.103	-.107	-.086	-.100	-.099	-.099	-.093	-.097	-.101	-.092	-.099

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note																
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	7-6-15		7-7-15		07-08-15		07-09-15		7/10/15		7-11-15		7-12-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	a	a	a	a	BC	AO	BC	AO	K	C	a	a	a	a
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	7-6-15		7-7-15		07-08-15		07-09-15		7/10/15		7-11-15		7-12-15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0730	1938	0730	1942	0729	1924	0730	1932	0734	1942	0730	1933	0730	1946
							RSB		RSB		RSB							

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 7-12-15 Time 1946 Reviewed by: [signature] Date: 7/13/15 Time: 0800
On-duty Supervisor

Comments: * 200 Area PDI-814-2-005 PDI-814-1 on FCS is where readings are being taken from

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	7/6/2015	7/7/2015	7/8/15	7-9-15	7/10/15	07/11/15	07/12/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	BF	BF	JM	PT	JM	MMT	MMT
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0812	0748	0747	0750	0710	0805	0851

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	7/6/2015	7/7/2015	7/8/15	7-9-15	7/10/15	07/11/15	07/12/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	BF	JM	PT	JM	MMT	MMT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.11	.10
		PDI-894-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.13	.13	.13	.13	.13	.13	.14
		PDI-895-2	≤2.0 & > 0[1] in. wc	.60	.61	.61	.59	.59	.59	.59
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.32	.31	.32	.32
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.35	.36	.35	.35
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.33	.35	.35	.35
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.32	.32	.32	.32
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.41	.41	.41	.41
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.41	.41	.40	.40
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.35	.35	.34	.34
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.28	.28	.28	STBY	STBY	Stby	Stby
		PDI-818-2	≤2.0 & > 0[1] in. wc	.32	.32	.32	STBY	STBY	Stby	Stby
		PDI-818-4	≤2.0 & > 0[1] in. wc	.33	.33	.33	STBY	STBY	Stby	Stby
		PDI-818-5	≤2.0 & > 0[1] in. wc	.31	.31	.30	STBY	STBY	Stby	Stby
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	STBY	STBY	Stby	Stby
		PDI-821-3	≤2.0 & > 0[1] in. wc	.45	.45	.44	STBY	STBY	Stby	Stby
		PDI-821-4	≤2.0 & > 0[1] in. wc	.40	.40	.40	STBY	STBY	Stby	Stby

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	7/6/2015	7/7/2015	7/8/15	7-9-15	7/10/15	07/11/15	07/12/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	BF	JM	PT	JM	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.96	.94	.95	.95
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.59	.59	.59	.59
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.60	.50	.50	.53
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.61	.51	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	STBY	STBY	Stby	Stby
		PDI-823-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	STBY	STBY	Stby	Stby
		PDI-823-4	≤2.0 & > 0[1] in. wc	.62	.62	.61	STBY	STBY	Stby	Stby
		PDI-823—5	≤2.0 & > 0[1] in. wc	.62	.62	.62	STBY	STBY	Stby	Stby
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.70	.69	.69	.69	.69	.69
		PDI-830-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-830-3	≤2.0 & > 0[1] in. wc	.29	.29	.28	.28	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.98	.98	.97	.97	.97	.97	.97
		PDI-836-2	≤2.0 & > 0[1] in. wc	.58	.58	.56	.58	.56	.56	.56
		PDI-836-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.52	.54	.54	.54
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.50	.51	.50	.51	.51	.50	.50
		PDI-837-2	≤2.0 & > 0[1] in. wc	.42	.42	.41	.41	.41	.40	.40
		PDI-837-3	≤2.0 & > 0[1] in. wc	.40	.40	.39	.39	.39	.38	.38

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	7/6/2015	7/7/2015	7/8/15	7-9-15	7/10/15	07/11/15	07/12/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	BF	[illegible]	PT	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.52	.51	.51	.51	.51	.51
		PDI-838-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.50	.50
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.46	.46	.46	.46	.46	.46	.46
		PDI-839-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-839-3	≤2.0 & > 0[1] in. wc	.55	.56	.56	.56	.56	.55	.55
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	OFF	OFF	off	OFF	off	off	off
		PDI-810-2	≤2.0 & > 0[1] in. wc	OFF	OFF	off	OFF	off	off	off
		PDI-810-3	≤2.0 & > 0[1] in. wc	OFF	OFF	off	OFF	off	off	off
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.11	.11	.10	.10
		PDI -811 -2	≤2.0 & > 0[1] in. wc	.46	.45	.45	.46	.45	.45	.45
		PDI -811 -3	≤2.0 & > 0[1] in. wc	.46	.45	.45	.46	.46	.45	.45
			. Completion Time	1040	0817	0800	0808	0810	0829	0845
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Michael Irish Date 7/12/15 Time 0845 Reviewed by: [signature] Date: 7/13/15 Time: 0800
On-duty Supervisor

Comments

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	7/6/2015	7/7/15	7/8/2015	7/9/2015	7/10/15	7/11/15	07/12/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	[illegible]	BF	BF	RH	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	Stby
		PDI-840-2	≤2.0 & > 0 in[1]. wc	STBY	STBY	STBY	STBY	STBY	STBY	Stby
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	Stby
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-841-2	≤2.0 & > 0[1] in. wc	.58	.57	.58	.58	.57	.57	.57
		PDI-841-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.50	.50	.50
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.36	.35	.35	.35	.35	.35	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.33	.34	.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.61	.60	.61	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.58	.56	.57	.56	.56	.57	.57
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	off
		PDI-807-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	off
		PDI-807-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	off
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	.09	.09	.09	.09	.07	.07	.07
		PDI-809-2	≤2.0 & > 0[1] in. wc	.51	.50	.51	.51	.50	.50	.50
		PDI-809-3	≤2.0 & > 0[1] in. wc	.48	.46	.48	.48	.46	.46	.48

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	7/6/2015	7/7/15	7/8/2015	7/9/2015	7/10/15	7/11/15	07/12/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	JA	BF	BF	RH	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.11	.13	.13	.15	.15	.15	.15
		PDI-829-2	≤2.0 & > 0[1] in. wc	.30	.31	.33	.37	.38	.38	.38
		PDI-829-3	≤2.0 & > 0[1] in. wc	.24	.26	.28	.30	.30	.29	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.00
		PDI-833-2	≤2.0 & > 0[1] in. wc	.47	.46	.46	.46	.46	.48	.48
		PDI-833-3	≤2.0 & > 0[1] in. wc	.48	.45	.46	.45	.45	.46	.46
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc	.48	.46	.47	.46	.46	.46	.46
		PDI-835-3	≤2.0 & > 0[1] in. wc	.42	.45	.44	.41	.41	.41	.41
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.21	.21	.21	STBY	STBY	STBY	Stby
		PDI-815-2	≤2.0 & > 0[1] in. wc	.50	.49	.50	STBY	STBY	STBY	Stby
		PDI-815-4	≤2.0 & > 0[1] in. wc	.41	.41	.41	STBY	STBY	STBY	Stby
		PDI-815-5	≤2.0 & > 0[1] in. wc	.45	.45	.45	STBY	STBY	STBY	Stby
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.40	.40	.40	.40
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.49	.49	.49	.49
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.49	.49	.50	.50
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.49	.49	.49	.49

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	7/6/2015	7/7/15	7/8/2015	7/9/2015	7/10/15	7/11/15	07/12/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	JM	BF	BF	RH	K	MMT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.15	.16	.15	STBY	STBY	STBY	Stby
		PDI-812-2	≤2.0 & > 0[1] in. wc	.37	.36	.36	STBY	STBY	STBY	Stby
		PDI-812-3	≤2.0 & > 0[1] in. wc	.37	.37	.36	STBY	STBY	STBY	Stby
		PDI-812-4	≤2.0 & > 0[1] in. wc	.36	.36	.36	STBY	STBY	STBY	Stby
		PDI-812-5	≤2.0 & > 0[1] in. wc	.31	.31	.31	STBY	STBY	STBY	Stby
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.85	.86	.85	.85
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.31	.30	.30	.30
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.30	.30	.30	.30
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.31	.30	.30	.30
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	.30	.30	.30	.30
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.03	.02	.02	.03	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.32	.31	.32	.32	.32	.32	.32
		PDI-865-3	≤2.0 & > 0[1] in. wc	.38	.38	.38	.39	.40	.40	.40
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.08	.07	.07	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.29	.29	.29	.28	.28	.29	.28

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	7/6/2015	7/7/15	7/8/2015	7/9/2015	7/10/15	7/11/15	07/12/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	JM	BF	BF	RH JM	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.18	.17	.18	.18	.18	.18	.18
		PDI-857-2	≤2.0 & > 0[1] in. wc	.49	.48	.49	.49	.49	.49	.49
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.15	.13	.13	.13	.12	.2	.12
		PDI-856-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.50	.50	.50	.50
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	Sat
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	Sat	Sat
			Completion time	1000	0820	0800	1035	0930	0834	0920
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Michael Irish Date 7/12/15 Time 0918 Reviewed by: [signature] On-duty Supervisor Date: 7/13/15 Time: 0800

Comments:

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

			Date:	07.13.15		07.14.15		7/15/15		07.16.15		07.17.15		07.18.15		07.19.15
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]		-1.97	-1.99	-1.97	-2.01	-1.99	-1.97	-1.98	-1.98	-1.98	-1.99	-1.98	-1.97	-1.99	-1.98
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]		-1.94	-1.94	-1.94	-1.94	-1.96	-1.99	-1.98	-1.99	-1.94	-1.94	-1.94	-1.95	-1.95	-1.95
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]		-1.98	-1.98	-1.98	-1.99	-1.99	-1.98	-1.98	-1.97	-1.98	-1.97	-1.98	-1.98	-1.98	-1.98
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]		-1.98	-1.97	-1.97	-1.98	-1.99	-1.98	-1.97	-1.99	-1.97	-1.97	-1.98	-1.97	-1.98	-1.99
4.1.1.2 4.1.1.5 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]		-.22	-0.21	-.21	-.22	-0.22	-.22	-.21	-.22	-.21	-.22	-.23	-0.22	-.22	-.23
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]		-.25	-0.24	-.24	-.25	-0.26	-.26	-.24	-.25	-.26	-.25	-.25	-0.25	-.25	-.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]		-.20	-0.20	-.20	-.20	-0.19	-.28	-.18	-.22	-.20	-.19	-.20	-0.19	-.19	-.21
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]		-.20	-0.20	-.20	-.20	-0.19	-.21	-.20	-.23	-.20	-.19	-.20	-0.19	-.19	-.21
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc		-.19	-0.19	-.19	-.19	-0.19	-.19	-.19	-.20	-.19	-.19	-.19	-0.19	-.19	-.19
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc		-.10	-0.10	-.10	-.10	-0.10	-.10	-.10	-.12	-.10	-.10	-.10	-0.10	-.10	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc		-.10	-0.10	-.10	-.10	-0.10	-.10	-.09	-.12	-.09	-.10	-.10	-0.10	-.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc		-.098	-0.099	-.097	-.098	-0.101	-.108	-.094	-.103	-.092	-.094	-.096	-0.097	-.094	-.103

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	07.13.15		07.14.15		7/15/15		07.16.15		07.17.15		07.18.15		07.19.15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	07.13.15		07.14.15		7/15/15		07-16.15		07.17.15		07-18.15		07.19.15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0724	1921	0731	1923	0740	1943	0724	1933	0721	1922	0724	1928	0717	1925

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 7/14/5 Time 1925 Reviewed by: [signature] Date: 7/21/15 Time: 0730
On-duty Supervisor

Comments: _____

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	7/13/15	7/14/15	7/15/15	7/16/15	7/17/15	7/18/15	7/19/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	JM	JM	JM	JM	[illegible]	JM	JM
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0835	0901	0810	0815	0735	0718	0800

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	7/13/15	7/14/15	7/15/15	7/16/15	2·17·15	7/18/15	7/19/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	DL	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.11	.10	.10
		PDI-894-2	≤2.0 & > 0[1] in. wc	.53	.54	.53	.53	.54	.53	.53
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.14	.14	.14	.14	.14	.14	.14
		PDI-895-2	≤2.0 & > 0[1] in. wc	.58	.59	.59	.59	.59	.59	.59
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
		PDI-817-2	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.35	.36	.36
		PDI-817-4	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.36	.36	.36
		PDI-817-5	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.42	.42	.42	.42	.41	.41	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc	.35	.36	.36	.36	.35	.36	.36
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	7/13/15	7/14/15	7/15/15	7/16/15	2.17.15	7/18/15	7/19/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	[illegible]	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.96	.96	.98	.97	.98	.98	.98
		PDI-822-2	≤2.0 & > 0[1] in. wc	.59	.59	.60	.60	.60	.60	.60
		PDI-822-4	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.52	.52	.52
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.69	.70	.70	.70	.68	.70	.70
		PDI-830-2	≤2.0 & > 0[1] in. wc	.31	.32	.32	.32	.31	.31	.31
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.97	.97	.97	.97	.97	.97	.97
		PDI-836-2	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.56	.56	.56
		PDI-836-3	≤2.0 & > 0[1] in. wc	.55	.54	.54	.54	.54	.54	.54
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-837-2	≤2.0 & > 0[1] in. wc	.40	.40	.41	.41	.40	.41	.41
		PDI-837-3	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.39	.39

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:	7/13/15	7/14/15	7/15/15	7/16/15	7·17·15	7/18/15	7/19/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	ah	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.52	.52	.52	.52
		PDI-838-3	≤2.0 & > 0[1] in. wc	.50	.51	.51	.51	.51	.51	.51
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.44	.44	.44	.44	.45	.44	.45
		PDI-839-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-839-3	≤2.0 & > 0[1] in. wc	.55	.55	.57	.57	.55	.57	.57
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	off	off	off	off	OFF	off	off
		PDI-810-2	≤2.0 & > 0[1] in. wc	off	off	off	off	OFF	off	off
		PDI-810-3	≤2.0 & > 0[1] in. wc	off	off	off	off	OFF	off	off
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI -811 -2	≤2.0 & > 0[1] in. wc	.43	.44	.43	.44	.45	.44	.44
		PDI -811 -3	≤2.0 & > 0[1] in. wc	.42	.43	.43	.43	.45	.43	.43
			. Completion Time	0850	0927	0925	0831	0758	0744	0820
OC Operator Review and Page Count Complete (initials)				JS BC	JS BC	JS BC	JS BC	JS BC	JS BC	JS BC

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Jerome M. Date 7/19/15 Time 0825 Reviewed by: [signature] Date: 7/27/15 Time: 0730

On-duty Supervisor

Comments

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

(Page 1 of 4)

			Date:	7/13/2015	7/14/15	7/15/15	7/16/15	7-17-15	7/18/15	7/19/2015
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	JM	JM	JM	NS	JM	JOS
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.45	.45	.47	.47	.47	.47	.47
		PDI-841-2	≤2.0 & > 0[1] in. wc	.58	.57	.59	.59	.59	.59	.59
		PDI-841-3	≤2.0 & > 0[1] in. wc	.50	.50	.51	.51	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.32	.34	.34	.34	.34	.34	.34
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.33	.33	.33	.33	.33	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.56	.56	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-807-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-807-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	.09	.08	.08	.07	.08	.07	.07
		PDI-809-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.50
		PDI-809-3	≤2.0 & > 0[1] in. wc	.48	.46	.47	.46	.47	.47	.47

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:	7/13/2015	7/14/15	7/15/15	7/16/15	7-17-15	7/18/15	7/19/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	JM	JM	JM	RS	JM	Jos
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.15	.15	.15	.15	.15	.15	.14
		PDI-829-2	≤2.0 & > 0[1] in. wc	.38	.36	.36	.36	.36	.36	.32
		PDI-829-3	≤2.0 & > 0[1] in. wc	.30	.30	.29	.29	.30	.29	.29
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc	.47	.46	.46	.46	.48	.46	.46
		PDI-833-3	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.46	.45	.43
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc	.46	.46	.46	.46	.46	.46	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.40	.41	.41
		PDI-816-2	≤2.0 & > 0[1] in. wc	.50	.49	.49	.49	.50	.49	.49
		PDI-816-4	≤2.0 & > 0[1] in. wc	.49	.48	.48	.48	.45	.48	.48
		PDI-816-5	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.50

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	7/13/2015	7/14/15	7/15/15	7/16/15	7-17-15	7/18/15	7/19/2015
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	JM	JM	JM	DS	JM	JOS
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	.86	.86	.86	.86	.86	.86	.90
		PDI-813-2	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.30
		PDI-813-3	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.31
		PDI-813-4	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.30	.31	.31
		PDI-813-5	≤2.0 & > 0[1] in. wc	.30	.30	.29	.29	.29	.29	.29
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.03	.03	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-865-3	≤2.0 & > 0[1] in. wc	.38	.36	.36	.36	.38	.36	.37
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.05
		PDI-863-2	≤2.0 & >0[1] in. wc	.28	.28	.28	.28	.27	.28	.26

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	7/13/2015	7/14/15	7/15/15	7/16/15	7-17-15	7/18/15	7/19/2015
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	JM	JM	JM	JOS	JM	JOS
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.18	.18	.18	.18	.19	.18	.19
		PDI-857-2	≤2.0 & > 0[1] in. wc	.49	.49	.48	.48	.49	.48	.49
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.14	.14	.14	.14	.13	.14	.13
		PDI-856-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.50
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0847	0910	0915	0820	0822	0730	0831
			OC Operator Review and Page Count Complete (initials)	BC	BC	BC	BC	BC	BC	JOS BC

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [signature] Date 7/19/15 Time 0831 Reviewed by: [signature] Date: 7/27/15 Time: 0738

On-duty Supervisor

Comments:

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																
			Date:	7-20-15		7/21/15		07-22-15		07-23-15		7/24/15		7/25/15		7-26-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	a	A	K	A	BC	A	BC	A	K	A	K	A	a	A
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**														
4.1.1.1 4.1.2.1[2]	**200 area glovebox exhaust header ΔP**	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]	-2.00	-1.99	-1.98	-1.99	-2.00	-2.00	-2.00	-1.98	-2.00	-1.98	-2.00	-2.00	-1.99	-1.99
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]	-1.94	-1.94	-1.94	-1.94	-1.95	-1.95	-1.94	-1.94	-1.93	-1.94	-1.94	-1.94	-1.94	-1.95
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]	-1.98	-1.97	-1.99	-1.99	-1.98	-1.98	-1.98	-1.98	-1.98	-1.97	-1.98	-1.98	-2.00	-1.98
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]	-1.98	-1.98	-1.97	-1.97	-1.98	-1.97	-1.97	-1.98	-1.97	-1.97	-1.97	-1.97	-1.99	-1.98
4.1.1.2 4.1.1.5 4.1.2.2[2]	**200 area laboratory header ΔP**	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.23	-.23	-.22	-.21	-.22	-.23	-.22	-.22	-.23	-.23	-.22	-.22	-.22	-.23
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.25	-.26	-.24	-.23	-.26	-.26	-.26	-.26	-.26	-.26	-.25	-.25	-.26	-.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.21	-.21	-.19	-.17	-.20	-.20	-.20	-.19	-.20	-.20	-.19	-.20	-.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.21	-.21	-.19	-.18	-.20	-.20	-.20	-.19	-.20	-.21	-.20	-.20	-.21	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19
4.1.1.3 4.1.2.3[2]	**North basement ΔP**	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.10	-.10	-.10	-.03	-.10	-.10	-.11	-.10	-.10	-.10	-.10	-.10	-.10	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.10	-.10	-.10	-.05	-.10	-.10	-.10	-.10	-.10	-.11	-.10	-.10	-.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.101	-.104	-.104	-.50	-.095	-.096	-.105	-.096	-.096	-.108	-.098	-.099	-.103	-.103

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note																
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	7-20-15		7/21/15		07-22-15		07-23-15		7/24/15		7/25/15		7-26-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	a	R	a	R	BC	R	BC	R	a	R	a	R	a	R
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	7-20-15		7/21/15		07-22-15		07-23-15		7/24/15		7/25/15		7-26-15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0733	1930	0733	1930	0726	1923	0727	1923	0732	1937	0729	1930	0722	1930
					[illegible]		RSB		RSB		RSB		RSB					

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc

Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [illegible] Date 7-26-15 Time 1930 Reviewed by: [illegible] Date: 7/21/15 Time: 0808
On-duty Supervisor

Comments: _____

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	7/20/15	7/21/15	7/22/15	7/23/15	7/24/15	7/25/2015	7-24-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	JM	JM	JM	JM	JM	BF	PT
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0827	0854	0809	0830	0725	0750	0759

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	7/20/15	7/21/15	7/22/15	7/23/15	7/24/15	7/25/2015	7-26-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BF	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.11	.11
		PDI-894-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.29	.29	.29	.14	.14	.14	.15
		PDI-895-2	≤2.0 & > 0[1] in. wc	.59	.60	.59	.60	.60	.60	.60
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32 ~~.35~~ BF 7/25/15	.32
		PDI-817-2	≤2.0 & > 0[1] in. wc	.36	.36	.34	.34	.34	.35	.35
		PDI-817-4	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.35	.35
		PDI-817-5	≤2.0 & > 0[1] in. wc	.33	.33	.32	.32	.33	.31	.32
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.41	.41	.42	.41	.41	.41	.41
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.41	.41	.42	.42	.42	.42	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc	.37	.37	.37	.37	.37	.37	.35
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	7/20/15	7/21/15	7/22/15	7/23/15	7/24/15	7/25/2015	7-26-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	BF	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.97	.96	.97	.98	.98	1.0	1.0
		PDI-822-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.59	.60	.60	.59
		PDI-822-4	≤2.0 & > 0[1] in. wc	.50	.50	.50	.51	.50	.50	.50
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51	.51	.51	.52	.52	.52	.52
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.70	.70	.70	.70	.70	.70
		PDI-830-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.97	.97	.97	.97	.97	.97	.97
		PDI-836-2	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.56	.58	.58
		PDI-836-3	≤2.0 & > 0[1] in. wc	.52	.52	.53	.53	.53	.54	.53
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-837-2	≤2.0 & > 0[1] in. wc	.40	.40	.41	.41	.41	.41	.41
		PDI-837-3	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.39	.39

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	7/20/15	7/21/15	7/22/15	7/23/15	7/24/15	7/25/2015	7-24-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BF	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-838-2	≤2.0 & > 0[1] in. wc	.52	.52	.51	.52	.52	.52	.52
		PDI-838-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.46	.46	.46	.46	.46	.46	.46
		PDI-839-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-839-3	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.56	.57	.58
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	off	off	off	off	.14	.14	.14
		PDI-810-2	≤2.0 & > 0[1] in. wc	off	off	off	off	.41	.41	.41
		PDI-810-3	≤2.0 & > 0[1] in. wc	off	off	off	off	[illegible] 7/21/15 ~~.50~~ .40	.41	.41
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.11	off	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	.43	.42	.43	.43	off	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	.43	.43	.43	.43	off	OFF	OFF
			. Completion Time	0935	0914	0927	0920	0805	0755	0759
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Paul Trujillo Date 7-24-15 Time 0800 Reviewed by: [signature] Date: 7/27/15 Time: 0800

On-duty Supervisor

Comments

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	7/20/15	7/21/15	7/22/15	7/23/15	7/24/15	7-25-15	7-26-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.47	.47	.47	.47	.47	.47	.47
		PDI-841-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-841-3	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	JM 7/23/15 .40	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.33	.33	.33	.33	.33	.33	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.56	.56	.56
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	off	off	off	off	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	off	off	off	off	.50	.50	.50
		PDI-807-3	≤2.0 & > 0[1] in. wc	off	off	off	off	.48	.49	.50
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	off	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	off	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	off	OFF	OFF

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	7/20/15	7/21/15	7/22/15	7/23/15	7/24/15	7-25-15	7-26-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.14	.14	.14	.14	.15	.14	.15
		PDI-829-2	≤2.0 & > 0[1] in. wc	.33	.33	.33	.33	.35	.34	.35
		PDI-829-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.29	.29	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc	.45	.46	.46	.46	.46	.46	.46
		PDI-833-3	≤2.0 & > 0[1] in. wc	.44	.45	.45	.44	.45	.45	.45
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.42	.42	.42	.42	.42	.41	.40
		PDI-816-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.48	.49	.49
		PDI-816-4	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.48	.48
		PDI-816-5	≤2.0 & > 0[1] in. wc	.49	.49	.50	.50	.50	.49	.50

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	7/20/15	7/21/15	7/22/15	7/23/15	7/24/15	7-25-15	7-26-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	.90	.89	.90	.90	.90	.90	.90
		PDI-813-2	≤2.0 & > 0[1] in. wc	.31	.31	.30	.30	.30	.30	.30
		PDI-813-3	≤2.0 & > 0[1] in. wc	.31	.31	.29	.29	.29	.29	.29
		PDI-813-4	≤2.0 & > 0[1] in. wc	.30	.31	.30	.31	.31	.31	.31
		PDI-813-5	≤2.0 & > 0[1] in. wc	.29	.30	.28	.28	.28	.28	.28
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03	.03	.03	.03	.03	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.31	.32	.32	.31	.31	.31	.31
		PDI-865-3	≤2.0 & > 0[1] in. wc	.38	.38	.37	.37	.37	.38	.38
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.27	.28	.27	.27	.27	.28	.28

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	7/20/15	7/21/15	7/22/15	7/23/15	7/24/15	7-25-15	7-26-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	PT	PT
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.18
		PDI-857-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.49	.49
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.13	.13	.13	.13
		PDI-856-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0915	0855	0830	0857	0750	0747	0810
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Paul Trujillo Date 7-26-15 Time 0810 Reviewed by: [signature] On-duty Supervisor Date: 7/27/15 Time: 0800

Comments: 7/23/15 863 Hot water pressure gauge broke off of piping and laying on the floor. Notified ops.

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																
		Date:	7/27/15		7/28/15		7-29-15		7-30-15		7/31/15					
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	a	[illegible]	a	[illegible]	[illegible]	BC				
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]	-1.99	-2.01	-1.99	-1.98	-2.00	-2.01	-2.00	-2.03	-1.99	-1.99				
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]	-1.94	-1.97	-1.94	-1.93	-1.94	-1.95	-1.94	-1.97	-1.93	-1.95				
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]	-1.97	-1.98	-1.98	-1.98	-1.97	-1.98	-1.99	-1.98	-1.98	-1.98				
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]	-1.98	-1.98	-1.98	-1.98	-1.95	-1.95	-1.95	-1.95	-1.95	-1.95				
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.22	-.20	-0.19	-.21	-.21	-.17	-.21	-.16	-0.20	-.21				
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.25	-.21	-0.23	-.24	-.24	-.22	-.21	-.16	-0.26	-.25				
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.19	-.18	-0.19	-.23	-.20	-.20	-.20	-.19	-0.20	-.20				
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.20	-.19	-0.20	-.22	-.20	-.20	-.21	-.20	-0.20	-.20				
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.19	-.19	-0.20	-.19	-.19	-.19	-.19	-.19	-0.21	-.19				
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.10	-.09	-0.09	-.19	-.10	-.10	-.10	-.10	-0.10	-.10				
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.10	-.09	-0.09	-.17	-.10	-.10	-.10	-.10	-0.10	-.10				
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.101	-.096	-0.095	-.188	-.103	-.112	-.106	-.112	-0.107	-.103				

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note															
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	7/27/15		7/28/15		7-29-15		7-30-15		7/31/15			
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	BC	[illegible]	BC	a	a	a	[illegible]	[illegible]	BC				
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	7/27/15		7/28/15		7-29-15		7-30-15		7/31/15					
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC				
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	**Glovebox exhaust header ΔPs < laboratory ΔPs < basement ΔPs for areas 100, 200, 300 and 400**	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0726	1930	0727	1934	0735	1930	0738	1930	0728	1925				
									RSB		RSB		RSB					

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc

Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date: ~~08-05-15~~ 07-31-15 Time: ~~1927~~ 1925 Reviewed by: [signature] Date: 8/4/15 Time: 0738

On-duty Supervisor

Comments: _____

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	7/27/15	7/28/15	7/29/15	7/30/15	7.31.15		
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	JM	JM	JM	JM	JM		
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0		
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0		
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0		
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0820	0810	0805	0807	0808		

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	7/27/15	7/28/15	7/29/15	7/30/15	7-31-15		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	DS		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.12	.11	.11	.11	.11		
		PDI-894-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52		
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.14	.14	.14	.14	.14		
		PDI-895-2	≤2.0 & > 0[1] in. wc	.60	.60	.57	.57	.58		
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.32	.32	STBY	STBY	STBY		
		PDI-817-2	≤2.0 & > 0[1] in. wc	.34	.34	STBY	STBY	STBY		
		PDI-817-4	≤2.0 & > 0[1] in. wc	.35	.35	STBY	STBY	STBY		
		PDI-817-5	≤2.0 & > 0[1] in. wc	.32	.32	STBY	STBY	STBY		
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.41	.41	STBY	STBY	STBY		
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.41	.41	STBY	STBY	STBY		
		PDI-819-4	≤2.0 & > 0[1] in. wc	.36	.36	STBY	STBY	STBY		
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.28	.28	.28		
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	.33	.33	.33		
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.32	.32	.32		
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	.30	.30	.30		
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.40	.40	.40		
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	.43	.44	.43		
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.39	.39	.39		

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	7/27/15	7/28/15	7/29/15	7/30/15	7-31-15		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	DS		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.99	1.0	STBY	STBY	STBY		
		PDI-822-2	≤2.0 & > 0[1] in. wc	.60	.60	STBY	STBY	STBY		
		PDI-822-4	≤2.0 & > 0[1] in. wc	.50	.50	STBY	STBY	STBY		
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51	.51	STBY	STBY	STBY		
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.10	.10	.10		
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	.59	.59	.59		
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.61	.61	.62		
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	.64	.64	.63		
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.69	.69	.70	.70	.70		
		PDI-830-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31		
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.28		
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.97	.97	.98	.98	.98		
		PDI-836-2	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.56		
		PDI-836-3	≤2.0 & > 0[1] in. wc	.54	.54	.53	.54	.54		
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51		
		PDI-837-2	≤2.0 & > 0[1] in. wc	.40	.41	.41	.41	.41		
		PDI-837-3	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39		

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	7/27/15	7/28/15	7/29/15	7/30/15	7-31-15		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	DS		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50		
		PDI-838-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52		
		PDI-838-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51		
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.46		
		PDI-839-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60		
		PDI-839-3	≤2.0 & > 0[1] in. wc	.57	.57	.57	.57	.57		
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.13	.14	off	off	off		
		PDI-810-2	≤2.0 & > 0[1] in. wc	.41	.45	off	off	off		
		PDI-810-3	≤2.0 & > 0[1] in. wc	.41	.42	off	off	off		
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	off	.10	.10	.10		
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	off	.42	.42	.42		
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	off	.42	.42	.42		
			. Completion Time	0851	0950	0910	0830	0827		
OC Operator Review and Page Count Complete (initials)										

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Chris S Date 7-31-15 Time 0830 Reviewed by: RSS Date: 7/31/15 Time: 1600

On-duty Supervisor

Comments

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	7/27/15	7/28/15	7/29/15	7/30/15	7/31/2015		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	BF		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.17	.17	.17		
		PDI-840-2	≤2.0 & > 0 in[1]. wc	STBY	STBY	.58	.58	.58		
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	.51	.51	.51		
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.47	.47	STBY	STBY	STBY		
		PDI-841-2	≤2.0 & > 0[1] in. wc	.59	.59	STBY	STBY	STBY		
		PDI-841-3	≤2.0 & > 0[1] in. wc	.52	.52	STBY	STBY	STBY		
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.33	.34		
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.41	.41		
		PDI-831-3	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35		
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.33	.34	.34	.34	.34		
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60		
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.55		
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	off	.11	.12	.11		
		PDI-807-2	≤2.0 & > 0[1] in. wc	.50	off	.49	.50	.50		
		PDI-807-3	≤2.0 & > 0[1] in. wc	.49	off	.48	.49	.49		
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	.07	off	off	OFF		
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	.51	off	off	OFF		
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	.47	off	off	OFF		

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	7/27/15	7/28/15	7/29/15	7/30/15	7/31/2015		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	BF		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.14	.14	.13	.13	.14		
		PDI-829-2	≤2.0 & > 0[1] in. wc	.33	.32	.32	.32	.32		
		PDI-829-3	≤2.0 & > 0[1] in. wc	.28	.28	.26	.26	.28		
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0		
		PDI-833-2	≤2.0 & > 0[1] in. wc	.46	.46	.46	.46	.48		
		PDI-833-3	≤2.0 & > 0[1] in. wc	.45	.44	.44	.45	.47		
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.17	.17	.16	.17	.17		
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45		
		PDI-835-3	≤2.0 & > 0[1] in. wc	.41	.41	.42	.42	.42		
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.21	.21	.21		
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	.49	.49	.50		
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.41	.41	.41		
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	.43	.43	.45		
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.41	.40	STBY	STBY	STBY		
		PDI-816-2	≤2.0 & > 0[1] in. wc	.48	.49	STBY	STBY	STBY		
		PDI-816-4	≤2.0 & > 0[1] in. wc	.48	.48	STBY	STBY	STBY		
		PDI-816-5	≤2.0 & > 0[1] in. wc	.49	.49	STBY	STBY	STBY		

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 4)

			Date:	7/27/15	7/28/15	7/29/15	7/30/15	7/31/2015		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	BF		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.16	.16	.16		
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	STBY	.37	.37	.37		
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	STBY	.37	.37	.38		
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	STBY	.36	.36	.37		
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	STBY	.31	.31	.31		
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	.92	.91	STBY	STBY	STBY		
		PDI-813-2	≤2.0 & > 0[1] in. wc	.31	.31	STBY	STBY	STBY		
		PDI-813-3	≤2.0 & > 0[1] in. wc	.29	.29	STBY	STBY	STBY		
		PDI-813-4	≤2.0 & > 0[1] in. wc	.31	.31	STBY	STBY	STBY		
		PDI-813-5	≤2.0 & > 0[1] in. wc	.28	.28	STBY	STBY	STBY		
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03	.03	.03	.03	.03		
		PDI-865-2	≤2.0 & > 0[1] in. wc	.31	.31	.32	.31	.32		
		PDI-865-3	≤2.0 & > 0[1] in. wc	.38	.38	.39	.38	.39		
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.07	.06	.06	.06	.06		
		PDI-863-2	≤2.0 & >0[1] in. wc	.29	.28	.28	.28	.28		

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 4)

			Date:	7/27/15	7/28/15	7/29/15	7/30/15	7/31/2015		
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	BF		
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.18	.16	.18	.18	.18		
		PDI-857-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.47	.48		
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.13	.14		
		PDI-856-2	≤2.0 & > 0[1] in. wc	.51	.56	.52	.52	.51		
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT		
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT		
			Completion time	0840	0855	0820	0819	0821		
			OC Operator Review and Page Count Complete (initials)			RSB	RSB	RSB		

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: B. Fordham Date 7/31/15 Time 0822 Reviewed by: RSB On-duty Supervisor Date: 7/31/15 Time: 1601

Comments: 7/28/15 IFIT supply plenum H.V. H.W. supply gauge has not been repaired. Gauge and broken glass still laying on floor.

ATTACHMENT D-1: Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 1 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials
*Note	Confinement DR-344	Southeast	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat. / Unsat.	1502	7/1/15	TL
4.1.3.2	Confinement Door DR-344	Southeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1502	7/1/15	TL
4.1.3.2	Confinement Door DR-149	Northeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1355	7/1/15	TL
*Note	Confinement DR-102	Northwest	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat. / Unsat.	1410	7/1/15	TL
4.1.3.2	Confinement Door DR-102	Northwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1408	7/1/15	TL
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) go to the fully closed position via the automatic door closure is ≤ 30 seconds. 4 Seconds	Sat. / Unsat.	1408	7/1/15	TL

*Note: Monthly Inspection of DR-344 and DR-102 in accordance with compensatory measure(s) from: *Request for Permanent Equivalency to OE Order 420.1B Chapter II, NFPA 80, NFPA 101 and IBC Requirements for LANL Building TA55-4 (PF-4); Installation of New Confinement Doors DR-102, DR-302, and DR-344 LANL-DOE-ORDER-420.1B-EQ-2013-001*

ATTACHMENT D-1: Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 2 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials
4.1.3.2	Confinement Door DR-302	Southwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1418	7/1/15	TL
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) go to the fully closed position via the automatic door closure is ≤ 30 seconds. 7 Seconds	Sat. / Unsat.	1418	7/1/15	TL
4.1.3.2	Confinement Door DR-4	N. Basement Personnel door DR-4	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure.	Sat. / Unsat.	1455	7/1/15	TL
4.1.3.2	Confinement Door DR-90	South Basement Door (Tunnel)	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1443	7/1/15	TL
						OC Operator Review and Page Count Complete	a

Note: SR 4.1.3.2 applies during mode 1 and 2.

Completed by: T. Langworthy Date 7/1/15 Time 1502 Reviewed by: BBO Date: 7/1/15 187803 Time: 1536

On-duty Supervisor Comments:

ATTACHMENT D-1: Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 1 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials
*Note	Confinement DR-344	Southeast	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat. / Unsat.	1456	7/29/15	JM
4.1.3.2	Confinement Door DR-344	Southeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1458	7/29/15	JM
4.1.3.2	Confinement Door DR-149	Northeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1315	7/29/15	JM
*Note	Confinement DR-102	Northwest	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat. / Unsat.	1325	7/29/15	JM
4.1.3.2	Confinement Door DR-102	Northwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1325	7/29/15	JM
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) go to the fully closed position via the automatic door closure is ≤ 30 seconds. 4 Seconds	Sat. / Unsat.	1327	7/29/15	JM

*Note: Monthly Inspection of DR-344 and DR-102 in accordance with compensatory measure(s) from: *Request for Permanent Equivalency to OE Order 420.1B Chapter II, NFPA 80, NFPA 101 and IBC Requirements for LANL Building TA55-4 (PF-4); Installation of New Confinement Doors DR-102, DR-302, and DR-344 LANL-DOE-ORDER-420.1B-EQ-2013-001*

ATTACHMENT D-1: Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 2 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials
4.1.3.2	Confinement Door DR-302	Southwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat./ Unsat.	1446	7/29/15	JM
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) go to the fully closed position via the automatic door closure is ≤ 30 seconds. 6 Seconds	Sat./ Unsat.	1446	7/29/15	JM
4.1.3.2	Confinement Door DR-4	N. Basement Personnel door DR-4	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure.	Sat./ Unsat.	1335	7/29/15	JM
4.1.3.2	Confinement Door DR-90	South Basement Door (Tunnel)	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat./ Unsat.	1430	7/29/15	JM
						OC Operator Review and Page Count Complete	

Note: SR 4.1.3.2 applies during mode 1 and 2.

Completed by: Jerome M. Date 7/29/15 Time 1500 Reviewed by: BBO Date: 7/29/15 Time: 1615

On-duty Supervisor Comments:

ATTACHMENT D-2: Monthly Surveillance Rounds (CAS) (Operations Center) [UET]

(Page 1 of 1)

SR	Description		Acceptance Criteria	Sat. / Unsat.	Initials:
	Channel #	Location			
4.2.1.1	1	Rm. 201	> 1 mR/hr	Sat. / Unsat.	ARJ
	2	Rm. 106	> 1 mR/hr	Sat. / Unsat.	ARJ
	3	Rm. 305	> 1 mR/hr	Sat. / Unsat.	ARJ
	4	Rm. 401	> 1 mR/hr	Sat. / Unsat.	ARJ
	5	Rm. 206	> 1 mR/hr	Sat. / Unsat.	ARJ
	6	Rm. 114	> 1 mR/hr	Sat. / Unsat.	ARJ
	7	Rm. 319 W	> 1 mR/hr	Sat. / Unsat.	ARJ
	8	Rm. 409	> 1 mR/hr	Sat. / Unsat.	ARJ
	9	Rm. 208	> 1 mR/hr	Sat. / Unsat.	ARJ
	10	Rm. 124	> 1 mR/hr	Sat. / Unsat.	ARJ
	11	Rm. 319 E	> 1 mR/hr	Sat. / Unsat.	ARJ
	12	Rm. 420	> 1 mR/hr	Sat. / Unsat.	ARJ
	13	Rm. 209	> 1 mR/hr	Sat. / Unsat.	ARJ
	14	Rm. 126	> 1 mR/hr	Sat. / Unsat.	ARJ
	15	Rm. 327	> 1 mR/hr	Sat. / Unsat.	ARJ
	16	Rm. 429	> 1 mR/hr	Sat. / Unsat.	ARJ
	17	Vault 17	> 1 mR/hr	Sat. / Unsat.	ARJ
	18	Vault 18	> 1 mR/hr	Sat. / Unsat.	ARJ
	19	Vault 19	> 1 mR/hr	Sat. / Unsat.	ARJ
	20	Vault 20	> 1 mR/hr	Sat. / Unsat.	ARJ

Note: These readings **SHALL** be taken on the rate meters in rack RK-801-3 in the OC.

Completed by: Jaurigue [signature] Date 7/1/15 Time 0818

Reviewed by: [signature] Date 7/1/15 Time 0830
On-duty Supervisor

Comments:

August

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Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	SURVEILLANCE ROUNDS
Procedure no.:	TA55-STP-004, R17
Date of issue:	08-01-15
Working copy issued to:	J SMELTZ
Working copy issued by:	B CHANCE
	Certified Operations Center Operator (OCO)

OC Reviews Complete and TSR Status Board Updated

/

OCO Signature Date

Training Checklist:

Workers Performing Surveillance	Applicable Surveillance Training Current	
	OCO Initials	Date
R BRISCOE	BC	08-01-15
B CHANCE	BC	08-01-15
A DUNSEITH	BC	08-01-15
J COVATO	BC	08-01-15
R LUM	BC	08-01-15
A ORTIZ	BC	08-01-15
F SEYBERT	BC	08-01-15
J SMELTZ	BC	08-01-15
R PRICE	BC	08-01-15
J MARTINEZ	BC	08-01-15

Performance Type: ☑ Scheduled ☐ Partial *If partial, list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

For Information Only

Attachment B, Surveillance Training Checklist (continued)
(Page 2 of 2)

Training Checklist (continuation sheet)

Workers Performing Surveillance	Applicable Surveillance Training Current	
	Initials	Date
P TRUJILLO	08-01-15	BC
T LANGWORTHY	08-01-15	BC
R HOHNER	08-01-15	BC
M IRISH	08-01-15	BC
A HERRERA	08-01-15	BC
A SANCHEZ	08-01-15	BC
B FORDHAM	08-01-15	BC

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																
		Date:											8/1/15		8/2/15	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:											[illegible]	BC	[illegible]	BC
SRs	Description	Gauge Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]											-2.00	-2.00	-1.99	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]											-1.94	-1.94	-1.94	-1.95
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]											-1.98	-1.97	-1.98	-1.98
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]											-1.94	-1.94	-1.94	-1.94
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]											-0.21	-.22	-0.21	-.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]											-0.24	-.25	-0.24	-.24
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]											-0.21	-.21	-0.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]											-0.21	-.21	-0.20	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc											-0.19	-.19	-0.19	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc											-0.10	-.10	-0.10	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc											-0.10	-.10	-0.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc											-0.107	-.108	-0.105	-.102

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.																	
			Date:										8/1/15		8/2/15		
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:											[illegible]	BL	[illegible]	BL
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:											8/1/15		8/2/15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:											[illegible]	BC	[illegible]	BC
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	Glovebox exhaust header AP's < laboratory AP's < basement AP's for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time													0716	1930	0709	1921

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 08-02-15 Time 1921 Reviewed by: [signature] Date: 8/4/15 Time: 0825
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:						8/1/15	8/2/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:						[illegible]	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA						0.0	0.0
	CP-305-H (LED Reading)							0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value						0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat / Unsat.	Sat / Unsat.
		Completion Time:						0845	0755

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

(Page 2 of 4)

			Date:						8/1/15	8/2/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc						.11	.10
		PDI-894-2	≤2.0 & > 0[1] in. wc						.51	.51
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc						.13	.13
		PDI-895-2	≤2.0 & > 0[1] in. wc						.57	.57
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc						STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-81 9-3	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc						STBY	STBY
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc						.28	.28
		PDI-818-2	≤2.0 & > 0[1] in. wc						.31	.31
		PDI-818-4	≤2.0 & > 0[1] in. wc						.32	.32
		PDI-818-5	≤2.0 & > 0[1] in. wc						.30	.30
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc						.39	.38
		PDI-821-3	≤2.0 & > 0[1] in. wc						.42	.43
		PDI-821-4	≤2.0 & > 0[1] in. wc						.39	.39

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

			Date:						8/1/15	8/2/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc						STB4	STB4
		PDI-822-2	≤2.0 & > 0[1] in. wc						STB4	STB4
		PDI-822-4	≤2.0 & > 0[1] in. wc						STB4	STB4
		PDI-822-5	≤2.0 & > 0[1] in. wc						STB4	STB4
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc						.09	.09
		PDI-823-2	≤2.0 & > 0[1] in. wc						.59	.59
		PDI-823-4	≤2.0 & > 0[1] in. wc						.60	.61
		PDI-823—5	≤2.0 & > 0[1] in. wc						.62	.62
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc						.70	.69
		PDI-830-2	≤2.0 & > 0[1] in. wc						.31	.30
		PDI-830-3	≤2.0 & > 0[1] in. wc						.28	.29
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc						.98	.99
		PDI-836-2	≤2.0 & > 0[1] in. wc						.56	.56
		PDI-836-3	≤2.0 & > 0[1] in. wc						.53	.54
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc						.51	.51
		PDI-837-2	≤2.0 & > 0[1] in. wc						.40	.40
		PDI-837-3	≤2.0 & > 0[1] in. wc						.38	.38

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:						8/1/15	8/2/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc						.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc						.52	.52
		PDI-838-3	≤2.0 & > 0[1] in. wc						.51	.51
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc						.45	.46
		PDI-839-2	≤2.0 & > 0[1] in. wc						.59	.60
		PDI-839-3	≤2.0 & > 0[1] in. wc						.56	.56
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc						OFF	OFF
		PDI-810-2	≤2.0 & > 0[1] in. wc						OFF	OFF
		PDI-810-3	≤2.0 & > 0[1] in. wc						OFF	OFF
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc						.10	.09
		PDI -811 -2	≤2.0 & > 0[1] in. wc						.41	.41
		PDI -811 -3	≤2.0 & > 0[1] in. wc						.41	.41
			. Completion Time						0845	0750
OC Operator Review and Page Count Complete (initials)										

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: _____ Date 8/2/15 Time 0750 Reviewed by: _____ Date: 8/4/15 Time: 0828

On-duty Supervisor

Comments _____

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

(Page 1 of 4)

			Date:						8/1/15	8/2/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc						.17	.16
		PDI-840-2	≤2.0 & > 0 in[1]. wc						.58	.58
		PDI-840-3	≤2.0 & > 0[1] in. wc						.50	.50
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc						STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc						.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc						.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc						.36	.36
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc						.34	.33
		PDI-832-2	≤2.0 & > 0[1] in. wc						.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc						.56	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc						.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc						.50	.50
		PDI-807-3	≤2.0 & > 0[1] in. wc						.49	.49
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc						OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc						OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc						OFF	OFF

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:						8/1/15	8/2/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	<2.0 & > 0[1] in. wc						.13	.14
		PDI-829-2	≤2.0 & > 0[1] in. wc						.31	.32
		PDI-829-3	≤2.0 & > 0[1] in. wc						.26	.26
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc						>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc						.48	.48
		PDI-833-3	≤2.0 & > 0[1] in. wc						.48	.48
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc						.16	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc						.44	.44
		PDI-835-3	≤2.0 & > 0[1] in. wc						.40	.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc						.20	.20
		PDI-815-2	≤2.0 & > 0[1] in. wc						.48	.48
		PDI-815-4	≤2.0 & > 0[1] in. wc						.41	.41
		PDI-815-5	≤2.0 & > 0[1] in. wc						.44	.44
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc						STBY	STBY

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 4)

			Date:						8/1/15	8/2/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc						.17	.17
		PDI-812-2	≤2.0 & > 0[1] in. wc						.37	.36
		PDI-812-3	≤2.0 & > 0[1] in. wc						.36	.36
		PDI-812-4	≤2.0 & > 0[1] in. wc						.38	.38
		PDI-812-5	≤2.0 & > 0[1] in. wc						.31	.32
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc						STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc						STBY	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc						.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc						.31	.31
		PDI-865-3	≤2.0 & > 0[1] in. wc						.38	.38
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc						.07	.06
		PDI-863-2	≤2.0 & >0[1] in. wc						.27	.28

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 4)

			Date:						8/1/15	8/2/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:						[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & > 0[1] in. wc						.18	.18
		PDI-857-2	≤2.0 & > 0[1] in. wc						.48	.47
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc						.13	.13
		PDI-856-2	≤2.0 & > 0[1] in. wc						.51	.51
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)						SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less						SAT	SAT
			Completion time						0855	0755
			OC Operator Review and Page Count Complete (initials)						[illegible]	[illegible]

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 8/4/15 Time 0755 Reviewed by: [illegible] On-duty Supervisor Date: 8/4/15 Time: 0829

Comments:

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

			Date:	8-3-15		8.4-15		8-5-15		8/6/15		8-7-15		8-8-15		8-9-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	D	K	D	K	D	K	D	K	D	K	D	K	D	K
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2	≤-1.0 in. wc[1]	-1.99	-1.98	-1.98	-2.00	-1.99	-1.99	-1.99	-1.99	-2.00	-2.00	-1.99	-1.99	-2.00	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2	≤-1.0 in. wc[1]	-1.94	-1.93	-1.94	-1.95	-1.93	-1.94	-1.95	-1.95	-1.95	-1.95	-1.94	-1.94	-1.93	-1.94
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2	≤-1.0 in. wc[1]	-1.98	-1.97	-1.98	-1.98	-1.98	-1.99	-1.97	-1.99	-1.99	-1.98	-1.98	-1.98	-1.97	1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2	≤-1.0 in. wc[1]	-1.94	-1.93	-1.94	-1.94	-1.95	-1.94	-1.93	-1.94	-1.94	-1.94	-1.94	-1.93	-1.94	-1.97
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2	≤-0.05 in. wc[1]	-.21	-.21	-.21	-.21	-.21	-.21	-.22	-.22	-.22	-.22	-.22	-.22	-.22	-.22
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2	≤-0.05 in. wc[1]	-.25	-.24	-.24	-.24	-.23	-.24	-.24	-.24	-.24	-.25	-.24	-.25	-.25	-.24
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2	≤-0.05 in. wc[1]	-.20	-.20	-.20	-.20	-.20	-.20	-.21	-.21	-.20	-.21	-.20	-.20	-.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2	≤-0.05 in. wc[1]	-.20	-.20	-.20	-.20	-.20	-.20	-.21	-.21	-.20	-.21	-.20	-.20	-.21	-.21
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5	≤-0.05 in. wc	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2	< 0.00 in. wc	-.10	-.11	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.11	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2	< 0.00 in. wc	-.10	-.11	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901	< 0.00 in. wc	-.102	-.111	-.105	-.104	-.106	-.104	-.103	-.101	-.103	-.106	-.104	-.108	-.107	-.106

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note																	
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	8-3-15		8-4-15		8-5-15		8/6/15		8-7-15		8-8-15		8-9-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	D	U	D	U	D	BC	D	BC	D	U	D	U	D	U
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 AP >.050 or FR-802 Icon red and PDT-832 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 AP >.050 or FR-804 Icon red and PDT-835 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 AP >.050 or FR-806 Icon red and PDT-837 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 AP >.050 or FR-808 Icon red and PDT-839 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 AP >.050 or FR-812 Icon red and PDT-841 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	8-3-15		8-4-15		8-5-15		8/6/15		8-7-15		8-8-15		8-9-15	
				Weekday:	Mon.		Tue		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	D	U	D	U	D	BC	AL	BC	D	U	D	U	D	U
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	Glovebox exhaust header AIPs < laboratory AIPs < basement AIPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0730	1934	0730	1925	0730	1928	0727	1927	0730	1925	0730	1930	0730	1931

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc

Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: Bruce U Date 8/9/15 Time 1931 Reviewed by: BBO Date: 8/13/15 Time: 0745
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	8/3/15	8/4/15	8/5/15	8/6/15	8/7/15	8/8/15	8/9/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	JM	JM	JM	JM	JM	JM	JM
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0805	0805	0825	0752	0701	0710	0810

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	8/3/15	8/4/15	8/5/15	8/6/15	8/7/15	8/8/15	8/9/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.13	.13	.11	.12	.11	.11	.11
		PDI-894-2	≤2.0 & > 0[1] in. wc	.51	.51	.52	.52	.52	.51	.51
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.14	.14	.14	.14	.14	.14	.14
		PDI-895-2	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.57	.57	.57
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-819-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.28	.28	.28
		PDI-818-2	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-818-4	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.33	.33	.33
		PDI-818-5	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.30
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
		PDI-821-3	≤2.0 & > 0[1] in. wc	.43	.43	.44	.43	.44	.43	.43
		PDI-821-4	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.39	.39

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	8/3/15	8/4/15	8/5/15	8/6/15	8/7/15	8/8/15	8/9/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & >0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-823-2	≤2.0 & >0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-823-4	≤2.0 & >0[1] in. wc	.61	.62	.62	.62	.62	.62	.62
		PDI-823—5	≤2.0 & >0[1] in. wc	.63	.63	.64	.64	.64	.64	.63
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & >0[1] in. wc	.70	.70	.69	.70	.70	.70	.70
		PDI-830-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-830-3	≤2.0 & >0[1] in. wc	.28	.28	.28	.28	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & >0[1] in. wc	.97	.97	.97	.97	.97	.97	.97
		PDI-836-2	≤2.0 & >0[1] in. wc	.56	.56	.56	.56	.56	.56	.56
		PDI-836-3	≤2.0 & >0[1] in. wc	.54	.54	.54	.54	.54	.54	.54
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & >0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-837-2	≤2.0 & >0[1] in. wc	.41	.41	.41	.41	.41	.41	.40
		PDI-837-3	≤2.0 & >0[1] in. wc	.39	.39	.39	.39	.39	.39	.39

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	8/3/15	8/4/15	8/5/15	8/6/15	8/7/15	8/8/15	8/9/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
		PDI-838-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-839-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-839-3	≤2.0 & > 0[1] in. wc	.57	.57	.57	.57	.56	.56	.56
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	off	off	off	off	off	off	off
		PDI-810-2	≤2.0 & > 0[1] in. wc	off	off	off	off	off	off	off
		PDI-810-3	≤2.0 & > 0[1] in. wc	off	off	off	off	off	off	off
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI -811 -2	≤2.0 & > 0[1] in. wc	.42	.43	.43	.43	.43	.42	.43
		PDI -811 -3	≤2.0 & > 0[1] in. wc	.42	.43	.43	.43	.43	.42	.42
			Completion Time	0840	0836	0822	0824	0803	0730	0757
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]	[illegible]	[illegible] RSB

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Seidme, M Date 8/9/15 Time 0757 Reviewed by: [signature] Date: 8/13/15 Time: 0746

On-duty Supervisor

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	8/3/15	8/4/15	8/5/15	8/6/15	8/7/15	8/8/15	8/9/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	<2.0 & > 0[1] in. wc	.16	.17	.17	.17	.17	.17	.17
		PDI-840-2	<2.0 & > 0 in[1]. wc	.58	.58	.58	.58	.58	.58	.58
		PDI-840-3	<2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	<2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	<2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	<2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	<2.0 & > 0[1] in. wc	.34	.34	.34	.33	.34	.34	.34
		PDI-831-2	<2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
		PDI-831-3	<2.0 & > 0[1] in. wc	.36	.36	.36	.36	.34	.35	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	<2.0 & > 0[1] in. wc	.33	.33	.33	.33	.33	.33	.33
		PDI-832-2	<2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	<2.0 & > 0[1] in. wc	.55	.55	.55	.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	<2.0 & > 0[1] in. wc	.12	.12	.12	.12	.12	.12	.12
		PDI-807-2	<2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-807-3	<2.0 & > 0[1] in. wc	.48	.49	.49	.49	.49	.49	.49
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	<2.0 & > 0[1] in. wc	off	off	off	off	off	off	off
		PDI-809-2	<2.0 & > 0[1] in. wc	off	off	off	off	off	off	off
		PDI-809-3	<2.0 & > 0[1] in. wc	off	off	off	off	off	off	off

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	8/3/15	8/4/15	8/5/15	8/6/15	8/7/15	8/8/15	8/9/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) AP	[1]PDI-829-1	≤2.0 & >0[1] in. wc	.13	.14	.14	.13	.13	.14	.14
		PDI-829-2	≤2.0 & >0[1] in. wc	.32	.32	.34	.32	.32	.32	.32
		PDI-829-3	≤2.0 & >0[1] in. wc	.28	.28	.28	.27	.27	.27	.27
4.1.1.7	100 area re-circulation filter plenum (HVP-803) AP	[1]PDI-833-1	≤2.0 & >0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & >0[1] in. wc	.48	.48	.48	.48	.48	.48	.48
		PDI-833-3	≤2.0 & >0[1] in. wc	.47	.47	.47	.46	.46	.46	.46
	100 area re-circulation filter plenum (HVP-804) AP	[1]PDI-835-1	≤2.0 & >0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-835-2	≤2.0 & >0[1] in. wc	.44	.44	.44	.44	.44	.44	.44
		PDI-835-3	≤2.0 & >0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) AP	[1]PDI-815-1	≤2.0 & >0[1] in. wc	.21	.20	.20	.20	.20	.20	.20
		PDI-815-2	≤2.0 & >0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-815-4	≤2.0 & >0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
		PDI-815-5	≤2.0 & >0[1] in. wc	.45	.45	.45	.44	.44	.44	.44
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) AP	[1]PDI-816-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	8/3/15	8/4/15	8/5/15	8/6/15	8/7/15	8/8/15	8/9/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & >0[1] in. wc	.16	.16	.17	.17	.17	.16	.16
		PDI-812-2	≤2.0 & >0[1] in. wc	.37	.37	.38	.37	.37	.37	.37
		PDI-812-3	≤2.0 & >0[1] in. wc	.37	.37	.39	.38	.38	.38	.38
		PDI-812-4	≤2.0 & >0[1] in. wc	.38	.38	.38	.38	.38	.38	.38
		PDI-812-5	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & >0[1] in. wc	.03	.03	.03	.03	.03	.03	.03
		PDI-865-2	≤2.0 & >0[1] in. wc	.33	.32	.32	.32	.31	.31	.32
		PDI-865-3	≤2.0 & >0[1] in. wc	.40	.38	.38	.39	.39	.39	.39
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & >0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.28	.27	.28	.28	.28	.28	.28

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	8/3/15	8/4/15	8/5/15	8/6/15	8/7/15	8/8/15	8/9/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	JM	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.18	.18	.18	.18	.18	.18	.19
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.47	.48	.48	.48	.49	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.13	.13	.13	.13	.13	.13	.13
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0827	0826	0812	1011	0750	0800	0810
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible] KSB	[illegible] KSB	[illegible]	[illegible]	[illegible]	[illegible] KSB

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Jerome M. Date 8/9/15 Time 0810 Reviewed by: [signature] Date: 8/13/15 Time: 0748

On-duty Supervisor

Comments:

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

			Date:	8/10/15		8/11/15		8-12-15		8-13-15		8/14/15		8/15/15		8/16/15
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]		-2.00	-2.00	-2.00	-2.00	-1.93	-2.00	-1.99	-1.99	-1.99	-1.98	-1.99	-1.99	-2.00	-1.99
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]		-1.94	-1.94	-1.94	-1.95	-1.94	-1.95	-1.95	-1.94	-1.94	-1.93	-1.95	-1.93	-1.94	-1.94
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]		-1.98	-1.98	-1.98	-1.97	-1.99	-1.98	-1.98	-1.98	-1.98	-1.99	-1.97	-1.97	-1.99	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]		-1.94	-1.94	-1.95	-1.95	-1.95	-1.97	-1.94	-1.95	-1.95	-1.95	-1.94	-1.95	-1.95	-1.94
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]		-.22	-0.22	-0.21	-.20	-.18	-.19	-.19	-.18	-0.19	-.19	-.19	-.18	-.18	-0.19
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]		-.24	-0.24	-0.22	-.22	-.21	-.21	-.21	-.22	-0.23	-.22	-.22	-.21	-.20	-0.21
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]		-.20	-0.20	-0.20	-.21	-.19	-.19	-.20	-.19	-0.20	-.20	-.21	-.20	-.19	-0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]		-.20	-0.20	-0.20	-.21	-.20	-.20	-.20	-.20	-0.20	-.20	-.21	-.20	-.19	-0.20
	IFTT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc		-.19	-0.19	-.19	-.19	-.19	-.19	-.19	-.19	-0.19	-.19	-.19	-.19	-.19	-0.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc		-.10	-0.10	-0.10	-.10	-.10	-.10	-.11	-.10	-0.10	-.10	-.10	-.11	-.10	-0.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc		-.10	-0.10	-0.10	-.10	-.10	-.10	-.11	-.10	-0.10	-.10	-.10	-.10	-.10	-0.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc		-.102	-0.100	-0.105	-.101	-.107	-.109	-.114	-.112	-0.109	-.111	-.113	-.116	-.109	-0.116

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ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	8/10/15		8/11/15		8-12-15		8-13-15		8/14/15		8/15/15		8/16/15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 AP >.050 or FR-802 Icon red and PDT-832 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 AP >.050 or FR-804 Icon red and PDT-835 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 AP >.050 or FR-806 Icon red and PDT-837 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 AP >.050 or FR-808 Icon red and PDT-839 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 AP >.050 or FR-812 Icon red and PDT-841 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

					Date:	8/10/15		8/11/15		8-12-15		8-13-15		8/14/15 8/15/15		8/15/15		8/16/15	
					Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
					Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
					Initials:			AM											
SRs	Description	Area	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS Sat. / Unsat. (circle one)														
4.1.1.4	Glovebox exhaust header AP < laboratory AP < basement AP for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0715	1931	0739	0724	0730	1925	0730	1935	0734	1923	0800	1926	0724	1931

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 8/16/15 Time 1931 Reviewed by: [signature] Date: 8/18/15 Time: 0830
On-duty Supervisor

Comments:

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	8/10/15	8/11/15	8/12/15	8-13-15	8-14-15	8-15-15	8-16-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	JM	JM	JM	RS	PT	[illegible]	PT
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0835	0826	0920	0829	0817	0721	0900

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	8/10/15	8/11/15	8/12/15	8-13-15	8-14-15	8-15-2015	8-16-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	PT	[illegible]	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.12	.11	.10	.11
		PDI-894-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.51	.52
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.14	.14	.14	.15	.15	.15	.15
		PDI-895-2	≤2.0 & > 0[1] in. wc	.58	.58	.59	.59	.59	.59	.59
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-819-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.28	.27	.27
		PDI-818-2	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.32	.32	.32
		PDI-818-4	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.31	.31
		PDI-818-5	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.30
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
		PDI-821-3	≤2.0 & > 0[1] in. wc	.43	.43	.43	.42	.42	.41	.43
		PDI-821-4	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.39	.39

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	8/10/15	8/11/15	8/12/15	8-13-15	8-14-15	8/15/15	8-16-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	PT	[illegible]	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-823-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.60	.60
		PDI-823-4	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.62	.61
		PDI-823—5	≤2.0 & > 0[1] in. wc	.63	.63	.63	.63	.63	.64	.62
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.70	.70	.69	.69	.69	.69
		PDI-830-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.30	.31
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.29	.29	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.98	.98	.98	.98	.98	.99	1.0
		PDI-836-2	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.56	.56	.57
		PDI-836-3	≤2.0 & > 0[1] in. wc	.43	.54	.53	.54	.52	.53	.53
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.52
		PDI-837-2	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.40	.41
		PDI-837-3	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.38	.39

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	8/10/15	8/11/15	8/12/15	8-13-15	8-14-15	8/15/15	8-16-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	DJ	PT	Jos	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-838-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.53	.52
		PDI-838-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.50	.51
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.45	.45	.45	.47	.47	.47	.47
		PDI-839-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-839-3	≤2.0 & > 0[1] in. wc	.56	.56	.56	.55	.55	.55	.56
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	off	off	off	off	OFF	OFF	OFF
		PDI-810-2	≤2.0 & > 0[1] in. wc	off	off	off	off	OFF	OFF	OFF
		PDI-810-3	≤2.0 & > 0[1] in. wc	off	off	off	off	OFF	OFF	OFF
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.11	.11	.10	.11
		PDI -811 -2	≤2.0 & > 0[1] in. wc	.42	.42	.43	.46	.46	.46	.46
		PDI -811 -3	≤2.0 & > 0[1] in. wc	.42	.42	.43	.46	.46	.45	.45
			Completion Time	0911	0857	0921	0935	0711	0648	0746
OC Operator Review and Page Count Complete (initials)				[signature]	[signature]	[signature] RSB	[signature] RSB	[signature] RSB	[signature]	[signature] RSB

[1]Non TSR requirement.

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Paul Zigich Date 8-16-15 Time 0746 Reviewed by: [signature] Date: 8/18/15 Time: 0832
On-duty Supervisor

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	8/10/15	8/11/15	8/12/15	8-13-15	8-14-15	8/15/15	8-16-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	PT	[illegible]	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1] wc	.57	.58	.58	.55	.59	.58	.59
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.50	.51	.51	.50	.51
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.33	.34	.34	.34	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.40	.41
		PDI-831-3	≤2.0 & > 0[1] in. wc	.36	.36	.36	.36	.36	.35	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.11	.11	.12	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.50	.50	.51	.50	.50	.50	.50
		PDI-807-3	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.50	.49	.50
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	off	off	off	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	off	off	off	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	off	off	off	OFF	OFF	OFF

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	8/10/15	8/11/15	8/12/15	8-13-15	8-14-15	8/15/15	8-16-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	[illegible]	PT	JDS	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.14	.10	.11	.14	.14	.13	.14
		PDI-829-2	≤2.0 & > 0[1] in. wc	.32	.26	.31	.36	.32	.31	.31
		PDI-829-3	≤2.0 & > 0[1] in. wc	.28	.20	.24	.29	.28	.21	.28
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc	.48	.48	.49	.49	.49	.49	.49
		PDI-833-3	≤2.0 & > 0[1] in. wc	.47	.48	.48	.48	.48	.46	.48
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.16	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.20	.20	.20	.20	.21	.22	.21
		PDI-815-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-815-4	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.40	.41
		PDI-815-5	≤2.0 & > 0[1] in. wc	.44	.44	.44	.44	.44	.42	.42
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	8/10/15	8/11/15	8/12/15	8-13-15	8-14-15	8/15/15	8-16-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	PT	[illegible]	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.15	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc	.38	.37	.37	.37	.37	.38	.38
		PDI-812-3	≤2.0 & > 0[1] in. wc	.38	.37	.37	.37	.37	.35	.38
		PDI-812-4	≤2.0 & > 0[1] in. wc	.37	.36	.37	.35	.38	.37	.38
		PDI-812-5	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.30	.30
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03	.03	.03	.04	.04	.04	.04
		PDI-865-2	≤2.0 & > 0[1] in. wc	.32	.30	.32	.32	.35	.34	.35
		PDI-865-3	≤2.0 & > 0[1] in. wc	.39	.38	.39	.40	.41	.40	.41
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.28	.28	.28	.28	.28	.28	.28

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	8/10/15	8/11/15	8/12/15	8-13-15	8-14-15	8/15/15	8-16-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	PT	[illegible]	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.18	.17	.18	.19	.19	.19	.19
		PDI-857-2	≤2.0 & > 0[1] in. wc	.49	.49	.48	.48	.48	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.13	.13	.15	.15
		PDI-856-2	≤2.0 & > 0[1] in. wc	.51	.51	.56	.56	.56	.56	.56
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0901	0845	0902	0916	0726	0735	0903
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible] RSB

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Paul Trujillo Date 8-16-15 Time 0903 Reviewed by: RSB On-duty Supervisor Date: 8/18/15 Time: 0835

Comments:

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

			Date:	8-17-15		8-18-15		8/19/15		8/20/15		8-21-15		8-22-15		8-23-15
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	D	a	D	a	~~D~~	~~BC~~	~~D~~	BC	D	a	D	a	D	a
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]		-1.99	-1.98	-1.98	-2.01	-1.98	-1.99	-1.97	-1.99	-2.01	-2.00	-1.99	-1.99	-1.99	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]		-1.94	-1.91	-1.92	-1.98	-1.94	-1.95	-1.92	-1.95	-1.95	-1.91	-1.94	-1.95	-1.95	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]		-1.98	-1.98	-1.97	-1.99	-1.99	-1.99	-1.97	-1.98	-1.99	-1.97	-1.98	-1.97	-1.97	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]		-1.97	-1.95	-1.93	-1.93	-1.97	-1.98	-1.97	-1.97	-1.98	-1.97	-1.97	-1.98	-1.97	-1.94
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]		-.19	-.17	-.20	-.21	-0.18	-.18	-0.20	-.19	-.19	-.19	-.18	-.18	-.19	-.19
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]		-.20	-.19	-.22	-.23	-0.21	-.21	-0.21	-.22	-.21	-.21	-.21	-.21	-.22	-.22
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]		-.20	-.18	-.20	-.20	-0.19	-.20	-0.19	-.19	-.19	-.20	-.20	-.19	-.20	-.21
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]		-.20	-.19	-.21	-.20	-0.20	-.20	-0.19	-.20	-.20	-.20	-.21	-.20	-.21	-.21
	IFTT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc		-.19	-.19	-.19	-.18	-0.19	-.19	-0.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc		-.10	-.10	-.11	-.10	-0.10	-.10	-0.09	-.10	-.10	-.10	-.10	-.10	-.11	-.11
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc		-.10	-.10	-.10	-.10	-0.09	-.09	-0.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc		-.112	-.119	-.114	-.098	-0.106	-.105	-0.116	-.109	-.107	-.114	-.112	-.105	-.118	-.117

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ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	8-17-15		8-18-15		8/19/15		8/20/15		8-21-15		8-22-15		8-23-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	a	a	a	a	BC	BC	BC	BC	a	a	a	a	a	a
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	8-17-15		8-18-15		8/19/15		8/20/15		8-21-15		8-22-15		8-23-15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	A	a	A	a	BC	BC	BC	BC	A	a	A	a	A	a
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	Glovebox exhaust header AP[1] < laboratory AP[1] < basement AP[1] for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0730	1943	0730	1936	0732	1919	0734	1927	0730	1953	0730	1932	0730	1951
							RSB		RSB		RSB		RSB					

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 8-23-15 Time 1934 Reviewed by: [signature] Date: 8/24/15 Time: 0700
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	8-17-15	8/18/15	8/19/15	8/20/15	8/21/15	08/22/15	08/23/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0822	0805	0802	0810	0755	0819	1820

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	8-17-15	8/18/15	8/19/15	8/20/15	8/21/15	8/22/15	8/23/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	<2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11	.11	.11
		PDI-894-2	<2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	< 2.0 & > 0[1] in. wc	.14	.14	.14	.14	.15	.15	.15
		PDI-895-2	<2.0 & > 0[1] in. wc	.59	.59	.60	.60	.60	.60	.60
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	<2.0 & > 0[1] in. wc	STBY	STBY	.32	.31	.32	.32	.32
		PDI-817-2	<2.0 & > 0[1] in. wc	STBY	STBY	.34	.34	.34	.34	.34
		PDI-817-4	<2.0 & > 0[1] in. wc	STBY	STBY	.35	.35	.35	.35	.35
		PDI-817-5	<2.0 & > 0[1] in. wc	STBY	STBY	.32	.32	.32	.32	.32
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	<2.0 & > 0[1] in. wc	STBY	STBY	.41	.41	.41	.41	.41
		PDI-819-3	<2.0 & > 0[1] in. wc	STBY	STBY	.41	.41	.41	.41	.41
		PDI-819-4	<2.0 & > 0[1] in. wc	STBY	STBY	.35	.35	.36	.36	.36
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	<2.0 & > 0[1] in. wc	.28	.28	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	<2.0 & > 0[1] in. wc	.32	.34	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	<2.0 & > 0[1] in. wc	.32	.32	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	<2.0 & > 0[1] in. wc	.30	.30	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	<2.0 & > 0[1] in. wc	.39	.40	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	<2.0 & > 0[1] in. wc	.45	.44	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	<2.0 & > 0[1] in. wc	.39	.39	STBY	STBY	STBY	STBY	STBY

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	8-17-15	8/18/15	8/19/15	8/20/15	8/21/15	8/22/15	8/23/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	ns	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & >0[1] in. wc	STBY	STBY	.99	.99	.99	.99	.99
		PDI-822-2	≤2.0 & >0[1] in. wc	STBY	STBY	.59	.58	.58	.58	.58
		PDI-822-4	≤2.0 & >0[1] in. wc	STBY	STBY	.50	.50	.50	.50	.50
		PDI-822-5	≤2.0 & >0[1] in. wc	STBY	STBY	.51	.51	.51	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & >0[1] in. wc	.10	.10	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & >0[1] in. wc	.60	.60	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & >0[1] in. wc	.62	.61	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & >0[1] in. wc	.62	.62	STBY	STBY	STBY	STBY	STBY
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & >0[1] in. wc	.69	.69	.69	.70	.69	.69	.69
		PDI-830-2	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.25	.25	.25
		PDI-830-3	≤2.0 & >0[1] in. wc	.28	.28	.28	.28	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & >0[1] in. wc	.99	.99	.99	.99	.99	.99	.99
		PDI-836-2	≤2.0 & >0[1] in. wc	.67	.57	.57	.57	.57	.57	.57
		PDI-836-3	≤2.0 & >0[1] in. wc	.64	.54	.54	.51	.51	.51	.51
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & >0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
		PDI-837-2	≤2.0 & >0[1] in. wc	.40	.41	.41	[illegible] 8/20/15 .39	.38	.39	.39
		PDI-837-3	≤2.0 & >0[1] in. wc	.39	.39	.39	.39	.41	.41	.41

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:	8-17-15	8/18/15	8/19/15	8/20/15	8/21/15	8/22/15	8/23/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.50
		PDI-838-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.50	.50	.51
		PDI-838-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.56	.56	.56
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-839-2	≤2.0 & > 0[1] in. wc	.59	.60	.60	.60	.60	.60	.60
		PDI-839-3	≤2.0 & > 0[1] in. wc	.55	.56	.56	.55	.56	.56	.56
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	off	off	.15	.15	.14	.15	.15
		PDI-810-2	≤2.0 & > 0[1] in. wc	off	off	.46	.45	.43	.46	.46
		PDI-810-3	≤2.0 & > 0[1] in. wc	off	off	.42	.43	.42	.42	.43
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	.11	.11	off	off	off	off	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc	.45	.45	off	off	off	off	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc	.45	.45	off	off	off	off	off
			Completion Time	0915	0836	0840	0847	0820	0850	0841
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Price Date 8/23/15 Time 0841 Reviewed by: [illegible] Date: 8/24/15 Time: 0700
On-duty Supervisor

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

(Page 1 of 4)

			Date:	8-17-15	8/18/15	8/19/15	8/20/15	8/21/15	08/22/15	08/23/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	AS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	<2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-840-2	<2.0 & > 0 in[1] wc	.59	.59	.59	.59	.59	.59	.59
		PDI-840-3	<2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	<2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-841-2	<2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-841-3	<2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	<2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-831-2	<2.0 & > 0[1] in. wc	.41	.41	.40	.40	.40	.40	.40
		PDI-831-3	<2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.35	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	<2.0 & > 0[1] in. wc	.33	.34	.33	.33	.34	.34	.34
		PDI-832-2	<2.0 & > 0[1] in. wc	.59	.60	.60	.60	.60	.60	.60
		PDI-832-3	<2.0 & > 0[1] in. wc	.55	.55	.55	.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	<2.0 & > 0[1] in. wc	.12	.13	off	off	off	off	off
		PDI-807-2	<2.0 & > 0[1] in. wc	.50	.51	off	off	off	off	off
		PDI-807-3	<2.0 & > 0[1] in. wc	.49	.50	off	off	off	off	off
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	<2.0 & > 0[1] in. wc	off	off	.07	.07	.07	.07	.07
		PDI-809-2	<2.0 & > 0[1] in. wc	off	off	.50	.51	.54	.54	.54
		PDI-809-3	<2.0 & > 0[1] in. wc	off	off	.48	.47	.48	.47	.47

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:	8-17-15	8/18/15	8/19/15	8/20/15	8/21/15	08/22/15	08/23/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & >0[1] in. wc	.13	.14	.14	.14	.15	.14	.15
		PDI-829-2	≤2.0 & >0[1] in. wc	.31	.33	.34	.34	.35	.35	.35
		PDI-829-3	≤2.0 & >0[1] in. wc	.25	.29	.30	.30	.30	.30	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & >0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.00	>1.06
		PDI-833-2	≤2.0 & >0[1] in. wc	.48	.48	.48	.48	.48	.48	.48
		PDI-833-3	≤2.0 & >0[1] in. wc	.47	.38	.39	.38	.38	.38	.38
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & >0[1] in. wc	.16	.17	.17	.17	.16	.16	.16
		PDI-835-2	≤2.0 & >0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-835-3	≤2.0 & >0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & >0[1] in. wc	.21	.21	STBY	STBY	STBY	Stby	Stby
		PDI-815-2	≤2.0 & >0[1] in. wc	.49	.49	STBY	STBY	STBY	Stby	Stby
		PDI-815-4	≤2.0 & >0[1] in. wc	.41	.41	STBY	STBY	STBY	Stby	Stby
		PDI-815-5	≤2.0 & >0[1] in. wc	.45	.44	STBY	STBY	STBY	Stby	Stby
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & >0[1] in. wc	STBY	STBY	.40	.40	.40	.40	.40
		PDI-816-2	≤2.0 & >0[1] in. wc	STBY	STBY	.49	.49	.49	.49	.49
		PDI-816-4	≤2.0 & >0[1] in. wc	STBY	STBY	.48	.48	.48	.48	.48
		PDI-816-5	≤2.0 & >0[1] in. wc	STBY	STBY	.49	.49	.49	.49	.49

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	8-17-15	8/18/15	8/19/15	8/20/15	8/21/15	08/22/15	08/23/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & >0[1] in. wc	.16	.16	STBY	STBY	STBY	Stby	Stby
		PDI-812-2	≤2.0 & >0[1] in. wc	.35	.36	STBY	STBY	STBY	Stby	Stby
		PDI-812-3	≤2.0 & >0[1] in. wc	.36	.36	STBY	STBY	STBY	Stby	Stby
		PDI-812-4	≤2.0 & >0[1] in. wc	.35	.36	STBY	STBY	STBY	Stby	Stby
		PDI-812-5	≤2.0 & >0[1] in. wc	.31	.31	STBY	STBY	STBY	Stby	Stby
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & >0[1] in. wc	STBY	STBY	.87	.87	.88	.88	.88
		PDI-813-2	≤2.0 & >0[1] in. wc	STBY	STBY	.30	.30	.30	.30	.30
		PDI-813-3	≤2.0 & >0[1] in. wc	STBY	STBY	.27	.27	.27	.27	.27
		PDI-813-4	≤2.0 & >0[1] in. wc	STBY	STBY	.31	.30	.31	.31	.31
		PDI-813-5	≤2.0 & >0[1] in. wc	STBY	STBY	.24	.25	.25	.24	.24
4.1.3.4	IFTT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & >0[1] in. wc	.04	.03	.03	.03	.03	.02	.02
		PDI-865-2	≤2.0 & >0[1] in. wc	.35	.34	.34	.34	.34	.34	.34
		PDI-865-3	≤2.0 & >0[1] in. wc	.41	.41	.40	.40	.52	.40	.40
4.1.3.4	IFTT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & >0[1] in. wc	.06	.06	.07	.07	.07	.07	.07
		PDI-863-2	≤2.0 & >0[1] in. wc	.28	.28	.28	.28	.27	.27	.27

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	8-17-15	8/18/15	8/19/15	8/20/15	8/21/15	08/22/15	08/23/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	DS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.19	.19	.18	.18	.18	.18	.19
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.46	.47	.47	.47	.47	.47	.47
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.15	.15	.15	.15	.15	.15	.15
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.55	.56	.56	.56	.57	.57	.57
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	Sat	SAT	SAT	SAT	SAT	Sat	Sat
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAT	SAT	SAT	SAT	Sat	Sat
			Completion time	0857	0825	0828	0830	0813	0845	0855
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible] RSS	[illegible] RSS	[illegible] RSS	[illegible] RSS	[illegible]	[illegible]

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Michael Irish Date 8/23/15 Time 0856 Reviewed by: [signature] On-duty Supervisor Date: 8/24/15 Time: 0700

Comments:

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																
			Date:	08-24-15		08-25-15		08-26-15		8-27-15		08-28-15		08-29-15		08-30-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	BC	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2	≤-1.0 in. wc[1]	-1.99	-2.00	-2.01	-1.98	-1.99	-1.99	-2.00	-2.00	-2.00	-2.01	-2.00	-1.99	-2.00	-1.99
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2	≤-1.0 in. wc[1]	-1.93	-1.95	-1.95	-1.94	-1.95	-1.94	-1.94	-1.94	-1.94	-1.96	-1.95	-1.94	-1.95	-1.94
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2	≤-1.0 in. wc[1]	-1.97	-1.98	-1.99	-1.98	-1.97	-1.97	-1.98	-1.98	-1.99	-1.98	-1.98	-1.99	-1.98	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2	≤-1.0 in. wc[1]	-1.94	-1.98	-1.98	-1.98	-1.97	-1.97	-1.97	-1.97	-1.98	-1.97	-1.98	-1.98	-1.98	-1.97
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2	≤-0.05 in. wc[1]	-.19	-.21	-.21	0.21	-.22	-.22	-.21	-.21	-.21	-.23	-.21	0.21	-.22	0.22
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2	≤-0.05 in. wc[1]	-.22	-.23	-.23	0.24	-.23	-.24	-.24	-.24	-.24	-.25	-.23	0.24	-.25	0.26
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2	≤-0.05 in. wc[1]	-.20	-.19	-.19	0.21	-.20	-.21	-.19	-.19	-.18	-.19	-.18	0.18	-.20	0.21
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2	≤-0.05 in. wc[1]	-.21	-.19	-.20	0.21	-.21	-.22	-.20	-.20	-.19	-.20	-.19	0.19	-.20	0.21
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5	≤-0.05 in. wc	-.19	-.14	-.19	0.19	-.19	-.19	-.19	-.19	-.19	-.20	-.19	0.19	-.19	0.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2	< 0.00 in. wc	-.10	-.09	-.10	0.10	-.10	-.11	-.10	-.10	-.10	-.10	-.10	0.10	-.10	0.10
	South basement ΔP	PDI-854-1 or PDI-854-2	< 0.00 in. wc	-.10	-.09	-.10	0.10	-.10	-.10	-.10	-.10	-.10	-.11	-.10	0.11	-.10	0.11
	IRT Tunnel ΔP	PDT-901 or PDI-901	< 0.00 in. wc	-.113	-.14	-.109	0.114	-.115	-.118	-.112	-.114	-.104	-.112	-.109	0.110	-.109	0.116

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	08-24-15		08-25-15		08-26-15		8-27-15		08-28-15		08-29-15		08-30-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	BC	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	08-24-15		08-25-15		08-26-15		8-27-15		08-28-15		08-29-15		08-30-15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	BC	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	Glovebox exhaust header APs < laboratory APs < basement APs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0727	1924	0724 RB	1924	0725 RB	1927	0730	1931	0718	1924	0719	1927	0720	1921

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc

Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 8/30/15 Time 1921 Reviewed by: [signature] Date: 9/1/15 Time: 0903
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	8/24/15	8/25/15	8/26/15	8/27/2015	8-28-15	8/29/15	8/30/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	BF	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat / Unsat.	Sat / Unsat.	Sat / Unsat.	Sat / Unsat.	Sat / Unsat.	Sat / Unsat.	Sat / Unsat.
		Completion Time:	0756	0800	0750	0720	0756	0815	0805

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			Initials:	[illegible]	[illegible]	[illegible]	BF	AB	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.12	.12	.12	.12
		PDI-894-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.53	.52
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.15	.15	.14	.15	.14	.15	.14
		PDI-895-2	≤2.0 & > 0[1] in. wc	.60	.57	.57	.57	.57	.57	.57
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	.32	.31	.32	.31	.31	.31
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	.32	.32	.32	.32	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	.34	.34	.35	.32	.35	.34
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.32	.32	.32	.31
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	STBY	.41	.41	.41	.41	.40	.40
		PDI-819-3	≤2.0 & > 0[1] in. wc	STBY	.41	.41	.41	.41	.41	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	.36	.36	.36	.36	.36	.36
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.27	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	.33	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	.32	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	.30	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.39	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	.42	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	.38	STBY	STBY	STBY	STBY	STBY	STBY

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Initials:	[illegible]	[illegible]	[illegible]	BF	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-823-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-823-4	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.61	.61	.61
		PDI-823—5	≤2.0 & > 0[1] in. wc	.63	.61	.61	.61	.61	.60	.60
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.71	.71	.71	.71	.71	.70
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25	.26	.26	.26	.26	.25	.26
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.28	.29	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99	.99	.99	.99	.99	1.0	.99
		PDI-836-2	≤2.0 & > 0[1] in. wc	.58	.56	.56	.56	.56	.57	.56
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.35	.36	.36
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.42	.42	.41	.41

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	BF	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-838-2	≤2.0 & > 0[1] in. wc	.50	.51	.51	.51	.51	.51	.51
		PDI-838-3	≤2.0 & > 0[1] in. wc	.56	.56	.56	.57	.57	.57	.57
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-839-2	≤2.0 & > 0[1] in. wc	.59	.60	.60	.60	.59	.58	.59
		PDI-839-3	≤2.0 & > 0[1] in. wc	.56	.57	.57	.57	.55	.55	.57
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.14	.13	.13	.13	.13	.12	.13
		PDI-810-2	≤2.0 & > 0[1] in. wc	.43	.41	.41	.41	.41	.40	.40
		PDI-810-3	≤2.0 & > 0[1] in. wc	.42	.41	.40	.40	.40	.40	.40
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	Off	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	Off	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	Off	OFF	OFF
			. Completion Time	0815	0831	0820	0750	0835	0838	0805
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible] KB	[illegible] KB	[illegible] KB	[illegible]	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: [illegible] Date 8/30/15 Time 0805 Reviewed by: [illegible] Date: 9/1/15 Time: 0904
On-duty Supervisor

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Initials:	PT	[illegible]	[illegible]	BF	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1] wc	.60	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	.50	STBY	STBY	STBY	STBY	STBY	STBY
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	.46	.47	.47	.47	.47	.47
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	.56	.56	.57	.57	.57	.57
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	.51	.51	.51	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.35	.36	.36	.36	.36	.36	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.56	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	OFF	.12	off	.12	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	OFF	.49	off	.50	.50	.50	.50
		PDI-807-3	≤2.0 & > 0[1] in. wc	OFF	.48	OFF	.49	.49	.48	.48
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	.08	off	.07	OFF	off	off	off
		PDI-809-2	≤2.0 & > 0[1] in. wc	.53	off	.51	OFF	off	off	off
		PDI-809-3	≤2.0 & > 0[1] in. wc	.48	off	.47	OFF	off	off	off

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Initials:	PT	[illegible]	[illegible]	BF	MS	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.15	.14	.14	.14
		PDI-829-2	≤2.0 & > 0[1] in. wc	.30	.31	.31	.31	.31	.32	.31
		PDI-829-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.29	.29	.29
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.48	.48
		PDI-833-3	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.35	.38	.38
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.47	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	.20	.20	.20	.20	.20	.20
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	.49	.49	.50	.50	.50	.50
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	.41	.41	.42	.42	.42	.42
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	.46	.46	.48	.45	.47	.47
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	.49	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	.49	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	.49	STBY	STBY	STBY	STBY	STBY	STBY

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	[illegible]	BF	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	.16	.16	.16	.16	.16	.16
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	.36	.36	.37	.37	.36	.36
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	.37	.37	.37	.37	.37	.37
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	.37	.37	.32	.31	.37	.31
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.31	.31	.32	.32
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	.91	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	.30	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	.29	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	.31	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	.22	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.03	.03	.03	.04	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
		PDI-865-3	≤2.0 & > 0[1] in. wc	.40	.39	.39	.39	.35	.36	.36
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.08	.07	.07	.07	.07	.07	.07
		PDI-863-2	≤2.0 & >0[1] in. wc	.27	.27	.27	.27	.27	.27	.27

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	[illegible]	BF	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.09	.18	.18	.18	.18	.18	.18
		PDI-857-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-856-2	≤2.0 & > 0[1] in. wc	.57	.51	.51	.51	.51	.51	.51
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	Sat	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	Sat	SAT	SAT
			Completion time	0824	0821	0810	0812	0821	0835	0757
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]	[illegible]

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 8/30/15 Time 0859 Reviewed by: RSB On-duty Supervisor Date: 9/1/15 Time: 0904

Comments:

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

Note																
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.			Date:	08-31-15												
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	BC	D												
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2	≤-1.0 in. wc[1]	-1.99	-2.00												
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2	≤-1.0 in. wc[1]	-1.95	-1.93												
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2	≤-1.0 in. wc[1]	-1.97	-1.98												
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2	≤-1.0 in. wc[1]	-1.97	-1.97												
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2	≤-0.05 in. wc[1]	-.22	-.22												
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2	≤-0.05 in. wc[1]	-.25	-.25												
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2	≤-0.05 in. wc[1]	-.21	-.19												
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2	≤-0.05 in. wc[1]	-.21	-.20												
	IFTT Facility ΔP	PDI-865-4 or PDI-865-5	≤-0.05 in. wc	-.19	-.19												
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2	< 0.00 in. wc	-.10	-.10												
	South basement ΔP	PDI-854-1 or PDI-854-2	< 0.00 in. wc	-.11	-.10												
	IRT Tunnel ΔP	PDT-901 or PDI-901	< 0.00 in. wc	-.114	-.107												

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note																	
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	08-31-15													
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	BC	P												
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 AP >.050 or FR-802 Icon red and PDT-832 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 AP >.050 or FR-804 Icon red and PDT-835 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 AP >.050 or FR-806 Icon red and PDT-837 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 AP >.050 or FR-808 Icon red and PDT-839 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 AP >.050 or FR-812 Icon red and PDT-841 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	8-31-15														
				Weekday:	Mon		Tue		Wed		Thu		Fri		Sat		Sun		
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
				Initials:	BC	D													
SRs	Description	Area	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS Sat. / Unsat. (circle one)														
4.1.1.4	Glovebox exhaust header APs < laboratory APs < basement APs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		Completion Time			0719	1930													

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc

Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 8-31-15 Time 1930 Reviewed by: [signature] Date: 9/1/15 Time: 0905
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	8/31/2015						
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	BF						
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0						
	CP-305-H (LED Reading)		0.0						
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0						
		≥ -0.1; ≤+0.1	(Sat.) / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0741						

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

(Page 2 of 4)

			Date:	8/31/2015						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.14						
		PDI-894-2	≤2.0 & > 0[1] in. wc	.55						
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.15						
		PDI-895-2	≤2.0 & > 0[1] in. wc	.57						
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.32						
		PDI-817-2	≤2.0 & > 0[1] in. wc	.32						
		PDI-817-4	≤2.0 & > 0[1] in. wc	.45						
		PDI-817-5	≤2.0 & > 0[1] in. wc	~~.44~~ BF .31 9/1/15						
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	.41						
		PDI-819-3	≤2.0 & > 0[1] in. wc	.41						
		PDI-819-4	≤2.0 & > 0[1] in. wc	.35						
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY						
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY						
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY						
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY						
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY						

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

			Date:	8/31/2015						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY						
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY						
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY						
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.10						
		PDI-823-2	≤2.0 & > 0[1] in. wc	.59						
		PDI-823-4	≤2.0 & > 0[1] in. wc	.61						
		PDI-823—5	≤2.0 & > 0[1] in. wc	.61						
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70						
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25						
		PDI-830-3	≤2.0 & > 0[1] in. wc	.29						
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99						
		PDI-836-2	≤2.0 & > 0[1] in. wc	.58						
		PDI-836-3	≤2.0 & > 0[1] in. wc	.52						
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.52						
		PDI-837-2	≤2.0 & > 0[1] in. wc	.58						
		PDI-837-3	≤2.0 & > 0[1] in. wc	.42						

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	8/31/2015						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.50						
		PDI-838-2	≤2.0 & > 0[1] in. wc	.52						
		PDI-838-3	≤2.0 & > 0[1] in. wc	.57						
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.45						
		PDI-839-2	≤2.0 & > 0[1] in. wc	.59						
		PDI-839-3	≤2.0 & > 0[1] in. wc	.55						
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.12						
		PDI-810-2	≤2.0 & > 0[1] in. wc	.40						
		PDI-810-3	≤2.0 & > 0[1] in. wc	.40						
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF						
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF						
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF						
			Completion Time	0807						
OC Operator Review and Page Count Complete (initials)										

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: B. Forquam Date 8/31/2015 Time 0812 Reviewed by: [signature] Date: 9/1/15 Time: 0905
On-duty Supervisor

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	8/31/15						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	<2.0 & > 0[1] in. wc	STBY						
		PDI-840-2	<2.0 & > 0 in[1] wc	STBY						
		PDI-840-3	<2.0 & > 0[1] in. wc	STBY						
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	<2.0 & > 0[1] in. wc	.47						
		PDI-841-2	<2.0 & > 0[1] in. wc	.58						
		PDI-841-3	<2.0 & > 0[1] in. wc	.51						
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	<2.0 & > 0[1] in. wc	.32						
		PDI-831-2	<2.0 & > 0[1] in. wc	.40						
		PDI-831-3	<2.0 & > 0[1] in. wc	.35						
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	<2.0 & > 0[1] in. wc	.34						
		PDI-832-2	<2.0 & > 0[1] in. wc	.60						
		PDI-832-3	<2.0 & > 0[1] in. wc	.55						
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	<2.0 & > 0[1] in. wc	.12						
		PDI-807-2	<2.0 & > 0[1] in. wc	.50						
		PDI-807-3	<2.0 & > 0[1] in. wc	.48						
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	<2.0 & > 0[1] in. wc	OFF						
		PDI-809-2	<2.0 & > 0[1] in. wc	OFF						
		PDI-809-3	<2.0 & > 0[1] in. wc	OFF						

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:	8/31/15						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	gm						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.12						
		PDI-829-2	≤2.0 & > 0[1] in. wc	.31						
		PDI-829-3	≤2.0 & > 0[1] in. wc	.29						
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	71.0						
		PDI-833-2	≤2.0 & > 0[1] in. wc	.47						
		PDI-833-3	≤2.0 & > 0[1] in. wc	.38						
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.17						
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45						
		PDI-835-3	≤2.0 & > 0[1] in. wc	.41						
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.20						
		PDI-815-2	≤2.0 & > 0[1] in. wc	.50						
		PDI-815-4	≤2.0 & > 0[1] in. wc	.44						
		PDI-815-5	≤2.0 & > 0[1] in. wc	.46						
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY						
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY						
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY						

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 4)

			Date:	8/31/15						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	gr						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.16						
		PDI-812-2	≤2.0 & > 0[1] in. wc	.37						
		PDI-812-3	≤2.0 & > 0[1] in. wc	.37						
		PDI-812-4	≤2.0 & > 0[1] in. wc	.31						
		PDI-812-5	≤2.0 & > 0[1] in. wc	.31						
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY						
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY						
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY						
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY						
4.1.3.4	HFT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03						
		PDI-865-2	≤2.0 & > 0[1] in. wc	.31						
		PDI-865-3	≤2.0 & > 0[1] in. wc	.38						
4.1.3.4	HFT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.07						
		PDI-863-2	≤2.0 & >0[1] in. wc	.28						

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 4)

			Date:	8/31/15						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.19						
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.48						
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.15						
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.51						
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT						
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT						
			Completion time	0850						
			OC Operator Review and Page Count Complete (initials)	[illegible]						

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 8/31/15 Time 0851 Reviewed by: [illegible] On-duty Supervisor Date: 9/1/15 Time: 0905

Comments: _____

For Information Only

ATTACHMENT D-1: Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 1 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials
*Note	Confinement DR-344	Southeast	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat. / Unsat.	1420	8/26/15	[illegible]
4.1.3.2	Confinement Door DR-344	Southeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1420	8/26/15 [illegible]	[illegible]
4.1.3.2	Confinement Door DR-149	Northeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1316 [illegible] 8/26/15	8/26/15	[illegible]
*Note	Confinement DR-102	Northwest	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat. / Unsat.	1335	8/26/15	[illegible]
4.1.3.2	Confinement Door DR-102	Northwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1335	8/26/15	[illegible]
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) go to the fully closed position via the automatic door closure is ≤ 30 seconds. 4 Seconds	Sat. / Unsat.	1335	8/26/15	[illegible]

*Note: Monthly Inspection of DR-344 and DR-102 in accordance with compensatory measure(s) from: *Request for Permanent Equivalency to OE Order 420.1B Chapter II, NFPA 80, NFPA 101 and IBC Requirements for LANL Building TA55-4 (PF-4); Installation of New Confinement Doors DR-102, DR-302, and DR-344 LANL-DOE-ORDER-420.1B-EQ-2013-001*

For Information Only

ATTACHMENT D-1: Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 2 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials
4.1.3.2	Confinement Door DR-302	Southwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat./ Unsat.	1345	8/26/15	[illegible]
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) go to the fully closed position via the automatic door closure is ≤ 30 seconds. 7 Seconds	Sat./ Unsat.	1345	8/26/15	[illegible]
4.1.3.2	Confinement Door DR-4	N. Basement Personnel door DR-4	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure.	Sat./ Unsat.	1410 ~~1345~~ [illegible] 8/26/15	8/26/15	[illegible]
4.1.3.2	Confinement Door DR-90	South Basement Door (Tunnel)	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat./ Unsat.	1355	8/26/15	[illegible]
					OC Operator Review and Page Count Complete		[illegible]

Note: SR 4.1.3.2 applies during mode 1 and 2.

Completed by: Serrone M. Date 8/26/15 Time 1425 Reviewed by: RBB Date: 8/26/15 Time: 1433

On-duty Supervisor Comments:

For Information Only

ATTACHMENT D-2: Monthly Surveillance Rounds (CAS) (Operations Center) [UET]

(Page 1 of 1)

SR	Description		Acceptance Criteria	Sat. / Unsat.	Initials:
	Channel #	Location			
4.2.1.1	1	Rm. 201	> 1 mR/hr	Sat. / Unsat.	[illegible]
	2	Rm. 106	> 1 mR/hr	Sat. / Unsat.	[illegible]
	3	Rm. 305	> 1 mR/hr	Sat. / Unsat.	[illegible]
	4	Rm. 401	> 1 mR/hr	Sat. / Unsat.	[illegible]
	5	Rm. 206	> 1 mR/hr	Sat. / Unsat.	[illegible]
	6	Rm. 114	> 1 mR/hr	Sat. / Unsat.	[illegible]
	7	Rm. 319 W	> 1 mR/hr	Sat. / Unsat.	[illegible]
	8	Rm. 409	> 1 mR/hr	Sat. / Unsat.	[illegible]
	9	Rm. 208	> 1 mR/hr	Sat. / Unsat.	[illegible]
	10	Rm. 124	> 1 mR/hr	Sat. / Unsat.	[illegible]
	11	Rm. 319 E	> 1 mR/hr	Sat. / Unsat.	[illegible]
	12	Rm. 420	> 1 mR/hr	Sat. / Unsat.	[illegible]
	13	Rm. 209	> 1 mR/hr	Sat. / Unsat.	[illegible]
	14	Rm. 126	> 1 mR/hr	Sat. / Unsat.	[illegible]
	15	Rm. 327	> 1 mR/hr	Sat. / Unsat.	[illegible]
	16	Rm. 429	> 1 mR/hr	Sat. / Unsat.	[illegible]
	17	Vault 17	> 1 mR/hr	Sat. / Unsat.	[illegible]
	18	Vault 18	> 1 mR/hr	Sat. / Unsat.	[illegible]
	19	Vault 19	> 1 mR/hr	Sat. / Unsat.	[illegible]
	20	Vault 20	> 1 mR/hr	Sat. / Unsat.	[illegible]

Note: These readings **SHALL** be taken on the rate meters in rack RK-801-3 in the OC.

Completed by: [illegible] Date 8/1/2015 Time 0611

Reviewed by: [illegible] Date 8/1/15 Time 0730
On-duty Supervisor

Comments:

For Information Only

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September

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ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

		Date:			9/1/15		09.02.15		9/3/15		9/4/15		9/5/15		9/6/15	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:			K	P	BC	Z	MD	Z	K	P	K	P	K	P
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]			-2.00	-1.99	-1.99	-1.99	-2.01	-2.00	-2.00	-2.00	-2.00	-2.01	-1.99	-1.99
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]			-1.94	-1.94	-1.94	-1.94	-1.95	-1.94	-1.94	-1.94	-1.95	-1.96	-1.94	-1.94
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]			-1.98	-1.98	-1.98	-1.97	-2.00	-1.98	-1.94	-1.98	-1.98	-1.99	-1.99	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]			-1.98	-1.98	-1.98	-1.96	-2.00	-1.96	-1.98	-1.98	-1.98	-1.98	-1.99	-1.98
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]			-.22	-.22	-.21	-.22	-.22	-.18	-.21	-.22	-.22	-.22	-.20	-.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]			-.24	-.25	-.24	-.26	-.27	-.23	-.24	-.24	-.24	-.25	-.23	-.24
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]			-.18	-.20	-.20	-.21	-.22	-.19	-.22	-.20	-.20	-.20	-.17	-.19
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]			-.19	-.20	-.21	-.22	-.22	-.19	-.22	-.19	-.19	-.18	-.15	-.17
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc			-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc			-.10	-.10	-.11	-.11	-.10	-.09	-.08	-.09	-.09	-.09	-.09	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc			-.10	-.10	-.11	-.11	-.10	-.09	-.09	-.10	-.09	-.09	-.08	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc			-.101	-.103	-.107	-.113	-.09 -.19 4/5	-.099 -.098 4/1/15	-.099	-.097	-.094	-.088	-.083	-.106

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ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note																	
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:			9/1/15		09.02.15		9/3/15		9/4/15		9/5/15		9/6/15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:			K	D	BC	[illegible]	ARJ	[illegible]	K	D	K	D	K	D
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 AP >.050 or FR-802 Icon red and PDT-832 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 AP >.050 or FR-804 Icon red and PDT-835 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 AP >.050 or FR-806 Icon red and PDT-837 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 AP >.050 or FR-808 Icon red and PDT-839 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 AP >.050 or FR-812 Icon red and PDT-841 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:			9/1/15		09-02-15		9/3/15		9/4/15		9/5/15		9/6/15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	Glovebox exhaust header APs < laboratory APs < basement APs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time					0730	1930	0729	1929	0714	1927	0724	1930	0730	1930	0727	1930
							KSB		KSB				KSB					

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [illegible] Date 9-6-15 Time 1930 Reviewed by: [illegible] Date: 9/10/15 Time: 0645
On-duty Supervisor

Comments:

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:		9/1/15	9/2/15	9/3/15	9/4/15	9-5-15	9-6-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:		JM	JM	JM	JM	PT	PT
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA		0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)			0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H)	Record Calculated Value		0.0	0.0	0.0	0.0	0.0	0.0
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:		0806	0801	0840	0754	0802	0813

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:		9/1/15	9/2/15	9/3/15	9/4/15	9-5-15	9-6-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		JM	JM	PT	JM	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc		.12	.13	.12	.12	.12	.12
		PDI-894-2	≤2.0 & > 0[1] in. wc		.55	.55	.54	.53	.53	.52
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc		.14	.14	.14	.14	.15	.15
		PDI-895-2	≤2.0 & > 0[1] in. wc		.59	.58	.58	.58	.62	.52
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc		.31	.31	.31	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc		.32	.32	.32	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc		.41	.35	.34	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc		.36	.31	.31	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc		.41	.41	.41	STBY	STBY	STBY
		PDI-81 9-3	≤2.0 & > 0[1] in. wc		JM 9/1/15 ~~.35~~ .41	.41	.41	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc		.36	.36	.35	STBY	STBY	STBY
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.27	.27	.27
		PDI-818-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.33	.32	.32
		PDI-818-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.38	.39	.39
		PDI-818-5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.39	.39	.39
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.40	.40	.40
		PDI-821-3	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.43	.43	.43
		PDI-821-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.39	.39	.39

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:		9/1/15	9/2/15	9/3/15	9/4/15	9-5-15	9-6-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		JM	JM	PT	JM	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.94	.95	.95
		PDI-822-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.56	.55	.55
		PDI-822-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.49	.49	.49
		PDI-822-5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	.51	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc		.10	.10	.10	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc		.59	.59	.59	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc		.60	.60	.60	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc		.61	.61	.61	STBY	STBY	STBY
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc		.71	.71	.71	.71	.71	.71
		PDI-830-2	≤2.0 & > 0[1] in. wc		.27	.27	.26	.26	.26	.25
		PDI-830-3	≤2.0 & > 0[1] in. wc		.28	.28	.28	.28	.28	.29
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc		.99	.99	.99	.99	.98	.99
		PDI-836-2	≤2.0 & > 0[1] in. wc		.56	.56	.57	.56	.55	.57
		PDI-836-3	≤2.0 & > 0[1] in. wc		.52	.52	.52	.52	.52	.52
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc		.41	.51	.51	.52	.51	.51
		PDI-837-2	≤2.0 & > 0[1] in. wc		.38	.37	.38	.37	.37	.37
		PDI-837-3	≤2.0 & > 0[1] in. wc		.51	.41	.41	.41	.41	.41

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:		9/1/15	9/2/15	9/3/15	9/4/15	9-5-15	9-6-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		[illegible]	[illegible]	PT	[illegible]	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc		.50	.50	.50	.50	.04	PT OFF ~~OFF~~ 9-15
		PDI-838-2	≤2.0 & > 0[1] in. wc		.52	.52	.52	.52	.03	PT OFF ~~OFF~~ 9-15
		PDI-838-3	≤2.0 & > 0[1] in. wc		.57	.58	.58	.58	.11	PT OFF ~~OFF~~ 9-15
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc		.45	.45	.46	.46	.54	.54
		PDI-839-2	≤2.0 & > 0[1] in. wc		.59	.59	.59	.59	.63	.64
		PDI-839-3	≤2.0 & > 0[1] in. wc		.55	.55	.55	.55	.61	.61
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc		.13	.13	.13	.13	.13	.13
		PDI-810-2	≤2.0 & > 0[1] in. wc		.40	.40	.41	.41	.41	.41
		PDI-810-3	≤2.0 & > 0[1] in. wc		.40	.40	.40	.41	.41	.41
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	OFF	OFF
			Completion Time		0832	0823	0850	0820	0751	0751
OC Operator Review and Page Count Complete (initials)					[illegible] RSB	[illegible] RSB	[illegible]	[illegible] RSB	[illegible]	[illegible]

[1]Non TSR requirement

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Paul Trujillo Date 9-6-15 Time 0751 Reviewed by: [signature] On-duty Supervisor Date: 9/10/15 Time: 0648

Comments FB 807 is OFF Due to damper Failure

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

(Page 1 of 4)

			Date:		9/1/15	9-2-15	9/3/15	9/4/15	9-5-15	9-6-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		JM	PT	JM	JM	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc		.47	.47	.47	.47	.47	.47
		PDI-841-2	≤2.0 & > 0[1] in. wc		.56	.57	.57	.57	.58	.58
		PDI-841-3	≤2.0 & > 0[1] in. wc		.51	.51	.51	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc		.33	.34	.34	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc		.40	.40	.40	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc		.36	.36	.36	.36	.36	.36
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc		.33	.34	.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc		.60	.50	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc		.55	.55	.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc		.12	.12	.12	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc		.50	.50	.50	.50	.50	.50
		PDI-807-3	≤2.0 & > 0[1] in. wc		.48	.49	.48	.48	.49	.49
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc		off	OFF	off	off	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc		off	OFF	off	off	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc		off	OFF	off	off	OFF	OFF

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:		9/1/15	9-2-15	9/3/15	9/4/15	9-5-15	9-6-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		JM	PT	JM	JM	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc		.14	.15	.14	.14	.16	.16
		PDI-829-2	≤2.0 & > 0[1] in. wc		.33	.37	.32	.37	.39	.38
		PDI-829-3	≤2.0 & > 0[1] in. wc		.30	.30	.28	.31	.31	.31
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc		>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc		.47	.48	.47	.47	.48	.49
		PDI-833-3	≤2.0 & > 0[1] in. wc		.38	.38	.38	.38	.39	.39
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc		.17	.17	.17	.17	.17	.17
		PDI-835-2	≤2.0 & > 0[1] in. wc		.44	.44	.44	.44	.44	.44
		PDI-835-3	≤2.0 & > 0[1] in. wc		.41	.41	.41	.40	.40	.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc		.20	.21	.21	.21	.21	.21
		PDI-815-2	≤2.0 & > 0[1] in. wc		.49	.49	.49	.49	.49	.49
		PDI-815-4	≤2.0 & > 0[1] in. wc		.44	.43	.44	.44	.42	.42
		PDI-815-5	≤2.0 & > 0[1] in. wc		.46	.46	.46	.46	.45	.43
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 4)

			Date:		9/1/15	9-2-15	9/3/15	9/4/15	9-5-15	9-6-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		[illegible]	PT	[illegible]	[illegible]	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc		.16	.16	.16	.16	.13	.13
		PDI-812-2	≤2.0 & > 0[1] in. wc		.38	.38	.38	[illegible] 9/4/15 ~~.38~~ .28	.29	.30
		PDI-812-3	≤2.0 & > 0[1] in. wc		.38	.38	.38	[illegible] 9/4/15 ~~.38~~ .30	.29	.30
		PDI-812-4	≤2.0 & > 0[1] in. wc		.32	.32	.32	.24	.23	.25
		PDI-812-5	≤2.0 & > 0[1] in. wc		.31	.31	.31	.25	.25	.25
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	IFTT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc		.03	.03	.03	.03	.04	.04
		PDI-865-2	≤2.0 & > 0[1] in. wc		.32	.31	.32	.34	.32	.32
		PDI-865-3	≤2.0 & > 0[1] in. wc		.38	.38	.38	.40	.39	.40
4.1.3.4	IFTT supply filter plenum (IIVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc		.07	.07	.07	.07	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc		.28	.28	.28	.27	.28	.27

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:		9/1/15	9-2-15	9/3/15	9/4/15	9-5-15	9-6-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		JM	PT	JM	JM	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc		.18	.18	.18	.18	.18	.19
		PDI-857-2	≤2.0 & > 0[1] in. wc		.48	.48	.48	.48	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc		.16	.16	.16	.16	.16	.16
		PDI-856-2	≤2.0 & > 0[1] in. wc		.51	.51	.51	.51	.51	
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**		SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less		SAT	SAT	SAT	SAT	SAT	SAT
			Completion time		0839	0832	0902	0813	0804	0814
			OC Operator Review and Page Count Complete (initials)		JM RB	BL RB	JM BL	JM RB	JM JM	JM JM

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Paul Trujillo Date 9-6-15 Time 0814 Reviewed by: [signature] On-duty Supervisor Date: 9/10/15 Time: 0650

Comments:

For Information Only

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:		9/1/15	9/2/15	9/3/15	9-4-15	9/5/15	9/6/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:		Th	Th	Th	PT	u	u
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT /UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F		69.8	69.6	69.4	69.7	68.4	68.1
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F		72.2	72.0	71.7	71.6	70.6	70.3
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F		74.7	73.9	72.6	73	69.1	71.3
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F		74.9	73.5	72.4	72.5	68.5	68.8
		Completion Time:		0905	0830	0800	0826	0900	0855
OC Operator Review and Page Count Complete (initials)				a u RSB	BC a RSB	u u	a u RIP	u a	u a

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [signature] Date 9/6/15 Time 0855

Reviewed by: [signature] Date: 9/10/15 Time: 0655
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																
			Date:	09.07.15		09.08.15		7-9-15		9/10/15		9/11/15		9/12/15		9/13/15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2	≤-1.0 in. wc[1]	-1.98	-2.01	-1.99	-2.01	-2.00	-2.00	-2.00	-1.99	-2.00	-2.01	-2.00	-1.98	-2.00	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2	≤-1.0 in. wc[1]	-1.94	-1.94	-1.93	-1.94	-1.95	-1.96	-1.94	-1.93	-1.95	-1.95	-1.94	-1.94	-1.94	-1.94
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2	≤-1.0 in. wc[1]	-1.97	-1.98	-1.98	-2.00	-1.98	-1.98	-1.98	-1.97	-1.98	-1.98	-1.99	-1.97	-1.97	-1.98
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2	≤-1.0 in. wc[1]	-1.97	-1.96	-1.97	-2.01	-1.97	-1.94	-1.98	-1.97	-1.97	-1.98	-1.98	-1.97	-1.97	-1.97
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2	≤-0.05 in. wc[1]	-.21	-0.21	-.21	-0.21	-.23	-.22	-.21	-.22	-.22	-0.23	-0.21	-.22	-0.21	-0.22
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2	≤-0.05 in. wc[1]	-.25	-0.22	-.24	-0.24	-.25	-.24	-.25	-.24	-.26	-0.26	-0.24	-.25	-0.25	-0.25
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2	≤-0.05 in. wc[1]	-.22	-0.17	-.18	-0.18	-.22	-.20	-.22	-.19	-.19	-0.21	-0.18	-.21	-0.21	-0.21
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2	≤-0.05 in. wc[1]	-.20	-0.15	-.16	-0.16	-.20	-.20	-.22	-.20	-.20	-0.21	-0.19	-.21	-0.22	-0.21
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5	≤-0.05 in. wc	-.19	-0.19	-.19	-0.19	-.19	-.19	-.20	-.19	-.18	-0.20	-0.19	-.19	-0.19	-0.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2	< 0.00 in. wc	-.10	-0.08	-.09	-0.09	-.10	-.08	-.09	-.10	-.08	-0.18	-0.09	-.10	-0.10	-0.10
	South basement ΔP	PDI-854-1 or PDI-854-2	< 0.00 in. wc	-.11	-0.09	-.10	-0.10	-.10	-.09	-.10	-.10	-.09	-0.10	-0.09	-.11	-0.10	-0.10
	IRT Tunnel ΔP	PDT-901 or PDI-901	< 0.00 in. wc	-.112	-0.099	-.098	-0.092	-.106	-.072	-.091	-.094	-.088	-0.082	-0.077	-.093	-0.085	-0.091

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.																
			Date:	09.07.15		09.08.15		9-9-15		9/10/15		9/11/15		9/12/15		9/13/15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	09-07-15		09-08-15		9-9-15		9/10/15		9/11/15		9/12/15		9/13/15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Area	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS Sat. / Unsat. (circle one)													
4.1.1.4	Glovebox exhaust header AP's < laboratory AP's < basement AP's for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat[1] Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0727	1928	0724	1925	0749	1930	0730	1930	0740	1927	0743	1928	0734	1930
									KB		KB		KB					

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 09/12/15 Time 1930 Reviewed by: [signature] Date: 9/12/15 Time: 1930
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	9-7-15	9/8/15	9/9/15	9/10/15	9/11/15	09/12/15	09/13/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	PT	JM	JM	JM	JM	MW	MW
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0758	0751	0813	0810	0720	0845	0827

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	9-7-15	9/8/15	9-9-15	9/10/15	9/11/15	09/12/15	09/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	PT	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.12	.12	.12	.12
		PDI-894-2	≤2.0 & > 0[1] in. wc	.53	.53	.53	.53	.53	.53	.53
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.15	.15	.15	.15	.15	.15	.14
		PDI-895-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.53	.53	.53	.53
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-819-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.27	.27	.27	.27	.27	.27	.27
		PDI-818-2	≤2.0 & > 0[1] in. wc	.32	.33	.32	.33	.33	.33	.33
		PDI-818-4	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.38	.38
		PDI-818-5	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.39	.39
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.39	.39
		PDI-821-3	≤2.0 & > 0[1] in. wc	.42	.43	.43	.43	.43	.43	.43
		PDI-821-4	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.39	.39

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	9-7-15	9/8/15	9-9-15	9/10/15	9/11/15	9/12/15	9/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	PT	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	PT STBY .10	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-823-2	≤2.0 & > 0[1] in. wc	.55	.56	.58	.58	.58	.58	.58
		PDI-823-4	≤2.0 & > 0[1] in. wc	.60	.59	.60	.60	.60	.60	.60
		PDI-823—5	≤2.0 & > 0[1] in. wc	.60	.59	.60	.60	.60	.60	.60
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.70	.70	.70	.70	.70	.70
		PDI-830-2	≤2.0 & > 0[1] in. wc	.23	.26	.24	.26	.26	.25	.25
		PDI-830-3	≤2.0 & > 0[1] in. wc	.29	.28	.28	.28	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99	.99	.99	.99	.99	.99	.99
		PDI-836-2	≤2.0 & > 0[1] in. wc	.58	.57	.57	.57	.57	.57	.57
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.52	.51	.51	.51	.52	.52
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.37	.37
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	~~9-7-15~~ ~~7-9-15~~	9/8/15	9-9-15	9/10/15	9/11/15	~~09/12/15~~	~~09/13/15~~
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	PT	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) AP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	OFF	off	OFF	.49	.49	.49	.50
		PDI-838-2	≤2.0 & > 0[1] in. wc	OFF	off	OFF	.50	.50	.50	.50
		PDI-838-3	≤2.0 & > 0[1] in. wc	OFF	off	OFF	.56	.57	.57	.57
	400 area re-circulation filter plenum (HVP-808) AP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.55	.55	.55	.46	.43	.43	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc	.65	.65	.65	.60	.59	.58	.58
		PDI-839-3	≤2.0 & > 0[1] in. wc	.61	.61	.61	.57	.53	.53	.53
4.1.3.4	South Bleed off filter plenum (FF-822A) AP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.14	.14	.13	.13	.13	.12	.12
		PDI-810-2	≤2.0 & > 0[1] in. wc	.42	.42	.41	.41	.41	.41	.41
		PDI-810-3	≤2.0 & > 0[1] in. wc	.41	.41	.40	.40	.40	.40	.40
4.1.3.4	South Bleed off filter plenum (FF-822B) AP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	off	OFF	off	off	off	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	off	OFF	off	off	off	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	off	OFF	off	off	off	off
			Completion Time	0757	0813	0835	0851	0750	0909	0903
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible] BC	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Michael Irish Date 09/13/15 Time 0903 Reviewed by: RSB On-duty Supervisor Date: 9/15/15 Time: 1031

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	9-7-15	9/8/15	9/9/15	9/10/15	9/11/15	09/12/15	09/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	stby	stby
		PDI-840-2	≤2.0 & > 0 in[1]. wc	STBY	STBY	STBY	STBY	STBY	stby	stby
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	stby	stby
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.47	.47	.47	.47	.47	.47	.47
		PDI-841-2	≤2.0 & > 0[1] in. wc	.58	.57	.57	.57	.57	.57	.57
		PDI-841-3	≤2.0 & > 0[1] in. wc	.51	.52	.52	.52	.52	.52	.52
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.35	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.12	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.50	.49	.50	.50	.50	.50	.50
		PDI-807-3	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	9-7-15	9/8/15	9/9/15	9/10/15	9/11/15	09/12/15	09/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.16	.16	.15	.16	.16	.15	.15
		PDI-829-2	≤2.0 & > 0[1] in. wc	.38	.37	.37	.37	.37	.37	.37
		PDI-829-3	≤2.0 & > 0[1] in. wc	.31	.30	.30	.30	.30	.31	.31
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.00	>1.00
		PDI-833-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.48	.48
		PDI-833-3	≤2.0 & > 0[1] in. wc	.39	.40	.40	.40	.40	.39	.39
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.17	.16	.16	.17	.16	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc	.44	.45	.45	.45	.44	.44	.44
		PDI-835-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.39	.39
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.21	.20	.20	.20	.20	.20	.20
		PDI-815-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-815-4	≤2.0 & > 0[1] in. wc	.41	.43	.43	.43	.43	.43	.43
		PDI-815-5	≤2.0 & > 0[1] in. wc	.42	.43	.44	.43	.43	.43	.43
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	stby	stby
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	stby	stby
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	stby	stby
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	stby	stby

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	9-7-15	9/8/15	9/9/15	9/10/15	9/11/15	09/12/15	09/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.12	.12	.13	.13	.13	.13	.13
		PDI-812-2	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.30
		PDI-812-3	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.30
		PDI-812-4	≤2.0 & > 0[1] in. wc	.22	.23	.23	.23	.24	.25	.25
		PDI-812-5	≤2.0 & > 0[1] in. wc	.25	.25	.25	.26	.26	.25	.25
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	stby	stby
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	stby	stby
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	stby	stby
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	stby	stby
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	stby	stby
4.1.3.4	IFTT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.03	.03	.03	.03	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.32	.36	.32	.32	.32	.32	.32
		PDI-865-3	≤2.0 & > 0[1] in. wc	.38	.59	.37	.38	.39	.37	.37
4.1.3.4	IFTT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.27	.27	.27	.27	.27	.29	.27

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	9-7-15	9/8/15	9/9/15	9/10/15	9/11/15	09/12/15	09/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & > 0[1] in. wc	.20	.20	.20	.20	.20	.19	.19
		PDI-857-2	≤2.0 & > 0[1] in. wc	.48	.47	.47	.47	.47	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.15	.15
		PDI-856-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.50	.50
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	Sat	Sat
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	Sat	Sat
			Completion time	0809	0804	0825	0841	0740	0929	0928
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Michael Irish Date 09/13/15 Time 0930 Reviewed by: [illegible] On-duty Supervisor Date: 9/15/15 Time: 1033

Comments:

For Information Only

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	06/13/2016	Calibration Expiration Date:	06/24/2016	Calibration Expiration Date:	06/24/2016
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	06/13/2016	Calibration Expiration Date:	06/24/2016	Calibration Expiration Date:	06/24/2016

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	9-7-2015	9/8/15	9/9/15	9/10/15	9.11.15	9/12/15	9/13/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	Jos	Th	Th	Th	Ak	Th	[illegible]
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	68.4	68.3	68.5	68.1	68.4	68.0	68.1
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	70.5	70.6	70.7	70.6	70.8	70.6	70.7
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	74.4	73.5	72.8	71.1	73.1	69.8	73.1
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	71.9	72.4	72.4	70.6	71.9	69.2	72.3
		Completion Time:	0936	0803	0859	0806	0844	0908	0737
OC Operator Review and Page Count Complete (initials)			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [signature] Date 9/13/15 Time 0745

Reviewed by: [signature] Date: 9/15/15 Time: 1035
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

		Date:	9-14-15		9-15-15		9-16-15		9-17-15		9-18-15		9-19-15		9-20-15	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	D	K	[illegible]	K	D	[illegible]	[illegible]	[illegible]	D	K	D	K	A	K
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]	-2.00	-2.00	-2.00	-1.99	-2.00	-2.00	-1.99	-2.00	-2.01	-1.99	-2.00	-2.00	-2.00	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]	-1.94	-1.94	-1.94	-1.93	-1.95	-1.94	-1.94	-1.94	-1.95	-1.93	-1.94	-1.94	-1.94	-1.95
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]	-1.98	-1.99	-1.97	-1.97	-2.00	-1.98	-1.98	-1.97	-1.98	-1.98	-1.96	-1.97	-1.97	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]	-1.97	-1.99	-1.97	-1.97	-1.99	-1.97	-1.99	-1.97	-1.97	-1.96	-1.98	-1.97	-1.97	-1.97
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.21	-.21	-.22	-.21	-.20	-0.22	-0.21	-0.22	-.22	-.22	-.23	-.23	-.22	-.23
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.24	-.24	-.25	-.24	-.22	-0.25	-0.24	-0.25	-.25	-.25	-.26	-.27	-.25	-.25
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.19	-.19	-.22	-.22	-.17	-0.20	-0.19	-0.21	-.21	-.20	-.22	-.22	-.19	-.21
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.19	-.20	-.22	-.22	-.18	-0.20	-0.20	-0.21	-.21	-.20	-.22	-.22	-.20	-.21
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.19	-.19	-.19	-.19	-.19	-0.19	-0.20	-0.18	-.19	-.19	-.19	-.19	-.19	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.09	-.09	-.10	-.10	-.09	-0.10	-0.10	-0.11	-.10	-.11	-.11	-.10	-.10	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.09	-.10	-.10	-.10	-.09	-0.10	-0.10	-0.11	-.10	-.11	-.10	-.10	-.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.068	-.076	-.086	-.041	-.076	-0.081	-0.082	-0.083	-.084	-.093	-.086	-.087	-.088	-.083

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.																	
			Date:	9-14-15		9-15-15		9-16-15		9-17-15		9-18-15		9-19-15		9-20-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	APD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 AP >.050 or FR-802 Icon red and PDT-832 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 AP >.050 or FR-804 Icon red and PDT-835 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 AP >.050 or FR-806 Icon red and PDT-837 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 AP >.050 or FR-808 Icon red and PDT-839 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 AP >.050 or FR-812 Icon red and PDT-841 AP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	9-14-15		9-15-15		9-16-15		9-17-15		9-18-15		9-19-15		9-20-15		
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.		
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
				Initials:	D	U	ARJ	U	D	[illegible]	D	[illegible]	D	U	D	U	D	U	
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat / Unsat. (circle one)**														
4.1.1.4	Glovebox exhaust header APs < laboratory APs < basement APs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		Completion Time			0730	1924	0720	1924	0730	1926	0730	1935	0730	1924	0730	1915	0730	1927	
							RSB		RSB		RSB		RSB						

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc

Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [illegible] Date 9/20/15 Time 1927 Reviewed by: [illegible] Date: 9/22/15 Time: 0645
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	9-14-15	9/15/15	9-16-15	9-17-15	9/18/2015	9/19/15	9/20/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	PT	JM	AS	PT	BF	JM	JM
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0846	0910	0805	0842	0750	0758	0715

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	9-14-15	9/15/15	9-16-15	9-17-15	9/18/2015	9/19/15	9/20/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	[illegible]	PT	BF	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.13	.14	.13	.13
		PDI-894-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.55	.52	.52
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.15	.15	.15	.15	.15	.15	.15
		PDI-895-2	≤2.0 & > 0[1] in. wc	.53	.53	.53	.53	.55	.55	.55
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-819-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.28	.27	.27	.28	.28	.28	.28
		PDI-818-2	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.34	.34
		PDI-818-4	≤2.0 & > 0[1] in. wc	.39	.38	.35	.39	.39	.38	.38
		PDI-818-5	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.40	.40	.39
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.41	.40	.40
		PDI-821-3	≤2.0 & > 0[1] in. wc	.43	.44	.43	.44	.45	.43	.43
		PDI-821-4	≤2.0 & > 0[1] in. wc	.39	[illegible] 9/15/15 ~~.39~~ .39	.39	.39	.40	.39	.39

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	9-14-15	9/15/15	9-16-15	9-17-15	9/18/2015	9/19/15	9/20/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	AS	PT	BF	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	.10
		PDI-823-2	≤2.0 & > 0[1] in. wc	.59	.58	.58	.59	.59	.58	.58
		PDI-823-4	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.61	.60	.60
		PDI-823—5	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.61	.61	.61
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.70	.70	.71	.71	.71	.71
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25	.25	.25	.25	.26	.26	.26
		PDI-830-3	≤2.0 & > 0[1] in. wc	.29	.29	.29	.29	.29	.29	.29
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99	.99	.99	.99	.99	.99	.99
		PDI-836-2	≤2.0 & > 0[1] in. wc	.58	.57	.56	.58	.58	.58	.57
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.51	.52	.51	.52	.51	.51
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.52	.51	.52	.51	.52	.51	.51
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.38	.38
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:	9-14-15	9/15/15	9-16-15	9-17-15	9/18/2015	9/19/15	9/20/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	[illegible]	PT	BF	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) AP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-838-3	≤2.0 & > 0[1] in. wc	.58	.58	.58	.59	.59	.58	.58
	400 area re-circulation filter plenum (HVP-808) AP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.44	.44	.44	.44	.44	.44	.44
		PDI-839-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.51	.52	.52	.53	.52	.52
4.1.3.4	South Bleed off filter plenum (FF-822A) AP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.13	.13	.13	.13
		PDI-810-2	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
		PDI-810-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.40
4.1.3.4	South Bleed off filter plenum (FF-822B) AP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	off	off	OFF	OFF	off	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	off	off	OFF	OFF	off	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	off	off	OFF	OFF	off	off
			Completion Time	0905	0902	0537	0856	0812	0740	0705
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: [illegible] Date 9/22/15 Time 0705 Reviewed by: [illegible] Date: 9/22/15 Time: 0645

On-duty Supervisor

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	9/14/15	9/15/15	9/16/15	9/17/2015	9/18/2015	9/19/15	9/20/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	BF	BF	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	<2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	<2.0 & > 0 in[1] wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	<2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	<2.0 & > 0[1] in. wc	.47	.47	.47	.47	.47	.47	.47
		PDI-841-2	<2.0 & > 0[1] in. wc	.57	.57	.57	.58	.58	.57	.57
		PDI-841-3	<2.0 & > 0[1] in. wc	.52	.52	.52	.51	.52	.52	.52
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	<2.0 & > 0[1] in. wc	.33	JM 9/18/15 ~~.35~~ .33	.33	.34	.34	.33	.33
		PDI-831-2	<2.0 & > 0[1] in. wc	.35	.40	.40	.40	.41	.40	.40
		PDI-831-3	<2.0 & > 0[1] in. wc	.40	.36	.36	.35	.36	.34	.34
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	<2.0 & > 0[1] in. wc	.35	.34	.34	.34	.34	.34	.34
		PDI-832-2	<2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	JM 9/21/15 ~~.65~~ .60
		PDI-832-3	<2.0 & > 0[1] in. wc	.55	.55	.55	.56	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	<2.0 & > 0[1] in. wc	.12	.12	.12	.12	.12	.12	.12
		PDI-807-2	<2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-807-3	<2.0 & > 0[1] in. wc	.48	.48	.48	.49	.49	.49	.49
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	<2.0 & > 0[1] in. wc	off	off	off	OFF	OFF	off	off
		PDI-809-2	<2.0 & > 0[1] in. wc	off	off	off	OFF	OFF	off	off
		PDI-809-3	<2.0 & > 0[1] in. wc	off	off	off	OFF	OFF	off	off

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:	9/14/15	9/15/15	9/16/15	9/17/2015	9/18/2015	9/19/15	9/20/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	BF	BF	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.15	.15	.15	.15	.15	.15	.14
		PDI-829-2	≤2.0 & > 0[1] in. wc	.38	.38	.33	.35	.37	.36	.33
		PDI-829-3	≤2.0 & > 0[1] in. wc	.31	.31	.28	.29	.30	.30	.28
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.47	.49	.48	.48
		PDI-833-3	≤2.0 & > 0[1] in. wc	.39	.39	.40	.40	.39	.40	.39
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.18	.17	.17
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.48	.48	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.19	.19	.21	.21	.21	.21	.21
		PDI-815-2	≤2.0 & > 0[1] in. wc	.48	.49	.49	.49	.49	.49	.49
		PDI-815-4	≤2.0 & > 0[1] in. wc	.43	.43	.43	.44	.44	.43	.43
		PDI-815-5	≤2.0 & > 0[1] in. wc	.43	.43	.43	.45	.45	.43	.43
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 4)

			Date:	9/14/15	9/15/15	9/16/15	9/17/2015	9/18/2015	9/19/15	9/20/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	BF	BF	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & >0[1] in. wc	.14	.13	.16	.16	.16	.16	.16
		PDI-812-2	≤2.0 & >0[1] in. wc	.30	.31	.38	.39	.39	.38	.38
		PDI-812-3	≤2.0 & >0[1] in. wc	.31	.31	.38	.39	.39	.38	.38
		PDI-812-4	≤2.0 & >0[1] in. wc	.25	.25	.31	.32	.32	.32	.32
		PDI-812-5	≤2.0 & >0[1] in. wc	.26	.25	.31	.32	.32	.31	.31
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	HFT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & >0[1] in. wc	JM 9/14/15 .07	.03	.04	.03	.04	.03	.03
		PDI-865-2	≤2.0 & >0[1] in. wc	.50	.31	.31	.28	.31	.31	.31
		PDI-865-3	≤2.0 & >0[1] in. wc	.60	.36	.38	.28	.39	.38	.38
4.1.3.4	HFT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & >0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.27	.27	.27	.28	.28	.27	.27

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 4)

			Date:	9/14/15	9/15/15	9/16/15	9/17/2015	9/18/2015	9/19/15	9/20/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	BF	BF	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & >0[1] in. wc	.19	.18	.18	.18	.19	.19	.19
		PDI-857-2	≤2.0 & >0[1] in. wc	.48	.48	.48	.49	.49	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & >0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-856-2	≤2.0 & >0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0855	0840	0830	0900	0825	0755	0710
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 9/20/15 Time 0710 Reviewed by: [illegible] Date: 9/22/15 Time: 0645

On-duty Supervisor

Comments: 9/20/15 water leak from ontop of Vault is on basement floor. Notified ops. Known leak.

For Information Only

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	9/14/15	9/15/15	9/16/15	9/17/15	9-18-15	9-19-15	9-20-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	PT	[illegible]	[illegible]
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	68.4	68.5	68.2	68.2	68.3	68.0	67.6
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	71.0	71.1	70.9	70.9	70.9	70.2	68.7
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	73.4	72.6	71.9	72.0	73.1	69.8	69.6
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	72.7	72.5	71.4	71.3	71.7	70.7	70.3
		Completion Time:	0900	0846	0817	0835	0857	0945	0945
	OC Operator Review and Page Count Complete (initials)		[illegible]	[illegible] KD	[illegible] KD	[illegible] KD	[illegible] KD	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [illegible] Date 9-20-15 Time 0945

Reviewed by: [illegible] Date: 9/22/15 Time: 0645
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

			Date:	9/21/15		9/22/15		9/23/15		9/24/15		9/25/15		9/26/2015		9/27/15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	ARD	BC	[illegible]	[illegible]	ARD	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2	≤-1.0 in. wc[1]	-2.00	-2.01	-1.99	-2.00	-2.01	-2.01	-1.98	-2.01	-1.99	-2.01	-2.01	-2.00	-1.99	-2.02
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2	≤-1.0 in. wc[1]	-1.95	-1.95	-1.95	-1.94	-1.95	-1.94	-1.92	-1.95	-1.95	-1.96	-1.96	-1.93	-1.96	-1.95
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2	≤-1.0 in. wc[1]	-1.99	-1.98	-1.98	-1.98	-1.97	-1.98	-1.98	-1.98	-1.99	-1.98	-1.99	-1.97	-1.99	-1.98
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2	≤-1.0 in. wc[1]	-1.98	-1.98	-1.98	-1.98	-1.97	-1.97	-1.98	-1.98	-1.99	-1.98	-1.97	-1.97	-1.97	-1.98
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2	≤-0.05 in. wc[1]	-.21	-0.21	-0.19	-.21	-.21	-.22	-.23	-.22	-.21	-0.22	-0.22	-.22	-.22	-.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2	≤-0.05 in. wc[1]	-.24	-0.24	-0.23	-.24	-.24	-.25	-.26	-.25	-.24	-0.25	-0.24	-.25	-.24	-.24
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2	≤-0.05 in. wc[1]	-.18	-0.20	-0.19	-.19	-.19	-.22	-.20	-.20	-.19	-0.20	-0.18	-.21	-.18	-.19
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2	≤-0.05 in. wc[1]	-.19	-0.20	-0.21	-.20	-.20	-.24	-.20	-.20	-.20	-0.21	-0.19	-.21	-.19	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5	≤-0.05 in. wc	-.19	-0.18	-0.18	-.19	-.19	-.19	-.19	-.19	-.19	-0.19	-0.19	-.19	-.19	-.18
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2	< 0.00 in. wc	-.10	-0.09	-.10	-.10	-.10	-.10	-.08	-.10	-.09	-0.10	-0.09	-.11	-.09	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2	< 0.00 in. wc	-.10	-0.09	-.10	-.10	-.10	-.10	-.08	-.10	-.09	-0.10	-0.09	-.10	-.09	-.09
	IRT Tunnel ΔP	PDT-901 or PDI-901	< 0.00 in. wc	-.079	-0.082	-.084	-.081	-.097	-.091	-.081	-.088	-.094	-0.093	-0.076	-.095	-.079	-.081

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.

			Date:	9/21/15		9/22/15		9/23/15		9/24/15		9/25/15		9/26/15		9/27/15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	ATJ	BC	[illegible]	[illegible]	ATJ [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	9/21/15		9/22/15		9/23/15		9/24/15		9/25/15		9/26/15		9/27/15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	[illegible]	ARJ	BC	[illegible]	[illegible]	ARJ	[illegible]	DAO	[illegible]	[illegible]	BC	[illegible]	BC
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	Glovebox exhaust header AIPs < laboratory AIPs < basement AIPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
			Completion Time		0733	1921	0732	1921	0731	1921	0734	1931	0730	1931	0737	1926	0726	1928
							RSB		RSB		RSB		RSB					

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 09/27/15 Time 1928 Reviewed by: [signature] Date: 9/30/15 Time: 1545
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	9-21-15	9/22/15	9/23/15	9/24/15 (9/23/15)	9-25-15	9-26-15	9-27-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	AS	JM	JM	JM	PS	PT	JM
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0833	0750	0715	0825	0745	0814	0755

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

(Page 2 of 4)

			Date:	9-21-15	9/22/15	9/23/15	9/24/15	9/25/2015	9-26-15	9-27-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RB	JM	JM	JM	BF	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.14	.12	.12	.12	.14	.14	.14
		PDI-894-2	≤2.0 & > 0[1] in. wc	.52	.51	.51	.51	.52	.52	.52
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.15	.16	.16	.16	.16	.16	.17
		PDI-895-2	≤2.0 & > 0[1] in. wc	.55	.58	.58	.57	.58	.58	.59
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.32	.32	.32	.32
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	.31	.32	.32	.31	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	AR 9/24/15 .35	.36	.36	.34	.33	.34
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	.32	.32	.32	.33	.32	.32
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	STBY	.40	.41	.41	.41	.41	.41
		PDI-819-3	≤2.0 & > 0[1] in. wc	STBY	.41	.41	.41	.41	.41	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	.35	.35	.36	.37	.35	.35
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.28	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	.32	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	.39	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	.40	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.39	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	.45	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	.39	STBY	STBY	STBY	STBY	STBY	STBY

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

			Date:	9-21-15	9/22/15	9/23/15	9/24/15	9/25/2015	9-26-15	9-27-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	AS	JM	JM	JM	BF	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	.97	.97	.97	.98	.99	.99
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	.57	.57	.57	.58	.58	.58
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	.50	.50	.50	.50	.50	.50
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	.51	.51	.51	.51	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.10	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	.59	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	.61	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	.60	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.71	.71	.70	.71	.71	.70
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25	.26	.26	.25	.26	.24	.24
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.28	.28	.29
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99	.99	.99	.99	.99	.99	.99
		PDI-836-2	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.57	.57	.58
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.52	.52	.52	.52	.52	.51
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
		PDI-837-2	≤2.0 & > 0[1] in. wc	.36	.38	.38	.38	.38	.38	.38
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.42	.41	.41

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:	9-21-15	9/22/15	9/23/15	9/24/15	9/25/2015	9-26-15	9-27-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	rs	JM	JM	JM	BF	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) AP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.50	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-838-3	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	.58
	400 area re-circulation filter plenum (HVP-808) AP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.43	.44	.44	.44	.44	.44	.44
		PDI-839-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	.59
		PDI-839-3	≤2.0 & > 0[1] in. wc	.53	.54	.53	.53	.52	.52	.52
4.1.3.4	South Bleed off filter plenum (FF-822A) AP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.13	OFF	.13	.13	.14	.14	.14
		PDI-810-2	≤2.0 & > 0[1] in. wc	.41	OFF	.42	.42	.43	.43	.43
		PDI-810-3	≤2.0 & > 0[1] in. wc	.40	OFF	.41	.41	.42	.42	.42
4.1.3.4	South Bleed off filter plenum (FF-822B) AP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	.10	OFF	off	OFF	OFF	PT OFF 9-27-15
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	.45	OFF	OFF	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	.46	OFF	OFF	OFF	OFF	OFF
			Completion Time	0859	0830	0804	0900	0833	0750	0751
OC Operator Review and Page Count Complete (initials)					RB	RB	RB	RB		

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Paul Trujillo Date 9-27-15 Time 0751 Reviewed by: RB On-duty Supervisor Date: 9/30/15 Time: 1516

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	9/21/15	9/22/15	9/23/15	9/24/15	9-25-15	9-26-15	9-27-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	DS	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	.17	.17	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1] wc	STBY	.57	.57	.58	.58	.59	.59
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	.51	.50	.50	.50	.50	50
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.47	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	.57	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	.52	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.33	.33	.33	.33	.33	.33	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.35	.34	.35	.35	.35	.35	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.61	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	off	.12	.12	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc	.50	off	.50	.50	.50	.50	.50
		PDI-807-3	≤2.0 & > 0[1] in. wc	.49	off	.49	.49	.49	.49	.49
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	.07	off	off	off	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	.52	off	off	off	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	.48	off	off	off	OFF	OFF

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:	9/21/15	9/22/15	9/23/15	9/24/15	9-25-15	9-26-15	9-27-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	RS	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) AP	[1]PDI-829-1	≤2.0 & >0[1] in. wc	.14	.14	.14	.14	.15	.15	.15
		PDI-829-2	≤2.0 & >0[1] in. wc	.35	.33	.35	.36	.38	.36	.35
		PDI-829-3	≤2.0 & >0[1] in. wc	.29	.29	.30	.30	.30	.30	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) AP	[1]PDI-833-1	≤2.0 & >0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & >0[1] in. wc	.48	.48	.48	.48	.48	.49	.49
		PDI-833-3	≤2.0 & >0[1] in. wc	.39	.39	.39	.39	.39	.39	.39
	100 area re-circulation filter plenum (HVP-804) AP	[1]PDI-835-1	≤2.0 & >0[1] in. wc	.16	.16	.16	.17	.17	.16	.16
		PDI-835-2	≤2.0 & >0[1] in. wc	.45	.45	.45	.45	.45	.45	.44
		PDI-835-3	≤2.0 & >0[1] in. wc	.39	.39	.40	.40	.40	.40	.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) AP	[1]PDI-815-1	≤2.0 & >0[1] in. wc	.19	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & >0[1] in. wc	.49	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & >0[1] in. wc	.43	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & >0[1] in. wc	.43	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) AP	[1]PDI-816-1	≤2.0 & >0[1] in. wc	STBY	.40	.40	.40	.40	.40	.40
		PDI-816-2	≤2.0 & >0[1] in. wc	STBY	.51	.51	.51	.51	.51	.51
		PDI-816-4	≤2.0 & >0[1] in. wc	STBY	.45	.45	.45	.45	.45	.45
		PDI-816-5	≤2.0 & >0[1] in. wc	STBY	.48	.49	.49	.49	.49	.49

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	9/21/15	9/22/15	9/23/15	9/24/15	9-25-15	9-26-15	9-27-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	DJ	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.16	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc	.38	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc	.38	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc	.32	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc	.32	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	.94	.94	.95	.94	.94	.94
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.31	.31	.31	.31
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.31	.30	.30	.30
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	.35	.35	.35	.35	.35	.35
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	.36	.36	.36	.36	.35	.35
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03	.03	.03	.03	.03	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.31	.36	.32	.32	.32	.31	.31
		PDI-865-3	≤2.0 & > 0[1] in. wc	.35	.41	.38	.37	.37	.37	.38
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.27	.27	.27	.27	.27	.27	.26

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	9/21/15	9/22/15	9/23/15	9/24/15	9-25-15	9-26-15	9-27-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	JM	AS	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & > 0[1] in. wc	.19	.19	.19	.19	.19	.20	.20
		PDI-857-2	≤2.0 & > 0[1] in. wc	.48	.47	.48	.47	.47	.49	.49
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-856-2	≤2.0 & > 0[1] in. wc	.51	.56	.51	.51	.51	.51	.51
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT	SAT	Sat	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	Sat	SAT	SAT
			Completion time	0850	0815	0855	0840	0824	0813	0805
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Paul Trujillo Date 9-27-15 Time 0805 Reviewed by: RSB On-duty Supervisor Date: 9/30/15 Time: 1546

Comments:

For Information Only

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/~~15~~ PT 16 9-24-15	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	9/21/15	9/22/15	9/23/15	9-24-15	9-25-15	9-26-15	9/27/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	MW BF	PT	[illegible]	[illegible]	[illegible]
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	67.5	67.3	66.7	66.0	65.9	66.1	66.1
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	70.1	69.8	69.0	68.3	68.2	68.4	68.5
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	70.9	70.5	68.5	66.3	67.8	69.0	69.4
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	69.8	70.2	67.3	67.6	68.3	69.9	69.9
		Completion Time:	0859	0842	0900	0957	0905	1010	0835
	OC Operator Review and Page Count Complete (initials)		[illegible]	[illegible]	MW BF	[illegible]	[illegible]	[illegible]	[illegible]

1 Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [signature] Date 9/27/15 Time 0835

Reviewed by: [signature] Date: 9/30/15 Time: 1547
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

			Date:	9-28-15		9/29/15		9/30/2015								
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	D	a	ADS	a	[illegible]	[illegible]							
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**												
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2	≤-1.0 in. wc[1]	-2.01	-2.01	-2.01	-2.01	-1.99	-1.99							
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2	≤-1.0 in. wc[1]	-1.94	-1.94	-1.95	-1.96	-1.95	-1.93							
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2	≤-1.0 in. wc[1]	-1.98	-1.98	-2.00	-1.98	-1.98	-1.97							
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2	≤-1.0 in. wc[1]	-1.98	-1.97	-1.98	-1.98	-1.98	-1.97							
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2	≤-0.05 in. wc[1]	-.21	-.21	-.22	-.23	-0.22	-.22							
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2	≤-0.05 in. wc[1]	-.24	-.25	-.24	-.25	-0.26	-.26							
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2	≤-0.05 in. wc[1]	-.17	-.19	-.17	-.21	-0.21	-.20							
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2	≤-0.05 in. wc[1]	-.18	-.19	-.18	-.21	-0.21	-.21							
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5	≤-0.05 in. wc	-.19	-.19	-.19	-.19	-0.19	-.19							
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2	< 0.00 in. wc	-.10	-.10	-.09	-.10	-0.11	-.10							
	South basement ΔP	PDI-854-1 or PDI-854-2	< 0.00 in. wc	-.10	-.10	-.09	-.10	-0.11	-.10							
	IRT Tunnel ΔP	PDT-901 or PDI-901	< 0.00 in. wc	-.084	-.086	-.107	-.092	-0.097	-.097							

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.																	
			Date:	9-28-15		9/29/15		9/30/15									
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	ARS	[illegible]	[illegible]	BC								
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	9.28-15		9/29/15		9/30/15							
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	D	C	AD	C	[illegible]	BC								
SRs	Description	Area	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS Sat. / Unsat. (circle one)													
4.1.1.4	Glovebox exhaust header APs < laboratory APs < basement APs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0730	1933	0716	1919	0737	1921						
							RB		RB							

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc

Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 09-30-15 Time 1921 Reviewed by: [signature] Date: 10/1/15 Time: 0834
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	9-28-15	9-29-15	9-30-15				
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	PT	9-29-15 PT ~~RO~~ PT	PT				
	Description / Gauge	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
SR 4.4.1.1	**Flammable Gas Channel Check DET-305-3 (LCD Reading)**	NA	0.0	0.0	0.0				
	CP-305-H (LED Reading)		0.0	0.0	0.0				
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0				
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0814	0806	0902				

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	9-28-15	9-29-15	9-30-15				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	PT	PT				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.12	.12	.12				
		PDI-894-2	≤2.0 & > 0[1] in. wc	.51	.51	.51				
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.17	.17	.17				
		PDI-895-2	≤2.0 & > 0[1] in. wc	.59	.59	.59				
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.32	.32	.31				
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.31	.31				
		PDI-817-4	≤2.0 & > 0[1] in. wc	PT ~~.41~~ .34 9-29-15	.34	.34				
		PDI-817-5	≤2.0 & > 0[1] in. wc	.32	.32	.32				
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	.41	.41	.41				
		PDI-819-3	≤2.0 & > 0[1] in. wc	.41	.41	.41				
		PDI-819-4	≤2.0 & > 0[1] in. wc	.35	.35	.35				
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	9-28-15	9-29-15	9-30-15				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	PT	PT				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.99	.99	.99				
		PDI-822-2	≤2.0 & > 0[1] in. wc	.58	.58	.58				
		PDI-822-4	≤2.0 & > 0[1] in. wc	.50	.50	.50				
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51	.51	.51				
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.70	.70				
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25	.25	.25				
		PDI-830-3	≤2.0 & > 0[1] in. wc	.29	.29	.29				
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99	.99	.99				
		PDI-836-2	≤2.0 & > 0[1] in. wc	.58	.58	.58				
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.51	.52				
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51	.51	.52				
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.38	.38				
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.42				

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	9-28-15	9-29-15	9-30-15				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	PT	PT				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49				
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.51	.50				
		PDI-838-3	≤2.0 & > 0[1] in. wc	.58	.58	.58				
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.43	.43	.44				
		PDI-839-2	≤2.0 & > 0[1] in. wc	.59	.59	.59				
		PDI-839-3	≤2.0 & > 0[1] in. wc	.52	.52	.52				
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.14	.13	.14				
		PDI-810-2	≤2.0 & > 0[1] in. wc	.42	.42	.42				
		PDI-810-3	≤2.0 & > 0[1] in. wc	.41	.41	.42				
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF				
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF				
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF				
			Completion Time	0840	0818	0834				
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible] RB	[illegible] RB				

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Paul Trujillo Date 9-30-15 Time 0834 Reviewed by: [signature] On-duty Supervisor Date: 9/30/15 Time: 1101

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	9/28/2015	9/29/2015	9-30-15				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	BF	PT				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17				
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.59	.59	.59				
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	.51	.51				
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.34	.34	.34				
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.40				
		PDI-831-3	≤2.0 & > 0[1] in. wc	.36	.37	.36				
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34				
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60				
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.56	.55				
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.12	.12				
		PDI-807-2	≤2.0 & > 0[1] in. wc	.50	.50	.50				
		PDI-807-3	≤2.0 & > 0[1] in. wc	.50	.50	.50				
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF				
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF				
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF				

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	9/28/2015	9/29/2015	9-30-15				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	BF	PT				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) AP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.15	.15	.14				
		PDI-829-2	≤2.0 & > 0[1] in. wc	.37	.35	.32				
		PDI-829-3	≤2.0 & > 0[1] in. wc	.30	.29	.29				
4.1.1.7	100 area re-circulation filter plenum (HVP-803) AP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0				
		PDI-833-2	≤2.0 & > 0[1] in. wc	.48	.48	.48				
		PDI-833-3	≤2.0 & > 0[1] in. wc	.39	.39	.39				
	100 area re-circulation filter plenum (HVP-804) AP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.17	.16				
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.44				
		PDI-835-3	≤2.0 & > 0[1] in. wc	.40	.40	.40				
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) AP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) AP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40	.40	.40				
		PDI-816-2	≤2.0 & > 0[1] in. wc	.51	.50	.50				
		PDI-816-4	≤2.0 & > 0[1] in. wc	.49	.45	.42				
		PDI-816-5	≤2.0 & > 0[1] in. wc	.45	.49	.49				

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	9/28/2015	9/29/2015	9-30-15				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	BF	PT				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY				
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	.95	.95	.95				
		PDI-813-2	≤2.0 & > 0[1] in. wc	.31	.31	.31				
		PDI-813-3	≤2.0 & > 0[1] in. wc	.30	.31	.31				
		PDI-813-4	≤2.0 & > 0[1] in. wc	.36	.38	.35				
		PDI-813-5	≤2.0 & > 0[1] in. wc	.36	.38	.38				
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03	.03	.03				
		PDI-865-2	≤2.0 & > 0[1] in. wc	.31	.31	.31				
		PDI-865-3	≤2.0 & > 0[1] in. wc	.35	.36	.31				
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06				
		PDI-863-2	≤2.0 & >0[1] in. wc	.28	.28	.28				

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 4)

			Date:	9/28/2015	9/29/2015	9-30-15				
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	BF	PT				
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & >0[1] in. wc	.20	.20	.20				
		PDI-857-2	≤2.0 & >0[1] in. wc	.49	.49	.49				
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & >0[1] in. wc	.16	.17	.17				
		PDI-856-2	≤2.0 & >0[1] in. wc	.51	.51	.51				
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT				
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT				
			Completion time	0808	0812	0903				
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible] RSJ	[illegible] RSJ				

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Paul Trujillo Date 9-30-15 Time 0903 Reviewed by: RSJ On-duty Supervisor Date: 9/30/15 Time: 1103

Comments:

For Information Only

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103768 TT 9/28/15
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature										
Daily (September through April only)		Date:	9/28/15	9/29/15	9/30/15					
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	TL	TL	TL				
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	66.4	66.6	66.3				
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	68.9	69.2	69.0				
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	70.6	70.5	69.0				
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	71.2	71.3	69.8				
		Completion Time:	0920	0856	0829				
OC Operator Review and Page Count Complete (initials)				RB	RB				

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: T. Lavenworth Date 9/30/15 Time 0830

Reviewed by: [illegible] Date: 9/30/15 Time: 1100
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT D-1: Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 1 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials
*Note	Confinement DR-344	Southeast	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat / Unsat.	1335	9/23/15	RH
4.1.3.2	Confinement Door DR-344	Southeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. Unsat.	1338	9/23/15	RH
4.1.3.2	Confinement Door DR-149	Northeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat / Unsat.	1341 ~~1447~~ RH 9/23/15	9/23/15	RH
*Note	Confinement DR-102	Northwest	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat / Unsat.	1350	9/23/15	RH
4.1.3.2	Confinement Door DR-102	Northwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1355	9/23/15	RH
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) go to the fully closed position via the automatic door closure is ≤ 30 seconds. 4.4 Seconds	Sat / Unsat.	1405	9/23/15	RH

*Note: Monthly Inspection of DR-344 and DR-102 in accordance with compensatory measure(s) from: *Request for Permanent Equivalency to OE Order 420.1B Chapter II, NFPA 80, NFPA 101 and IBC Requirements for LANL Building TA55-4 (PF-4), Installation of New Confinement Doors DR-102, DR-302, and DR-344 LANL-DOE-ORDER-420.1B-EQ-2013-001*

For Information Only

ATTACHMENT D-1: Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 2 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials
4.1.3.2	Confinement Door DR-302	Southwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat.) / Unsat.	1440	9/23/15	RH
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) go to the fully closed position via the automatic door closure is ≤ 30 seconds. 6.6 Seconds	(Sat.) / Unsat.	1448	9/23/15	RH
4.1.3.2	Confinement Door DR-4	N. Basement Personnel door DR-4	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure.	(Sat.) / Unsat.	1410	9/23/15	RH
4.1.3.2	Confinement Door DR-90	South Basement Door (Tunnel)	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	(Sat.) / Unsat.	1458	9/23/15	RH
					OC Operator Review and Page Count Complete		[illegible]

Note: SR 4.1.3.2 applies during mode 1 and 2.

Completed by: [illegible] Date 9/23/15 Time 1500 Reviewed by: [illegible] Date: 9/23/15 Time: 1547

On-duty Supervisor Comments:

For Information Only

ATTACHMENT D-2: Monthly Surveillance Rounds (CAS) (Operations Center) [UET]

(Page 1 of 1)

SR	Description		Acceptance Criteria	Sat. / Unsat.	Initials:
	Channel #	Location			
4.2.1.1	1	Rm. 201	> 1 mR/hr	Sat. / Unsat.	
	2	Rm. 106	> 1 mR/hr	Sat. / Unsat.	
	3	Rm. 305	> 1 mR/hr	Sat. / Unsat.	
	4	Rm. 401	> 1 mR/hr	Sat. / Unsat.	
	5	Rm. 206	> 1 mR/hr	Sat. / Unsat.	
	6	Rm. 114	> 1 mR/hr	Sat. / Unsat.	
	7	Rm. 319 W	> 1 mR/hr	Sat. / Unsat.	
	8	Rm. 409	> 1 mR/hr	Sat. / Unsat.	
	9	Rm. 208	> 1 mR/hr	Sat. / Unsat.	
	10	Rm. 124	> 1 mR/hr	Sat. / Unsat.	
	11	Rm. 319 E	> 1 mR/hr	Sat. / Unsat.	
	12	Rm. 420	> 1 mR/hr	Sat. / Unsat.	
	13	Rm. 209	> 1 mR/hr	Sat. / Unsat.	
	14	Rm. 126	> 1 mR/hr	Sat. / Unsat.	
	15	Rm. 327	> 1 mR/hr	Sat. / Unsat.	
	16	Rm. 429	> 1 mR/hr	Sat. / Unsat.	
	17	Vault 17	> 1 mR/hr	Sat. / Unsat.	
	18	Vault 18	> 1 mR/hr	Sat. / Unsat.	
	19	Vault 19	> 1 mR/hr	Sat. / Unsat.	
	20	Vault 20	> 1 mR/hr	Sat. / Unsat.	

Note: These readings **SHALL** be taken on the rate meters in rack RK-801-3 in the OC.

Completed by: [signature] Date 9-1-15 Time 0700

Reviewed by: [signature] Date 9/1/15 Time 0835
On-duty Supervisor

Comments:

For Information Only

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Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	SURVEILLANCE ROUNDS
Procedure no.:	TA55-STP-004 R17
Date of issue:	10-01-15
Working copy issued to:	F. SEYBERT
Working copy issued by:	B CHANCE
	Certified Operations Center Operator (OCO)

OC Reviews Complete and TSR Status Board Updated

OCO Signature 10/31/15 Date

Training Checklist:

Workers Performing Surveillance	Applicable Surveillance Training Current	
	OCO Initials	Date
R BRISCOE	BC	10-01-15
B CHANCE	BC	10-01-15
A DUNSEITH	BC	10-01-15
J LOVATO	BC	10-01-15
R LUM	BC	10-01-15
A ORTIZ	BC	10-01-15
F SEYBERT	BC	10-01-15
R PRICE	BC	10-01-15
J MARTINEZ	BC	10-01-15
J SMELTZ	BC	10-01-15

Performance Type: ☐ Scheduled ☐ Partial *If partial list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

For Information Only

Attachment B, Surveillance Training Checklist (continued)

(Page 2 of 2)

Training Checklist (continuation sheet)

Workers Performing Surveillance	Applicable Surveillance Training Current	
	Initials	Date
P. TRUJILLO	BC	10·01·15
T. LANGWORTHY	BC	10·01·15
R. HOHNER	BC	10·01·15
M. IRISH	BC	10·01·15
A. HERRERA	BC	10·01·15
A. SANCHEZ	BC	10·01·15
B. FOLDHAM	BC	10·01·15

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																
		Date:	9/29 10/1						10/1/15		10-2-15		10-3-15		10-4-15	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:							EP	BC	D	a	D	a	D	a
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]							-2.01	-2.00	-1.97	-2.00	-2.00	-1.99	-1.99	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]							-1.95	-1.94	-1.94	-1.94	-1.94	-1.93	-1.93	-1.96
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]							-1.97	-1.98	-1.98	-1.97	-1.98	-1.97	-1.98	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]							-1.97	-1.98	-1.98	-1.98	-1.98	-1.97	-1.97	-1.97
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]							-.23	-.23	-.21	-.22	-.23	-.23	-.23	-.22
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]							-.27	-.26	-.23	-.26	-.26	-.25	-.25	-.25
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]							-.20	-.20	-.17	-.21	-.20	-.21	-.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]							-.20	-.21	-.18	-.22	-.21	-.22	-.20	-.21
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc							-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc							-.09	-.10	-.08	-.11	-.10	-.10	-.11	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc							-.09	-.10	-.08	-.10	-.10	-.10	-.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc							-.082	-.092	-.072	-.101	-.092	-.100	-.099	-.090

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:							10/1/15		10-2-15		10-3-15		10-4-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:							[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:							10/1/15		10-2-15		10-3-15		10-4-15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:							AL	BL	D	a	D	a	D	a
SRs	Description	Area	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS Sat. / Unsat. (circle one)													
4.1.1.4	Glovebox exhaust header APs < laboratory APs < basement APs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time									0732	1922	0730	1933	0730	1945	0730	1932
											KM		RB					

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: _____ Date 10-4-15 Time 1932 Reviewed by: _____ Date: 10/5/15 Time: 0635
On-duty Supervisor

Comments: _____

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:				10/1/15	10/2/15	10/03/15	10/04/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:				[illegible]	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA				0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)					0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value				0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:				0840	0830	0826	0805

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

(Page 2 of 4)

			Date:				10/1/15	10/2/15	10/3/15	10/4/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:				[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc				.14	.13	.13	.12
		PDI-894-2	≤2.0 & > 0[1] in. wc				.52	.52	.52	.52
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc				.16	.16	.16	.16
		PDI-895-2	≤2.0 & > 0[1] in. wc				.59	.59	.59	.59
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc				.32	.32	.31	.32
		PDI-817-2	≤2.0 & > 0[1] in. wc				.32	.32	.31	.32
		PDI-817-4	≤2.0 & > 0[1] in. wc				.35	.35	.33	.33
		PDI-817-5	≤2.0 & > 0[1] in. wc				.33	.32	.32	.32
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc				.40	.40	.41	.41
		PDI-81 9-3	≤2.0 & > 0[1] in. wc				.41	.41	.41	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc				.35	.36	.35	.35
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc				STBY	STBY	Stby	Stby
		PDI-818-2	≤2.0 & > 0[1] in. wc				STBY	STBY	Stby	Stby
		PDI-818-4	≤2.0 & > 0[1] in. wc				STBY	STBY	Stby	Stby
		PDI-818-5	≤2.0 & > 0[1] in. wc				STBY	STBY	Stby	Stby
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc				STBY	STBY	Stby	Stby
		PDI-821-3	≤2.0 & > 0[1] in. wc				STBY	STBY	Stby	Stby
		PDI-821-4	≤2.0 & > 0[1] in. wc				STBY	STBY	Stby	Stby

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

			Date:				10/1/15	10/2/15	10/03/15	10/04/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:				[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc				.97	.97	1.00	1.00
		PDI-822-2	≤2.0 & > 0[1] in. wc				.58	.58	.58	.58
		PDI-822-4	≤2.0 & > 0[1] in. wc				.50	.50	.50	.50
		PDI-822-5	≤2.0 & > 0[1] in. wc				.51	.51	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc				STBY	STBY	Stby	Stby
		PDI-823-2	≤2.0 & > 0[1] in. wc				STBY	STBY	Stby	Stby
		PDI-823-4	≤2.0 & > 0[1] in. wc				STBY	STBY	Stby	Stby
		PDI-823—5	≤2.0 & > 0[1] in. wc				STBY	STBY	Stby	Stby
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc				.70	.70	.70	.70
		PDI-830-2	≤2.0 & > 0[1] in. wc				.26	.26	.26	.26
		PDI-830-3	≤2.0 & > 0[1] in. wc				.28	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc				.99	.99	.99	.99
		PDI-836-2	≤2.0 & > 0[1] in. wc				.56	.56	.56	.56
		PDI-836-3	≤2.0 & > 0[1] in. wc				.51	.52	.52	.52
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc				.41	.51	.51	.51
		PDI-837-2	≤2.0 & > 0[1] in. wc				.38	.38	.36	.36
		PDI-837-3	≤2.0 & > 0[1] in. wc				.51	.41	.40	.40

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 4 of 4)

			Date:				10/1/15	10/2/15	10/03/15	10/04/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) AP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc				.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc				.50	.50	.50	.50
		PDI-838-3	≤2.0 & > 0[1] in. wc				.57	.57	.57	.57
	400 area re-circulation filter plenum (HVP-808) AP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc				.43	.43	.43	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc				~~.43~~ .58	.58	.58	.58
		PDI-839-3	≤2.0 & > 0[1] in. wc				.51	.52	.52	.52
4.1.3.4	South Bleed off filter plenum (FF-822A) AP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc				.14	.14	.13	.13
		PDI-810-2	≤2.0 & > 0[1] in. wc				.42	.41	.41	.41
		PDI-810-3	≤2.0 & > 0[1] in. wc				.41	.41	.40	.40
4.1.3.4	South Bleed off filter plenum (FF-822B) AP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc				off	off	off	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc				off	off	off	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc				off	off	off	off
			Completion Time				0921	0900	0842	0835
OC Operator Review and Page Count Complete (initials)										

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Michael Irish Date 10/04/15 Time 10/04/15 Reviewed by: On-duty Supervisor Date: 10/5/15 Time: 0635

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

(Page 1 of 4)

			Date:				10/1/15	10/2/15	10/3/15	10/4/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:				JM	JL	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc				.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1] wc				.57	.57	.57	.57
		PDI-840-3	≤2.0 & > 0[1] in. wc				.51	.50	.50	.50
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc				.34	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc				.40	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc				.35	.35	.35	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc				.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc				.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc				.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc				.12	.12	.12	.12
		PDI-807-2	≤2.0 & > 0[1] in. wc				.50	.50	.50	.50
		PDI-807-3	≤2.0 & > 0[1] in. wc				.49	.49	.49	.49
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc				OFF	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc				OFF	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc				OFF	OFF	OFF	OFF

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:				10/1/15	10/2/15	10/3/15	10/4/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:				[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc				.15	.15	.15	.15
		PDI-829-2	≤2.0 & > 0[1] in. wc				.34	.35	.30	.32
		PDI-829-3	≤2.0 & > 0[1] in. wc				.29	.29	.28	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc				>1.0	>1.0	>1.00	>1.00
		PDI-833-2	≤2.0 & > 0[1] in. wc				.48	.48	.48	.48
		PDI-833-3	≤2.0 & > 0[1] in. wc				.40	.40	.38	.39
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc				.17	.17	.16	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc				.45	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc				.40	.40	.39	.39
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc				.40	.40	.39	.40
		PDI-816-2	≤2.0 & > 0[1] in. wc				.50	.50	.50	.50
		PDI-816-4	≤2.0 & > 0[1] in. wc				.43	.43	.43	.43
		PDI-816-5	≤2.0 & > 0[1] in. wc				.48	.48	.48	.48

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:				10/1/15	10/2/15	10/3/15	10/4/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:				[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	.15
		PDI-812-2	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	.39
		PDI-812-3	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	.35
		PDI-812-4	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	.31
		PDI-812-5	≤2.0 & > 0[1] in. wc				STBY	STBY	STBY	.41
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc				.95	.96	.95	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc				.31	.31	.32	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc				.31	.31	.30	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc				.36	.37	.35	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc				.39	.39	.35	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc				.03	.03	.02	.02
		PDI-865-2	≤2.0 & > 0[1] in. wc				.34	.32	.31	.31
		PDI-865-3	≤2.0 & > 0[1] in. wc				.40	.37	.35	.35
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc				.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc				.28	.27	.28	.27

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:				10/1/15	10/2/15	10/3/15	10/4/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:				[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & > 0[1] in. wc				.18	.18	.18	.19
		PDI-857-2	≤2.0 & > 0[1] in. wc				.48	.48	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc				.17	.17	.17	.17
		PDI-856-2	≤2.0 & > 0[1] in. wc				.51	.51	.50	.50
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)				SAT	SAT	Sat	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less				SAT	SAT	Sat	SAT
			Completion time				0905	0846	0843	0837
			OC Operator Review and Page Count Complete (initials)				[illegible] RB	[illegible] RB	[illegible]	[illegible]

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 10/4/15 Time 0837 Reviewed by: [illegible] Date: 10/5/15 Time: 0635

On-duty Supervisor

Comments:

For Information Only

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:				10/1/15	10/2/15	10/3/15	10-4-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:				[illegible]	[illegible]	[illegible]	[illegible]
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F				66.4	66.8	66.4	64.7
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F				69.1	69.3	69.0	64.1
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F				70.7	71.7	69.8	65.2
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F				70.3	71.7	68.6	67.7
		Completion Time:				0910	0915	0840	0950
OC Operator Review and Page Count Complete (initials)						[illegible]	[illegible]	[illegible]	[illegible]

1 Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [illegible] Date 10-4-15 Time 0950

Reviewed by: [illegible] Date: 10/5/15 Time: 0635
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

			Date:	10/5/15		10/6/15		10-7-15		10-8-15		10/9/15		10/10/15		10/11/15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]		-2.01	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.01	-1.99	-2.01	-2.00	-1.99
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]		-1.95	-1.94	-1.94	-1.95	-1.94	-1.94	-1.93	-1.94	-1.93	-1.96	-1.93	-1.95	-1.94	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]		-1.97	-1.97	-1.99	-1.98	-1.98	-1.97	-1.98	-1.98	-1.99	-1.99	-1.99	-1.98	-1.99	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]		-1.99	-1.98	-1.99	-1.97	-1.98	-1.98	-1.97	-1.97	-1.97	-1.97	-1.97	-1.98	-1.97	-1.95
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]		-.20	-.22	-.22	-.21	-.21	-.20	-.16	-.19	-.18	-0.17	-.18	-0.19	-.17	-0.18
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]		-.26	-.24	-.25	-.24	-.23	-.23	-.21	-.22	-.20	-0.20	-.21	-0.22	-.20	-0.22
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]		-.21	-.20	-.20	-.20	-.21	-.21	-.19	-.20	-.19	-0.18	-.18	-0.20	-.18	-0.21
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]		-.22	-.20	-.21	-.20	-.21	-.21	-.20	-.21	-.19	-0.19	-.19	-0.21	-.19	-0.21 ~~+0.21~~ 10/11/15
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc		-.20	-.19	-.19	-.19	-.19	-.17	-.19	-.17	-.19	-0.19	-.19	-0.19	-.19	-0.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc		-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.10	-.09	-0.09	-.08	-0.10	-.10	-0.1
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc		-.10	-.10	-.09	-.09	-.09	-.10	-.09	-.10	-.08	-0.09	-.08	-0.10	-.09	-0.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc		-.099	-.100	-.079	-.086	-.087	-.01	-.092	-.094	-.074	-0.090	-.077	-0.09	-.110	-0.100

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note																
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	10/5/15		10/6/15		10-7-15		10-8-15		10/9/15		10/10/15		10/11/15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	AL	BC	AL	BC	a	a	a	a	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	10/5/15		10/6/15		10-7-15		10-8-15		10/9/15		10/10/15		10/11/15
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**												
4.1.1.4	Glovebox exhaust header APs < laboratory APs < basement APs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0237	1924	0735 RSB	1925	0730 RSB	1940	0730 RSB	1958	0706 RSB	1929	0742	1934	0727	1959

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 10/11/15 Time 1939 Reviewed by: [signature] Date: 10/14/15 Time: 0640
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	10/5/15	10/6/15	10-7-15	10/8/15	10/9/2015	10/10/15	10/11/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	PT	[illegible]	BE	[illegible]	[illegible]
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0820	0922	0742	0805	0711	0755	0750

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	10/5/15	10/6/15	10-7-15	10/8/15	10/9/2015	10/10/15	10/11/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	PT	[illegible]	BF	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.13	.13	.13	.13
		PDI-894-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.50	.51	.50	.50
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-895-2	≤2.0 & > 0[1] in. wc	.59	.57	.57	.61	.61	.61	.61
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.32	.31	.31
		PDI-817-2	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
		PDI-817-4	≤2.0 & > 0[1] in. wc	.35	.35	.34	.35	.35	.35	.35
		PDI-817-5	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.33	.32	.32
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.40	.41	.41
		PDI-819-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.36	.35	.35
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	10/5/15	10/6/15	10-7-15	10/8/15	10/9/2015	10/10/15	10/11/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	PT	JM	BF	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.99	.97	.99	.98	.99	.98	.98
		PDI-822-2	≤2.0 & > 0[1] in. wc	.57	.57	.57	.57	.58	.57	.57
		PDI-822-4	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.70	.70	.69	.71	.70	.70
		PDI-830-2	≤2.0 & > 0[1] in. wc	.27	.27	.24	.26	.25	.27	.27
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99	.99	.99	.99	.99	.99	.99
		PDI-836-2	≤2.0 & > 0[1] in. wc	.56	.57	.58	.57	.58	.57	.57
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51	.51	.52	.52	.52	.52	.52
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.38	.38
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.42	.41	.41

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	10/5/15	10/6/15	10-7-15	10/8/15	10/9/2015	10/10/15	10/11/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	PT	JM	BF	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.50	.51	.51	.50	.50	.50
		PDI-838-3	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.59	.58	.58
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.42	.42	.43	.42	.43	.43	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc	.59	.58	.59	.58	.59	.58	.58
		PDI-839-3	≤2.0 & > 0[1] in. wc	.53	.53	.53	.53	.54	.53	.53
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.14	off	OFF	off	OFF	off	off
		PDI-810-2	≤2.0 & > 0[1] in. wc	.42	off	OFF	off	OFF	off	off
		PDI-810-3	≤2.0 & > 0[1] in. wc	.42	off	OFF	off	OFF	off	off
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	.10	.10	.11	.11	.11	.11
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	.44	.44	.48	.48	.48	.48
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	.45	.48	.49	.49	.49	.49
			Completion Time	0840	0845	0800	0848	0815	0750	0745
OC Operator Review and Page Count Complete (initials)					RKB	RKB	RKB	RKB		

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: [signature] Date 10/11/15 Time 0745 Reviewed by: [signature] Date: 10/14/15 Time: 0640
On-duty Supervisor

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	10-5-15	10/6/15	10/7/2015	10/8/15	10/9/2015	10/10/15	10/11/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	BF	[illegible]	BF	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.58	.58	.58	.58	.59	.58	.58
		PDI-840-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.36	.35	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.33	.34	.33	.34	.33	.33
		PDI-832-2	≤2.0 & > 0[1] in. wc	.59	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	off	OFF	off	OFF	off	off
		PDI-807-2	≤2.0 & > 0[1] in. wc	.50	off	OFF	off	OFF	off	off
		PDI-807-3	≤2.0 & > 0[1] in. wc	.49	off	OFF	off	OFF	off	off
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	.07	.07	.07	.08	.07	.07
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	.52	.52	.55	.56	.55	.55
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	.55	.57	.57	.50	.50	.50

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	10-5-15	10/6/15	10/7/2015	10/8/15	10/9/2015	10/10/15	10/11/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RB	JM	BF	JM	BF	JM	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.15	.15	.15	.15	.15	.15	.15
		PDI-829-2	≤2.0 & > 0[1] in. wc	.37	.36	.35	.36	.36	.36	.36
		PDI-829-3	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.49	.48	.48
		PDI-833-3	≤2.0 & > 0[1] in. wc	.39	.40	.39	.40	.40	.39	.39
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.17	.16	.17	.17	.17	.17
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.39	.40	.40	.40	.40	.40	.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.39	.40	.40	.40	.40	.40	.40
		PDI-816-2	≤2.0 & > 0[1] in. wc	.50	.51	.52	.52	.52	.51	.51
		PDI-816-4	≤2.0 & > 0[1] in. wc	.42	.46	.45	.46	.48	.46	.46
		PDI-816-5	≤2.0 & > 0[1] in. wc	.49	.49	.50	.49	.50	.49	.49

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	10-5-15	10/6/15	10/7/2015	10/8/15	10/9/2015	10/10/15	10/11/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	KDS	[illegible]	BF	[illegible]	BF	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & >0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-812-2	≤2.0 & >0[1] in. wc	.38	.38	.39	.38	.39	.38	.38
		PDI-812-3	≤2.0 & >0[1] in. wc	.35	.37	.39	.37	.38	.37	.37
		PDI-812-4	≤2.0 & >0[1] in. wc	.31	.31	.31	.31	.32	.31	.31
		PDI-812-5	≤2.0 & >0[1] in. wc	.41	.41	.41	.41	.42	.41	.41
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & >0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & >0[1] in. wc	KDS 10-5-15 ~~.16~~ .04	.03	.04	.03	.04	.03	.03
		PDI-865-2	≤2.0 & >0[1] in. wc	KDS 10-5-15 ~~.38~~ .32	.33	.35	.34	.35	.33	.33
		PDI-865-3	≤2.0 & >0[1] in. wc	KDS 10-5-15 ~~.35~~ .39	.40	.39	.41	.41	.39	.39
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & >0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.28	.28	.27	.28	.28	.28	.28

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	10-5-15	10/6/15	10/7/2015	10/8/15	10/9/2015	10/10/15	10/11/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RS	[illegible]	BF	[illegible]	BF	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & >0[1] in. wc	.20	.19	.20	.20	.19	.20	.19
		PDI-857-2	≤2.0 & >0[1] in. wc	.48	.47	.48	.45	.46	.45	.45
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & >0[1] in. wc	.17	.17	.17	.17	.18	.17	.17
		PDI-856-2	≤2.0 & >0[1] in. wc	.51	.51	.51	.53	.52	.53	.53
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	Sat	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	Sat	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0856	0920	0810	0933	0741	0810	0758
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 10/11/15 Time 0759 Reviewed by: [illegible] On-duty Supervisor Date: 10/14/15 Time: 0640

Comments:

For Information Only

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	10/5/15	10/6/15	10/7/15	10/8/15	10/9/15	10/10/15	10/11/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	64.0	63.9	62.5	61.7	61.0	60.8	60.9
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	66.3	65.3	55.2	50.4	44.3	52.1	55.9
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	62.9	63.4	63.3	63.0	62.4	63.4	62.9
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	63.8	68.4	64.1	60.2	59.1	60.1	62.9
		Completion Time:	0843	0850	0905	0939	0824	0844	0830
OC Operator Review and Page Count Complete (initials)			[illegible]	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]

1 Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: Jerome M. Date 10/11/15 Time 0802

Reviewed by: [illegible] Date: 10/14/15 Time: 0640
On-duty Supervisor

Comments: 10/7/15 tank V-704 is being drained for maintenance, PF-11 V-704 tank heating boiler also OOS.

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

			Date:	10/12/15		10/13/15		10/14/15		10/15/15		10/16/15		10-17-15		10-18-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	K	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2	≤-1.0 in. wc[1]	-1.99	-2.02	-2.01	-1.99	-1.99	-2.00	-2.00	-2.01	-1.98	-1.99	-2.00	-2.02	-2.01	-2.02
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2	≤-1.0 in. wc[1]	-1.93	-1.96	-1.94	-1.95	-1.93	-1.93	-1.94	-1.97	-1.92	-1.92	-1.94	-1.96	-1.95	-1.95
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2	≤-1.0 in. wc[1]	-1.98	-1.98	-1.98	-1.98	-1.97	-1.97	-1.97	-1.98	-1.98	-1.98	-1.98	-1.98	-1.98	-1.99
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2	≤-1.0 in. wc[1]	-1.97	-1.97	-1.97	-1.98	-1.98	-1.98	-1.98	-1.97	-1.97	-1.98	-1.97	-1.98	-1.97	-1.98
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2	≤-0.05 in. wc[1]	-.18	-.19	-.19	-.18	-.21	-0.19	-0.20	-0.19	-.18	-.18	-.18	-.18	-.17	-.19
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2	≤-0.05 in. wc[1]	-.21	-.21	-.20	-.21	-.23	-0.22	-0.23	-0.22	-.21	-.21	-.21	-.20	-.22	-.21
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2	≤-0.05 in. wc[1]	-.18	-.19	-.21	-.19	-.20	-0.21	-0.21	-0.21	-.18	-.19	-.19	-.19	-.20	-.19
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2	≤-0.05 in. wc[1]	-.19	-.19	-.21	-.20	-.20	-0.21	-0.21	-0.21	-.19	-.21	-.19	-.19	-.21	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5	≤-0.05 in. wc	-.19	-.19	-.19	-.19	-.19	-0.19	-0.20	-0.19	-.19	-.19	-.19	-.19	-.17	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2	< 0.00 in. wc	-.09	-.09	-.10	-.10	-.09	-0.10	-0.10	-0.10	-.08	-.10	-.09	-.09	-.10	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2	< 0.00 in. wc	-.09	-.09	-.10	-.10	-.09	-0.10	-0.10	-0.10	-.08	-.10	-.09	-.09	-.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901	< 0.00 in. wc	-.087	-.083	-.091	-.093	-.088	-0.094	-0.089	-0.108	-.079	-.090	-.077	-.085	-.096	-.091

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	10/12/15		10/13/15		10/14/15		10/15/15		10/16/15		10-17-15		10-17-1	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	10/12/15		10/13/15		10/14/15		10/15/15		10/16/15		10-17-15		10-18-15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	Glovebox exhaust header AIPs < laboratory AIPs < basement AIPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0726	1930	0729	1930	0725 RSB	1937	0724 RSB	1933	0726 RSB	1930	0722	1930	0724	1930

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [illegible] Date 10-18-15 Time 1930 Reviewed by: [illegible] Date: 10/20/15 Time: 1105
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	10-12-15	10/13/15	10/14/2015	10/15/2015	10/16/2015	10-17-15	10-18-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	PT	[illegible]	BF	BF	BF	PT	PT
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0811	0867	0812	0815	0710	0753	0805

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	10-12-15	10/13/15	10-14-15	10-15-15	10/16/2015	10-17-15	10-18-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	JM	PT	PT	BF	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.13	.15	.13	.13
		PDI-894-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.50	.50	.50
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.17	.17	.17	.18	.19	.18	.17
		PDI-895-2	≤2.0 & > 0[1] in. wc	.61	.61	.61	.61	.62	.61	.62
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
		PDI-817-2	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
		PDI-817-4	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.36	.35	.35
		PDI-817-5	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.35	.32	.32
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.40	.41	.41
		PDI-819-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc	.35	.36	.35	.35	.36	.35	.35
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	10-12-15	10/13/15	10-14-15	10-15-15	10/16/2015 2016	10-17-15	10-18-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	BF 10/16/15 Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	PT	PT	BF	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.99	.99	.99	1.0	1.0	1.0	1.0
		PDI-822-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	.58
		PDI-822-4	≤2.0 & > 0[1] in. wc	.50	.49	.50	.50	.50	.50	.50
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.70	.70	.69	.69	.69	.70
		PDI-830-2	≤2.0 & > 0[1] in. wc	.23	.26	.24	.23	.25	.23	.23
		PDI-830-3	≤2.0 & > 0[1] in. wc	.29	.28	.28	.28	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	1.0	.99	1.0	1.0	1.0	1.0	1.0
		PDI-836-2	≤2.0 & > 0[1] in. wc	.59	.58	.59	.59	.58	.59	.59
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.52	.51	.51
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.38	.39
		PDI-837-3	≤2.0 & > 0[1] in. wc	.42	.42	.41	.41	.42	.41	.41

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	10-12-15	10/13/15	10-14-15	10-15-15	10/16/2015	10-17-15	10-18-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	PT	PT	BF	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.50	.49	.49	.50	.50	.50	.50
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.58	.59	.59	.58	.58	.58
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.44	.44	.44	.44	.44	.44	.44
		PDI-839-2	≤2.0 & > 0[1] in. wc	.59	.58	.58	.59	.59	.59	.59
		PDI-839-3	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-810-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-810-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	.11	.11	.11	.11	.12	.12	.11
		PDI -811 -2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI -811 -3	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.50	.49
			Completion Time	0759	0830	0912	0845	0747	0812	0756
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible]	[illegible]	[illegible]	[illegible] DBD RSB	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Paul Trujillo Date 10-18-15 Time 0756 Reviewed by: [signature] On-duty Supervisor Date: 10/20/15 Time: 1105

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

(Page 1 of 4)

			Date:	10-12-15	10/13/15	10/14/2015	10/15/2015	10/16/2015	10/17/2015	10-18-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	JM	BF	BF	BP	BF	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1] wc	.59	.59	.59	.59	.58	.59	.59
		PDI-840-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.51	.51
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.35	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.34	.35	.35
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.61	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.56	.55	.57	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	OFF	off	OFF	OFF	OFF	OFF	OFF
		PDI-807-2	≤2.0 & > 0[1] in. wc	OFF	off	OFF	OFF	OFF	OFF	OFF
		PDI-807-3	≤2.0 & > 0[1] in. wc	OFF	off	OFF	OFF	OFF	OFF	OFF
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	.09	.07	.09	.07	.08	.09	.09
		PDI-809-2	≤2.0 & > 0[1] in. wc	.55	.56	.57	.55	.55	.57	.55
		PDI-809-3	≤2.0 & > 0[1] in. wc	.49	.49	.50	.48	.49	.49	.49

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:	10-12-15	10/13/15	10/14/2015	10/15/2015	10/16/2015	10/17/2015	10 18 15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	BF	BF	BF	BF	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.15	.14	.15	.15	.15	.15	.15
		PDI-829-2	≤2.0 & > 0[1] in. wc	.35	.35	.35	.36	.37	.37	.32
		PDI-829-3	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.29
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc	.49	.48	.49	.48	.49	.49	.49
		PDI-833-3	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.39	.39
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.17	.17	.16	.17	.17	.17
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.39
		PDI-816-2	≤2.0 & > 0[1] in. wc	.51	.51	.52	.51	.51	.51	.50
		PDI-816-4	≤2.0 & > 0[1] in. wc	.45	.46	.45	.45	.45	.45	.43
		PDI-816-5	≤2.0 & > 0[1] in. wc	.50	.50	.49	.48	.49	.49	.49

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 4)

			Date:	10-12-15	10/13/15	10/14/2015	10/15/2015	10/16/2015	10/17/2015	10-18-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	BF 10/14/15 Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	BF	BF	BF	BF	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.16	.16	.16	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc	.39	.38	.38	.38	.39	.39	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc	.35	.37	.38	.38	.38	.38	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.30	.31	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	STBY
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	.95
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	.31
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	.25
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	.32
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	.48
4.1.3.4	HFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.03	.03	.04	.03	.05	.04
		PDI-865-2	≤2.0 & > 0[1] in. wc	.34	.34	.31	.36	.36	.37	.36
		PDI-865-3	≤2.0 & > 0[1] in. wc	.40	.41	.39	.41	.41	.41	.41
4.1.3.4	HFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.07	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.26	.26	.26	.26	.27	.28	.28

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 4)

			Date:	10-12-15	10/13/15	10/14/2015	10/15/2015	10/16/2015	10/17/2015	10-18-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	[illegible]	BF	BF	BF	BF	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & >0[1] in. wc	.10	.19	.19	.20	.21	.20	.19
		PDI-857-2	≤2.0 & >0[1] in. wc	.47	.46	.45	.46	.47	.46	.46
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & >0[1] in. wc	.20	.18	.18	.20	.21	.20	.21
		PDI-856-2	≤2.0 & >0[1] in. wc	.55	.55	.55	.55	.55	.55	.55
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0830	0840	0851	0856	0735	0800	0809
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Paul Trujillo Date 10-18-15 Time 0809 Reviewed by: [signature] On-duty Supervisor Date: 10/20/15 Time: 1105

Comments:

For Information Only

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040326	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	10/12/15	10/13/15	10/14/15	10/15/15	10-16-15	10/17/15	10/18/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	PT	[illegible]	[illegible]
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	61.5	61.5	62.0	61.9	62.1	60.8	60.4
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	67.3	59.9	64.9	52.8	43.7	OOS	OOS
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	67.4	67.8	67.6	67.8	66.6	61.4	63.7
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	66.0	65.0	66.5	65.9	64.1	57.1	59.1
		Completion Time:	~~0915~~ 0918	0910	0935	0845	0809	0828	0840
OC Operator Review and Page Count Complete (initials)			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: Price [illegible] Date 10/18/15 Time 0840

Reviewed by: [illegible] Date: 10/20/15 Time: 1105
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

			Date:	10-19-15		10-20-15		10-21-15		10/22/15		10-23-15		10-24-15		10-25-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2	≤-1.0 in. wc[1]	-1.98	-2.00	-1.99	-1.99	-2.00	-2.00	-2.00	-2.01	-2.00	-1.97	-2.00	-2.00	-1.99	-1.97
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2	≤-1.0 in. wc[1]	-1.94	-1.93	-1.94	-1.93	-1.94	-1.95	-1.94	-1.94	-1.97	-1.92	-1.95	-1.93	-1.95	-1.91
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2	≤-1.0 in. wc[1]	-1.98	-1.96	-1.97	-1.97	-1.97	-1.99	-1.99	-1.99	-1.99	-1.97	-1.97	-1.97	-2.00	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2	≤-1.0 in. wc[1]	-1.97	-1.98	-1.97	-1.99	-1.96	-1.99	-1.99	-1.97	-1.98	-1.98	-1.97	-1.98	-2.00	-1.96
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2	≤-0.05 in. wc[1]	-.20	-.21	-.22	-0.19	-.18	-.16	-.19	-.18	-.18	-.19	-.19	-0.19	-.20	-0.19
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2	≤-0.05 in. wc[1]	-.23	-.21	-.25	-0.21	-.22	-.18	-.22	-.20	-.21	-.23	-.20	-0.23	-.23	-0.23
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2	≤-0.05 in. wc[1]	-.20	-.19	-.21	-0.21	-.21	-.18	-.20	-.17	-.18	-.21	-.18	-0.21	-.19	-0.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2	≤-0.05 in. wc[1]	-.21	-.20	-.22	-0.21	-.22	-.20	-.21	-.18	-.19	-.22	-.19	-0.22	-.19	-0.21
	IFFT Facility ΔP	PDI-865-4 or PDI-865-5	≤-0.05 in. wc	-.20	-.19	-.16	-0.19	-.19	-.19	-.19	-.19	-.19	-.19	-.19	-0.19	-.19	-0.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2	< 0.00 in. wc	-.10	-.10	-.09	-0.10	-.10	-.08	-.10	-.09	-.08	-.11	-.08	-0.10	-.09	-0.11
	South basement ΔP	PDI-854-1 or PDI-854-2	< 0.00 in. wc	-.10	-.10	-.10	-0.10	-.10	-.08	-.10	-.09	-.08	-.11	-.08	-0.10	-.09	-0.10
	IRT Tunnel ΔP	PDT-901 or PDI-901	< 0.00 in. wc	-.093	-.095	-.083	-0.094	-.095	-.078	-.097	-.073	-.072	-.102	-.105	-0.096	-.079	-0.082

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.

			Date:	10.19.15		10.20.15		10.21.15		10/22/15		10.23.15		10.24.15		10.25.15
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	10.19.15		10.20.15		10.21.15		10/22/15		10.23.15		10.24.15		10.25.15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	BC	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	Glovebox exhaust header APs < laboratory APs < basement APs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0739	1925	0730	1920	0724	1930	0731	1930	0720	1925	0720	1927	0721	1926
							KSB				KSB		KSB					

Note: [1] Mode 2 acceptance criteria is ≤ 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 10/25/15 Time 1926 Reviewed by: [signature] Date: 10/27/15 Time: 1200
On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	10/19/15	10/20/15	10/21/2015	10/22/15	10-23-15	10/24/15	10/25/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	BF	[illegible]	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat / Unsat.	Sat / Unsat.	Sat / Unsat.	Sat / Unsat.	Sat / Unsat.	Sat / Unsat.	Sat / Unsat.
		Completion Time:	0815	0825	0805	0830	0819	0821	0807

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	10/19/15	10/20/15	10/21/2015	10/22/15	10-23-15	10/24/15	10/25/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	BF	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.13	.13	.13	.13	.13	.13	.13
		PDI-894-2	≤2.0 & > 0[1] in. wc	.50	.51	.51	.51	.51	.51	.51
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤2.0 & > 0[1] in. wc	.18	.17	.16	.17	.16	.16	.16
		PDI-895-2	≤2.0 & > 0[1] in. wc	.62	.57	.59	.59	.53	.52	.52
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.32	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-817-2	≤2.0 & > 0[1] in. wc	.33	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-817-4	≤2.0 & > 0[1] in. wc	.36	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-817-5	≤2.0 & > 0[1] in. wc	.33	STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.41	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.41	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-819-4	≤2.0 & > 0[1] in. wc	.35	STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	.28	.28	.28	.27	.28	.28
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	.34	.35	.35	.33	.33	.33
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	.39	.38	.38	.38	.38	.38
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	.40	.39	.39	.40	.39	.39
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	.40	.40	.40	.40	.39	.39
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	.34	.35	.42	.45	.43	.43
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	.38	.38	.38	.39	.39	.39

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	10/19/15	10/20/15	10/21/2015	10/22/15	10-23-15	10/24/15	10/25/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	BF	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.99	STBY	STBY	STBY	STBY	Stby	stby
		PDI-822-2	≤2.0 & > 0[1] in. wc	.58	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-822-4	≤2.0 & > 0[1] in. wc	.50	STBY	STBY	STBY	STBY	Stby	Stby
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51	STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	.10	.10	.10	.10	.10	.10
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	.58	.58	.58	.59	.59	.59
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	.61	.61	.61	.62	.61	.61
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	.61	.60	.60	.61	.60	.60
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.67	.68	.69	.68	.68	.69	.69
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25	.25	.25	.25	.25	.25	.25
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.28	.29	.28	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99	1.0	1.0	.99	.99	1.00	1.00
		PDI-836-2	≤2.0 & > 0[1] in. wc	.57	.57	.57	.57	.56	.56	.56
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.53	.53	.52	.52	.52	.52	.52
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.38	.38
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	10/19/15	10/20/15	10/21/2015	10/22/15	10-23-15	10/24/15	10/25/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	BP	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) AP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.50	.49	.50	.49	.49	.50	.50
		PDI-838-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-838-3	≤2.0 & > 0[1] in. wc	.57	.57	.58	.57	.57	.57	.57
	400 area re-circulation filter plenum (HVP-808) AP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.43	.43	.43	.43	.43	.43	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc	[illegible] 10/19/15 ~~.68~~ .58	.58	.58	.58	.58	.58	.58
		PDI-839-3	≤2.0 & > 0[1] in. wc	.53	.52	.52	.52	.52	.52	.52
4.1.3.4	South Bleed off filter plenum (FF-822A) AP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	off	.14	.14	.14	.14	.14	.14
		PDI-810-2	≤2.0 & > 0[1] in. wc	off	.42	.44	.48	.45	.48	.48
		PDI-810-3	≤2.0 & > 0[1] in. wc	off	.41	.41	.42	.42	.45	.45
4.1.3.4	South Bleed off filter plenum (FF-822B) AP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	.11	off	OFF	off	OFF	off	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc	.49	off	OFF	off	OFF	off	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc	.49	off	OFF	off	off	off	off
			Completion Time	0840	0901	0845	0945	0839	0746	0848
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible] RSB	[illegible]	[illegible] RSB	[illegible] RSB	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Michael M. Irish ~~10/25/15~~ Date 10/25/15 Time ~~0848~~ Reviewed by: [signature] On-duty Supervisor Date: 10/27/15 Time: 1200

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	10/19/15	10/20/15	10-21-15	10/22/15	10/23/2015	10/24/15	10/25/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	BF	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.16	STBY	STBY	.16	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.58	STBY	STBY	.58	.58	.58	.58
		PDI-840-3	≤2.0 & > 0[1] in. wc	.51	STBY	STBY	.51	.50	.50	.50
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	.46	.47	STBY	STBY	Stby	Stby
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	.56	.56	STBY	STBY	Stby	Stby
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	.51	.51	STBY	STBY	Stby	Stby
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.33	.33	.33	.33	.34	.34	.34
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
		PDI-831-3	≤2.0 & > 0[1] in. wc	.35	.35	.33	.35	.36	.36	.36
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.54	.55	.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	off	.12	.12	.13	OFF	off	off
		PDI-807-2	≤2.0 & > 0[1] in. wc	OFF	.49	.50	.51	OFF	off	off
		PDI-807-3	≤2.0 & > 0[1] in. wc	OFF	.48	.49	.50	OFF	off	off
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	.07	off	off	off	.08 ~~OFF~~ BF 10/24/15	.07	.07
		PDI-809-2	≤2.0 & > 0[1] in. wc	.54	off	off	off	.55	.53	.53
		PDI-809-3	≤2.0 & > 0[1] in. wc	.47	off	off	off	.49	.48	.48

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	10/19/15	10/20/15	10-21-15	10/22/15	10/23/2015	10/24/15	10/25/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	DS	JM	BF	MWI	MWI
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.14	.14	OFF	.14	.14	.15	.15
		PDI-829-2	≤2.0 & > 0[1] in. wc	.33	.33	OFF	.34	.35	.35	.35
		PDI-829-3	≤2.0 & > 0[1] in. wc	.29	.28	OFF	.29	.30	.30	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	> 1.0	>1.0	>1.0	>1.00	>1.00
		PDI-833-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.48	.48
		PDI-833-3	≤2.0 & > 0[1] in. wc	.39	.39	.39	.40	.39	.39	.39
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.40	.40	.39	.40	.40	.40	.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	.20	.20	STBY	STBY	Stby	Stby
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	.48	.48	STBY	STBY	Stby	Stby
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	.43	.43	STBY	STBY	Stby	Stby
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	.43	.45	STBY	STBY	Stby	Stby
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40	STBY	STBY	.40	.40	.40	.40
		PDI-816-2	≤2.0 & > 0[1] in. wc	.51	STBY	STBY	.51	.51	.50	.50
		PDI-816-4	≤2.0 & > 0[1] in. wc	.44	STBY	STBY	.44	.45	.43	.43
		PDI-816-5	≤2.0 & > 0[1] in. wc	.48	STBY	STBY	.48	.48	.48	.48

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	10/19/15	10/20/15	10-21-15	10/22/15	10/23/2015	10/24/15	10/25/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	AS	[illegible]	BF	MWT	MWT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	<2.0 & >0[1] in. wc	STBY	.17	.17	STBY	STBY	Stby	Stby
		PDI-812-2	<2.0 & >0[1] in. wc	STBY	.38	.38	STBY	STBY	Stby	Stby
		PDI-812-3	<2.0 & >0[1] in. wc	STBY	.38	.38	STBY	STBY	Stby	Stby
		PDI-812-4	<2.0 & >0[1] in. wc	STBY	.32	.31	STBY	STBY	Stby	Stby
		PDI-812-5	<2.0 & >0[1] in. wc	STBY	.32	.42	STBY	STBY	Stby	Stby
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	<2.0 & >0[1] in. wc	.94	STBY	STBY	.95	.95	.95	.95
		PDI-813-2	<2.0 & >0[1] in. wc	.31	STBY	STBY	.31	.32	.32	.32
		PDI-813-3	<2.0 & >0[1] in. wc	.23	STBY	STBY	.23	.22	.22	.22
		PDI-813-4	<2.0 & >0[1] in. wc	.35	STBY	STBY	.35	.38	.35	.35
		PDI-813-5	<2.0 & >0[1] in. wc	.48	STBY	STBY	.47	.48	.45	.45
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	<2.0 & >0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-865-2	<2.0 & >0[1] in. wc	.37	.32	.35	.37	.38	.35	.35
		PDI-865-3	<2.0 & >0[1] in. wc	.41	.38	.40	.41	.41	.40	.40
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	<2.0 & >0[1] in. wc	.06	.06	.07	.07	.06	.07	.07
		PDI-863-2	<2.0 & >0[1] in. wc	.27	.27	.29	.28	.28	.29	.29

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	10/19/15	10/20/15	10-21-15	10/22/15	10/23/2015	10/24/15	10/25/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.20	.20	.10	.20	.20	.20	.20
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.45	.46	OFF [illegible] 10/21/15	.46	.46	.46	.46
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.20	.18	.23	.19	.21	.21	.21
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.55	.51	.60	.52	.52	.52	.52
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0850	0845	0850	0854	0847	0802	0815
			OC Operator Review and Page Count Complete (initials)	BC [illegible]	[illegible] RSB	[illegible]	[illegible] RSB	DAD [illegible] RSB	[illegible]	BC [illegible]

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Michael M. Irish Date 10/25/15 Time 0815 Reviewed by: [signature] On-duty Supervisor Date: 10/27/15 Time: 1200

Comments: North Basement exhaust is off. 10-21-15

For Information Only

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	10/19/15	10/20/15	10/21/15	10/22/15	10/23/15	10-24-15	10/25/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	Th	Th	Th	Th	Th	BC	JOS
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	60.1	59.6	58.5	56.3	55.1	54.8	54.1
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	Th 10/21/15 ~~50.9~~ OOS	~~47.5~~ OOS	~~43.0~~ OOS	OOS	OOS	OOS	OOS
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	62.7	62.6	59.9	56.1	56.4	58.0	56.6
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	59.8	61.5	63.6	64.2	64.8	66.9	62.3
		Completion Time:	0944	0854	0838	0935	0827	0917	0838
OC Operator Review and Page Count Complete (initials)			BC JOS	JOS BC	[illegible]	[illegible] JOS	JOS BC	JOS BC	BC JOS

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [signature] Date 10/25/15 Time 0838

Reviewed by: [signature] Date: 10/27/15 Time: 1200

On-duty Supervisor

Comments: Tank V-704 is OOS for maintenance.

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																	
			Date:	10-26-15		10-27-15		10-28-15		10-29-15		10-30-15		10-31-15			
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	BC [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2	≤-1.0 in. wc[1]	-1.98	-2.01	-1.99	-1.98	-2.01	-1.99	-2.00	-1.98	-1.99	-1.98	-2.02	-1.99		
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2	≤-1.0 in. wc[1]	-1.95	-1.95	-1.95	-1.94	-1.94	-1.96	-1.94	-1.94	-1.94	-1.94	-1.95	-1.93		
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2	≤-1.0 in. wc[1]	-1.98	-1.97	-1.99	-1.97	-1.97	-1.98	-1.97	-1.98	-1.97	-1.98	-1.98	-1.97		
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2	≤-1.0 in. wc[1]	-1.98	-1.99	-1.99	-1.97	-1.96	-1.97	-1.96	-1.97	-1.96	-1.97	-1.97	-1.97		
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2	≤-0.05 in. wc[1]	-.16	-.20	-.19 ~~-1.99~~	-.20	-.19	-0.19	-.19	-0.19	-.18	-.19	-.18	-.18		
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2	≤-0.05 in. wc[1]	-.20	-.23	-.17	-.24	-.23	-0.22	-.23	-0.23	-.23	-.23	-.22	-.21		
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2	≤-0.05 in. wc[1]	-.19	-.20	-.21	-.19	-.22	-0.19	-.22	-0.20	-.20	-.21	-.20	-.18		
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2	≤-0.05 in. wc[1]	-.21	-.21	-.17	-.20	-.22	-0.20	-.23	-0.21	-.22	-.22	-.21	-.19		
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5	≤-0.05 in. wc	-.19	-.19	-.18	-.18	-.19	-0.19	-.21	-0.19	-.19	-.19	-.19	-.19		
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2	< 0.00 in. wc	-.09	-.10	-.10	-.09	-.10	-0.09	-.11	-0.09	-.11	-.11	-.09	-.09		
	South basement ΔP	PDI-854-1 or PDI-854-2	< 0.00 in. wc	-.09	-.10	-.10	-.09	-.10	-0.09	-.11	-0.09	-.10	-.10	-.09	-.09		
	IRT Tunnel ΔP	PDT-901 or PDI-901	< 0.00 in. wc	-.073	-.081	-.061	-.077	-.115	-0.101	-.118	-0.089	-.117	-.114	-.102	-.101		

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.																	
			Date:	10-26-15		10-27-15		10-28-15		10-29-15		10-30-15		10-31-15			
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	**200 area re-circulation fan/ plenum**	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	10-26-15		10-27-15		10-28-15		10-29-15		10-30-15		10-31-15		
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	Glovebox exhaust header AIPs < laboratory AIPs < basement AIPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0730	1920	0730	1932	0728	1908	0730	1924	0730	1923	0730	1927		

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc

Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: PRICE Date 10/3/15 Time 1927 Reviewed by: _____ Date: _____ Time: _____
On-duty Supervisor

Comments: _____

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	10/26/2015	10/27/15	10/28/15	10/29/15	10/30/2015	10/31/15	
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	BF	JM	JM	JM	BF	JM	
	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
SR 4.4.1.1	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0800	0830	0815	0810	0730	0744	

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	10/26/2015	10/27/15	10/28/15	10/29/15	10/30/2015	10/31/15	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	[illegible]	[illegible]	[illegible]	BF	[illegible]	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.12	.12	.12	.12	.13	.12	
		PDI-894-2	≤2.0 & > 0[1] in. wc	.51	.50	.51	.51	.52	.51	
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.16	.15	.18	.18	.16	.16	
		PDI-895-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.53	.51	
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.28	.28	
		PDI-818-2	≤2.0 & > 0[1] in. wc	.35	.31	.35	.35	.33	.33	
		PDI-818-4	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.38	.37	
		PDI-818-5	≤2.0 & > 0[1] in. wc	.40	.40	.39	.40	.40	.39	
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	
		PDI-821-3	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	
		PDI-821-4	≤2.0 & > 0[1] in. wc	.40	.39	.39	.39	.40	.39	

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	10/26/2015	10/27/15	10/28/15	10/29/15	10/30/2015	10/31/15 ~~10/15~~	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	[illegible]	[illegible]	[illegible]	BF	[illegible]	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	.10	
		PDI-823-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	
		PDI-823-4	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.61	.61	
		PDI-823—5	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.61	.61	
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.69	.70	.70	.69	.69	.68	
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25	.25	.25	.25	.25	.25	
		PDI-830-3	≤2.0 & > 0[1] in. wc	.29	.29	.29	.29	.28	.28	
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	1.0	1.0	1.0	1.0	1.0	.99	
		PDI-836-2	≤2.0 & > 0[1] in. wc	.59	.55	.59	.59	.58	.57	
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.39	.39	.39	.38	.39	
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.42	.41	

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	10/26/2015	10/27/15	10/28/15	10/29/15	10/30/2015	10/31/15	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	[illegible]	[illegible]	[illegible]	BF	[illegible]	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.50	.50	.49	.49	.49	.49	
		PDI-838-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	
		PDI-838-3	≤2.0 & > 0[1] in. wc	.59	.56	.59	.58	.58	.56	
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.44	.42	.44	.44	.44	.43	
		PDI-839-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	.59	
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.52	.51	
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.14	off	off	off	OFF	off	
		PDI-810-2	≤2.0 & > 0[1] in. wc	.45	OFF	off	off	OFF	off	
		PDI-810-3	≤2.0 & > 0[1] in. wc	.41	off	off	off	OFF	off	
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	.10	.11	.11	.10	.11	
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	.49	.48	.48	.48	.48	
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	.49	.47	.48	.48	.47	
			. Completion Time	0845	0930	0920	0901	0805	0800	
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible]	[illegible]	[illegible] RSB	[illegible] RSB	[illegible]	

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Jerome M. Date 10/31/15 Time 0800 Reviewed by: _____ Date: _____ Time: _____
On-duty Supervisor

Comments 10/29/15 isolation valve 13FV-855-K small oil leak coming from bottom of housing. Not Fail Ops.

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	10/26/2015	10/27/15	10/28/15	10/29/15	10/30/15	10/31/15	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.18	.16	.17	.16	.16	.16	
		PDI-840-2	≤2.0 & > 0 in[1] wc	.58	.59	.59	.59	.59	.59	
		PDI-840-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.34	.35	.33	.35	.33	.33	
		PDI-831-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	
		PDI-831-3	≤2.0 & > 0[1] in. wc	.35	.33	.34	.33	.34	.34	
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.55	.55	
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	off	
		PDI-807-2	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	off	
		PDI-807-3	≤2.0 & > 0[1] in. wc	OFF	off	off	off	off	off	
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	
		PDI-809-2	≤2.0 & > 0[1] in. wc	.55	.58	.54	.55	.55	.55	
		PDI-809-3	≤2.0 & > 0[1] in. wc	.49	.49	.48	.49	.49	.49	

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:	10/26/2015	10/27/15	10/28/15	10/29/15	10/30/15	10/31/15	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	JM	JM	JM	JM	JM	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.15	.15	.15	.15	.15	.15	
		PDI-829-2	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.35	
		PDI-829-3	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.29	JM 10/31/15 ~~.29~~ .29	
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	
		PDI-833-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.48	.48	.48	
		PDI-833-3	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.39	
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.36	.16	.16	.16	.16	.16	
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.44	.44	
		PDI-835-3	≤2.0 & > 0[1] in. wc	.40	.40	.39	.40	.39	.39	
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40	.40	.39	.40	.40	.40	
		PDI-816-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.51	.51	
		PDI-816-4	≤2.0 & > 0[1] in. wc	.45	.45	.44	.45	.44	.44	
		PDI-816-5	≤2.0 & > 0[1] in. wc	.49	.48	.49	.49	.49	.49	

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 4)

			Date:	10/26/2015	10/27/15	10/28/15	10/29/15	10/30/15	10/31/15	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	.97	.95	.90	.90	.96	.93	
		PDI-813-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	
		PDI-813-3	≤2.0 & > 0[1] in. wc	.25	.25	.25	.25	.25	.25	
		PDI-813-4	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.35	
		PDI-813-5	≤2.0 & > 0[1] in. wc	.49	.45	.45	.45	.45	.47	
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.05	.04	.03	.04	.03	.04	
		PDI-865-2	≤2.0 & > 0[1] in. wc	.41	.35	.45	.35	.32	.32	
		PDI-865-3	≤2.0 & > 0[1] in. wc	.50	.39	.50	.40	.40	.40	
4.1.3.4	IFIT supply filter plenum (IIVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.08	.08	.08	.08	
		PDI-863-2	≤2.0 & >0[1] in. wc	.29	.29	.29	.29	.29	.29	

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 4)

			Date:	10/26/2015	10/27/15	10/28/15	10/29/15	10/30/15	10/31/15	
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & >0[1] in. wc	.20	.19	.19	.20	.20	.19	
		PDI-857-2	≤2.0 & >0[1] in. wc	.45	.45	.45	.45	.45	.45	
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & >0[1] in. wc	.20	.20	.20	.20	.20	.20	
		PDI-856-2	≤2.0 & >0[1] in. wc	.51	.52	.52	.51	.52	.52	
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT	SAT	SAT	SAT	
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	
			Completion time	0825	1007	0855	0825	0750	0748	
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible]	[illegible] RSB	[illegible] RSB	[illegible]	

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 10/31/15 Time 0748 Reviewed by: _____ Date: _____ Time: _____

On-duty Supervisor

Comments: _____

For Information Only

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	10/26/15	10/27/15	10/28/15	10/29/15	10/30/15	10-31-15	
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	Th	Th	Th	Th	Th	A	
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	54.0	54.2	54.0	52.9	52.1	51.3	
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	OOS	OOS	OOS	OOS	OOS	OOS	
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	58.1	63.8	64.2	62.4	62.4	61.4	
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	67.3	66.2	63.4	65.7	63.9	68.9	
		Completion Time:	0903	0845	0830	0900	0808	1030	
OC Operator Review and Page Count Complete (initials)			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [illegible] Date 10-31-15 Time 1030

Reviewed by: [illegible] Date: 11/3/15 Time: 0722
On-duty Supervisor

Comments: Tank V-704 is OOS for maintenance.

For Information Only

ATTACHMENT D-1: Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 1 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials
*Note	Confinement DR-344	Southeast	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat. / Unsat.	1425	10/21/15	RH
4.1.3.2	Confinement Door DR-344	Southeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat / Unsat.	1430	10/21/15	RH
4.1.3.2	Confinement Door DR-149	Northeast	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1318	10-21-15	PT
*Note	Confinement DR-102	Northwest	Verify that the Astragals and Jamb-Seal features are in-place and cover the gaps present 1. Between the door leaves and 2. Between the frame and the door edge when the doors are in the closed position	Sat / Unsat.	1335	10/21/15	RH
4.1.3.2	Confinement Door DR-102	Northwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1336	10/21/15	RH
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) go to the fully closed position via the automatic door closure is ≤ 30 seconds 4.2 Seconds	Sat / Unsat.	1321	10/21/15	RH

*Note: Monthly Inspection of DR-344 and DR-102 in accordance with compensatory measure(s) from: *Request for Permanent Equivalency to OE Order 420.1B Chapter II, NFPA 80, NFPA 101 and IBC Requirements for LANL Building TA55-4 (PF-4); Installation of New Confinement Doors DR-102, DR-302, and DR-344 LANL-DOE-ORDER-420.1B-EQ-2013-001*

For Information Only

ATTACHMENT D-1: Monthly Surveillance Rounds (Confinement Doors) [UET]

(Page 2 of 2)

SRs	Equipment	Location	Acceptance criteria	Sat or Unsat.	Completion Time:	Date:	Initials
4.1.3.2	Confinement Door DR-302	Southwest	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat. / Unsat.	1348	10/21/15	RH
			AND VERIFY and RECORD the time (using calibrated stop watch) that the door(s) go to the fully closed position via the automatic door closure is ≤ 30 seconds. 7.9 Seconds	Sat / Unsat.	1341	10/21/15	RH
4.1.3.2	Confinement Door DR-4	N. Basement Personnel door DR-4	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure.	Sat / Unsat.	1400	10/21/15	RH
4.1.3.2	Confinement Door DR-90	South Basement Door (Tunnel)	Exercise fully open and Verify that the door goes to the fully closed position via the automatic door closure. For each confinement door, VERIFY that one leaf of the door(s) is secured shut (NW, NE, SW, SE, south basement door).	Sat Unsat.	1407	10/21/15	RH
						OC Operator Review and Page Count Complete	

Note: SR 4.1.3.2 applies during mode 1 and 2.

Completed by: RHidner Date 10/21/15 Time 1431 Reviewed by: [signature] Date: 10/21/15 Time: 1526

On-duty Supervisor Comments:

For Information Only

ATTACHMENT D-2: Monthly Surveillance Rounds (CAS) (Operations Center) [UET]

(Page 1 of 1)

SR	Description		Acceptance Criteria	Sat. / Unsat.	Initials
	Channel #	Location			
4.2.1.1	1	Rm. 201	> 1 mR/hr	Sat. / Unsat.	
	2	Rm. 106	> 1 mR/hr	Sat. / Unsat.	
	3	Rm. 305	> 1 mR/hr	Sat. / Unsat.	
	4	Rm. 401	> 1 mR/hr	Sat. / Unsat.	
	5	Rm. 206	> 1 mR/hr	Sat. / Unsat.	
	6	Rm. 114	> 1 mR/hr	Sat. / Unsat.	
	7	Rm. 319 W	> 1 mR/hr	Sat. / Unsat.	
	8	Rm. 409	> 1 mR/hr	Sat. / Unsat.	
	9	Rm. 208	> 1 mR/hr	Sat. / Unsat.	
	10	Rm. 124	> 1 mR/hr	Sat. / Unsat.	
	11	Rm. 319 E	> 1 mR/hr	Sat. / Unsat.	
	12	Rm. 420	> 1 mR/hr	Sat. / Unsat.	
	13	Rm. 209	> 1 mR/hr	Sat. / Unsat.	
	14	Rm. 126	> 1 mR/hr	Sat. / Unsat.	
	15	Rm. 327	> 1 mR/hr	Sat. / Unsat.	
	16	Rm. 429	> 1 mR/hr	Sat. / Unsat.	
	17	Vault 17	> 1 mR/hr	Sat. / Unsat.	
	18	Vault 18	> 1 mR/hr	Sat. / Unsat.	
	19	Vault 19	> 1 mR/hr	Sat. / Unsat.	
	20	Vault 20	> 1 mR/hr	Sat. / Unsat.	

Note: These readings **SHALL** be taken on the rate meters in rack RK-801-3 in the OC.

Completed by: _____ Date 10/01/15 Time 0520

Reviewed by: _____ Date 10/1/15 Time 0745
On-duty Supervisor

Comments:

For Information Only

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Attachment B, Surveillance Training Checklist

(Page 1 of 2)

Procedure title:	SURVEILLANCE ROUNDS
Procedure no.:	TA55-STP-004 R17
Date of issue:	11/1/15
Working copy issued to:	PRICE
Working copy issued by:	PRICE
	Certified Operations Center Operator (OCO)

OC Reviews Complete and TSR Status Board Updated

OCO Signature 12/1/15 Date

Training Checklist:

Workers Performing Surveillance	Applicable Surveillance Training Current	
	OCO Initials	Date
R BRISCOE	u	11/1/15
B CHANCE	u	
A DUNSEITH	u	
J LOVATO	u	
R LUM	u	
A ORTIZ	u	
F SEYBERT	u	
J MARTINEZ	u	
J SMELTZ	u	
R PRICE	u	

Performance Type: ☒ Scheduled ☐ Partial *If partial, list reason in Comments below*

Comments: *(Document TSR Status Board tracking date here if different from completion date.)*

For Information Only

Attachment B, Surveillance Training Checklist (continued)

(Page 2 of 2)

Training Checklist (continuation sheet)

Workers Performing Surveillance	Applicable Surveillance Training Current	
	Initials	Date
P TRUJILLO	u	11/1/15
T LAUGHORTHY	u	↓
R HOHNEK	u	
M IRISH	u	
A HERRERA	u	
A SANCHEZ	u	
B FORDHAM	u	

For Information Only

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.		Date:													11-1-15	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:													A	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]													-2.02	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]													-1.95	-1.94
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]													-1.99	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]													-1.97	-1.97
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]													-.16	-.20
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]													-.20	-.22
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]													-.18	-.21
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]													-.19	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc													-.19	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc													-.09	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc													-.09	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc													-.111	-.123

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.																	
			Date:													11-1-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:													A	U
SRs	Description	Readings	Acceptance Criteria	SURVEILLANCE RESULTS Sat. / Unsat. (circle one)													
4.1.1.6	200 area re-circulation fan/ plenum	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:														11-1-15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.		
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
				Initials:													[illegible]	[illegible]	
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**														
4.1.1.4	Glovebox exhaust header AP's < laboratory AP's < basement AP's for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	
		Completion Time															0730	1925	

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 11/1/15 Time 1925 Reviewed by: _____ Date: _____ Time: _____
On-duty Supervisor

Comments: _____

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	11/1/15						11/1/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:							[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA							0.0
	CP-305-H (LED Reading)								0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value							0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:							0748

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

(Page 2 of 4)

			Date:							11/1/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	<2.0 & > 0[1] in. wc							.13
		PDI-894-2	≤2.0 & > 0[1] in. wc							.50
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc							.16
		PDI-895-2	≤2.0 & > 0[1] in. wc							.52
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc							STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc							STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc							STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-819-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-819-3	≤2.0 & > 0[1] in. wc							STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc							STBY
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc							.27
		PDI-818-2	≤2.0 & > 0[1] in. wc							.33
		PDI-818-4	≤2.0 & > 0[1] in. wc							.38
		PDI-818-5	≤2.0 & > 0[1] in. wc							.39
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc							.40
		PDI-821-3	≤2.0 & > 0[1] in. wc							.42
		PDI-821-4	≤2.0 & > 0[1] in. wc							.39

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

			Date:							11/1/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc							STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc							STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc							STBY
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc							.10
		PDI-823-2	≤2.0 & > 0[1] in. wc							.58
		PDI-823-4	≤2.0 & > 0[1] in. wc							.61
		PDI-823—5	≤2.0 & > 0[1] in. wc							.61
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc							.69
		PDI-830-2	≤2.0 & > 0[1] in. wc							.25
		PDI-830-3	≤2.0 & > 0[1] in. wc							.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc							.99
		PDI-836-2	≤2.0 & > 0[1] in. wc							.56
		PDI-836-3	≤2.0 & > 0[1] in. wc							.51
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc							.52
		PDI-837-2	≤2.0 & > 0[1] in. wc							.38
		PDI-837-3	≤2.0 & > 0[1] in. wc							.41

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:							11/1/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc							.49
		PDI-838-2	≤2.0 & > 0[1] in. wc							.50
		PDI-838-3	≤2.0 & > 0[1] in. wc							.58
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc							.42
		PDI-839-2	≤2.0 & > 0[1] in. wc							.58
		PDI-839-3	≤2.0 & > 0[1] in. wc							.52
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc							off
		PDI-810-2	≤2.0 & > 0[1] in. wc							off
		PDI-810-3	≤2.0 & > 0[1] in. wc							off
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc							.10
		PDI -811 -2	≤2.0 & > 0[1] in. wc							.45
		PDI -811 -3	≤2.0 & > 0[1] in. wc							.46
			Completion Time							0736
OC Operator Review and Page Count Complete (initials)										[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: [illegible] Date 11/1/15 Time 0736 Reviewed by: _____ Date: _____ Time: _____
On-duty Supervisor

Comments _____

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:							11/1/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc							.17
		PDI-840-2	≤2.0 & > 0 in[1]. wc							.58
		PDI-840-3	≤2.0 & > 0[1] in. wc							.51
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc							STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc							STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc							[illegible] 11/1/15 ~~.59~~ .34
		PDI-831-2	≤2.0 & > 0[1] in. wc							.40
		PDI-831-3	≤2.0 & > 0[1] in. wc							.33
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc							.54
		PDI-832-2	≤2.0 & > 0[1] in. wc							.60
		PDI-832-3	≤2.0 & > 0[1] in. wc							.34
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc							off
		PDI-807-2	≤2.0 & > 0[1] in. wc							off
		PDI-807-3	≤2.0 & > 0[1] in. wc							off
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc							.08
		PDI-809-2	≤2.0 & > 0[1] in. wc							.55
		PDI-809-3	≤2.0 & > 0[1] in. wc							.59

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:							11/1/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc							.15
		PDI-829-2	≤2.0 & > 0[1] in. wc							.35
		PDI-829-3	≤2.0 & > 0[1] in. wc							.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc							>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc							.48
		PDI-833-3	≤2.0 & > 0[1] in. wc							.39
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc							.17
		PDI-835-2	≤2.0 & > 0[1] in. wc							.45
		PDI-835-3	≤2.0 & > 0[1] in. wc							.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc							STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc							STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc							STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc							.40
		PDI-816-2	≤2.0 & > 0[1] in. wc							.49
		PDI-816-4	≤2.0 & > 0[1] in. wc							.43
		PDI-816-5	≤2.0 & > 0[1] in. wc							.48

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:							11/1/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc							STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc							STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc							STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc							STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc							STBY
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc							.92
		PDI-813-2	≤2.0 & > 0[1] in. wc							.31
		PDI-813-3	≤2.0 & > 0[1] in. wc							.24
		PDI-813-4	≤2.0 & > 0[1] in. wc							.35
		PDI-813-5	≤2.0 & > 0[1] in. wc							.46
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc							.04
		PDI-865-2	≤2.0 & > 0[1] in. wc							.35
		PDI-865-3	≤2.0 & > 0[1] in. wc							.40
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc							.06
		PDI-863-2	≤2.0 & >0[1] in. wc							.27

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 4)

			Date:							4/1/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:							[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc							.19
		PDI-857-2	≤2.0 & > 0[1] in. wc							.44
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc							.20
		PDI-856-2	≤2.0 & > 0[1] in. wc							.53
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)							SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less							SAT
Completion time										0750
OC Operator Review and Page Count Complete (initials)										[illegible]

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 4/1/15 Time 0750 Reviewed by: _____ Date: _____ Time: _____

On-duty Supervisor

Comments: _____

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6-13-16	Calibration Expiration Date:	6-24-16	Calibration Expiration Date:	6-24-16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6-13-16	Calibration Expiration Date:	6-24-16	Calibration Expiration Date:	6-24-16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature										
Daily (September through April only)		Date:								11-1-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.	
		Initials:								a
SR	Description	Acceptance Criteria								
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F								51.5
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F								OOS
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F								62.3
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F								63.9
		Completion Time:								1000
OC Operator Review and Page Count Complete (initials)										a

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: a Date 11-1-15 Time 1000

Reviewed by: Date: Time:
On-duty Supervisor

Comments: TANK V704 IS OOS FOR MAINTENANCE

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature										
Daily (September through April only)		Date:	11/2/15	11/3/15	11/4/15	11/5/15	11/6/15	11.07.15	11.08.15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	BC
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	~~51.4~~	51.4	51.6	49.8	49.0	48.3	47.5
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	* 005	~~005~~ 62.0 11/3/15	62.2	59.8	57.6	56.4	54.9
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	62.6	62.4	61.7	62.3	61.1	61.0	61.8
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	61.8	62.7	67.9	65.7	66.9	65.0	65.6
		Completion Time:	0847	0818	0811	0926	0836	0857	~~0859~~
OC Operator Review and Page Count Complete (initials)			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] BC	[illegible] BC

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: BRIAN CHANCE Date 11-08-15 Time ~~0859~~

Reviewed by: Date: 11/9/15 Time: 1105
On-duty Supervisor

Comments: * 4.3.1.1 tank V-704 is 005 for maintenance.
*4.3.1.1 Tank V-704 is being restored to service, 11/3/15, 0832

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ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																
		Date:	11-9-15		11-10-15		11-11-15		11-12-15		11-13-15		11-14-15		11/15/15	
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge Acceptance Criteria**	**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]	-2.00	-2.00	-1.99	-2.01	-2.00	-2.01	-1.99	-2.00	-2.00	-1.99	-2.00	-1.99	-1.99	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]	-1.94	-1.93	-1.94	-1.97	-1.94	-1.95	-1.95	-1.95	-1.94	-1.94	-1.96	-1.94	-1.94	-1.94
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]	-1.98	-1.98	-1.97	-2.01	-1.98	-1.98	-1.99	-1.98	-1.97	-1.98	-1.99	-1.98	-1.97	-1.98
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]	-1.98	-1.98	-1.97	-2.01	-1.98	-1.98	-1.99	-1.97	-1.96	-1.97	-1.99	-1.97	-1.98	-1.98
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-.22	-.22	-.23	-.17	-.23	-0.22	-.22	-0.22	-.23	-.21	-.22	-.20	-.21	-.22
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-.24	-.24	-.26	-.17	-.28	-0.24	-.24	-0.25	-.25	-.23	-.24	-.22	-.23	-.24
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-.19	-.19	-.21	-.18	-.24	-0.19	-.18	-0.20	-.21	-.19	-.20	-.19	-.20	-.21
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-.20	-.20	-.22	-.21	-.24	-0.20	-.19	-0.21	-.21	-.19	-.20	-.20	-.21	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-.19	-.19	-.19	-.20	-.19	-0.19	-.19	-0.19	-.19	-.19	-.19	-.19	-.19	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-.10	-.11	-.11	-.09	-.12	-0.10	-.09	-0.10	-.11	-.09	-.09	-.09	-.10	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-.10	-.11	-.10	-.10	-.11	-0.10	-.10	-0.10	-.11	-.09	-.10	-.09	-.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-.119	-.114	-.119	-.098	-.123	-0.114	-.108	-0.117	-.119	-.102	-.104	-.103	-.110	-.115

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ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.																			
			Date:	11-9-15		11-10-15		11-11-15		11-12-15		11-13-15		11-14-15		11/15/15			
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.			
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**															
4.1.1.6	200 area re-circulation fan/ plenum	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat		
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat		
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat		
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat		
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat		

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ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	11-9-15		11-10-15		11-11-15		11-12-15		11-13-15		11-14-15		11/15/15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Area	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS Sat / Unsat. (circle one)													
4.1.1.4	Glovebox exhaust header APs < laboratory APs < basement APs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0730	1920	0730	1931	0722	1919	0730	1924	0730	1928	0730	1939	0727	1927
					[illegible]						RSB		RSB					

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc

Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 11-13-15 Time 1927 Reviewed by: [signature] Date: 11/16/15 Time: 0702
On-duty Supervisor

Comments: _____

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	11/9/15	11-10-15	11/11/15	11-12-15	11-13-15	11-14-15	11/15/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	PT	PT	[illegible]	PT	PT	PT	[illegible]
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0805	0817	0817	0756	0705	0817	0805

For Information Only

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	11/9/15	11-10-15	11/11/15	11-12-15	11-13-15	11-14-15	11/15/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	PT	[illegible]	PT	PT	PT	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.51	.51	.51
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.05	.05	.04	.05	.05	.05	.05
		PDI-895-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.58	.58
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	STBY	Stby	STBY	STBY	.31	.31
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	STBY	Stby	STBY	STBY	.32	.32
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	STBY	Stby	STBY	STBY	.34	.34
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	STBY	Stby	STBY	STBY	.31	.31
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	STBY	STBY	Stby	STBY	STBY	.41	.41
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	STBY	STBY	Stby	STBY	STBY	.41	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	STBY	Stby	STBY	STBY	.37	.32
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.27	.27	.26	.27	.27	STBY	Stby
		PDI-818-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	STBY	Stby
		PDI-818-4	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	STBY	Stby
		PDI-818-5	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	STBY	Stby
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	STBY	Stby
		PDI-821-3	≤2.0 & > 0[1] in. wc	.41	.42	.41	.42	.43	STBY	Stby
		PDI-821-4	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	STBY	Stby

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	11/9/15	11-10-15	11/11/15	11-12-15	11-13-15	11-14-15	11/15/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	PT	mwI	PT	PT	PT	mwI
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	STBY	Stby	STBY	STBY	1.0	1.00
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	STBY	Stby	STBY	STBY	.58	.58
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	STBY	Stby	STBY	STBY	.50	.50
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	STBY	Stby	STBY	STBY	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.10	.10	STBY	Stby
		PDI-823-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.59	STBY	Stby
		PDI-823-4	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	STBY	Stby
		PDI-823—5	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	STBY	Stby
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.70	.69	.69	.69	.69	.70
		PDI-830-2	≤2.0 & > 0[1] in. wc	.22	.22	.23	.23	.23	.25	.25
		PDI-830-3	≤2.0 & > 0[1] in. wc	.29	.29	.29	.29	.29	.29	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99	.99	1.00	1.0	1.0	1.0	1.00
		PDI-836-2	≤2.0 & > 0[1] in. wc	.59	.59	.58	.58	.58	.58	.57
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.52	.52	.51	.52	.52	.52	.52
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.38	.25	.38	.38	.38	.38
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	11/9/15	11-10-15	11/11/15	PT 11-12-15 11-12-59	11-13-15	11-14-15	11/15/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	PT	[illegible]	PT	PT	PT	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.51	.50	.51	.51	.51	.51
		PDI-838-3	≤2.0 & > 0[1] in. wc	.58	.58	.57	.58	.58	.58	.56
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.44	.44	.44	.44	.44	.44	.44
		PDI-839-2	≤2.0 & > 0[1] in. wc	.58	.58	.56	.58	.57	.58	.56
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.13	OFF	off	OFF	OFF	OFF	off
		PDI-810-2	≤2.0 & > 0[1] in. wc	.41	OFF	off	OFF	OFF	OFF	off
		PDI-810-3	≤2.0 & > 0[1] in. wc	.41	OFF	off	OFF	OFF	OFF	off
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI-811-1	≤2.0 & > 0[1] in. wc	OFF	.11	.10	.11	.11	.11	.10
		PDI-811-2	≤2.0 & > 0[1] in. wc	OFF	.45	.42	.46	.44	.45	.43
		PDI-811-3	≤2.0 & > 0[1] in. wc	OFF	.45	.42	.47	.47	.46	.42
			Completion Time	0918	0934	0911	0821	0720	0759	0851
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Michael M. Irish Date 11/15/15 Time 0851 Reviewed by: [signature] On-duty Supervisor Date: 11/16/15 Time: 0702

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	11/9/15	11/10/15	11/11/2015	11/12/15	11-13-15	11-14-15	11/15/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	BF	[illegible]	BF	PT	PT	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.16	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.59	.59	.59	.59	.59	.59	.54
		PDI-840-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.33	.34	.34	.34	.34	.33	.33
		PDI-831-2	≤2.0 & > 0[1] in. wc	.39	.40	.40	.40	.40	.40	.45
		PDI-831-3	≤2.0 & > 0[1] in. wc	.32	.32	.32	.33	.32	.32	.32
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34 ~~.49~~ 11/11/15	.34	.35	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.54	.55	.54	.54	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.11	.12	.12	.12	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.49	.50	.49	.50	.50	.50	.50
		PDI-807-3	≤2.0 & > 0[1] in. wc	.49	.49	.49	.50	.49	.49	.49
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:	11/9/15	11/10/15	11/11/15	11/12/15	11-13-15	11-14-15	11/15/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	BF	JOJ	BF	PT	PT	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.14	.14	.15	.15	.14	.15	.15
		PDI-829-2	≤2.0 & > 0[1] in. wc	.31	.32	.31	.36	.32	.36	.36
		PDI-829-3	≤2.0 & > 0[1] in. wc	.29	.29	.25	.30	.29	.30	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc	.45	.46	.46	.46	.46	.46	.46
		PDI-833-3	≤2.0 & > 0[1] in. wc	.38	.38	.37	.37	.38	.38	.38
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.16	.17	.17	.17	.17	.17
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.44	.45	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.39	.40	.39	.40	.40	.40	.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.20	.21	.20	.21	STBY	.21	.21
		PDI-815-2	≤2.0 & > 0[1] in. wc	.49	.50	.50	.50	STBY	.48	.48
		PDI-815-4	≤2.0 & > 0[1] in. wc	.41	.43	.42	.43	STBY	.43	.43
		PDI-815-5	≤2.0 & > 0[1] in. wc	.45	.47	.46	.48	STBY	.48	.46
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.40	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.51	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.45	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.50	STBY	STBY

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 4)

			Date:	11/9/15	11/10/15	11/11/2015	11/12/2015	11-13-15	11-14-15	11/15/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	BF	[illegible]	BF	PT	PT	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	.17	.17
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	.40	.40
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	.39	.40
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	.32	.32
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	.42	.42
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	1.1	1.1	1.0	1.1	1.1	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	.31	.33	.32	.33	.32	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	.29	.28	.28	.27	.28	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	.38	.38	.38	.39	.38	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	STBY	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.03	.03	.03	.03	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.31	.32	.35	.32	.32	.32	.32
		PDI-865-3	≤2.0 & > 0[1] in. wc	.35	.40	.40	.38	.38	.39	.40
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.28	.28	.28	.28	.28	.28	.27

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 4)

			Date:	11/9/15	11/10/2015	11/11/2015	11/12/2015	11-13-15	11-14-15	11/15/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT	BF	[illegible]	BF	PT	PT	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.12	.11	.10	.10	.11	.11	.11
		PDI-857-2	≤2.0 & > 0[1] in. wc	.49	.48	.48	.48	.48	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-856-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0847	0830	0856	0821	0721	0821	0845
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 11/15/15 Time 0845 Reviewed by: [illegible] Date: 11/16/15 Time: 0704

On-duty Supervisor

Comments:

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103765 11/9/15
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	11/9/15	11/10/15	11/11/15	11/12/15	11/13/15	11-14-15	11-15-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:							
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	47.6	48.0	47.2	46.0	51.0	51.0	50.7
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	54.1	53.7	52.2	51.0	50.4	50.0	49.8
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	62.7	62.9	61.9	61.3	62.5	63.5	64.2
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	63.3	64.8	64.4	61.6	62.7	60.8	61.6
		Completion Time:	0937	0905	0955	0856	0800	1030	1050
	OC Operator Review and Page Count Complete (initials)					RSB	RSB		

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: _____ Date ~~11-15-15~~ 11-15-15 Time 1050

Reviewed by: _____ Date: 11/16/15 Time: 0704
On-duty Supervisor

Comments:

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 1 of 3)

Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

			Date:	11/16/15		11/17/15		11/18/15		11/19/15		11/20/15		11/21/15		11/22/15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]		-2.00	-1.99	-2.01	-2.01	-2.01	-2.02	-2.01	-2.01	-2.00	-1.99	-2.01	-2.00	-2.00	-2.00
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]		-1.93	-1.94	-1.94	-1.94	-1.95	-1.94	-1.95	-1.95	-1.94	-1.93	-1.94	-1.94	-1.95	-1.94
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]		-1.97	-1.98	-1.98	-1.98	-1.96	-1.99	-1.98	-1.98	-2.00	-1.97	-1.99	-1.97	-1.98	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]		-1.98	-1.98	-1.98	-1.98	-1.96	-1.98	-1.99	-1.98	-1.97	-1.97	-1.99	-1.98	-1.98	-1.97
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]		-0.22	-.21	-0.22	-.21	-.19	-.21	-.22	-.22	-0.21	-0.21	-0.22	-.22	-0.22	-.21
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]		-0.25	-.23	-0.23	-.23	-.21	-.23	-.23	-.24	-0.25	-0.24	-0.24	-.24	-0.24	-.24
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]		-0.19	-.19	-0.20	-.20	-.21	-.18	-.19	-.20	-0.20	-0.19	-0.20	-.21	-0.20	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]		-0.20	-.20	-0.20	-.20	-.22	-.19	-.19	-.21	-0.21	-0.21	-0.20	-.22	-0.21	-.21
	IFTT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc		-0.19	-.19	-0.19	-.18	-.20	-.19	-.18	-.19	-0.19	-0.19	-0.19	-.19	-0.19	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc		-0.10	-.09	-0.08	-.08	-.09	-.09	-.09	-.10	-0.09	-0.09	-0.09	-.10	-0.09	-.10
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc		-0.10	-.09	-0.09	-.09	-.09	-.10	-.09	-.10	-0.09	-0.10	-0.09	-.10	-0.10	-.10
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc		-0.121	-.107	-0.106	-.097	-.124	-.105	-.094	-.115	-0.098	-0.114	-0.094	-.119	-0.114	-.119

For Internal Use Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.																	
			Date:	11/16/15		11/17/15		11/18/15		11/19/15		11/20/15		11/21/15		11/22/15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	[illegible]	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	200 area re-circulation fan/ plenum	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	11/16/15		11/17/15		11/18/15		11/19/15		11/20/15		11/21/15		11/22/15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	BC	[illegible]	BC	[illegible]	a	[illegible]	a	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC
SRs	Description	Area	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS Sat. / Unsat. (circle one)													
4.1.1.4	Glovebox exhaust header APs < laboratory APs < basement APs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
			Completion Time		0731	1930	0725	1935	0730	1931	0732	1927	0721	1931	0726	1926	0724	1921

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 11-22-15 Time 1921 Reviewed by: [signature] Date: 11/24/15 Time: 0700
On-duty Supervisor

Comments:

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	11/16/15	11/17/15	11/18/15	11/19/15	11/20/15	11/21/15	11/22/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	PT	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0745	0743	0900	0814	0831	0804	0747

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	11/16/15	11/17/15	11/18/15	11/19/15	11/20/15	11/21/15	11/22/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	PT	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.04	.04	.04	.05	.04
		PDI-894-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-895-2	≤2.0 & > 0[1] in. wc	.57	.57	.57	.58	.60	.60	.60
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.30	.31	.31	.30	.31	.31	.31
		PDI-817-2	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
		PDI-817-4	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.35	.35
		PDI-817-5	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.31	.31
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.42	.42	.42	.42	.42	.41	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc	.35	.36	.36	.35	.35	.35	.35
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

			Date:	11/16/15	11/17/15	11/18/15	11/19/15	11/20/15	11/21/15	11/22/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	PJ	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	.99	.99	.99	.99	1.0	1.0	1.0
		PDI-822-2	≤2.0 & > 0[1] in. wc	.57	.57	.57	.58	.58	.57	.57
		PDI-822-4	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.49	.49
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.70	.68	.68	.68	.69	.69	.68
		PDI-830-2	≤2.0 & > 0[1] in. wc	.26	.26	.26	.25	.25	.24	.24
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.97	.97	.99	.99	.99	.99	.99
		PDI-836-2	≤2.0 & > 0[1] in. wc	.57	.57	.57	.57	.57	.56	.57
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.52	.52
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.38	.38
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41

For Information Only

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	11/16/15	11/17/15	11/18/15	11/19/15	11/20/15	11/21/15	11/22/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	PT 11-19-15	[illegible]	[illegible]	JM
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-838-3	≤2.0 & > 0[1] in. wc	.57	.57	.57	.58	.58	.57	.57
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.43	.43	.43	.43	.43	.43	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.56	.55	.56
		PDI-839-3	≤2.0 & > 0[1] in. wc	.52	.52	.51	.51	.51	.51	.51
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	OFF	OFF	.13	.14	.13	.14	.14
		PDI-810-2	≤2.0 & > 0[1] in. wc	OFF	OFF	.41	.48	.42	.42	.46
		PDI-810-3	≤2.0 & > 0[1] in. wc	OFF	OFF	.41	.49	.41	.42	.43
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	.09	.10	OFF	OFF	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	.41	.46	OFF	OFF	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	.41	.46	OFF	OFF	OFF	OFF	OFF
			Completion Time	0817	0835	0915	0834	0855	0822	0810
OC Operator Review and Page Count Complete (initials)				[illegible]	RSB [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: [illegible] Date 11/22/15 Time 0810 Reviewed by: [illegible] Date: 11/24/15 Time: 0700
On-duty Supervisor

Comments

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	11/16/15	11/17/15	11/18/15	11/19/15	11.20.15	11/21/15	11/22/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	PT	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.16	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.59	.59	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	.50	.50	STBY	STBY	STBY	STBY	STBY
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	.46	.47	.47	.47	.47
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	.59	.59	.59	.58	.58
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	.51	.51	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.33	.33	.33	.33	.33	.33	.33
		PDI-831-2	≤2.0 & > 0[1] in. wc	.44	.44	.44	.44	.45	.45	.44
		PDI-831-3	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.32	.32	.32
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.54	.54	.55	.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.12	OFF	OFF	OFF	OFF	OFF
		PDI-807-2	≤2.0 & > 0[1] in. wc	.50	.50	OFF	OFF	OFF	OFF	OFF
		PDI-807-3	≤2.0 & > 0[1] in. wc	.49	.49	OFF	OFF	OFF	OFF	OFF
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	~~STBY~~ OFF [illegible]	OFF	.08	.08	.08	.07	.07
		PDI-809-2	≤2.0 & > 0[1] in. wc	~~STBY~~ OFF [illegible]	OFF	.51	.51	.52	.51	.52
		PDI-809-3	≤2.0 & > 0[1] in. wc	~~STBY~~ OFF [illegible]	OFF	.45	.45	.45	.45	.45

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	11/16/15	11/17/15	11/18/15	11-19-15	11-20-15	11/21/15	11/22/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	PT	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) AP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.15	.15	.15	.16	.15	.16	.15
		PDI-829-2	≤2.0 & > 0[1] in. wc	.36	.35	.36	.38	.38	.38	.38
		PDI-829-3	≤2.0 & > 0[1] in. wc	.30	.30	.30	.30	.30	.30	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) AP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc	.45	.46	.45	.45	.45	.46	.45
		PDI-833-3	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.38	.37
	100 area re-circulation filter plenum (HVP-804) AP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.17	.17	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.39
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) AP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.21	.21	.21	.21	.21	.21	.21
		PDI-815-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.49
		PDI-815-4	≤2.0 & > 0[1] in. wc	.41	.44	.41	.41	.45	.43	.43
		PDI-815-5	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.46
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) AP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

For Information Only

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	11/16/15	11/17/15	11/18/15	11-19-15	11-20-15	11/21/15	11/22/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	PT	AK	JM	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.18	.17	.17	.17	.17	.17	.18
		PDI-812-2	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.39
		PDI-812-3	≤2.0 & > 0[1] in. wc	.35	.39	.39	.39	.40	.39	.38
		PDI-812-4	≤2.0 & > 0[1] in. wc	.31	.32	.31	.31	.32	.31	.32
		PDI-812-5	≤2.0 & > 0[1] in. wc	.41	.43	.42	.42	.44	.42	.44
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.03	.03	.03	.04	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.35	.32	.31	.35	.34	.32	.33
		PDI-865-3	≤2.0 & > 0[1] in. wc	.40	.40	.39	.40	.40	.39	.39
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.25	.25	.25	.25	.26	.22	.27

For Information Only

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	11/16/15	11/17/15	11/18/15	11-19-15	11-20-15	11/21/15	11/22/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	PT	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11	.11	.11	.11	.12	.12	.11
		PDI-857-2	≤ 2.0 & > 0[1] in. wc	.48	.47	.48	.48	.48	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤ 2.0 & > 0[1] in. wc	.04	.03	.03	.04	.03	.03	.03
		PDI-856-2	≤ 2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0818	0825	0922	0900	0905	0825	0810
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 11/22/15 Time 0810 Reviewed by: [illegible] Date: 11/24/15 Time: 0700

On-duty Supervisor

Comments:

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	012252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature										
Daily (September through April only)		Date:	11/16/15	11/17/15	11/18/15	11/19/15	11/20/15	11/21/15	11/22/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	49.2	50.2	51.4	50.4	50.0	51.1	50.1
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	48.8	47.5	46.7	46.1	46.2	46.4	47.3
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	63.6	63.2	62.7	62.6	64.3	63.1	62.4
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	66.0	64.8	61.1	63.8	57.7	54.1	52.4
		Completion Time:	0818	0943	1033	0928	1058	0945	0930
OC Operator Review and Page Count Complete (initials)			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [signature] Date 11/22/15 Time 0930

Reviewed by: [signature] Date: 11/24/15 Time: 0700
On-duty Supervisor

Comments: * 11/22/15-0915-INCREASED PF-11 HUB-1 THERMOSTAT 60°→65°F.

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ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.

			Date:	11/23/15		11-24-15		11/25/15		11-26-15		11-27-15		11/28/15		11-29-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	u	D	a	D	K	BC	D	BC	a	D	u	D	a	D
SRs	**Description**	**Gauge Acceptance Criteria**		**SURVEILLANCE RESULTS (in. wc)**													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]		-2.00	-2.00	-2.00	-2.00	-1.99	-2.01	-1.99	-1.95	-2.00	-2.00	-2.00	-1.99	-2.00	-1.99
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]		-1.94	-1.95	-1.94	-1.94	-1.93	-1.95	-1.91	-1.93	-1.99	-1.93	-1.93	-1.93	-1.91	-1.93
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]		-1.99	-1.98	-1.99	-1.98	-1.98	-1.99	-1.98	-1.96	-1.97	-1.99	-1.97	-1.98	-1.97	-1.97
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]		-1.98	-1.98	-1.99	-1.98	-1.97	-1.97	-1.97	-1.97	-1.98	-1.99	-1.98	-1.97	-1.99	-1.99
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]		-.21	-.22	-.20	-.23	-.21	-.22	-.22	-.22	-.22	-.20	-.23	-.21	-.23	-.23
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]		-.22	-.24	-.23	-.25	-.24	-.23	-.25	-.24	-.24	-.22	-.24	-.24	-.25	-.25
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]		-.18	-.18	-.18	-.21	-.19	-.17	-.21	-.20	-.21	-.17	-.21	-.19	-.21	-.20
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]		-.19	-.21	-.19	-.21	-.20	-.18	-.22	-.22	-.21	-.19	-.22	-.20	-.22	-.20
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc		-.19	-.19	-.19	-.19	-.19	-.19	-.19	-.20	-.19	-.20	-.19	-.19	-.19	-.19
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc		-.08	-.10	-.10	-.10	-.08	-.09	-.11	-.10	-.10	-.08	-.10	-.09	-.10	-.09
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc		-.08	-.10	-.09	-.10	-.09	-.09	-.11	-.11	-.10	-.08	-.10	-.09	-.10	-.09
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc		-.104	-.129	-.098	-.119	-.125	-.102	-.137	-.136	-.131	-.115	-.105	-.100	-.116	-.083

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ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.			Date:	11/23/15		11-24-15		11/25/15		11-26-15		11-27-15		11/28/15		11-29-15	
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	K	A	A	A	K	BC	A	BC	A	A	K	A	A	A
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.6	200 area re-circulation fan/ plenum	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

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ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	11/23/15		11-24-15		11/25/15		11-26-15		11-27-15		11/28/15		11-29-15	
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	BC	[illegible]	BC	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	Glovebox exhaust header AP[1] < laboratory AP[1] < basement AP[1] for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0735	1930	0729	1930	0730	1924	0720	1918	0722	1930	0730	1930	0725	1930

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [illegible] Date 11-29-15 Time 1930 Reviewed by: [illegible] Date: 11/30/15 Time: 1035
On-duty Supervisor

Comments:

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ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	11/23/15	11/24/15	11/25/15	11-26-15	11-27-15	11-28-15	11-29-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	RL	RL	RL	PT	PT	PT	PT
SR 4.4.1.1	Description / Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (percentage)						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0740	0803	0802	0749	0749	0749	0749

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	11/23/15	11/24/15	11/25/15	11-26-15	11-27-15	11-28-15	11-29-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	RH	PT	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-895-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.31	.31	.30	.30	.30	.31	.30
		PDI-817-2	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
		PDI-817-4	≤2.0 & > 0[1] in. wc	.35	.34	.35	.33	.33	.33	.33
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc	.34	.35	.36	.35	.35	.35	.35
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	11/23/15	11/24/15	11/25/15	11-26-15	11-27-15	11-28-15	11-29-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	RH	PT	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	1.0	1.0	1.0	1.0	1.0	1.1	1.0
		PDI-822-2	≤2.0 & > 0[1] in. wc	.55	.56	.55	.58	.58	.58	.58
		PDI-822-4	≤2.0 & > 0[1] in. wc	.50	.49	.50	.50	.50	.50	.50
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.69	.69	.69	.69	.69	.69	.69
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25	.25	.25	.25	.24	.23	.23
		PDI-830-3	≤2.0 & > 0[1] in. wc	.29	.29	.29	.29	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99	.99	.99	.99	.99	.99	.99
		PDI-836-2	≤2.0 & > 0[1] in. wc	.57	.57	.58	.58	.58	.58	.59
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.51	.50	.51	.51	.51	.51
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.37	.38	.38	.38	.38	.38
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	11/23/15	11/24/15	11/25/15	11-26-15	11-27-15	11-28-15	11-29-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	RH	PT	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-838-3	≤2.0 & > 0[1] in. wc	.58	.58	.58	.58	.58	.58	.58
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.44	.43	.43	.43	.43	.43	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc	.55	.56	.55	.55	.55	.55	.56
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.13	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-810-2	≤2.0 & > 0[1] in. wc	.45	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-810-3	≤2.0 & > 0[1] in. wc	.41	OFF	OFF	OFF	OFF	OFF	OFF
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	.10	.10	.10	.11	.11	.10
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	.45	.45	.43	.45	.48	.44
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	.45	.45	.42	.45	.48	.45
			Completion Time	0936	0854	0803	0742	0731	0732	0738
OC Operator Review and Page Count Complete (initials)										

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Paul Trujillo Date 11-29-15 Time 0738 Reviewed by: On-duty Supervisor Date: 11/30/15 Time: 1035

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	11/23/15	11/24/15	11-25-15	11-26-15	11-27-15	11-28-15	11-29-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	PT	PT	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.47	.47	.47	.47	.47	.47	.47
		PDI-841-2	≤2.0 & > 0[1] in. wc	.58	.58	.58	.59	.59	.59	.59
		PDI-841-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.33	.33	.33	.33	.33	.33	.33
		PDI-831-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-831-3	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.35	.34	.35
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.55	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-807-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI-807-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.08	.08	.08
		PDI-809-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52	.52	.52	.52
		PDI-809-3	≤2.0 & > 0[1] in. wc	.46	.46	.46	.46	.46	.47	.48

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:	11/23/15	11/24/15	11-25-15	11-26-15	11-27-15	11-28-15	11-29-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	PT	PT	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.16	.15	.16	.16	.16	.16	.16
		PDI-829-2	≤2.0 & > 0[1] in. wc	.38	.38	.38	.35	.38	.38	.38
		PDI-829-3	≤2.0 & > 0[1] in. wc	.30	.30	.30	.29	.31	.30	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc	.45	.45	.46	.45	.45	.45	.45
		PDI-833-3	≤2.0 & > 0[1] in. wc	.37	.37	.38	.38	.38	.38	.38
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.39	.39	.40	.40	.40	.40	.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	.21	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	.49	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	.42	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	.45	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	STBY	.40	.40	.40	.40	.40	.40
		PDI-816-2	≤2.0 & > 0[1] in. wc	STBY	.51	.51	.51	.51	.51	.51
		PDI-816-4	≤2.0 & > 0[1] in. wc	STBY	.45	.45	.45	.45	.44	.44
		PDI-816-5	≤2.0 & > 0[1] in. wc	STBY	.49	.49	.49	.49	.49	.49

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 4)

			Date:	11/23/15	11/24/15	11-25-15	11-26-15	11-27-15	11-28-15	11-29-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	RH	RH	PT	PT	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.18	.18	.17	.17	.17	.17	.17
		PDI-812-2	≤2.0 & > 0[1] in. wc	.39	.40	.40	.40	.40	.40	.40
		PDI-812-3	≤2.0 & > 0[1] in. wc	.38	.38	.39	.39	.39	.39	.39
		PDI-812-4	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.32	.32	.32
		PDI-812-5	≤2.0 & > 0[1] in. wc	.41	.42	.42	.42	.41	.42	.42
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.03	.04	.03	.03	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.31	.32	.32	.32	.32	.32	.31
		PDI-865-3	≤2.0 & > 0[1] in. wc	.38	.39	.39	.39	.40	.39	.38
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.28	.28	.28	.28	.28	.28	.28

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	11/23/15	11/24/15	11-25-15	11-26-15	11-27-15	11-28-15	11-29-15 ~~11-30-15~~
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	ZH	ZH	PT	PT	PT	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11	.11	.11
		PDI-857-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-856-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0811	0836	0820	0753	0754	0753	0749
			OC Operator Review and Page Count Complete (initials)	a u	u a	RB u	[illegible]	a u	a u	a u

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Paul Trujillo Date 11-29-15 Time 0749 Reviewed by: [signature] On-duty Supervisor Date: 11/30/15 Time: 1035

Comments:

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039446	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	103763
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature									
Daily (September through April only)		Date:	11/23/15	11/24/15	11/25/15	11-26-15	11/27/15	11/28/15	11/29/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT	SAT/UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	49.3	51.1	50.9	50.5	49.2	50.1	49.8
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	47.3	47.0	46.8	47.2	46.5	47.3	46.3
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	62.8	63.6	63.5	65.4	62.3	61.1	62.7
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	58.2	65.6	58.0	67.1	65.4	66.0	66.6
		Completion Time:	0858	0812	0831	1000	0850	0815	0817
OC Operator Review and Page Count Complete (initials)			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: PRICE [signature] Date 11/24/15 Time 0817

Reviewed by: [signature] Date: 11/30/15 Time: 1035
On-duty Supervisor

Comments:

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

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Note: Gauge readings should be taken on rack #4 in the OC. whenever possible. Document if alternate PDIs are used.																
		Date:	30/Nov/2015													
		Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
		Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
		Initials:	[illegible]	BC												
SRs	Description	Gauge Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)													
4.1.1.1 4.1.2.1[2]	200 area glovebox exhaust header ΔP	PDI-814-1 or PDI-814-2 ≤-1.0 in. wc[1]	-2.00	-2.00												
	100 area glovebox exhaust header ΔP	PDI-820-1 or PDI-820-2 ≤-1.0 in. wc[1]	-1.92	-1.93												
	300 area glovebox exhaust header ΔP	PDI-870-1 or PDI-870-2 ≤-1.0 in. wc[1]	-1.98	-1.99												
	400 area glovebox exhaust header ΔP	PDI-864-1 or PDI-864-2 ≤-1.0 in. wc[1]	-1.97	-1.98												
4.1.1.2 4.1.1.5 4.1.2.2[2]	200 area laboratory header ΔP	PDI-803-1 or PDI-803-2 ≤-0.05 in. wc[1]	-0.22	-.21												
	100 area laboratory header ΔP	PDI-802-1 or PDI-802-2 ≤-0.05 in. wc[1]	-0.25	-.24												
	300 area laboratory header ΔP	PDI-853-1 or PDI-853-2 ≤-0.05 in. wc[1]	-0.21	-.17												
	400 area laboratory header ΔP	PDI-852-1 or PDI-852-2 ≤-0.05 in. wc[1]	-0.22	-.19												
	IFIT Facility ΔP	PDI-865-4 or PDI-865-5 ≤-0.05 in. wc	-0.19	-.19												
4.1.1.3 4.1.2.3[2]	North basement ΔP	PDI-804-1 or PDI-804-2 < 0.00 in. wc	-0.10	-.09												
	South basement ΔP	PDI-854-1 or PDI-854-2 < 0.00 in. wc	-0.10	-.09												
	IRT Tunnel ΔP	PDT-901 or PDI-901 < 0.00 in. wc	-0.106	-.134												

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 2 of 3)

Note: Readings should be taken using FCS screens FMT#151,152,201LD and 202LD. Field verification and local plenum PDIs may be used if FCS is unavailable.																
			Date:	30/NOV/2015												
			Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.
			Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
			Initials:	[illegible]	BC											
SRs	**Description**	**Readings**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**												
4.1.1.6	200 area re-circulation fan/ plenum	FR-801 Icon red and PDT-831 ΔP >.050 or FR-802 Icon red and PDT-832 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	100 area re-circulation fan/ plenum	FR-803 Icon red and PDT-833 ΔP >.050 or FR-804 Icon red and PDT-835 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	300 area re-circulation fan/ plenum	FR-805 Icon red and PDT-836 ΔP >.050 or FR-806 Icon red and PDT-837 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	400 area re-circulation fan/ plenum	FR-807 Icon red and PDT-838 ΔP >.050 or FR-808 Icon red and PDT-839 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
	Vault re-circulation fan/ plenum	FR-811 Icon red and PDT-840 ΔP >.050 or FR-812 Icon red and PDT-841 ΔP >.050	At least one fan/plenum is in service	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT A: Per Shift Surveillance Rounds [UET]

(Page 3 of 3)

Note
Gauge readings should be taken on rack #4 in the OC when possible, local PDI equivalents may be used if necessary. Document any alternate PDIs used.

				Date:	30/Nov/2015													
				Weekday:	Mon.		Tue.		Wed.		Thu.		Fri.		Sat.		Sun.	
				Shift:	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
				Initials:	[illegible]	BC												
SRs	**Description**	**Area**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS Sat. / Unsat. (circle one)**													
4.1.1.4	Glovebox exhaust header AIPs < laboratory AIPs < basement AIPs for areas 100, 200, 300 and 400	200 Area	PDI-814-2 PDI-803-2 PDI-804-2	PDI-814-2 < PDI-803-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		100 Area	PDI-820-2 PDI-802-2 PDI-804-2	PDI-820-2 < PDI-802-2 < PDI-804-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		300 Area	PDI-870-2 PDI-853-2 PDI-854-2	PDI-870-2 < PDI-853-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		400 Area	PDI-864-2 PDI-852-2 PDI-854-2	PDI-864-2 < PDI-852-2 < PDI-854-2	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat	Sat Unsat
		Completion Time			0730	1927												

Note: [1] Mode 2 acceptance criteria is < 0.00 in. wc
Note: [2] SRs 4.1.2.x only apply during mode 2 in accordance with LCO 3.1.2.

Completed by: [signature] Date 11-30-15 Time 1927 Reviewed by: [signature] Date: 12/1/15 Time: 0800
On-duty Supervisor

Comments:

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 1 of 4)

SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	11/30/15						
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	PT						
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0						
	CP-305-H (LED Reading)		0.0						
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0						
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0810						

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

(Page 2 of 4)

			Date:	11/30/15						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	<2.0 & > 0[1] in. wc	.05						
		PDI-894-2	<2.0 & > 0[1] in. wc	.51						
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.05						
		PDI-895-2	≤2.0 & > 0[1] in. wc	.60						
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	<2.0 & > 0[1] in. wc	.31						
		PDI-817-2	≤2.0 & > 0[1] in. wc	.32						
		PDI-817-4	≤2.0 & > 0[1] in. wc	.35						
		PDI-817-5	≤2.0 & > 0[1] in. wc	.31						
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.40						
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.41						
		PDI-819-4	≤2.0 & > 0[1] in. wc	.35						
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY						
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY						
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY						
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY						
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY						

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

(Page 3 of 4)

			Date:	11/30/15						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	1.0						
		PDI-822-2	≤2.0 & > 0[1] in. wc	.58						
		PDI-822-4	≤2.0 & > 0[1] in. wc	.50						
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51						
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY						
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY						
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY						
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.69						
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25						
		PDI-830-3	≤2.0 & > 0[1] in. wc	.29						
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99						
		PDI-836-2	≤2.0 & > 0[1] in. wc	.58						
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51						
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51						
		PDI-837-2	≤2.0 & > 0[1] in. wc	.36						
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41						

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	11/30/15						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & >0[1] in. wc	.49						
		PDI-838-2	≤2.0 & >0[1] in. wc	.51						
		PDI-838-3	≤2.0 & >0[1] in. wc	.56						
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & >0[1] in. wc	.42						
		PDI-839-2	≤2.0 & >0[1] in. wc	.55						
		PDI-839-3	≤2.0 & >0[1] in. wc	.51						
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & >0[1] in. wc	OFF						
		PDI-810-2	≤2.0 & >0[1] in. wc	OFF						
		PDI-810-3	≤2.0 & >0[1] in. wc	OFF						
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & >0[1] in. wc	.11						
		PDI -811 -2	≤2.0 & >0[1] in. wc	.48						
		PDI -811 -3	≤2.0 & >0[1] in. wc	.45						
			. Completion Time	0854						
OC Operator Review and Page Count Complete (initials)										

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Paul Trujillo Date 11-30-15 Time 0854 Reviewed by: _____ Date: 12/1/15 Time: 0800
On-duty Supervisor

Comments _____

For Information Only

ADESH-16-015 2015H2, P100-R2 - Monitoring Report Attachments LA-UR-16-20529

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

(Page 1 of 4)

			Date:	11-30-15						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-840-2	≤2.0 & > 0 in[1] wc	STBY						
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY						
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.47						
		PDI-841-2	≤2.0 & > 0[1] in. wc	.59						
		PDI-841-3	≤2.0 & > 0[1] in. wc	.51						
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.33						
		PDI-831-2	≤2.0 & > 0[1] in. wc	.45						
		PDI-831-3	≤2.0 & > 0[1] in. wc	.32						
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34						
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60						
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55						
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	OFF						
		PDI-807-2	≤2.0 & > 0[1] in. wc	OFF						
		PDI-807-3	≤2.0 & > 0[1] in. wc	OFF						
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	.08						
		PDI-809-2	≤2.0 & > 0[1] in. wc	.54						
		PDI-809-3	≤2.0 & > 0[1] in. wc	.49						

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	11-30-15						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.16						
		PDI-829-2	≤2.0 & > 0[1] in. wc	.36						
		PDI-829-3	≤2.0 & > 0[1] in. wc	.30						
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	1.0						
		PDI-833-2	≤2.0 & > 0[1] in. wc	.48						
		PDI-833-3	≤2.0 & > 0[1] in. wc	.38						
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.17						
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45						
		PDI-835-3	≤2.0 & > 0[1] in. wc	.40						
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY						
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY						
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY						
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40						
		PDI-816-2	≤2.0 & > 0[1] in. wc	.51						
		PDI-816-4	≤2.0 & > 0[1] in. wc	.45						
		PDI-816-5	<2.0 & > 0[1] in. wc	.50						

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	11-30-15						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.18						
		PDI-812-2	≤2.0 & > 0[1] in. wc	.40						
		PDI-812-3	≤2.0 & > 0[1] in. wc	.39						
		PDI-812-4	≤2.0 & > 0[1] in. wc	.31						
		PDI-812-5	≤2.0 & > 0[1] in. wc	.42						
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY						
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY						
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY						
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY						
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY						
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.03						
		PDI-865-2	≤2.0 & > 0[1] in. wc	.35						
		PDI-865-3	≤2.0 & > 0[1] in. wc	.41						
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06						
		PDI-863-2	≤2.0 & >0[1] in. wc	.28						

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	11-30-15						
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	PT						
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤2.0 & > 0[1] in. wc	.12						
		PDI-857-2	≤2.0 & > 0[1] in. wc	.48						
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.04						
		PDI-856-2	≤2.0 & > 0[1] in. wc	.50						
[1]NA	Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C		0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)	SAT						
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT						
			Completion time	0855						
			OC Operator Review and Page Count Complete (initials)							

[1] Non TSR requirement

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Paul Trujillo Date 11-30-15 Time 0855 Reviewed by: _____ Date: 12/1/15 Time: 0800

On-duty Supervisor

Comments: _____

For Information Only

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ATTACHMENT C: Non-PF-4 Daily Surveillance Rounds [UET]

M&TE Calibrated Data						
Record September through April only	PF-10 Thermometer File No.:	042252	PF-10 Thermistor File No.:	103765	V-701 Thermistor File No.:	103761
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16
	PF-11 Thermometer File No.:	039746	PF-11 Thermistor File No.:	040376	V-704 Thermistor File No.:	~~040376~~ 103763 TL 11/30/15
	Calibration Expiration Date:	6/13/16	Calibration Expiration Date:	6/24/16	Calibration Expiration Date:	6/24/16

PF-10 & PF-11 Pumphouse Room Temperature and V-701 & V-704 Fire Water Storage Tank Temperature										
Daily (September through April only)		Date:	11/30/15							
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	TL						
SR	Description	Acceptance Criteria							
NA	ENSURE *M&TE Calibration Data* above is recorded and calibration dates have not elapsed.	Calibration dates have not elapsed.	(SAT)/UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT	SAT /UNSAT
4.3.1.1[1]	RECORD fire water storage tank V-701 temperature	≥ 42.1 F	49.5						
4.3.1.1[1]	RECORD fire water storage tank V-704 temperature	≥ 42.1 F	47.5						
4.3.1.3[1]	RECORD PF-10 room temperature	≥ 50.1 F	61.8						
4.3.1.3[1]	RECORD PF-11 room temperature	≥ 50.1 F	61.6						
		Completion Time:	0930						
OC Operator Review and Page Count Complete (initials)			[signature]						

[1] Temperatures should be recorded using Reference Thermometer FLUKE Model 1524 connected to Thermistor Probe Fluke Model 5610-9 (or approved engineered equivalent).

Completed by: [signature] Date 11/30/15 ~~0945~~ TL 11/30/15 Time 0945

Reviewed by: [signature] Date: 12/1/15 Time: 0800
On-duty Supervisor

Comments:

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:		12/1/15	12·2·15	12·3·15	12/4/15	12/5/15	12/6/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:		DH	[illegible]	[illegible]	DH	[illegible]	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA		0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)			0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value		0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:		0756	0818	0741	0730	0742	0802

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:		12/1/15	12·2·15	12·3·15	12/4/15	12/05/15	12/06/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		DH	[illegible]	[illegible]	DH	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc		.05	.05	.05	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc		.51	.51	.51	.51	.51	.51
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc		.05	.05	.05	.05	.05	.05
		PDI-895-2	≤2.0 & > 0[1] in. wc		.60	.62	.60	.60	.60	.60
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc		.31	.31	.31	.30	.30	.30
		PDI-817-2	≤2.0 & > 0[1] in. wc		.32	.32	.32	.31	.31	.32
		PDI-817-4	≤2.0 & > 0[1] in. wc		.35	.35	.35	.35	.35	.35
		PDI-817-5	≤2.0 & > 0[1] in. wc		.31	.31	.31	.31	.31	.31
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc		.41	.41	.41	.41	.41	.41
		PDI-81 9-3	≤2.0 & > 0[1] in. wc		.40	.40	.40	.40	.40	.40
		PDI-819-4	≤2.0 & > 0[1] in. wc		.35	.35	.35	.35	.35	.35
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	Stby	Stby
		PDI-818-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	Stby	Stby
		PDI-818-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	Stby	Stby
		PDI-818-5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	Stby	Stby
		PDI-821-3	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	Stby	Stby
		PDI-821-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	Stby	Stby

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:		12/1/15	12·2·15	12·3·15 ~~12·2~~ 12·3·15	12/4/15	12/5/15	12/6/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		DH	dh	dh	DH	mm	mm
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc		1.0	1.1	1.1	1.1	1.00	1.00
		PDI-822-2	≤2.0 & > 0[1] in. wc		.56	.56	.56	.56	.56	.56
		PDI-822-4	≤2.0 & > 0[1] in. wc		.49	.50	.50	.49	.49	.50
		PDI-822-5	≤2.0 & > 0[1] in. wc		.51	.51	.51	.51	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	Stby	Stby
		PDI-823-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	Stby	Stby
		PDI-823-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	Stby	Stby
		PDI-823—5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	Stby	Stby
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc		.69	.67	.67	.68	.68	.68
		PDI-830-2	≤2.0 & > 0[1] in. wc		.25	.25	.25	.25	.25	.25
		PDI-830-3	≤2.0 & > 0[1] in. wc		.29	.29	.29	.29	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc		.99	.99	.99	.99	1.00	1.00
		PDI-836-2	≤2.0 & > 0[1] in. wc		.58	.58	.58	.58	.58	.58
		PDI-836-3	≤2.0 & > 0[1] in. wc		.51	.51	.51	.51	.52	.52
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc		.52	.52	.52	.52	.52	.52
		PDI-837-2	≤2.0 & > 0[1] in. wc		.36	.38	.38	.38	.36	.36
		PDI-837-3	≤2.0 & > 0[1] in. wc		.41	.41	.41	.41	.40	.40

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:		12/1/15	12·2·15	12·3·15	12/4/15	12/5/15	12/6/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		DH	[illegible]	[illegible]	DH	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc		.49	.49	.49	.49	.49	.50
		PDI-838-2	≤2.0 & > 0[1] in. wc		.51	.51	.51	.51	.52	.52
		PDI-838-3	≤2.0 & > 0[1] in. wc		.58	.57	.57	.58	.58	.58
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc		.43	.43	.43	.43	.43	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc		.55	.56	.56	.56	.56	.56
		PDI-839-3	≤2.0 & > 0[1] in. wc		.51	.52	.52	.52	.52	.51
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	off	off
		PDI-810-2	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	off	off
		PDI-810-3	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	off	off
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc		.10	.10	.10	.11	.11	.10
		PDI -811 -2	≤2.0 & > 0[1] in. wc		.45	.45	.45	.45	.45	.45
		PDI -811 -3	≤2.0 & > 0[1] in. wc		.55	.45	.45	.45	.45	.45
			Completion Time		0837	0851	0753	0817	0835	0827
OC Operator Review and Page Count Complete (initials)					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1.3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Michael M. Fith Date 12/6/15 Time 0827 Reviewed by: [signature] Date: 12/8/15 ~~0800~~ Time: 0800

On-duty Supervisor

Comments

LA-UR-16-20529
2015H2, P100-R2 - Monitoring Report Attachments
For Information Only
ADESH-16-015

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

(Page 1 of 4)

			Date:		12/1/15	12/2/15	12/3/15	12/4/15	12/5/15	12/6/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		DH	[illegible]	[illegible]	DH	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc		.46	.47	.47	.47	.47	.47
		PDI-841-2	≤2.0 & > 0[1] in. wc		.59	.59	.59	.59	.58	.58
		PDI-841-3	≤2.0 & > 0[1] in. wc		.51	.51	.51	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc		.33	.33	.33	.33	.33	.33
		PDI-831-2	≤2.0 & > 0[1] in. wc		.45	.45	.45	.45	.44	.45
		PDI-831-3	≤2.0 & > 0[1] in. wc		.31	.31	.31	.31	.31	.31
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc		.34	.34	.34	.34	.34	.35
		PDI-832-2	≤2.0 & > 0[1] in. wc		.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc		.55	.55	.55	.56	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	OFF	OFF
		PDI-807-2	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	OFF	OFF
		PDI-807-3	≤2.0 & > 0[1] in. wc		OFF	OFF	OFF	OFF	OFF	OFF
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc		.08	.05	.07	.08	.08	.07
		PDI-809-2	≤2.0 & > 0[1] in. wc		.54	.54	.54	.54	.54	.54
		PDI-809-3	≤2.0 & > 0[1] in. wc		.48	.48	.48	.48	.45	.45

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:		12/1/15	12/2/15	12-3-15	12/4/15	12/5/15	12/6/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		DH	RH	[illegible]	DH	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc		.15	.15	.15	.15	.15	.15
		PDI-829-2	≤2.0 & > 0[1] in. wc		.36	.37	.37	.37	.35	.36
		PDI-829-3	≤2.0 & > 0[1] in. wc		.30	.30	.30	.30	.30	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc		>1.0	>1.0	>1.0	>1.0	>1.0	>1.0
		PDI-833-2	≤2.0 & > 0[1] in. wc		.45	.45	.45	.45	.45	.45
		PDI-833-3	≤2.0 & > 0[1] in. wc		.38	.38	.38	.38	.37	.38
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc		.17	.17	.17	.17	.16	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc		.45	.45	.45	.45	.45	.45
		PDI-835-3	≤2.0 & > 0[1] in. wc		.40	.40	.40	.39	.39	.39
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc		.40	.40	.40	.40	.40	.39
		PDI-816-2	≤2.0 & > 0[1] in. wc		.51	.51	.51	.51	.52	.52
		PDI-816-4	≤2.0 & > 0[1] in. wc		.45	.45	.45	.46	.45	.45
		PDI-816-5	≤2.0 & > 0[1] in. wc		.50	.50	.50	.50	.48	.48

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:		12/1/15	12/2/16	12·3·15	12/4/15	12/5/15	12/6/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		DH	RH	DH	DH		
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc		.18	.17	.17	.17	.18	.18
		PDI-812-2	≤2.0 & > 0[1] in. wc		.39	.39	.39	.39	.39	.39
		PDI-812-3	≤2.0 & > 0[1] in. wc		.35	.35	.35	.35	.37	.38
		PDI-812-4	≤2.0 & > 0[1] in. wc		.31	.31	.31	.31	.32	.32
		PDI-812-5	≤2.0 & > 0[1] in. wc		.42	.42	.42	.42	.44	.44
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc		STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	DH 12/1/15 ~~.04~~	.04	.03	.03	.03	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	DH 12/1/15 ~~.32~~	.32	.37	.37	.31	.31	.32
		PDI-865-3	≤2.0 & > 0[1] in. wc	DH 12/1/15 ~~.39~~	.39	.41	.41	.39	.38	.39
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	DH 12/1/15 ~~.06~~	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	DH 12/1/15 ~~.29~~	.29	.29	.29	.29	.28	.28

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:		12/1/15	12/2/15	12·3·15	12/4/15	12/5/15	12/6/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:		DH	RH	[illegible]	DH	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc		.11	.11	.11	.11	.11	.11
		PDI-857-2	≤2.0 & > 0[1] in. wc		.49	.48	.49	.49	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc		.04	.04	.04	.04	.04	.04
		PDI-856-2	≤2.0 & > 0[1] in. wc		.50	.50	.50	.50	.50	.50
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**		SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less		SAT	SAT	SAT	SAT	SAT	SAT
			Completion time		0945	0908	0810	0750	0828	0824
			OC Operator Review and Page Count Complete (initials)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 12/6/15 Time 0824 Reviewed by: [illegible] Date: 12/8/15 Time: 0800

On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	12/7/15	12/8/15	12/9/15	12/10/15	12/11/15	12/12/15	12/13/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	DH	ARJ DH	DH	DH	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H) (LCD Reading) (LED Reading)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0759	0801	0746	0810	0740	0715	0709

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	12/7/15	12/8/15	12/9/15	12/10/15	12/11/15	12/12/15	12/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	DH	ARB DH	DH	DH	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.05	.05	.05	.05	.05	.05	.05
		PDI-895-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-817-2	≤2.0 & > 0[1] in. wc	.31	.31	.32	.32	.32	.32	.32
		PDI-817-4	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.34	.34	.34
		PDI-817-5	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	.32	.32	.32
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.41	.41	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.35	.35	.35
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	12/7/15	12/8/15	12/9/15	12/10/15	12/11/15	12/12/15	12/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	DH	ATD DH	DH	DH	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	1.1	1.1	1.1	1.0	1.0	1.0	1.0
		PDI-822-2	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.57	.57	.57
		PDI-822-4	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.68	.68	.68	.68	.68	.68	.68
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25	.25	.25	.25	.25	.25	.25
		PDI-830-3	≤2.0 & > 0[1] in. wc	.29	.29	.29	.29	.27	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.99	.99	.99	.98	.98	.09	.09
		PDI-836-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.57	.60	.60
		PDI-836-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.53	.53
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.52	.52	.52	.51	.51	.51	.51
		PDI-837-2	≤2.0 & > 0[1] in. wc	.36	.37	.36	.36	.37	.37	.37
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	12/7/15	12/8/15	12/9/15	12/10/15	12/11/15	12/12/15	12/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	DH	AM DH	DH	DH	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.50	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.50	.50
		PDI-838-3	≤2.0 & > 0[1] in. wc	.58	.57	.58	.58	.57	.57	.57
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.43	.43	.43	.43	.43	.43	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.56	.55	.55
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	.13	.13	.13
		PDI-810-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	.41	.42	.42
		PDI-810-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	.41	.42	.42
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	.10	.10	.10	.11	off	off	off
		PDI -811 -2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.48	off	off	off
		PDI -811 -3	≤2.0 & > 0[1] in. wc	.45	.45	.45	.46	off	off	off
			Completion Time	0850	0844	0820	0907	0801	0740	0738
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible]	[illegible]	[illegible]	[illegible] RSB	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: [illegible] Date 12/13/15 Time 0738 Reviewed by: [illegible] Date: 12/14/15 Time: 1100
On-duty Supervisor

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

(Page 1 of 4)

			Date:	12/7/15	12/8/15	12/9/15	12/10/15	12/11/15	12/12/15	12/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	DH	ARJ DH	DH	DH	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-2	≤2.0 & > 0 in[1]. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.47	.47	.47	.47	.47	.47	.47
		PDI-841-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59	.58	.58	.58
		PDI-841-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.33	.33	.33	.33	.33	.33	.33
		PDI-831-2	≤2.0 & > 0[1] in. wc	.55	.47	.45	.45	.44	.44	.44
		PDI-831-3	≤2.0 & > 0[1] in. wc	.32	.33	.32	.32	.32	.32	.32
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.56	.56	.56	.56	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	.12	.12	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	.50	.50	.49
		PDI-807-3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	.48	.48	.48
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	off	off	off
		PDI-809-2	≤2.0 & > 0[1] in. wc	.54	.55	.54	.54	off	off	off
		PDI-809-3	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	off	off	off

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12/7/15	12/8/15	12/9/15	12/10/15	12/11/15	12/12/15	12/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	DH	ADJ DH	DH	DH	DH	DH	DH
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.15	.15	.15	.15	.14	.15	.15
		PDI-829-2	≤2.0 & > 0[1] in. wc	.36	.38	.36	.34	.33	.35	.37
		PDI-829-3	≤2.0 & > 0[1] in. wc	.30	.30	.30	.29	.29	.29	.30
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	>1.0	>1.0	>1.0	>1.0	>1.0	>1.0	.39
		PDI-833-2	≤2.0 & > 0[1] in. wc	.45	.46	.45	.45	.46	.46	.48
		PDI-833-3	≤2.0 & > 0[1] in. wc	.38	.39	.38	.38	.38	.38	.40
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17	.17	.17	.17
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.45	.45	DH 12/10/15 ~~.44~~ .45
		PDI-835-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.41
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
		PDI-816-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-816-4	≤2.0 & > 0[1] in. wc	.45	.45	.45	.45	.47	.47	.47
		PDI-816-5	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.50	.50	.50

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12/7/15	12/8/15	12/9/15	12/10/15	12/11/15	12/12/15	12/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	DH	AR DH	DH	DH	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.18	.18	.18	.18	.18	.18	.18
		PDI-812-2	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.39	.39
		PDI-812-3	≤2.0 & > 0[1] in. wc	.35	.35	.35	.35	.37	.37	.37
		PDI-812-4	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.32	.32	.32
		PDI-812-5	≤2.0 & > 0[1] in. wc	.42	.42	.42	.42	.44	.44	.44
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.02	.03	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.32	.34
		PDI-865-3	≤2.0 & > 0[1] in. wc	.39	.39	.39	.35	.39	.40	.40
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.29	.29	.29	.29	.28	.28	.28

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12/7/15	12/8/15	12/9/15	12/10/15	12/11/15	12/12/15	12/13/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	DH	ARD DH	DH	DH	[illegible]	[illegible]	[illegible]
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11	.11	.11
		PDI-857-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.48	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-856-2	≤2.0 & > 0[1] in. wc	.50	.05	.50	.50	.50	.50	.50
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0830	0829	0802	0847	0830	0800	0745
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Jerome M. Date 12/13/15 Time 0745 Reviewed by: [signature] Date: 12/14/15 Time: 1100

On-duty Supervisor

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	12/14/15	12/15/15	12/16/15	12/17/15	12-18-15	12-19-15	12-20-15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	DH	DH	[illegible]	PT	PT
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0815	0804	0835	0811	0752	0800	0749

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	12/14/15	12/15/15	12/16/15	12/17/15	12/18/15	12-19-15	12-20-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	DH	DH	DH	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.04	.05	.04	.05	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.50	.51	.51	.51	.51	.51	.51
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.05
		PDI-895-2	≤2.0 & > 0[1] in. wc	.60	.53	.54	.52	.55	.55	.55
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	STBY	STBY	STBY
		PDI-817-2	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	STBY	STBY	STBY
		PDI-817-4	≤2.0 & > 0[1] in. wc	.36	.35	.35	.35	STBY	STBY	STBY
		PDI-817-5	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32	STBY	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	STBY	STBY	STBY
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	[illegible] .41	.42	.41	.41	STBY	STBY	STBY
		PDI-819-4	≤2.0 & > 0[1] in. wc	.37	.37	.35	.35	STBY	STBY	STBY
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.27	.27	.27
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.31	.32	.32
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.39	.39	.39
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.40	.39	.39
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.40	.40	.40
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.45	.45	.45
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.39	.39	.39

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	12/14/15	12/15/15	12/16/15	12/17/15	12/18/15	12-19-15	12-20-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	DH	DH	DH	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	1.0	.99	1.0	1.12	STBY	STBY	STBY
		PDI-822-2	≤2.0 & > 0[1] in. wc	.58	.57	.56	.60	STBY	STBY	STBY
		PDI-822-4	≤2.0 & > 0[1] in. wc	.49	.49	.49	.51	STBY	STBY	STBY
		PDI-822-5	≤2.0 & > 0[1] in. wc	.51	.51	.51	.55	STBY	STBY	STBY
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.10	.10	.10
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.59	.59	.59
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.61	.61	.61
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	.61	.61	.61
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.68	.67	.68	.70	.70	.70	.70
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25	.25	.22	.22	.22	.22	.22
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.27	.28	.29	.29	.29	.29
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-836-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.54	.53	.53
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.38	.38	.38	.38	.38	.38
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41	.41	.41	.41

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	12/14/15	12/15/15	12/16/15	12/17/15	12/18/15	12-19-15	12-20-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	DH	DH	DH	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.51	.51	.51	.51
		PDI-838-3	≤2.0 & > 0[1] in. wc	.56	.56	.56	.56	.56	.57	.58
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.43	.43	.43	.43	.43	.43	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc	.56	.56	.55	.55	.55	.55	.55
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.14	off	OFF	OFF	.15	.15	.15
		PDI-810-2	≤2.0 & > 0[1] in. wc	.47	off	OFF	OFF	.49	.48	.48
		PDI-810-3	≤2.0 & > 0[1] in. wc	.45	off	OFF	OFF	.45	.43	.43
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	.11	.11	.11	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	.48	.49	.48	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	.47	.49	.49	OFF	OFF	OFF
			Completion Time	0820	0825	0945	0837	0851	0751	0744
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: Paul Trujillo Date 12-20-15 Time 0744 Reviewed by: [signature] Date: 12/21/15 Time: 1330
On-duty Supervisor

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	12/14/15	12/15/15	12/16/15	12/17/15	12-18-15	12-19-15	12-20-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	DH	JM	RK	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	STBY	.16	.17	.17	.17	.17	.17
		PDI-840-2	≤2.0 & > 0 in[1]. wc	STBY	.58	.59	.58	.58	.59	.59
		PDI-840-3	≤2.0 & > 0[1] in. wc	STBY	.50	.50	.50	.50	.50	.50
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	.46	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	.57	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	.51	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.33	.32	.33	.33	.33	.33	.33
		PDI-831-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.47	.48	.48	.48
		PDI-831-3	≤2.0 & > 0[1] in. wc	.33	.33	.33	.36	.35	.35	.35
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34	.34	.34	.34
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.54	.54	.54
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	OFF	OFF	OFF	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.49	OFF	OFF	OFF	.49	.49	.49
		PDI-807-3	≤2.0 & > 0[1] in. wc	.48	OFF	OFF	OFF	.45	.47	.48
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	.08	.08	.08	OFF	OFF	OFF
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	.56	.55	.56	OFF	OFF	OFF
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	.49	.49	.49	OFF	OFF	OFF

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12/14/15	12/15/15	12/16/15	12/17/15	12-18-15	12-19-15	12-20-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	OH	JM	RL	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.16	.14	.15	.15	.12	.13	.12
		PDI-829-2	≤2.0 & > 0[1] in. wc	.36	.32	.35	.34	.31	.31	.30
		PDI-829-3	≤2.0 & > 0[1] in. wc	.30	.29	.30	.29	.28	.28	.24
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.08	.08	.08	.08	.07	.07	.07
		PDI-833-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.50	.50	.50	.50
		PDI-833-3	≤2.0 & > 0[1] in. wc	.40	.40	.40	.41	.40	.41	.41
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.45	.45	.44	.44	.44	.44
		PDI-835-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.39	.40	.40	.40
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	.21	.21	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	.50	.50	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	.44	.44	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	.46	.49	STBY	STBY	STBY	STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40	STBY	STBY	.40	.40	.40	.40
		PDI-816-2	≤2.0 & > 0[1] in. wc	.51	STBY	STBY	.51	.52	.51	.51
		PDI-816-4	≤2.0 & > 0[1] in. wc	.48	STBY	STBY	.47	.48	.48	.48
		PDI-816-5	≤2.0 & > 0[1] in. wc	.50	STBY	STBY	.49	.50	.50	.50

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12/14/15	12/15/15	12/16/15	12/17/15	12-18-15	12-19-15	12-20-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	DH	JM	RK	PT	PT
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	.17	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc	.40	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc	.38	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc	.32	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc	.43	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	STBY	.99	.99	.99	1.0	1.0	1.0
		PDI-813-2	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.31	.32	.31	.31
		PDI-813-3	≤2.0 & > 0[1] in. wc	STBY	.25	.28	.25	.25	.25	.25
		PDI-813-4	≤2.0 & > 0[1] in. wc	STBY	.38	.38	.38	.38	.38	.38
		PDI-813-5	≤2.0 & > 0[1] in. wc	STBY	.49	.49	.48	.48	.48	.48
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.03	.04	.03	.04	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.38	.35	.32	.33	.33	.33	.32
		PDI-865-3	≤2.0 & > 0[1] in. wc	.42	.41	.40	.40	.40	.40	.40
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.05	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.28	.28	.28	.26	.26	.26	.26

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ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12/14/15	12/15/15	12/16/15	12/17/15	12-18-15	12-19-15	12-20-15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	PT	PT
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.12	.11	.11	.12	.10	.11	.11
		PDI-857-2	≤2.0 & > 0[1] in. wc	.48	.46	.46	.46	.48	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-856-2	≤2.0 & > 0[1] in. wc	.50	.52	.52	.53	.50	.50	.50
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0855	0816	0920	0833	0835	0802	0758
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: Paul Trujillo Date 12-20-15 Time 0758 Reviewed by: [illegible] Date: 12/21/15 Time: 1330

On-duty Supervisor

Comments:

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	12/21/15	12/22/15	12·23·15	12-24-15	12/25/15	12/26/15	12/27/15
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(DET-305-3) – (CP-305H)	Record Calculated Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0758	0759	0747	0742	0805	0801	0812

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	12/21/15	12/22/15	12.23.15	12-24-15	12/25/15	12/26/15	12/27/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.04	.05	.05	.05	.05	.05	.05
		PDI-894-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.50	.51	.51
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.04	.04	.05	.05	.05	.05	.05
		PDI-895-2	≤2.0 & > 0[1] in. wc	.56	.56	.58	.58	.57	.57	.58
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	STBY	.31	.31	.31	.3	.31	.31
		PDI-817-2	≤2.0 & > 0[1] in. wc	STBY	.32	.32	.31	.32	.31	.31
		PDI-817-4	≤2.0 & > 0[1] in. wc	STBY	.33	.34	.35	.35	.35	.35
		PDI-817-5	≤2.0 & > 0[1] in. wc	STBY	.32	.32	.31	.3	.32	.32
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	STBY	.41	.41	.41	.41	.41	.41
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	STBY	12.22.15 ~~.32~~ .41	.41	.41	.40	.41	.41
		PDI-819-4	≤2.0 & > 0[1] in. wc	STBY	.34	.34	.35	.35	.36	.36
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	.27	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-818-2	≤2.0 & > 0[1] in. wc	.34	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-818-4	≤2.0 & > 0[1] in. wc	.36	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-818-5	≤2.0 & > 0[1] in. wc	.39	STBY	STBY	STBY	Stby	STBY	STBY
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	.41	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-821-3	≤2.0 & > 0[1] in. wc	.43	STBY	STBY	STBY	Stby	STBY	STBY
		PDI-821-4	≤2.0 & > 0[1] in. wc	.39	STBY	STBY	STBY	Stby	STBY	STBY

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			Date:	12/21/15	12/22/15	12-23-15	12-24-15	12/25/15	12/26/15	12/27/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	RH	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	STBY	1.23	1.12	1.13	1.13	1.13	1.13
		PDI-822-2	≤2.0 & > 0[1] in. wc	STBY	.60	.60	.60	.60	.60	.60
		PDI-822-4	≤2.0 & > 0[1] in. wc	STBY	.52	.52	.51	.52	.51	.51
		PDI-822-5	≤2.0 & > 0[1] in. wc	STBY	.56	.55	.55	.54	.54	.54
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	.11	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-2	≤2.0 & > 0[1] in. wc	.59	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823-4	≤2.0 & > 0[1] in. wc	.61	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-823—5	≤2.0 & > 0[1] in. wc	.61	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.69	.70	.69	.70	.70	.69	.69
		PDI-830-2	≤2.0 & > 0[1] in. wc	.24	.23	.23	.24	.23	.24	.24
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.29	.28	.28	.28
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07	.07	.07	.07
		PDI-836-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-836-3	≤2.0 & > 0[1] in. wc	.53	.53	.54	.53	.53	.54	.54
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51	.50	.51	.51	.51	.51	.51
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.35	.35	.35	.35	.37	.37
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.40	.40	.41	.41

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	12/21/15	12/22/15	12-23-15	12-24-15	12/25/15	12/26/15	12/27/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49	.49	.49	.49
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
		PDI-838-3	≤2.0 & > 0[1] in. wc	.57	.56	.56	.55	.57	.57	.57
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.43	.43	.43	.43	.43	.43	.43
		PDI-839-2	≤2.0 & > 0[1] in. wc	.55	.55	.55	.55	.55	.55	.55
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51	.51	.51	.51
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.12	.14	.14	.14	.14	.14	.14
		PDI-810-2	≤2.0 & > 0[1] in. wc	.46	.45	.45	.45	.45	.45	.45
		PDI-810-3	≤2.0 & > 0[1] in. wc	.44	.43	.44	.44	.44	.44	.45
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI -811 -2	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		PDI -811 -3	≤2.0 & > 0[1] in. wc	OFF	OFF	OFF	OFF	OFF	OFF	OFF
			Completion Time	0837	0834	0823	0840	0538	0745	0825
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: [illegible] Date 12/27/15 Time 0825 Reviewed by: Russell Lum Date: 12/29/15 Time: 0800

On-duty Supervisor

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	12/21/15	12/22/15	12/23/15	12/24/15	12/25/15	12/26/15	12/27/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.16	.16	.16	.16	.16
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.58	.58	.58	.58	.58	.58	.58
		PDI-840-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.33	.32	.32	.33	.33	.33	.32
		PDI-831-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.48	.48
		PDI-831-3	≤2.0 & > 0[1] in. wc	.36	.36	.35	.35	.35	.35	.36
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.33	.33	.34	.34	.33	.33
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60	.60	.60	.60
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.54	.54	.55	.55
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.11	.11	.11	.11	.11	.11	.11
		PDI-807-2	≤2.0 & > 0[1] in. wc	.49	.49	.49	.50	.50	.50	.50
		PDI-807-3	≤2.0 & > 0[1] in. wc	.46	.46	.48	.48	.50	.48	.48
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	off	off	off	OFF	OFF	off	off
		PDI-809-2	≤2.0 & > 0[1] in. wc	off	off	off	OFF	OFF	off	off
		PDI-809-3	≤2.0 & > 0[1] in. wc	off	off	off	OFF	OFF	off	off

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 2 of 4)

			Date:	12/21/15	12/22/15	12/23/15	12/24/15	12/25/15	12/26/15	12/27/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	~~RH~~	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.13	.13	.14	.13	.13	.13	.14
		PDI-829-2	≤2.0 & > 0[1] in. wc	.31	.32	.31	.31	.31	.31	.34
		PDI-829-3	≤2.0 & > 0[1] in. wc	.28	.29	.28	.28	.30	.28	.28
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.38	.38	.38	.07	.07	.07	.07
		PDI-833-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
		PDI-833-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.40	.40	.40	.40
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.16	.16	.16	.16	.16	.16
		PDI-835-2	≤2.0 & > 0[1] in. wc	.43	.43	.43	.42	.42	.42	.42
		PDI-835-3	≤2.0 & > 0[1] in. wc	.39	.39	.39	.39	.39	.39	.39
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40	.40	.40	.40
		PDI-816-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.51	.51	.51	.51
		PDI-816-4	≤2.0 & > 0[1] in. wc	.46	.46	.46	.46	.46	.46	.46
		PDI-816-5	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12/21/15	12/22/15	12/23/15	12/24/15	12/25/15	12/26/15	12/27/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	RH	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY	STBY	STBY	STBY
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	1.0	1.0	.99	1.0	1.0	1.0	1.0
		PDI-813-2	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31	.31	.31	.31
		PDI-813-3	≤2.0 & > 0[1] in. wc	.24	.24	.24	.26	.26	.24	.24
		PDI-813-4	≤2.0 & > 0[1] in. wc	.37	.37	.37	.38	.38	.37	.37
		PDI-813-5	≤2.0 & > 0[1] in. wc	.48	.48	.48	.49	.50	.49	.48
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.03	.04	.03	.03	.03	.03
		PDI-865-2	≤2.0 & > 0[1] in. wc	.33	.32	.34	.35	.35	.34	.33
		PDI-865-3	≤2.0 & > 0[1] in. wc	.40	.41	.41	.40	.40	.41	.41
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.06	.06	.06	.06	.06
		PDI-863-2	≤2.0 & >0[1] in. wc	.27	.27	.27	.28	.28	.27	.27

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12/21/15	12/22/15	12/23/15	12/24/15	12/25/15	12/26/15	12/27/15
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.13	.13	.13	.11	.11	.11	.12
		PDI-857-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48	.48	.48	.48
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04	.04	.04	.04
		PDI-856-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50	.50	.50	.50
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT	SAT	SAT	SAT
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT	SAT	SAT	SAT
			Completion time	0820	0828	0818	0846	0835	0810	0825
			OC Operator Review and Page Count Complete (initials)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 12/27/15 Time 0825 Reviewed by: [illegible] On-duty Supervisor Date: 12/27/15 Time: 0800

Comments:

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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SR 4.4.1.1, The OPERABILITY acceptance criterion for this surveillance is:
The FLAMMABLE GAS detector in the FSTF FLAMMABLE GAS SOURCE storage cabinet is exposed to the ambient atmosphere in the storage cabinet. The gas concentration readout directly on the detector in the storage cabinet is compared with the gas concentration readout on the system control and alarm panel. The difference between the two readings is checked to VERIFY it is in the range of (≥-0.1; ≤0.1).

		Date:	12/28/15	12/29/15	~~12/30~~ 12/30/15	12/31/2015			
		Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
		Initials:	[illegible]	[illegible]	[illegible]	BF			
SR 4.4.1.1	**Description / Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS (percentage)**						
	Flammable Gas Channel Check DET-305-3 (LCD Reading)	NA	0.0	0.0	0.0	0.0			
	CP-305-H (LED Reading)		0.0	0.0	0.0	0.0			
	(DET-305-3) – (CP-305H)	Record Calculated Value	0.0	0.0	0.0	0.0			
	(LCD Reading) (LED Reading)	≥ -0.1; ≤+0.1	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.	Sat. / Unsat.
		Completion Time:	0715	0736	0740	0715			

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ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side)[UET]

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			Date:	12/28/15	12/29/15	12/30/15	12/31/2015			
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	BF			
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	South basement supply filter plenum (HVP-841) ΔP	[1]PDI-894-1	≤2.0 & > 0[1] in. wc	.05	.05	.05	.05			
		PDI-894-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51			
4.1.3.4	South Corridor supply (HVP-810) ΔP	[1]PDI-895-1	≤ 2.0 & > 0[1] in. wc	.05	.05	.05	.05			
		PDI-895-2	≤2.0 & > 0[1] in. wc	.59	.59	.59	.59			
4.1.3.4	300 area glovebox exhaust filter plenum (FF854) ΔP	[1]PDI-817-1	≤2.0 & > 0[1] in. wc	.31	.31	.31	.31			
		PDI-817-2	≤2.0 & > 0[1] in. wc	.32	.32	.32	.31			
		PDI-817-4	≤2.0 & > 0[1] in. wc	.36	.36	.35	.35			
		PDI-817-5	≤2.0 & > 0[1] in. wc	.32	.32	.32	.32			
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF858) ΔP	PDI-81 9-1	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41			
		PDI-81 9-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41			
		PDI-819-4	≤2.0 & > 0[1] in. wc	.35	.36	.36	.37			
4.1.3.4	300 area glovebox exhaust filter plenum (FF855) ΔP	[1]PDI-818-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-818-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-818-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-818-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
4.1.3.4	300 area special recovery glovebox exhaust filter plenum (FF859) ΔP	PDI-821-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-821-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-821-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	12/28/15	12/29/15	12/30/15	12/31/2015			
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	JM	JM	JM	BF			
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	400 area glovebox exhaust filter plenum (FF856) ΔP	[1]PDI-822-1	≤2.0 & > 0[1] in. wc	1.13	1.13	1.13	1.14			
		PDI-822-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60			
		PDI-822-4	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51			
		PDI-822-5	≤2.0 & > 0[1] in. wc	.55	.55	.55	.57			
4.1.3.4	400 area glovebox exhaust filter plenum (FF857) ΔP	[1]PDI-823-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-823-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-823-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-823—5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
4.1.3.4	South Basement exhaust filter plenum (FF-829) ΔP	[1]PDI-830-1	≤2.0 & > 0[1] in. wc	.69	.69	.69	.70			
		PDI-830-2	≤2.0 & > 0[1] in. wc	.25	.25	.25	.25			
		PDI-830-3	≤2.0 & > 0[1] in. wc	.28	.28	.28	.28			
4.1.1.7	300 area re-circulation filter plenum (HVP-805) ΔP	[1]PDI-836-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07			
		PDI-836-2	≤2.0 & > 0[1] in. wc	.60	.60	.59	.60			
		PDI-836-3	≤2.0 & > 0[1] in. wc	.54	.54	.54	.55			
	300 area re-circulation filter plenum (HVP-806) ΔP	[1]PDI-837-1	≤2.0 & > 0[1] in. wc	.51	.51	.51	.52			
		PDI-837-2	≤2.0 & > 0[1] in. wc	.38	.37	.38	.38			
		PDI-837-3	≤2.0 & > 0[1] in. wc	.41	.41	.41	.41			

For Information Only

ATTACHMENT B-1: Daily Surveillance Rounds (PF-4 South Side) [UET]

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			Date:	12/28/15	12/29/15	12/30/15	12/31/2015			
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	[illegible]	[illegible]	[illegible]	BF			
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	400 area re-circulation filter plenum (HVP-807) ΔP	[1]PDI-838-1	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49			
		PDI-838-2	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51			
		PDI-838-3	≤2.0 & > 0[1] in. wc	.56	.56	.56	.57			
	400 area re-circulation filter plenum (HVP-808) ΔP	[1]PDI-839-1	≤2.0 & > 0[1] in. wc	.43	.43	.43	.44			
		PDI-839-2	≤2.0 & > 0[1] in. wc	.56	.56	.56	.57			
		PDI-839-3	≤2.0 & > 0[1] in. wc	.51	.51	.51	.51			
4.1.3.4	South Bleed off filter plenum (FF-822A) ΔP	[1]PDI-810-1	≤2.0 & > 0[1] in. wc	.14	.15	.14	.14			
		PDI-810-2	≤2.0 & > 0[1] in. wc	[illegible] 12/28/15 ~~.56~~ .46	.46	.46	.48			
		PDI-810-3	≤2.0 & > 0[1] in. wc	.45	.45	.44	.47			
4.1.3.4	South Bleed off filter plenum (FF-822B) ΔP	[1]PDI -811 - 1	≤2.0 & > 0[1] in. wc	off	off	off	OFF			
		PDI -811 -2	≤2.0 & > 0[1] in. wc	off	off	off	OFF			
		PDI -811 -3	≤2.0 & > 0[1] in. wc	off	off	off	OFF			
			Completion Time	0735	0945	0810	0802			
OC Operator Review and Page Count Complete (initials)				[illegible]	[illegible]	[illegible]	[illegible]			

[1]Non TSR requirement:

Note: SR 4.1.1.7 applies during mode 1 as stated in LCO 3.1.1. SRs 4.1 .3.X apply during mode 1 and mode 2 as stated in LCO 3.1.3.

Completed by: B. Fordham Date 12/31/15 Time 0815 Reviewed by: [signature] Date: 1/4/16 Time: 0700
On-duty Supervisor

Comments

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side)[UET]

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			Date:	12/28/2015	12/29/15	12/30/2015	12/31/15			
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	JM	BF	JM			
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.1.7	Vault re-circulation filter plenum (HVP-811) ΔP	[1]PDI-840-1	≤2.0 & > 0[1] in. wc	.17	.17	.17	.17			
		PDI-840-2	≤2.0 & > 0 in[1]. wc	.58	.58	.58	.58			
		PDI-840-3	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50			
	Vault re-circulation filter plenum (HVP-812) ΔP	[1]PDI-841-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-841-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-841-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
	200 area re-circulation filter plenum (HVP-801) ΔP	[1]PDI-831-1	≤2.0 & > 0[1] in. wc	.33	.33	.33	.33			
		PDI-831-2	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48			
		PDI-831-3	≤2.0 & > 0[1] in. wc	.37	.35	.35	.35			
	200 area re-circulation filter plenum (HVP-802) ΔP	[1]PDI-832-1	≤2.0 & > 0[1] in. wc	.34	.34	.34	.34			
		PDI-832-2	≤2.0 & > 0[1] in. wc	.60	.60	.60	.60			
		PDI-832-3	≤2.0 & > 0[1] in. wc	.55	.55	.55	.54			
4.1.3.4	North Bleed off filter plenum (FF-820A) ΔP	[1]PDI-807-1	≤2.0 & > 0[1] in. wc	.12	.11	.12	.12			
		PDI-807-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50			
		PDI-807-3	≤2.0 & > 0[1] in. wc	.49	.49	.49	.49			
4.1.3.4	North Bleed off filter plenum (FF-820B) ΔP	[1]PDI-809-1	≤2.0 & > 0[1] in. wc	OFF	off	OFF	off			
		PDI-809-2	≤2.0 & > 0[1] in. wc	OFF	off	OFF	off			
		PDI-809-3	≤2.0 & > 0[1] in. wc	OFF	off	OFF	off			

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

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			Date:	12/28/2015	12/29/15	BF 12/30/2015 ~~12/30/2015~~ 12/30/15	12/31/15			
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	[illegible]	BF	[illegible]			
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	North Basement exhaust filter plenum (FF-828) ΔP	[1]PDI-829-1	≤2.0 & > 0[1] in. wc	.14	.14	.14	.14			
		PDI-829-2	≤2.0 & > 0[1] in. wc	.32	.32	.33	.32			
		PDI-829-3	≤2.0 & > 0[1] in. wc	.29	.28	.29	.29			
4.1.1.7	100 area re-circulation filter plenum (HVP-803) ΔP	[1]PDI-833-1	≤2.0 & > 0[1] in. wc	.07	.07	.07	.07			
		PDI-833-2	≤2.0 & > 0[1] in. wc	BF ~~.16~~ .50 12/28/15	.50	.50	.50			
		PDI-833-3	≤2.0 & > 0[1] in. wc	.41	.41	.40	.41			
	100 area re-circulation filter plenum (HVP-804) ΔP	[1]PDI-835-1	≤2.0 & > 0[1] in. wc	.16	.16	.17	.17			
		PDI-835-2	≤2.0 & > 0[1] in. wc	.45	.43	.45	.43			
		PDI-835-3	≤2.0 & > 0[1] in. wc	.40	.39	.40	.40			
4.1.3.4	100 area glovebox exhaust filter plenum (FF852) ΔP	[1]PDI-815-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-815-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-815-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-815-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
4.1.3.4	100 area glovebox exhaust filter plenum (FF853) ΔP	[1]PDI-816-1	≤2.0 & > 0[1] in. wc	.40	.40	.40	.40			
		PDI-816-2	≤2.0 & > 0[1] in. wc	.52	.52	.52	.52			
		PDI-816-4	≤2.0 & > 0[1] in. wc	.48	.48	.48	.48			
		PDI-816-5	≤2.0 & > 0[1] in. wc	.51	.51	.50	.50			

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 3 of 4)

			Date:	12/28/2015	12/29/15	12/30/2015	12/31/15			
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	JM	BF	JM			
SRs	Description	Gauge	Acceptance Criteria	SURVEILLANCE RESULTS (in. wc)						
4.1.3.4	200 area glovebox exhaust filter plenum (FF850) ΔP	[1]PDI-812-1	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-812-2	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-812-3	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-812-4	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
		PDI-812-5	≤2.0 & > 0[1] in. wc	STBY	STBY	STBY	STBY			
4.1.3.4	200 area glovebox exhaust filter plenum (FF851) ΔP	[1]PDI-813-1	≤2.0 & > 0[1] in. wc	1.0	1.0	1.0	1.0			
		PDI-813-2	≤2.0 & > 0[1] in. wc	.25	.31	.31	.31			
		PDI-813-3	≤2.0 & > 0[1] in. wc	.31	.25	.26	.25			
		PDI-813-4	≤2.0 & > 0[1] in. wc	.39	.38	.39	.38			
		PDI-813-5	≤2.0 & > 0[1] in. wc	.48	.48	.49	.49			
4.1.3.4	IFIT exhaust filter plenum (FF-865) ΔP	[1]PDI-865-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.04			
		PDI-865-2	≤2.0 & > 0[1] in. wc	.38	.34	.36	.34			
		PDI-865-3	≤2.0 & > 0[1] in. wc	.40	.41	.40	.41			
4.1.3.4	IFIT supply filter plenum (HVP-863) ΔP	[1]PDI-863-1	≤2.0 & > 0[1] in. wc	.06	.06	.05	.06			
		PDI-863-2	≤2.0 & >0[1] in. wc	.28	.28	.27	.27			

For Information Only

ATTACHMENT B-2: Daily Surveillance Rounds (PF-4 North Side) [UET]

(Page 4 of 4)

			Date:	12/28/2015	12/29/15	12/30/2015	12/31/15			
			Weekday:	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.
			Initials:	BF	[illegible]	BF	[illegible]			
SRs	**Description**	**Gauge**	**Acceptance Criteria**	**SURVEILLANCE RESULTS**						
4.1.3.4	North Basement supply filter plenum (HVP-840) ΔP	[1]PDI-857-1	≤ 2.0 & > 0[1] in. wc	.11	.12	.11	.11			
		PDI-857-2	≤2.0 & > 0[1] in. wc	.49	.48	.48	.48			
4.1.3.4	North corridor supply filter plenum (HVP-809) ΔP	[1]PDI-856-1	≤2.0 & > 0[1] in. wc	.04	.04	.04	.03			
		PDI-856-2	≤2.0 & > 0[1] in. wc	.50	.50	.50	.50			
[1]NA	**Combustible exclusion area around basement exhaust fans FE828, FE829 and bleed-off fans FE820A, FE820B, FE820C, FE822A, FE822B, FE822C**		**0 lb/ft² combustibles in designated exclusion area (within 15 feet of fans)**	SAT	SAT	SAT	SAT			
4.3.2.2	Rooms 201, 204, 206, & 207		0 lb/ft² combustibles within 3.5 feet perpendicular from the face of the PMMA, the width of the aisles between gloveboxes, or up to the walls of the rooms, whichever is less	SAT	SAT	SAT	SAT			
			Completion time	0800	0843	0800	0801			
			OC Operator Review and Page Count Complete (initials)	BL	BL	DW	DW			

[1] **Non TSR requirement**

Note: SR 4.1.3.4 applies during mode 1 and mode 2.

Completed by: [illegible] Date 12/31/15 Time 0801 Reviewed by: [illegible] Date: 1/4/16 Time: 0700

On-duty Supervisor

Comments:

For Information Only

ATTACHMENT A807.A.

External Combustion

Natural Gas Usage and Rolling 12-Month Total

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2015 Small Boilers Data Entry / Gas Use

		Metered Boilers			Total Gas Use for all Small Boilers[a]		Non-Metered Gas Use	12-Month Rolling Total for all Small Boilers (MMscf)[c]
		TA-55 Boiler Gas Use (Mscf)[b]		CMRR-RLUOB Gas Use (Mscf)				
	Month	BHW-1B (B-602) ID (B-0016)	BHW-2B (B-603) ID (B-0017)	All 3 Boilers NMED IDs 90, 104, and 105	(Mscf)	(MMscf)	(MMscf)	
Data Entry	January	2477	1145	557	77,136	77.14	72.96	451.08
	February	1642	209	263	55,409	55.41	53.30	455.84
	March	1	2132	292	44,015	44.01	41.59	445.96
	April	1	1613	219	36,077	36.08	34.24	440.33
	May	24	1496	195	25,217	25.22	23.50	437.26
	June	1	1483	136	9,307	9.31	7.69	435.19
	July	262	1185	107	9,357	9.36	7.80	435.39
	August	435	1061	104	8,384	8.38	6.78	432.83
	September	1003	351	81	11,645	11.65	10.21	431.88
	October	454	1405	140	26,174	26.17	24.18	431.25
	November	54	2298	312	52,229	52.23	49.57	428.23
	December	109.0	1885	456	65,264	65.26	62.81	420.21
	TOTAL	6463	16263	2862	420,214	420.21	394.63	
					12 Month Limit (MMscf) =			870

Reviewed by Margie Stockton July 15, 2015 and Jan 14, 2016

ATTACHMENT A807.F.

External Combustion

Operational Inspection

for

Sources listed in Table 800.A.

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Facility: F08 Unit: 161484 Proj:
Task Title: ST 1Y TA16 STEAM PLANT WATERSIDE/ FIRESIDE PM
W/O Type: PM W/O Group: Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ F
Written To: TA16-1484 STEAM PLANT BOILERS
Task Dspln: Due Date: 09/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00517941 01

MASTER

Date: 03/12/2015
Page: 1

Work Order Task Written To

Facility : F08 **Unit : 161484** **Op Sys :**
Room : **Area :** **Sys/Cls:**
Equipment : **Component:**
Location :
Job Type : PM
Tag 1 : Tag 2 :
Work Item : TA16-1484 STM BOILER Ops Review Reqd: N

Authorization

Start Permission : Start Date: 3-23-15
Complete Notice : Complete Date: 10-15-15

NOTE:

*** Refer to attached Form 2101 - Non-Tenant Activity Form - or Form 2102- Tenant Activity Form - for a description of site specific training or escort and access requirements.**

Work Order Task Instructions

PERFORM PM PER UI ANNUAL WATERSIDE/ FIRESIDE CHECKLIST.
.
ENGINEERING TO PROVIDE MAINTENANCE WITH SUPPORT, OVERSIGHT & TRAINING THROUGHOUT PM.
.

QC Requirements/Comments

Rework Reason/Cause

CDSG CUSTOMER DESIGN (Y/N) ☐

Facility: F08 Unit: 161484 Proj:
Task Title: ST 1Y TA16 STEAM PLANT WATERSIDE/ FIRESIDE PM
W/O Type: PM W/O Group: Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ F
Written To: TA16-1484 STEAM PLANT BOILERS
Task Dspln: Due Date: 09/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00517941 01

MASTER

Date: 03/12/2015
Page: 3

SCH SCHEDULING
Date: Hours: Crew: Shift:
T TRAVEL
Date: Hours: Crew: Shift:
W WEATHER
Date: Hours: Crew: Shift:
Comments:

Major Failure/Action Taken

Major Failure : Action Taken :
Deficiency Tag Loc: Removed (Y/N):
Deficiency Tag No.: Limited Cond Operation:

Work Completion Signatures

Name	Function/Dept.	Date
	Fitter/Welder	10/8/15

Comments:
(rework?)

Equipment List Exceptions

Equip List	Rev	Equip List Description
16-1484 BS	000	TA16-1484 STEAM PLANT BOILERS

Fac	Unit	Op Sys	Division	Area	System	Class
F08	161484	STM	100		U	ML4

Equipment: BOILER BS-001
Name : STEAM BOILER
Equip Tag:
Loc Desc : TA16-1484
Exception Reason:

Facility: F08 Unit: 161484 Proj:
Task Title: ST 1Y TA16 STEAM PLANT WATERSIDE/ FIRESIDE PM
W/O Type: PM W/O Group: Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ F
Written To: TA16-1484 STEAM PLANT BOILERS
Task Dspln: Due Date: 09/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00517941 01

MASTER

Date: 03/12/2015
Page: 5

Work Order Task Written To

Facility : F08 **Unit : 161484** **Op Sys :**
Room : **Area :** **Sys/Cls:**
Equipment : **Component:**
Location :
Job Type : PM
Tag 1 : Tag 2 :
Work Item : TA16-1484 STM BOILER Ops Review Reqd: N

Print Request - Work Order Documents

Facility	Type/Subtype		Document Number	Sheet	Image Addr
F08	FORM		TA-09, TA-16 BOILER RMS IN SVC		
			TA-09, TA-16 BOILER RMS IN SVC		
F08	FORM		TA09, TA16 BOILERS SUMMER		
			TA09, TA16 BOILERS SUMMER LAY-UP LOTO		
F08	PROC	INS	REV2		
			ANNUAL FIRESIDE WATERSIDE MAINTENANCE PROCEDURE		
F08	PROC	PMI	CALIBRATION FLOW DP TRANSMITER	71-10-201	
			CALIBRATION OF FLOW DP TRANSMITTERS		
F08	PROC	PMI	CALIBRATION PRESS TRANSMITTERS	71-10-231	
			CALIBRATION OF PRESSURE TRANSMITTERS		
F08	PROC	PMI	CALIBRATION PRESSURE SWITCH	71-10-232	
			CALIBRATION OF PRESSURE SWITCH		
F08	PROC	PMI	CALIBRATION TEMP TRANSMITTERS	71-10-221	
			CALIBRATIO OF TEMPERATURE TRANSMITTERS		
F08	PROC	PMI	LEVEL TRANSMITTERS	71-10-211	
			CALIBRATION OF LEVEL TRANSMITTERS		

References/Document Information

Type/Subtyp: FORM Number: TA-09, TA-16 BOILER RMS IN SVC Sheet:
Title/Desc : TA-09, TA-16 BOILER RMS IN SVC Image: N
Type/Subtyp: FORM Number: TA09, TA16 BOILERS SUMMER Sheet:
Title/Desc : TA09, TA16 BOILERS SUMMER LAY-UP LOTO Image: N

Los Alamos NATIONAL LABORATORY EST. 1943

Conduct of Engineering

Post Modification/ Post Maintenance Test

Work Package No.:

1.0 TEST INFORMATION

1.1 Post Modification Test ☒	1.2 Post Maintenance Test ☐
1.3 Complete the following for Post Modification Test TA-16-1484 Bldg, Both Boilers TMC/ECN/DCF/DCP No.: 14-09-0000-828	TMC/ECN/DCF/DCP Title: Install ESD Switches at the TA09/16 Steam Plants
1.4 Complete the following for Post Maintenance Test Work Order No.: 518130-02 Installed 517944-01 Tested	Work Order Title: Fire Side Water Side Inspect
1.5 System ID: TA-16 1484 A & B	1.6 System Title: TA 16 Boiler Steam
1.7 System Nuclear Functional Classification SC ☐ SS ☐ DID ☐ Not Safety ☒	
1.8 System Management Level: ML-1 ☐ ML-2 ☐ ML-3 ☐ ML-4 ☒	
1.9 Equipment ID: Boilers A & B	1.10 Equipment Name: Boilers @ TA16-1484
1.11 Equipment Nuclear Functional Classification SC ☐ SS ☐ DID ☐ Not Safety ☒	
1.12 Equipment Management Level: ML-1 ☐ ML-2 ☐ ML-3 ☐ ML-4 ☒	

2.0 TEST REQUIREMENTS AND ACCEPTANCE CRITERIA

2.1 Test Requirements:

1. Functional test of the ESD switches.
2. Functional test of boilers after the ESD switches have been installed.
3.
4.

2.2 Acceptance Criteria:

1. Both boilers individually operating start and stop as directed with use of the Lead/Off/Lag switch.
2. Both boilers operating start and stop as directed with use of the Lead/Off/Lag switch with the ESD switches not activiated.
3. Both boilers operating or individually operating are disabled when either ESD switch is depressed.
4. Both boilers start and stop as directed with use of the Lead/Off/Lag switch once both ESD switches are reset

Los Alamos NATIONAL LABORATORY EST. 1943

Conduct of Engineering
Post Modification/ Post Maintenance Test

Work Package No.:

4.0 TEST PERFORMANCE

4.1 Test Results

No.	Test	Pass	Fail	Comments	Performed by
1	TEST #1	☒	☐		
2	TEST #2	☒	☐		
3		☐	☐		
4		☐	☐		

5.0 TEST RESULTS ACCEPTANCE

5.1 System Engineer *(Name, Z Number, Organization, Signature and Date)*

ARMOND STANDLEY, 179793, ES-UI, Armond Standley 10-6-15

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-002: Attachment 3
Maintenance and Site Services Scanned
Safety Compensatory Work Order Traveler

TA16-1484

Safety Compensatory Work Order Traveler

WO #: ~~517945-01~~ 517941-01

Date: 6/25/15

Craft/Supt Art Sparks

OR

Planner: _____

1. What are the critical life safety steps?

Course of action: Review task scope, sequence, location, and individuals involved.

- ☐ Fall Protection
- ☐ Crane or lifting device operation
- ☐ Excavation / trenching or Class 2 Penetrations
- ☐ Permitted Confined Space
- ☐ Aerial Lift/Scaffold Assembly/Disassembly
- ☒ Lock Out Tag Out
- ☐ Electrical Work >600V
- ☐ Adding/transporting hazardous chemicals

2. **Identify hold points in the IWD (for example: IWD Steps 4 and 10, etc.) using the *critical life safety above.***

LO/TO Task 2, Step 3+5 Add Locks, Steps 13+14 Removal.

3. ***What kind of defenses should the work team consider for review?***

- ☒ Barriers to be used
- ☐ Head bumps/falling objects
- ☐ Can we eliminate the hazard
- ☐ What can we interfere with near the job site

4 Describe what barriers and where

Barricade ALL Door's At Boiler room.
All look-alike equipment will be identified for work area. Boiler will be identified and totally locked out.

APPROVALS

The life critical safety steps have been addressed.

WORK CONTROL TEAM LEAD [signature] Z# 170621 Date: 6/25/15

WAR ROOM MANAGER [signature] Z# 169274 Date: 6/26/15

WAR ROOM MANAGER [signature] Z# 166938 Date: 6/26/15

Form 2103

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD #_____ Revision #:_____

Work Release

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Ops Mgr or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD):** _____

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, required initial conditions and other prerequisites are in-place.
- The assigned workers are authorized and are qualified to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers (including support workers) have been briefed.
- I have ensured coordination with any required FOD work area representatives (*e.g., area work coordinators*).

Primary PIC (Signature/Z#/Date) **Required:** _____ 122088 7-28-15

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff).*

Alternate PIC (Signature/Z#/Date) **Required:** _____

Alternate PIC (Signature/Z#/Date) **Required:** _____

Pre-Job Brief Content

- What are the critical steps or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g. for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

Pre-Job Brief Attendance Roster

By signing below **as required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) 170722 7/28/15	**Worker** (Signature/Z#/Date) 7/21/15 Tony C Donnelly 129352 8/21/15 10/6/15
Worker (Signature/Z#/Date) 209316 7-28-15	**Worker** (Signature/Z#/Date) 9-21-15 10-6-15 153680 8-21-15
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)

WO#: 517941-01

Moderate and High hazard IWD's

This IWD has been reviewed to confirm actions to eliminate, mitigate or minimize hazards, have been executed in accordance with the Work Control requirements related to moderate and high hazard scope which includes, evaluation against Life Critical definitions and requirements.

Life Critical scope is defined as follows:

- Fall protection required
- Confined space work
- Crane or lifting device operations
- Elevated work platforms
- Excavation and trenching
- Lock out / Tag out ✓
- Electrical work >600V
- Hazardous material usage

Reviewed by PIC, RLM, Superintendent or FOD Representative:

Signature: _____ Z#: 104345

Date: 6-25-15

MSS-UI Safety Compensatory Action Check Sheet

The purpose of this check sheet is to aid in the processes defined by MSS-DO and which are applicable to pre-war room review. A copy of this check list will become a permanent portion of every work package (PM, CM, Planned, Unplanned, etc). It must be filled out prior to work execution.

- Is this a Low Hazard job with no Life Critical scope content? Yes ___ No X
  (If "Yes" the package does not need to be reviewed by the War Room)

- Verify the job scope has been walked down by work planning and/or qualified craft person and that all needed revisions have been incorporated in the work package.

  Signature _____ Date 6-25-15

- Verify identification of all Life Critical Scope content in the package.

  Signature _____ Date 6-25-15

- Verify mandatory signature hold points for each Life Critical step have been included in the work package.

  Signature _____ Date 6-25-15

- Submit Work Package to the War Room

  Signature _____ Date 6/25/15

Form 2100-WC

Los Alamos NATIONAL LABORATORY Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)			
Revision # 0			Activity/Task Title: ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ FIRESIDE PM
Work Document #: (WO # / Task) 517941-01			Planner/Preparer (Name/Z#/Date) Robert Simpson/240725 4/1/13
TA: 16	Building: 1484	Room:	Additional Location Description: Boiler A & B

Activity Description/Overview:

- **Perform PM on boilers A & B per the UI Annual Waterside/ Fireside checklist, included in package.**
- **Engineering to provide maintenance personnel with support, oversight and training throughout PM.**
- **Work control to provide copy of documents to UI Engineering.**
- **Perform Boiler Inspection.**

POC Art Sparks 699-4127

List Names of Hazard Analysis (HA) Team Jason Sparks, Art Sparks, Robert Simpson
Date HA Performed 06/01/2011

PRECAUTIONS/LIMITATIONS/PREREQUISITES:

(include training/authorizations, approved permits, and area postings)

1. Ensure that the activity is on the Plan of the Day.
2. If steps cannot be completed as described, or if unforeseen situations occur, STOP WORK, stabilize the situation, contact your supervisor or the Person-In-Charge (PIC), and await further instructions before proceeding
3. The following trainings are required for the general hazards section
   - TP 10968, MSS Maintenance Worker
4. Training to perform LO/TO:
   - TP 127, LO/TO Authorized Worker
5. Training to perform zero voltage check is:
   - TP 2559, Electricians/Apprentices Electrical Worker
6. Gas Cylinder Hazard Training Required
   - Plan # 2302
7. Spark and Flame Producing Activities Training
   - TP 3065, Fire Extinguisher Training
8. Training to perform welding operations:
   - HAZCOM - HAZCOM (Chemical Hazard Communication) Course # 25418
   - Welding Safety - Welding Safety Course # 9519
   - Fire Watch - Fire Watch # 15672 or Equivalent
   - Basic electrical safety - Basic Electrical Training #11516
9. Training for Fuel Gas Purging Inside Structures
   - Course # 53548
10. The permits and work packages required for the project have been approved and are posted, as required.
11. The PIC shall be available while work is being conducted.
12. PIC shall review site specific hazards noted on IWD Part 2, Form 2101 with all workers.

Form 2100-WC

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision # 0			Activity/Task Title: ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ FIRESIDE PM
Work Document #: (WO # / Task) 517941-01			Planner/Preparer (Name/Z#/Date) Robert Simpson/240725 4/1/13
TA: 16	Building: 1484	Room:	Additional Location Description: Boiler A & B

13. The PIC shall ensure:
    - A Daily Pre-Job Briefing shall detail hazards and work controls that include specific information on the tools and procedures to accomplish each task to be perform for the and indentified in this IWD.
    - All hold points shall be discussed on a daily basis
    - Work to be performed falls within the IWD bounding conditions
14. Controls needed to perform the work are identified in this IWD
15. Work Package Tasks and Job Steps may be worked concurrently and/or Out-of-Sequence at the discretion of the Job Supervisor (PIC). If work steps are required to be worked in a specific sequence it will be identified in this section of the IWD.

GENERAL HAZARDS *(identify hazards and associated controls)*

Eye, foot, hand, and head injuries when objects are being handled, and when exposed to sharp objects, and flying debris:

- Safety toed work boots
- Safety glasses with side shields
- Hard hats (if working with overhead hazards)
- Full length pants and shirt with sleeves at least 4 inches in length, or coveralls
- Work gloves as required

240V to 600V Zero Voltage check requirements:

- Wear CAL 8+ PPE: Double-Layer switching hood,
- Class 0 Dielectric Gloves.
- AR coveralls (with an arc rating of 8 or more), hardhat, and safety glasses underneath hood.
- 2-man rule applies.
- Use UL approved voltage meter.
- No metallic objects worn.
- Voltage rated test equipment.
- Ensure no un-insulated body part enters prohibited space.
- Voltage rated tools.

Less than 240V Zero Voltage check requirements:

- Use UL approved voltage meter
- Class "0" Dielectric Gloves
- AR clothing, minimum arc-rating of 4 cal for voltage of < 240 V (long sleeve shirt, pants or coveralls, face shield)
- AR Protective Equipment (hard hat, safety glasses or safety goggles, hearing protection).
- No metallic objects worn.
- Voltage rated test equipment.
- Ensure no un-insulated body part enters prohibited space.
- Voltage rated tools.

Form 2100-WC

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision # 0			Activity/Task Title: ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ FIRESIDE PM
Work Document #: (WO # / Task) 517941-01			Planner/Preparer (Name/Z#/Date) Robert Simpson/240725 4/1/13
TA: 16	Building: 1484	Room:	Additional Location Description: Boiler A & B

WORK INSTRUCTIONS

TASK 1, PREREQUISITES

1. **COMPLETE** the Daily Pre-Job Briefing Document, for work that is going to be completed for the day.
2. **PERFORM** a pre-job briefing using the Daily Pre-Job Briefing document and the 2101 for site hazards.

TASK 2, PERFORM ONE YEAR PM ON BOILER

1. **NOTIFY** Operations of work to be performed

NOTE:	**Panel Fed From:** **PPA, 480VAC, 60 Hz.** **◦ Class 1.3b** **◦ Incident Energy (cal/cm^2) - 0.5** **◦ Arc Flash Boundary (in) - 11** **◦ Working Distance (in) - 18** **◦ Control access using a limited approach boundary of 42".**

2. **PERFORM** External boiler inspection.
   - NBIC (National Boiler Inspection Code) standards
   - Inspector must be certified to the NBIC
3. **LO/TO** electrical at PPA.
   - **Refer to LO/TO points, included in package.**
   - Class 1.3b, Mode "1"
   - Utilize LO/TO attachment "B"
   - Non-melting or Untreated Natural Fiber Shirt (long sleeve), Pants (long), Safety Glasses, Hearing Protection (ear canal inserts) and Leather Gloves.
4. **VERIFY** "zero" voltage.

   240V to 600V Zero Voltage check requirements:

   - Class 1.3b
   - Mode 1, establishing an electrically safe work condition.
   - Wear CAL 8+ PPE: Double-Layer switching hood,
   - Class 0 Dielectric Gloves.

Form 2100-WC

Los Alamos NATIONAL LABORATORY Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)			
Revision # 0			Activity/Task Title: ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ FIRESIDE PM
Work Document #: (WO # / Task) 51794l-01			Planner/Preparer (Name/Z#/Date) Robert Simpson/240725 4/1/13
TA: 16	Building: 1484	Room:	Additional Location Description: Boiler A & B

- AR coveralls (with an arc rating of 8 or more), hardhat, and safety glasses underneath hood.
- 2-man rule applies.
- Use UL approved voltage meter.
- No metallic objects worn.
- Voltage rated test equipment.
- Ensure no un-insulated body part enters prohibited space.
- Voltage rated tools.

5. **PERFORM** red lock, LO/TO of Steam Boiler & associated equipment to perform the annual boiler maintenance.
   - Implement LO/TO requirements.
   - Trace lines from the appropriate control valves.
   - Drain/vent stored pressure prior to any work.
   - Utilize Attachment "B" as required.
   - **Refer to LO/TO points, included in package.**

6. **VERIFY** boiler is shut down completely.
   - Verify "Zero" Energy on Steam Boiler to be worked on (Gas, Electricity, Chemicals, Feed Water, Common Steam Header, Make-Up Water, Quick Fill and Continuous Blowdown).
   - Drain valves on boiler.
   - For fuel gas purging follow UI Procedure 67-00-023.
   - Secure burner management & push button to verify unit will not start.
   - Open breakers for all fans & chemical pump to verify equipment will not start.

7. **OPEN** All Access Doors On Steam Boiler To Be Worked.

8. **REMOVE** wiring from the pressure and control switches.

9. **PERFORM** Annual Boiler Maintenance per the UI Annual Waterside/ Fireside checklist, included in package.
   - Notify engineering to provide support, oversight and training throughout PM, if required.
   - For the Boiler, refer to the UI Annual Waterside/ Fireside checklist.
   - Calibrate the boiler pressure gauge.
   - Use GFCI protection when operating power tools or portable lights.

10. **PERFORM** Internal boiler inspection.
    - NBIC (National Boiler Inspection Code) standards
    - Inspector must be certified to the NBIC

11. **CLOSE** Boiler Access Doors.
    - Replace gaskets on doors, if required.

12. **RE-CONNECT** wiring on the pressure and control switches.

Form 2100-WC

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision # 0			Activity/Task Title: ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ FIRESIDE PM
Work Document #: (WO # / Task) 517941-01			Planner/Preparer (Name/Z#/Date) Robert Simpson/240725 4/1/13
TA: 16	Building: 1484	Room:	Additional Location Description: Boiler A & B

13. **REMOVE** all electrical LO/TO.
    - Class 1.3b, Mode "1"
    - Utilize LO/TO attachment "B"
    - Non-melting or Untreated Natural Fiber Shirt (long sleeve), Pants (long), Safety Glasses, Hearing Protection (ear canal inserts) and Leather Gloves.

14. **REMOVE** LO/TO on all valves and associated equipment.

15. **VERIFY** proper operation of the boiler
    - Perform post maintenance testing as required by the System Engineer.

System Engineer_____Z#_____Date:_____

Signature:

16. **COMPLETE** all checklists and package documentation.

17. **NOTIFY** Operations that work is complete.

TASK 3, AREA RELEASE AND CLOSEOUT

PIC/LANL FIELD EXECUTION SUPERINTENDANT

1. **PERFORM** visual inspection to ensure all debris and waste has been removed.

CRAFT PERSONNEL

2. **REMOVE** all debris and waste as needed.
3. **CLEAN** up work area.
4. **REMOVE** posting or signs.

Form 2100-WC

Los Alamos NATIONAL LABORATORY

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # 0			**Activity/Task Title: ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ FIRESIDE PM**
Work Document #: (WO # / Task) 517941-01			**Planner/Preparer (Name/Z#/Date)** **Robert Simpson/240725 4/1/13**
TA: 16	**Building:** 1484	**Room:**	**Additional Location Description:** **Boiler A & B**

Insert Rows above for additional Tasks/Steps or attach pages to clearly communicate ESH&Q/S&S hazards and associated controls.	The RLM, and FOD or FOD Representative (if required or recommended by RLM, e.g. high hazard) approval indicates IWM has been applied appropriately, work is authorized, workers are qualified, work will be performed in accordance with ESH&Q/S&S requirements and the IWD, and facility safety basis, aggregate hazards, and collocated hazards were appropriately included in the hazard analysis and acknowledges completion of a peer review.	**RLM** (Signature/Z#/Date) **Required** 104341 4-3-13 **FOD or FOD Representative** (Signature/Z#/Date) **Required** 088564 4/5/2013 **SME Review** (Signature/Z#/Date) **If Required** Not Required **ESO Review** (Signature/Z#/Date) **If Required** 088564 4/5/2013

IWD Type ☒ Moderate-Hazard ☐ High-Hazard/Complex ☐ Standing IWD	Date RLM re-approval is required_____ Other Conditions for Re-Approval (Print) Scope Change Name/Z# of Primary PIC Jason Sparks Name/Z# of Alternate PIC Carlos Chacon Name/Z# of Alternate PIC_____	Classification review completed, if required. N/A Reviewer Signature/Z#/Date

Safety: 168908 4/3/13

Form 2103

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD #517941 Revision #: 01

Work Release

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Ops Mgr or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD):** _____

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, required initial conditions and other prerequisites are in-place.
- The assigned workers are authorized and are qualified to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers (including support workers) have been briefed.
- I have ensured coordination with any required FOD work-area representatives (*e.g., area work coordinators*).

Primary PIC (Signature/Z#/Date) **Required:** 122088 5-15-15

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff).*

Alternate PIC (Signature/Z#/Date) **Required:** _____

Alternate PIC (Signature/Z#/Date) **Required:** _____

Pre-Job Brief Content

- What are the critical steps or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g. for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

Pre-Job Brief Attendance Roster

By signing below **as required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) 122088 5-15-15	**Worker** (Signature/Z#/Date) 282921 5/21/15
Worker (Signature/Z#/Date) 171722 8/28/15	**Worker** (Signature/Z#/Date) 794275 5/21/15
Worker (Signature/Z#/Date) 268587 9-3-15	**Worker** (Signature/Z#/Date) 253180 8-28-15
Worker (Signature/Z#/Date) 283914 9-3-15	**Worker** (Signature/Z#/Date) 297205 9-3-15

BS.A

ATTACHMENT 3: BOILER CHECKLIST

Boiler NB # 8334

Boiler Location TA-16-1484

Date(s) Performed 10-6-15

Safety valves replaced? Y S/N #

Boiler Pressure (psig) 80

Internal ~~Fireside~~ inspection: 5-28-15

External ~~Waterside~~ inspection: 4-1-15

Supply gas pressure (psig)

Flue door gaskets replaced? Y

Pop tested Safety Valves yes JKS 122008

Verify shutdown switches:

High Limit ✓ High Limit set point 90 psig

High Gas ✓ High Gas set point 16" iwc

Low Gas ✓ Low Gas set point 6" iwc

OPC ✓ OPC set point 86 psig

LWC 1 ✓

LWC 2 ✓

Air Proving Switch ✓

Checked ESD switches yes JKS 122008

Boiler set in low NOx setting? yes CSLC set point 25 psig

Lag set point 81 psig Lead set point 80 psig

Calibration date on steam boiler pressure gauge 8-4-15

Work Control: Send copy of this completed form to TA-09/TA-16 System Engineer.

Copy sent to Engineer by WCS _____ Date _____

MSS Rep [signature] Date 10-6-15

Released for Operations by U&I System Engineer [signature] Date 10-6-15

TA-16-1484 BS-A
Installed By BD 268587
on 9.11.15

VALVE TEST REPORT
CERTIFICATE OF CONFORMANCE
&
QUALITY CHECK LIST

LAM valves inc.
1502 Lombardy, ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE 6.17.15

CUSTOMER FEI - BEAUMONT #55

CUSTOMER ORDER NUMBER L1018-3132

VALVE SIZE & TYPE 2" 6021HHT01-AM

SET PRESSURE 100 PSI

MEDIUM & CODE
- [ ] AIR/GAS
- [x] STEAM
- [ ] LIQUID
- [ ] ASME UV, Div. 1
- [x] ASME V
- [ ] NON-CODE

QUALITY CHECK LIST

BEFORE SETTING
- Spring # ..... [x]
- Disc ..... [ ]
- Nozzle or Seat ..... [ ]
- Stem ..... [ ]
- Body ..... [ ]
- Lever & Pin ..... [ ]
- Adjusting Rings ..... [ ]
- Adjusting Ring Lock Pins ..... [ ]
- Compression Screw ..... [ ]
- HYD Stamped ..... [ ]
- Cap/Hood ..... [ ]

AFTER SETTING
- Base Tight ..... [ ]
- Adjusting Rings Set ..... [ ]
- Adjusting Rings Pin Set ..... [ ]
- Compr. Screw Locknut Tight ..... [ ]
- Seals Installed ..... [x]
- Name Tag Stamped ..... [x]

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
I-63511-1A		101.4 PSI	
" " -1B		102.2 PSI	
" " -1C		102.0 PSI	
" " -1D		101.7 PSI	
" " -1E		102.4 PSI	
" " -1F		102.6 PSI	
" " -1G		102.9 PSI	

NOTE: 1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS

2) WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 30 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CERTIFICATE HAS BEEN TESTED IN ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPLICABLE REQUIREMENTS FOR THE MATERIAL, INCLUDING ANY SPECIFICATION FORMING A PART OF THE DESCRIPTION.

SIGNED: [signature]

TITLE: [x] VALVE TECHNICIAN: [ ]

TA-16-1484 BS-A
Installed on 9-11-15
by BD 268587

VALVE TEST REPORT
CERTIFICATE OF CONFORMANCE
&
QUALITY CHECK LIST

LAM valves inc.
1502 Lombardy, ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE 6-16-15

CUSTOMER FEI - BEAUMONT #55

CUSTOMER ORDER NUMBER L1018-3132

VALVE SIZE & TYPE 1 1/2 6021GGT01-AM

SET PRESSURE 100 PSI

MEDIUM & CODE
- [ ] AIR/GAS
- [x] STEAM
- [ ] LIQUID
- [ ] ASME UV, Div. 1
- [x] ASME V
- [ ] NON-CODE

QUALITY CHECK LIST

BEFORE SETTING
- Spring # ..... [x]
- Disc ..... [ ]
- Nozzle or Seat ..... [ ]
- Stem ..... [ ]
- Body ..... [ ]
- Lever & Pin ..... [ ]
- Adjusting Rings ..... [ ]
- Adjusting Ring Lock Pins ..... [ ]
- Compression Screw ..... [ ]
- HYD Stamped ..... [ ]
- Cap/Hood ..... [ ]

AFTER SETTING
- Base Tight ..... [ ]
- Adjusting Rings Set ..... [ ]
- Adjusting Rings Pin Set ..... [ ]
- Compr. Screw Locknut Tight ..... [ ]
- Seals Installed ..... [ ]
- Name Tag Stamped ..... [x]

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
63367-3A	—	100.9PSI	—
" -3B	—	100.6PSI	—
" -3C	—	102.0PSI	—

NOTE: 1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS

2) WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 30 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CERTIFICATE HAS BEEN TESTED IN ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPLICABLE REQUIREMENTS FOR THE MATERIAL, INCLUDING ANY SPECIFICATION FORMING A PART OF THE DESCRIPTION.

SIGNED: [signature]

TITLE: [x] VALVE TECHNICIAN: [ ]

BS·B

ATTACHMENT 3: BOILER CHECKLIST

Boiler NB # 8333

Boiler Location TA·16·1484

Date(s) Performed 10·6·15

Safety valves replaced? Y S/N #

Boiler Pressure (psig) 81

~~Fireside~~ Internal inspection: 5·28·15

Supply gas pressure (psig)

~~Waterside~~ External inspection: 4·1·15

Flue door gaskets replaced? Y

Pop tested Safety valves yes JKS 122008

Verify shutdown switches:

High Limit ✓

High Limit set point 90 psig

High Gas ✓

High Gas set point 17" iwc

Low Gas ✓

Low Gas set point 5" iwc

OPC ✓

OPC set point 84 psig

LWC 1 ✓

LWC 2 ✓

Tested ESD switches yes JKS 122008

Air Proving Switch ✓

Boiler set in low NOx setting? yes

CSLC set point 25 psig

Lag set point 81 psig

Lead set point 80 psig

Calibration date on steam boiler pressure gauge 8·4·15

Work Control: Send copy of this completed form to TA-09/TA-16 System Engineer.

Copy sent to Engineer by WCS _____ Date _____

MSS Rep [signature] Date 10·6·15

Released for Operations by U&I System Engineer _____ Date _____

				Pilot Readings		Lightoff Readings							Low NOx readings					
BOILER	Location	Serial #	Boiler HP	High Pilot	Low Pilot	Blower Pressure	Manifold Pressure	Combustion Chamber Pressure	Main Gas Pressure	O2 %	CO ppm	NOx ppm	Manifold Pressure	Combustion Chamber Pressure	Main Gas Pressure	O2 %	CO ppm	NOx ppm
BS-A	16-1480-A	100852-B	98	10	10	7.3	5.4	2.1	11.6	3.4	8	52	5.4	1.7	12.5	6.3	18	21
BS-B	16-1480-B	100852-A	98	10	6	7.3	5.3	2.3	9.7	4	29	50	5.3	2	10.5	6.3	6	27
BS-A	16-1483-A	100850-B	128	10	5	7.5	5.8	2.4	10.8	3.6	7	51	5.8	2.1	12.5	5.9	8	25
BS-B	16-1483-B	100850-A	128	11	5.5	7.5	5.6	2.3	13.5	3.4	6	51	5.6	2	15	6.5	18	22
BS-A	16-1484-A	100848-A	183	11	6.8	7.9	5.2	2.3	14	3.7	7	46	5.2	2	16	6	41	24
BS-B	16-1484-B	100848-B	183	12	7	8	5.5	2.3	15	3.4	11	53	5.5	2	16	6	10	21
BS-A	16-1487-A	100857-B	56	10	5	7.8	5.8	2.5	8.3	3.5	125	50	5.5	1.9	8.7	6.6	82	17
BS-B	16-1487-B	100857-A	56	11	5	7.8	5.6	2.7	7	3.6	18	47	5.6	2.3	7.3	6.3	26	21
BS-A	16-1490-A	100856-A	95	9.5	6.8	7.2	5	2.1	10.6	2.6	49	59	5	1.8	11.1	5.8	8	28
BS-B	16-1490-B	100856-B	95	9.4	6	7.1	4.9	2	8.6	3.4	9	59	4.9	1.8	9.3	5.7	6	28
BS-A	16-1491-A	100859-A	24	10	9	6.4	5.4	3	6.2	5.3	56	43	5.4	2.7	6.8	5.4	66	40
BS-B	16-1491-B	100859-B	24	10	9	7.8	5.6	3.5	8.2	5.3	95	39	5.6	2.7	8.5	7	22	29
BS-A	16-1492-A	100855-B	85	10	9	10	5.2	2.3	10	3	7	53	5.2	2	10.7	6.4	24	24
BS-B	16-1492-B	100860-A	70	10	8.5	8.3	5.3	2.5	8.5	3.1	46	51	5.3	2.1	9.2	5.6	28	26
BS-A	9-282-A	100849-A	153	11	10	8	5.1	2.2	13.6	3.7	11	57	5.1	1.9	15	6.4	6	27
BS-B	9-282-B	100849-B	153	11	6	8.4	5.6	2.4	11.3	3.8	12	52	5.6	2.1	12.5	5.9	8	26

		Pilot Readings		Lightoff Readings						Low NOx readings				
BOILER	TA 16 BLD 1484	High Pilot	Low Pilot	Blower Pressure	Main Gas Pressure at Low Gas Switch	Main Gas Pressure at High Gas Switch	O2 %	CO ppm	NOx ppm	Main Gas Pressure at Low Gas Switch	Main Gas Pressure at High Gas Switch	O2 %	CO ppm	NOx ppm
A	DATE: 10·6·15	10.9	6.8	6.5	14.0		4.3	14	64	14.2		7.0	6	36
B	DATE: 10·6·15	11.7	6.9	7.4	15.0		3.4	16	54	15.0		6.4	12	26
	DATE:													
	DATE:													
	DATE:													
	DATE:													
	DATE:													
	DATE:													

TA-16-1484 BS-B
Installed on 9.14.15
by BD 268587

VALVE TEST REPORT
CERTIFICATE OF CONFORMANCE
&
QUALITY CHECK LIST

LAM valves inc.
1502 Lombardy, ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE 6·17·15

CUSTOMER FEI - BEAUMONT #55

CUSTOMER ORDER NUMBER L1018-3132

VALVE SIZE & TYPE 2" 6021HHT01-AM

SET PRESSURE 100 PSI

MEDIUM & CODE
- [ ] AIR/GAS
- [x] STEAM
- [ ] LIQUID
- [ ] ASME UV, Div. 1
- [x] ASME V
- [ ] NON-CODE

QUALITY CHECK LIST

BEFORE SETTING
- Spring # ..... [ ]
- Disc ..... [ ]
- Nozzle or Seat ..... [ ]
- Stem ..... [ ]
- Body ..... [ ]
- Lever & Pin ..... [ ]
- Adjusting Rings ..... [ ]
- Adjusting Ring Lock Pins ..... [ ]
- Compression Screw ..... [ ]
- HYD Stamped ..... [ ]
- Cap/Hood ..... [ ]

AFTER SETTING
- Base Tight ..... [ ]
- Adjusting Rings Set ..... [ ]
- Adjusting Rings Pin Set ..... [ ]
- Compr. Screw Locknut Tight ..... [ ]
- Seals Installed ..... [ ]
- Name Tag Stamped ..... [ ]

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
I-63511-1A		101.4 PSI	
" " -1B		102.2 PSI	
" " -1C		102.0 PSI	
" " -1D		101.7 PSI	
" " -1E		102.4 PSI	
" " -1F		102.6 PSI	
" " -1G		102.9 PSI	

NOTE: 1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS

2) WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 30 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CERTIFICATE HAS BEEN TESTED IN ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPLICABLE REQUIREMENTS FOR THE MATERIAL, INCLUDING ANY SPECIFICATION FORMING A PART OF THE DESCRIPTION.

SIGNED: [signature]

TITLE: [x] VALVE TECHNICIAN [ ]

TA-16-1484 BS-B
Installed on 9-14-15
By BD 268587

VALVE TEST REPORT
CERTIFICATE OF CONFORMANCE
&
QUALITY CHECK LIST

LAM valves inc.
1502 Lombardy, ZIP 77023-4529
P.O. Box 230568, ZIP 77223-0568
Houston, Texas
713/923-7303 • FAX 713/923-9142

DATE 6-16-15

CUSTOMER FEI - BEAUMONT #55

CUSTOMER ORDER NUMBER L1018-3132

VALVE SIZE & TYPE 1 1/2 6081GGT01-AM

SET PRESSURE 100 PSI

MEDIUM & CODE
- [ ] AIR/GAS
- [x] STEAM
- [ ] LIQUID
- [ ] ASME UV, Div. 1
- [x] ASME V
- [ ] NON-CODE

QUALITY CHECK LIST

BEFORE SETTING
- Spring # [ ]
- Disc [ ]
- Nozzle or Seat [ ]
- Stem [ ]
- Body [ ]
- Lever & Pin [ ]
- Adjusting Rings [ ]
- Adjusting Ring Lock Pins [ ]
- Compression Screw [ ]
- HYD Stamped [ ]
- Cap/Hood [ ]

AFTER SETTING
- Base Tight [ ]
- Adjusting Rings Set [ ]
- Adjusting Rings Pin Set [ ]
- Compr. Screw Locknut Tight [ ]
- Seals Installed [ ]
- Name Tag Stamped [ ]

SERIAL NO.	PREOPEN PRESSURE	ACTUAL SET PRESSURE	RESEAT PRESSURE
I-63367-3A	—	100.9 PSI	—
" -3B	—	100.6 PSI	—
" -3C	—	102.0 PSI	—

NOTE:
1) ALL TESTS INCLUDE SEAT TIGHTNESS TEST AT 90% SET PRESSURE, IN ACCORDANCE WITH FACTORY SPECIFICATIONS
2) WHEN APPLICABLE, CLOSED BONNET VALVES ARE TESTED AT 30 PSIG BACK PRESSURE

WE HEREBY CERTIFY THAT THE MATERIAL COVERED BY THE CI
ACCORDANCE WITH, AND HAS BEEN FOUND TO MEET THE APPL
MATERIAL, INCLUDING ANY SPECIFICATION FORMING A PART OF

SIGNED:

TITLE: [x] VALVE TECHNICIAN: [ ]

Form 2101

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____Revision #: _____

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD	TA	Bldg.	Room	Other Location
8	9/16	All 9/16 UI Steam Boiler Plants (TA-09 / 282, / TA16 - 1480,1483,1484,1487,1490,1491,1492)	N/A	Inside Boiler Plants
FOD Designated Facility Point-of-Contact	Name Pablo C de Vaca	Phone 699-8226	Pager n/a	Email pfc@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☒ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☐ Check out at End of Work
- ☐ Escort Required
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☐ Check in at Start of Work
- ☒ Work must be Scheduled
- ☒ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☐ Work-Area Training Required
- ☐ Check in Daily
- ☐ Check out Daily
- ☒ Other Bounding Conditions PIC is responsible to conduct a pre-job brief for work activities to ensure that work conditions and worker communications are adequate. A pre job briefing shall be conducted at the job site. UI-OPS will determine if onsite ESH representation is required during work activities.

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

All work must be approved by the Utilities FOD or UI-OPS. POD/POTW-contact Facility POC. No Smoking around Natural Gas Systems. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Observe safety signs and floor markings in all buildings and areas. If activities involve potential exposure to Water Treatment Chemicals consult with UI Safety/IH representatives to identify proper PPE. Be aware of pipe or any components on floors for tripping hazards, If insect or pests are excessive contact pest control to address.

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions**	**Reference Documents**	**Training and Qualification**
Identify site hazards and concerns that could potentially affect the worker(s) or others.		Specify preventive measures, controls and bounding conditions for each site hazard	List permits, operating manuals, and other reference procedures	List training requirements ([illegible] Integrated Work Management Section [illegible])

☐ **No Work Area Hazards**				

IWD No./Work Request No: _____ Revision #: _____

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Ionizing Radiation Work in posted radiological areas, work with radioactive materials or work on or near radiation producing devices. **Specify Hazards:**	☐ Yes ☒ No			
Worker Exposure Working near chemicals, temperature/humidity extremes: High temperature boiler equipment, High temperature Water/Steam, Boiler Water Treatment Chemicals	☒ Yes ☐ No	Required PPE: Hard hat, safety shoes, safety glasses. Hearing protection (noise > 85 dba). Avoid hot surfaces and piping. **Long sleeve shirt,Ansell sleeves or coveralls when working on hot surfaces. Gloves when operating valves or contacting pipe/fitting openings where there is potential for hot water/steam release.** **Be aware of chemical containers and check labeling. Be aware of piping, associated systems for any leaks. If chemical leak is noticed contact operations manager, IH&S Rep during regular working hrs. Over 5 gallon chemical spill leave area, call EM&R, and control access. Follow LANL Asbestos program/rqmts if PACM identified outside containment. For after-hours contact the UI Duty Officer, 699-7452 to re-assess any abnormal situation.For after-hours contact the UI Duty Officer, 699-7452 to re-assess any abnormal situation**	• P101-6 PPE • P101-31 Hearing Conservations/ Noise Program HAZCOM (Chemical Hazard Communication) Course # 25418 Chemical MSDS's	• LANL PPE or equivalent • Hearing protection • Site specific training • Hazcom • Read Chemical MSDSs
Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected or rotating equipment; fuel fired equipment	☒ Yes ☐ No	Stay within established walking areas. Observe safety signage alarm lights and floor markings Identify explosive hazards and follow task	**P101-13 Electrical Safety** **P101-3 LOTO**	**Electrical Safety LOTO if applicable to task.** • Pressure Safety Awareness

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other than vehicles; or spark or flame producing operations. **Specify Hazards:** Energized/rotating equipment, High Temperature, High Pressure Water and Steam equipment.		specific IWD if working on plant equipment or components. **Note: All TA3-22 LOTOs require independent verification and written specific procedure.** If questions consult with UI system engineer, Operation Mgr. Designee, or Safety rep.	Safety P315 **P101-34 Pressure, Vacuum, Cryogenic System**	Read P315 admin lock/tag.
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:** Confined Space	☒ Yes ☐ No	Observe confined space signs or markings and follow LANL Confined Space Requirements if task requires confined space entry.	P101-27 Confined Space	Confined Space Traning
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☒ Yes ☐ No	Stay within established walking areas, stairways and paths. Observe safety signage. Follow LANL Fall Protection Requirements if task on roofs or work above 4 feet.	P101-20.0	Fall Protection
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:**	☐ Yes ☒ No			
Security Requirements **Specify:**	☒ Yes ☐ No	Uncleared must have Q or L escort and must sign in/out @ 16-0969/09-0021 Access Control. Meet WFO access requirements.	P200-2 Physical Security	Escort Training LANL Course # 18366
Other Hazards Look-alike Equipment in the vicinity of work site may contain un-controlled hazardous energy.	☒ Yes ☐ No	Adequette barriers and controls will be established to prevent unauthorized personnel/workers from entering job site and encounter uncontrolled hazards.	IWD	Pre-job briefing emphasis. Worker confirmation of look-alike potential hazards, locations and barriers set in place to identify those potential hazards.

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** [signature] 090208 7-9-15

Date Approval Expires 09/30/2016

1484

LOTO HOLD POINT INSERT

WO #: 517941-01

1. Which of the following critical life safety steps requires the hold point? (Check all that apply)

Course of action: Review task scope, sequence, location, and individuals involved.

- ☐ Fall Protection
- ☐ Crane or lifting device operation
- ☐ Excavation and trenching or Class 2 Penetrations
- ☐ Permitted Confined Space
- ☐ Aerial Lift/Scaffold
- ☒ Lock Out Tag Out
- ☐ Electrical Work >600V
- ☐ Adding/transporting hazardous chemicals

LOTO HANG TAGS/LOCKS HOLD POINT

This effort will be observed by a full time, non-working PIC. Once the effort is completed the PIC is no longer required at the job site. Be aware that the PIC may not hang tags when observing this effort and consequently cannot be covered under the LO/TO which was observed.

Verify compliance with the following requirements:

- ✓ Visually observe the placement or removal of the LO/TO.
- ✓ Visually observe performance of the zero energy check process.
- ✓ Verify workers performing the LO/TO are qualified to the level necessary to perform the required LO/TO.

PIC: _____ Z# 122088 Date: 9-8-15

LOTO REMOVE TAGS/LOCKS HOLD POINT

The LOTO has been removed and the work is complete.

PIC: _____ Z# 122088 Date: 9-22-15

LOTO # 33095

WO#517941-01

Form 2003

Los Alamos NATIONAL LABORATORY EST. 1943

Attachment B
Specific Written Energy Control Procedure
P101-3, Lockout/Tagout for Hazardous Energy Control

Equipment or machinery:	Location of equipment or machinery:			
Description:	TA	Building	Room No.	Other
FIRESIDE/WATERSIDE PM	16	1484	N/A	N/A
Name of Equipment Owner/Operator:	Organization/Contact Information:			
ART SPARKS	699-4127			

List energy sources (refer to P101-3, Lockout/Tagout for Hazardous Energy Control, Attachment A, Simple Energy Control Procedure Lockout/Tagout Tag, if used):

1. ELECTRICAL BSA JKS
2. ELECTRICAL BSB JKS
3. ELECTRICAL BOILER FEED SYSTEM JKS
4. GAS JKS
5.
6.

Identify associated energy-isolation devices (circuit breakers, disconnects, valves, slide gates, slip blinds, blocks, etc.):

Energy-Isolation Device Identification	Location	Required Position
1. PPA CKT.# 4 JKS	IN BOILER ROOM	OFF/OPEN
2. PPA CKT. # 10 JKS	IN BOILER ROOM	OFF/OPEN
3. PPA CKT.# 9 & LP1 CKT.# 7 JKS	IN BOILER ROOM	OFF/OPEN
4. MAIN GAS VALVE JKS	OUTSIDE-REG. STA.	CLOSED
5. Lock Box JKS	IN BOILER ROOM	OFF/OPEN
6.		

Group Lockout/Tagout? Yes X No____
If yes, identify lead authorized worker: Alejandro Alvarez 282921
Independent verification required (contact Facility Operations Director/designee for determination)? Yes____ No X

Shift or personnel change? Yes____ No X
If shift or personnel change, identify other lead authorized worker

List of Authorized Worker(s)	Z-Number	List of Authorized Worker(s)	Z-Number
1. JASON K. SPARKS	122088	5. Aubree Bissell	299389
2. BILLY LOPEZ	241504	6. Terrance Habish	148705
3. ALEJANDRO ALVAREZ	282921	7. Jose Garcia	291275
4. BRANDON DAVIS	268587	8. Joel Ray Sweeney	297205
		Brandino Bach	170722

Facility Operations Director/Designee Approval

Name	Signature	Z-Number
Phillip Utibarri	P. Ut	152736

Carlos Chacon 12093
Jakob Stoller 153680
Gregory Donnelly 129352 129352

Describe in detail, where necessary, how each of the required steps of the lockout/tagout procedure will be accomplished:
1. Evaluate energy sources and identify energy isolation devices for each source. List above.
2. Legibly complete all of the information on the lockout/tagout tag.
3. Who is your employer? (check one box) ☒ LANS (complete Section 1 below) ☐ Subcontractor (complete Section 2 below)

LANS employee, Section 1

Contact owner/operator. Owner/operator will determine who notifies affected worker.
Check one box:

☐ Authorized or lead authorized worker will notify affected workers
I accept control of this equipment for maintenance and servicing. I will notify the affected workers before starting up and before removing locks at the completion of the work

☒ Owner/operator will notify affected workers
I accept responsibility for notifying all affected workers before shutdown and start of equipment.

The owner/operator has determined that the affected workers are:

Signature of Authorized or Lead Authorized Worker	Z-Number	Date
Signature of Owner/Operator	Z-Number 104341	Date 5-15-15

The owner/operator must be notified personally before any testing, positioning, or restart of equipment. Yes _____ Initial No AS Initial

The owner/operator must be notified personally before start of equipment. Yes _____ Initial No AS Initial

Subcontractor, Section 2

Contact owner/operator. Owner/operator will notify affected workers.

☐ Owner/operator will notify affected workers.
I accept responsibility for notifying all affected workers before shutdown and start of equipment.

The owner/operator has determined that the affected workers are:

Signature of Authorized or Lead Authorized Worker	Z-Number	Date
Signature of Owner/Operator	Z-Number	Date

The owner/operator must be notified personally before any testing, positioning, or restart of equipment. Yes _____ Initial No _____ Initial

The owner/operator must be notified personally before start of equipment. Yes _____ Initial No _____ Initial

4. Describe the specific steps for shutting down equipment or machinery (unless the equipment is already shut down). Provide the sequential steps for equipment/machinery shut down.

BOILERS ARE ALREADY SECURED FOR SUMMER LAY UP.

5. Describe the method(s) of isolating the equipment from the energy source(s), including any sequencing required:

INSTALL PROPER BREAKER ISOLATING DEVICES.
INSTALL PROPER ISOLATING DEVICE ON MAIN GAS VALVE AT REGULATOR STATION.

6. Lock and tag out the energy isolating device(s) using a Laboratory-issued red lock and tag.

7. Describe how to assess for and relieve all potentially hazardous stored or residual energy. Describe the control(s) used if there is a potential for re-accumulation of energy.

HAVE ELECTRICIAN VERIFY ZERO ENERGY FOR ELECTRICAL ON BSA, BSB AND BOILER FEED SYSTEM.
DRAIN BOILER COMPLETELY AND CONDENSATE TANK.
BLEED RESIDUAL PRESSURE FOR GAS AT UNION WHERE WE ARE GOING TO OPEN DOOR.

8. Describe how to verify that the equipment has been effectively isolated from the energy source and rendered safe (see requirements in P101-3, *Lockout/Tagout for Hazardous Energy Control*, Section 3.12 *Additional Precautions for Lockout/Tagout Involving Electrical Hazards*). Include any personal protective equipment required during verification.

ATTEMPT TO TURN BOILER ON AT BOILER CONTROL PANEL.
MANUALLY BUMP BOILER MAKE UP WATER PUMP.

9. Describe the work that will be done and any hazards/controls associated with the work. Describe method(s) for testing and/or positioning equipment upon completion of work:

BOILER FIRESIDE/WATERSIDE PM.

10. Describe steps for returning equipment to service (see P101-3, *Lockout/Tagout for Hazardous Energy Control*, Table 2, *Release from Lockout/Tagout*). Provide the sequential steps for testing the equipment/machinery before removing the lockout/tagout. Include sequential steps for removing the lockout/tagout.

AFTER WORK IS PERFORMED, REMOVE LO/TO. RETURN TO PMI INSTRUCTIONS.

11. Describe interfaces (if multiple crafts or organizations), how independent verification or shift change will be done, justification and actions required for tag only, and/or any other relevant information to ensure safety.

Approval of this specific written procedure:

Signature of Owner/Operator	Date
	5-15-15

Independent verification by a second authorized worker who does not perform the work. Upon removal from service, checks that hazardous energy has been rendered safe (if required by Facility Operations Director/designee).

Signature of Independent Verifier	Date

Independent verification by a second authorized worker who does not perform the work. Upon restoration to service, this second worker checks that release from lockout/tagout and reliable operation is achieved (if required by Facility Operations Director/designee).

Signature of Independent Verifier	Date

517941-01

ANNUAL WATERSIDE/FIRESIDE CHECKLIST for TA-09/16 STEAM PLANTS – Revision 2

Sellers Boilers Technical Description

The original manufacturer's manual for these boilers is Sellers Immersion Fired Steam Boiler Owner's Manual. A secondary reference for this Maintenance Procedure is the *Sellers Engineering Company Owners Manual for the Model 15 Commodore & 77 Commodore Steam Boilers and Model 15 Senior Model 105 E Steam Boilers.*

The boilers at TA-09 & TA -16 are located in eight (8) boiler plants: Plant 1 (TA-16-1480), Plant 4 (TA-16-1483), Plant 5 (TA-16-1484), Plant 8 (TA-16-1487), Plant 11 (TA-16-1490), Plant 12 (TA-16-1491), Plant 13 (TA-09-0282), and Plant 14(TA-16-1492). They are Sellers brand fire tube boilers manufactured in 1995. They all have a maximum allowable working pressure (MAWP) of 150 psig. The supply natural gas pressure is nominally 5 psig. Attachment 1 and Attachment 2 have technical information for each boiler.

The inspection and maintenance will consist of replacement, or testing, of all the pressure relief safety valves, a waterside and fireside boiler inspection, cleaning of any debris or scaling inside the boiler, inspection of various plant components, steam gauge calibration, and an internal and external inspection by a NBIC boiler inspector.

Complete the checklists in Attachment 3 before the boiler is released by UI Engineering to UI Operations. The U&I system engineer must be alerted for inspection of boiler components, specifically the hold points as seen in the text below.

A flue gas analyzer will be needed for two scenarios: light off and low-NOx boiler settings. Record the O2, CO, NOx, Temperature and Efficiency. The boilers are to be run in the low-NOx mode In order to be compliant with manufacturer's instructions.

The boiler output pressure will be 80 psig, with special exception to the two boilers at Plant 12 (TA-16-1491) which will operate at 40 psig.

There are three pressure switches on top of each boiler: the high pressure steam shutdown (High Limit) switch, the operating pressure control (OPC) switch, and the Low NOx Cold Start Limit Control (CSLC) switch. The final setting for all boilers, for all boilers except for Plant 12 (16-1491): set the high pressure steam shutdown (High Limit) switch to 90 psig; set the operating pressure control (OPC) switch to 80 psig; set the low NOx steam pressure (CSLC) switch to 40 psig. The final setting for the two boilers at Plant 12 (16-1491): set the high pressure steam shutdown (High Limit) switch

517941-01

Inspection/Maintenance Procedures

1) Remove and replace the Kunkle pressure relief valves. New pressure relief valves can be purchased and Attachment 2 identifies the pressure relief valves to order. If new valves are not purchased, test and repair the pressure relief valves in accordance with the Engineering Standard Manual Chapter 17.

2) Lubricate motor bearings as follows:

a) Grundfos boiler feed pumps- lubricate the Baldor motor with Polyrex EM (Mobil) grease.
b) Baldor blower motor – lubricate with Polyrex EM (Mobil) grease.

3) Clean any debris accumulated on the Neptune/Leeson chemical feed pumps and the GE/Neptune chemical mixing motors.

4) Clean out each main burner with a bottle washer.

5) Check the Low-NOx solenoid for proper operation.

6) Drill the pilot manifolds with a #53 drill bit and adjust the pilot manifold position in accordance with the Seller's Owners' Manual.

Waterside Inspection

1) Open flue door and inspect tube sheets for water leakage. It tube leakage is suspected call the system engineer for further evaluation. The narrow ligaments between tube holes are subject to tremendous stresses and should be watched for any sign of cracking mainly due to overheating.

2) Drain boiler and remove all hand hole and manhole covers, where applicable, to allow a visual check of all internal accessible areas. Example: shell, tubes and tube sheets.

Hold Point: U&I system engineer and chemical treatment company representative are required for waterside inspection. Give at least 7 days advance notice and coordinate with U&I system engineer.

3) Carefully examine waterside surfaces using a strong light and mirror where required. Look for evidence of scale, corrosion, blisters, or pitting, indicating adequacy of water treatment.

4) Use a high pressure hose to wash sediment out of the bottom and other internals of the boiler.

517941-01

Post Maintenance

1) Complete checklist in Attachment 3.

2) Verify the settings for the following steam switches: lead, lag, low boiler pressure. There are three pressure switches on top of each boiler: the high pressure steam shutdown (High Limit) switch, the operating pressure control (OPC) switch, and Low NOx Cold Start Limit Control (CSLC) switch. Upon initial startup the CSLC switch is adjusted to a pressure above the OPC switch until the initial boiler parameters have been adjusted.

For all boilers except for Plant 12 (16-1491): the final set point configuration for the high pressure steam shutdown (High Limit) switch is 90 psig; the final set point configuration for the operating pressure control (OPC) switch is 80 psig; the final set point configuration for the Low NOx Cold Start Limit Control (CSLC) switch is 40 psig.

For the two boilers at Plant 12 (16-1491): the final set point configuration for the high pressure steam shutdown (High Limit) switch is 45 psig; the final set point configuration for the operating pressure control (OPC) switch is 40 psig; the final set point configuration for the Low NOx Cold Start Limit Control (CSLC) switch is 20 psig. All steam pressure switch set point verification must be performed with a calibrated boiler pressure gauge.

3) Verify the Low NOx Cold Start Limit Control switch. Set to the aforementioned values. Verification of this switch is performed after the initial settings. Verify that the low NOx damper control motor is operating, and that the auxiliary solenoid valve on the main gas valve line de-energizes (closes).

4) Check pilot burners and ignition equipment for proper condition and adjustment.

5) Visually check burner for proper combustion. Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners. Adjust fuel/air mixture as needed. Refer to Attachment 1 for commissioning flue gas analysis results.

6) Complete the functional checklist on page 3 of Attachment 3.

Hold Point: U&I system engineer and NBIC boiler inspector needed for external boiler inspection. Give at least 7 days advance notice and coordinate with U&I system engineer.

7) Before the boiler is released to operations the U&I System engineer is to review and sign off on Attachment 3.

TIMM611 - WORK ORDER/TASK COST SUMMARY

Select to view audit detail. Use Execute to recalculate percent complete.

W/O No.	00517941	Task	
W/O Status	AWAIT/C	W/O Type	PM
Desc	ST 1Y TA16-1484 STEAM PLANT WATERSIDE/ FIRESIDE PM		
%Complete			

Execute

Loaded Cost

Component	Est Hrs	Est Cost	Act Hrs	Act Cost	Cmpl Hours	Cmpl Cost
Comp Lbr	350.00	$20,345.20	260.00	$14,832.86		
Cont Lbr						
In Svcs						
Out Svcs						
Stocked						
Direct				$12,406.42		
Equip/Veh						
Misc						
Sub Total		$20,345.20		$27,239.28		
Salvage						
Total		$20,345.20		$27,239.28		

Attachment 11

Work Documentation Form

Work Order/Task:

Start Date:	Completion Date:

Date/Hours	Summary of Work Performed/Materials Used:
8/28/15	Electrician go for all boiler A & B Control panels & Feed water Controls & Reline Cab.
9.3.15	Cleaned out the tanks of both boilers. Vacuumed out all fire tubes and replaced turbulators.
9.4.15	Replaced all hand holes w/ new hardware + gaskets - boilers & feedwater tank.
9.10.15	Installed M/M heads & continuous blowdown skimmers. Tested the lower hand holes. Installed new try cocks + gauge glass w/ valves to BS.A.
9.11.15	Installed check valves on the continuous blowdown lines. Installed safety valves on BS.A.
9.14.15	Installed safety valves + Pressure trols on BS.B. Installed try cocks, gauge glass + valves on BS.B. Installed controls on steam header. Installed back door gaskets + closed back doors on BS.A + B.

Problems Encountered (delays, safety, etc.):

None.

Lessons Learned/Recommendations:

None.

Craftsperson Name:	Signature:	Date:
[signature]	[signature]	8/28/15

Attachment 11

Work Documentation Form

Work Order/Task:

Start Date:	Completion Date:

Date/Hours	Summary of Work Performed/Materials Used:
9.15.15	Filled both BS-A+B w/ water + checked for leaks. Opened the front boiler doors. Removed the low nox panel + air box cover. Inspected the fireside of BS-A + cleaned the air box, pilot runners + burner tubes. Cleaned the air screens.
9.16.15	Installed new front gasket to BS-A. Re-assembled the fireside and closed the front door. Reconnected the gas supply + vent lines. Removed the low nox panel + air box cover. Inspected the fireside of BS-B + cleaned the pilot runners + burner tubes + air box. Cleaned the air screens. Re assembled the fireside.
9.17.15	Installed new front gasket to BS-B + closed the front door. Reconnected the gas supply + vent lines. Removed + replaced the condensate lines @ the header w/ new steam traps & check valves.

Problems Encountered (delays, safety, etc.):

None.

Lessons Learned/Recommendations:

None.

Craftsperson Name:	Signature:	Date:
Brandon Davis	[signature]	9.17.15

Attachment 11

Work Documentation Form

Work Order/Task:

Start Date: 9/18/15	Completion Date: 10-6-15

Date/Hours	Summary of Work Performed/Materials Used:
9.18.15	Removed existing drain piping from feedwater tank. Installed new drain piping w/ future tee-off for recirculating pump. Installed new strainer for make up water.
9/22/15	washed down boiler room & floor
9/29/15	Drained BS-A & BS-B to safe operating water levels, introduced gas to the system and checked for leaks, drained condensate from steam header & closed steam header valve heading out of building with Joe Sweeney
10.1.15	Performed burner set-up on BS-A+B.
10-6-15	Went thru Boiler Check List / with Engineering Verified Safety's & Combustion Readings.

Problems Encountered (delays, safety, etc.):

none

Lessons Learned/Recommendations:

None

Craftsperson Name:	Signature:	Date:
Jason K Sparks	[signature]	10-6-15

Attachment 11

Work Documentation Form

Work Order/Task:

Start Date:	Completion Date:

Date/Hours	Summary of Work Performed/Materials Used:

Problems Encountered (delays, safety, etc.):

Lessons Learned/Recommendations:

Craftsperson Name:	Signature:	Date:

Attachment 11

Work Documentation Form

Work Order/Task:

Start Date:	Completion Date:

Date/Hours	Summary of Work Performed/Materials Used:

Problems Encountered (delays, safety, etc.):

Lessons Learned/Recommendations:

Craftsperson Name:	Signature:	Date:

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AP-WORK-002: Attachment 11
Maintenance and Site Services
Work Completion Form

Work Order/Task: 517941-01

Start Date: 5-15-15	Completion Date:

SUMMARIZE THE WORK PERFORMED

Date 5-15-15	LOTO Boilers & Feed water Tank For
	Fire side Waterside PM. Drained Boilers
	& Feed water tank
5-21-15	Pre Jobed Electrician on Flw.

FOR CORRECTIVE WORK – WHAT FAILED AND WHAT WAS FIXED

FOR PMs – SUMMARIZE AS FOUND AND AS LEFT CONDITIONS BELOW

As found	
As left	
Parts/Repairs	
Read/meas.	
Post test info.	

Problems Encountered (delays, safety, etc.):

Lessons Learned/Recommendations:

Name: **Signature:** **Date:**

Facility: F04 Unit: 530365 Proj:
Task Title: BHW ANNUAL FIRESIDE/WATERSIDE PM

W/O Type: PM W/O Group: Task Priority: 3
Planner : 112527 PADILLA B A
W/O Title: 530365-BHW-010 FALL START UP
Written To: BOILER, HOT WATER
Task Dspln: F Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

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Work Order Task

00529287 01

MASTER

Date: 10/13/2015
Page: 1

Work Order Task Written To

Facility : F04 **Unit : 530365** **Op Sys : HW**
Room : 403ER **Area :** **Sys/Cls: R ML4**
Equipment : BOILER BHW-010 **Component:**
Location : S-53-0365-403ER
Job Type : PM
Tag 1 : 35834 Tag 2 :
Work Item : Ops Review Reqd: N

Authorization

Start Permission : K. Imparato Start Date: 11-5-15
Complete Notice : Complete Date: 12-3-15

NOTE:

*** Refer to attached Form 2101 - Non-Tenant Activity Form - or Form 2102- Tenant Activity Form - for a description of site specific training or escort and access requirements.**

Work Order Task Instructions

PERFORM ANNUAL INSPECTION, MAINTENANCE, AND FALL STARTUP PER UNIT
.
CONTACT: FACILITY COORDINATOR
PHONE: PAGER:
COORDINATION MEETING: NO[X] YES[ ]
.
NOTIFY COORDINATOR PRIOR TO STARTING PROCEDURE.
FILL OUT ATTACHED CHECKLISTS & REPORT ANY DEFICIENCIES FOUND
TO FACILITY COORDINATOR AS SOON AS PRACTICAL.

QC Requirements/Comments

Facility: F04 Unit: 530365 Proj:
Task Title: BHW ANNUAL FIRESIDE/WATERSIDE PM

W/O Type: PM W/O Group: Task Priority: 3
Planner : 112527 PADILLA B A
W/O Title: 530365-BHW-010 FALL START UP
Written To: BOILER, HOT WATER
Task Dspln: F Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00529287 01

MASTER

Date: 10/13/2015
Page: 2

Rework Reason/Cause

		(Y/N)
CDSG	CUSTOMER DESIGN	
IMCW	IMPROPER CONSTRUCTION/WORKMANSHIP	
IMDN	IMPROPER DESIGN	
PDMS	PARTS/MATERIAL DID NOT MEET SPECIFICATIONS	
WR	WARRANTY REWORK/REPAIR	

Date: Hours: Crew: Shift:
Comments: N/A

Rework/Approval

Deficiency Tag No.: Loc: Tag Removed:
ReWork Job : N Comments:

Trouble Found/Work Performed

BHW 10 FALL START-UP

Continued on Additional Sheets? : _____

Work Delay Reason

		(Y/N)
A	ACCESS	
EQPT	EQUIPMENT	
MISC	MISCELLANEOUS	
OPS	OPERATIONS	
P	POOR PLANNING	
S	SAFETY	

Date: Hours: Crew: Shift:

Facility: F04 Unit: 530365 Proj:
Task Title: BHW ANNUAL FIRESIDE/WATERSIDE PM

W/O Type: PM W/O Group: Task Priority: 3
Planner : 112527 PADILLA B A
W/O Title: 530365-BHW-010 FALL START UP
Written To: BOILER, HOT WATER
Task Dspln: F Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00529287 01

MASTER

Date: 10/13/2015
Page: 3

SCH SCHEDULING
Date: Hours: Crew: Shift:
T TRAVEL
Date: Hours: Crew: Shift:
W WEATHER
Date: Hours: Crew: Shift:
Comments:

Major Failure/Action Taken

Major Failure : N/A Action Taken :
Deficiency Tag Loc: Removed (Y/N):
Deficiency Tag No.: Limited Cond Operation:

Work Completion Signatures

Name	Function/Dept.	Date
Vial/[illegible], Joe	Leg C2	11-10-15

Comments:
(rework?)

Cost Center: P2070A Activity : 640CL000 User Def:
Percentage : 100.000 Acct No : XFM400 1G530365

Facility: F04 Unit: 530365 Proj:
Task Title: BHW ANNUAL FIRESIDE/WATERSIDE PM

W/O Type: PM W/O Group: Task Priority: 3
Planner : 112527 PADILLA B A
W/O Title: 530365-BHW-010 FALL START UP
Written To: BOILER, HOT WATER
Task Dspln: F Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00529287 01

MASTER

Date: 10/13/2015
Page: 4

Work Order Task Written To

Facility : F04 **Unit : 530365** **Op Sys : HW**
Room : 403ER **Area :** **Sys/Cls: R ML4**
Equipment : BOILER BHW-010 **Component:**
Location : S-53-0365-403ER
Job Type : PM
Tag 1 : 35834 Tag 2 :
Work Item : Ops Review Reqd: N

Print Request - Work Order Documents

Facility	Type/Subtype		Document Number	Sheet	Image Addr
LNL	PROC	STD	403-A.001 HOT WATER BOILER STARTUP AFTER LAY-UP		
LNL	PROC	STD	403-A.006 HOT WATER BOILERS ANNUAL FIRESIDE/WATERSIDE		

References/Document Information

Type/Subtyp: PROC STD Number: 403-A.001 Sheet:
Title/Desc : HOT WATER BOILER STARTUP AFTER LAY-UP Image: N
Type/Subtyp: PROC STD Number: 403-A.006 Sheet:
Title/Desc : HOT WATER BOILERS ANNUAL FIRESIDE/WATERSIDE Image: N

***** E N D O F R E P O R T *****

Los Alamos NATIONAL LABORATORY EST. 1943

Form 2101

IWD Part 2
FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: 529287-01 Revision #: _

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD	TA	Bldg.	Room	Other Location
4	53	365	403	
FOD Designated Facility Point-of-Contact	Name: K. MADRID	Phone: 665-0944	Pager: 104-8327	Email

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☑ Plan of the Day/Plan of the Week (POTD/POTW)
- ☐ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☑ Check out at End of Work
- ☐ Escort Required
- ☐ Other Bounding Conditions _____
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☑ Check in at Start of Work
- ☑ Work-Area Training Required
- ☑ Work must be Scheduled
- ☐ Check in Daily
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Check out Daily
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				
Ionizing Radiation Work in posted radiological areas, work with radioactive materials, or work on or near radiation producing devices. **Specify Hazard:**	☐ Yes ☑ No			

2101 (6/12)

IWD No./Work Request No: 529287-01 Revision #: _____

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards:**	☐ Yes ☑ No			
Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:** Gas Fired Boiler(s)	☑ Yes ☐ No	use caution around: HOT SURFACES		
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☐ Yes ☑ No			
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☐ Yes ☑ No			
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:**	☐ Yes ☑ No			
Security Requirements **Specify:**	☐ Yes ☑ No			
Other Hazards **Specify:**	☐ Yes ☑ No			

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** [signature] 112877 11-5-15

Date Approval Expires 12-31-2016

2101 (6/12)

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.001: Hot Water Boiler Startup After Lay-Up**
Work Order No.: S29287-01	Equipment ID No.: BHW-10

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 53 Building: 365 Room: A03

Date Inspected: 11 / 12 / 15 Inspectors: 30148

Calibrated tools needed:

Name:	Serial Number:	Calibration Exp. Date:
Flue gas analyzer	N/A	

1.0 PRE-MAINTENANCE

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

Remarks:

Los Alamos NATIONAL LABORATORY EST.1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.001: Hot Water Boiler Startup After Lay-Up**

Work Order No.: S29287-01 Equipment ID No.: BHW-10

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.		Initials:
1.2	Review manufacturer's recommendations for startup of burner and boiler.		Initials:
2.0	**MAINTENANCE**		
2.1	Fill boiler and system, if not already full.		Initials:
2.2	Vent air at high point in system.		Initials:
2.3	Check pressure/altitude gauge and expansion tank to ensure system is properly filled.	Circle one: (S) U N/A	Initials:
NOTE	If expansion tank is waterlogged, drain and refill the tank. If tank does not hold air, report to the MC for repair or replacement.		
2.4	Set control switch to Off position.		Initials:
2.5	Make sure fresh air to boiler room is unobstructed and manual dampers are open.		Initials:
2.6	Check availability of fuel.	Circle one: (S) U N/A	Initials:
2.7	Vent combustion chamber to remove unburned gases.		Initials:
2.8	Clean glass on fire scanner, if provided.		Initials:
2.9	Observe proper functioning of water pressure regulator.	Circle one: (S) U N/A	Initials:
2.10	Turn circulator pumps on electrically.	Circle one: (S) U N/A	Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST.1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.001: Hot Water Boiler Startup After Lay-Up**

Work Order No.: S29287-01 Equipment ID No.: BHW-10

2.11 Check temperature control(s) for proper setting.	Circle one: S U N/A	Initials:
2.12 Check manual reset button on low-water fuel cutoff and high-limit temperature control.	Circle one: S U N/A	Initials:
2.13 Set manual fuel oil supply or manual gas valve in Open position.		Initials:
2.14 Place circuit breaker or fuse disconnect in On position.		Initials:
2.15 Place all boiler emergency switches in On position.		Initials:
2.16 Place boiler control starting switch to On or Start position.		Initials:
! WARNING Boiler should fire at this point. Do NOT stand in front of boiler doors or breeching!		
2.17 Do not leave the boiler until it reaches the established cutout point to make sure the controls shut off the boiler.	Circle one: S U N/A	Initials:
NOTE If any abnormal conditions occur during light-off or temperature buildup, immediately open emergency switch. Do not attempt to restart unit until difficulties have been identified and corrected.		
2.18 During the temperature and pressure buildup period, walk around the boiler frequently to observe that all associated equipment and piping is functioning properly.	Circle one: S U N/A	Initials:
2.19 Visually check burner for proper combustion.	Circle one: S U N/A	Initials:
NOTE Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.		
2.20 Immediately after burner shuts off, inspect water pressure.	Circle one: S U N/A	Initials:

Remarks:

Los Alamos NATIONAL LABORATORY EST.1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.001: Hot Water Boiler Startup After Lay-Up**

Work Order No.: 529287-01 Equipment ID No.: BHW-10

2.21	Open the highest vent to determine that system is completely full of water.	Circle one: **S U N/A**	Initials:

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Enter the following information in boiler logbook:		Initials:
3.2	Date and time of startup. Date: 11/12/10 Time: 3:30		Initials:
3.3	Any irregularities observed and corrective action taken.		Initials:
3.4	Time when controls shut off burner at the pre-established temperature.		Initials:
3.5	Signature of operator.		Initials:
3.6	Check safety relief valve for evidence of leaking.	Circle one: **S U N/A**	Initials:
3.7	Perform "Try Lever Test" in accordance with ASME Section VI, Exhibit C.	Circle one: **S U N/A**	Initials:
3.8	Once boilers have been checked out and put into service, contact the MC.		Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.001: Hot Water Boiler Startup After Lay-Up**
Work Order No.: 529287-01	Equipment ID No.: BHW-10

Name of Craft Worker: Joe Valdez Z Number: 301408

Signature: Date: 11/12/15

Name of Craft Worker: Mark Ramirez Z Number: 234334

Signature: Date: 11/12/15

Foreman Verification: _____ Z Number: _____

Signature: _____ Date: ___/___/___

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 529287-01 Equipment ID No.: BHW.10

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 53 Building: 365 Room: 403

Date Inspected: 11 / 12 / 15 Inspectors: 301408

Calibrated tools needed:

Name:	Serial Number:	Calibration Exp. Date:
Flue gas analyzer	n/a	

1.0 PRE-MAINTENANCE

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 529287-01 Equipment ID No.: BHW-10

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.	Initials:

2.0 MAINTENANCE

NOTE These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler SME @ 5-1159 with questions or concerns.

2.1	Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials:
2.2	Cool boiler, open air cock, and drain the boiler.		Initials:
2.3	Perform an internal and external inspection after thorough cleaning.	Circle one: S U N/A	Initials:
2.3.1	Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	Circle one: S U N/A	Initials:
2.3.2	Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials:
2.3.3	Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure (MAWP) and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	Circle one: S U N/A	Initials:
2.3.4	Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 529287-01 Equipment ID No.: BHW. 10

2.3.5 On one-pass boilers (Sellers), check condition of all heat extractors.	Circle one: S U N/A	Initials:
2.3.6 Check refractory materials.	Circle one: S U N/A	Initials:
2.3.7 Replace if needed.		Initials:
2.4 Perform routine burner maintenance.		Initials:
2.4.1 Observe temperature and operating pressure and general conditions.	Circle one: S U N/A	Initials:
2.4.2 Fire and cycle the burner.		Initials:
2.5 Perform routine maintenance of circulating pump and expansion pump equipment.		Initials:
2.5.1 Observe condition of expansion tank.	Circle one: S U N/A	Initials:
2.5.2 Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	Circle one: S U N/A	Initials:
2.5.3 Check the air pressure on the bladder-type expansion tanks.	Circle one: S U N/A	Initials:
2.5.4 Observe operation of circulating pumps.	Circle one: S U N/A	Initials:
2.5.5 Lubricate pump motors.		Initials:
2.6 Perform routine maintenance of entire combustion control equipment.		Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST.1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 5 29287-01 Equipment ID No.: BHW-10

2.6.1	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: (S) U N/A	Initials:
2.6.2	Adjust air/fuel mixture as needed.		Initials:
2.6.3	Test flame detection devices on boilers with flame scanners.	Circle one: (S) U (N/A)	Initials:
2.6.4	Remove the flame scanner with the burner firing.		Initials:
NOTE	The burner should shut off as a flame failure condition.		
2.6.5	Clean the flame scanner, reinstall and test programmer.		Initials:
2.6.6	Check for proper operation as boiler goes through a firing cycle and light-off.	Circle one: (S) U N/A	Initials:
2.6.7	Check all electrical control and circuitry.	Circle one: (S) U N/A	Initials:
2.6.8	Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumpered conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	Circle one: (S) U N/A	Initials:
2.6.9	Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	Circle one: (S) U N/A	Initials:
2.6.10	Lubricate fan motors where necessary.		Initials:
2.7	Perform combustion and draft tests.		Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 529287-01 Equipment ID No.: BHW 10

2.7.1 Visually inspect combustion.	Circle one: **S U N/A**	Initials:
NOTE Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.8 Perform safety relief valve(s) pop test.	Circle one: **S U N/A**	Initials:
2.8.1 Check pressure-reducing valve.	Circle one: **S U N/A**	Initials:
2.8.2 Replace the strainer in the valve if needed.		Initials:
2.9 Perform slow drain test of low-water cutoff.	Circle one: **S U N/A**	Initials:
2.10 Inspect gas piping for proper support and tightness.	Circle one: **S U N/A**	Initials:
2.10.1 Inspect fuel supply system and gas controls.	Circle one: **S U N/A**	Initials:
2.10.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	Circle one: **S U N/A**	Initials:
2.11 Inspect boiler room ventilation louvers and intake.	Circle one: **S U N/A**	Initials:
2.11.1 Listen for any unusual noises or conditions and correct as necessary.	Circle one: **S U N/A**	Initials:
2.11.2 Report any needed corrections to the MC for Corrective Maintenance.		Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST.1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 529287-01 Equipment ID No.: BHW-10

2.11.3	Check combustion air supply openings to ensure that they are not closed or stopped up.	Circle one: S U N/A	Initials:
2.11.4	Inspect conditions of stacks and rain caps.	Circle one: S U N/A	Initials:
2.11.5	Inspect flue door gaskets to ensure they are in good condition, and properly secured.	Circle one: S U N/A	Initials:
2.11.6	Replace if necessary.		Initials:

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Close and secure front and rear flue doors.		Initials:
3.2	Hook up all associated piping and refill boiler.		Initials:
3.3	Fire up boiler and check for air, gas, and water leaks.	Circle one: S U N/A	Initials:
3.4	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: S U N/A	Initials:
3.5	Check pilot burners and ignition equipment for proper condition and adjustment.	Circle one: S U N/A	Initials:
3.6	Visually check burner for proper combustion.	Circle one: S U N/A	Initials:
3.7	Record all mechanical maintenance data, testing data, and other notable items.		Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: S29287-01 Equipment ID No.: BHW-10

NOTE	Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.		
3.8	Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002 (old number 40-40-003.2).	Circle one: S U N/A	Initials:
3.9	Record all mechanical maintenance data, testing data, and other notable items.		Initials:
3.10	Notify MC that work on the boiler system is complete.		Initials:

Name of Craft Worker: Joe Vialpando Z Number: 301408

Signature: [signature] Date: 11 / 12 / 15

Name of Craft Worker: MARK RAMIREZ Z Number: 234374

Signature: [signature] Date: 11 / 12 / 15

Foreman Verification: _____ Z Number: _____

Signature: _____ Date: ___/___/___

Remarks: _____

Form 2103

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD #: 52928701 Revision #: _____ **Work Release**

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Ops Mgr or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: _____

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, required initial conditions and other prerequisites are in-place.
- The assigned workers are authorized and are qualified to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers have been briefed.
- I have ensured coordination with any required FOD work-area representatives (*e.g., area work coordinators*).

Primary PIC (Signature/Z#/Date) **Required**: [signature] 234334 11-12-15

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff)*.

Alternate PIC (Signature/Z#/Date) **Required**: _____

Alternate PIC (Signature/Z#/Date) **Required**: _____

Pre-Job Brief Content

- What are the critical steps or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g. for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

Pre-Job Brief Attendance Roster

By signing below **as required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) [signature] 361408 11-10-15	**Worker** (Signature/Z#/Date) [signature] 234334 11-12-15
Worker (Signature/Z#/Date) [signature] 229857 11-12-15	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)

Mandatory Questions for All Pre-Job Briefs

The purpose of this document is to demonstrate compliance with the Release of Craft requirements directed by MSS-DO on 17 June 15. Until a formal document is institutionalized by the Work Control Group this document will be included in **all** work control packages (CM, PM, Planned, Unplanned, etc). Each of the questions listed below will be discussed at each Pre Job Brief with all affected personnel. Compliance will be demonstrated by the signature from the person performing the Pre Job Brief on the bottom of this document. This document is a permanent part of **all** work packages until further notice.

Topic	Completed (X)
Assume we are going to have an accident on this job. How did it happen? How can we prevent it?	X
What is the worst thing that can happen on this job? How can we keep it from happening?	X
What hazards will you encounter in performing this work?	X
Is there a better way to address the hazards you will encounter?	X
Have all safety issues concerning this task been addressed to your satisfaction?	X

Signature (Person Performing Pre-Job)

11-12-15

Date

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AP-WORK-002: Attachment 11
Maintenance and Site Services Work Completion Form

Work Order/Task: 529287-01

Start Date: 11-12-15	Completion Date: 11-12-15

SUMMARIZE THE WORK PERFORMED

Date 11/12/15	Boiler PM

FOR CORRECTIVE WORK – WHAT FAILED AND WHAT WAS FIXED

11/12/15	NEED NEW PRESSURE Gauge. / will order two
	Also Butterfly valves need to be replaced.
	leaking through during dump down

FOR PMs – SUMMARIZE AS FOUND AND AS LEFT CONDITIONS BELOW

As found	on
As left	on
Parts/Repairs	
Read/meas.	
Post test info.	

Problems Encountered (delays, safety, etc.):

11/12/15	N/A

Lessons Learned/Recommendations:

Name: Joe Valpando **Signature:** [signature] **Date:** 11/12/15

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AP-WORK-002: Attachment 11
Maintenance and Site Services Work Completion Form

S29287-01

PIC/SUPT

☒ PM has been completed in its entirety and ready for closure.

IF A PM COULD NOT BE COMPLETED:

☒ Percentage complete is 100 %

☐ Sections that did not work and need to be rescheduled

Reasons why:

MAINTENANCE COORDINATOR/AREA WORK COORDINATOR

Work Package is Complete and may be closed out: YES ☒ NO ☐

IF no: State Reason

Additional Work Needed? ☐ YES ☐ NO

Document UP/WO/FSR Number:

ENGINEERING (FOR MD and CD Work Orders)

IF a configuration baseline has been changed, THEN indicate the changes are to be incorporated into the following documents and/or configuration baseline:

☐ Drawings ☐ FDD/SDD

☐ Procedures ☐ Master Equipment List

☐ Permits ☐ Checklists

SE Name: Signature: Date:

WORK CONTROL

Moderate/High Hazard – WMC/Planner reviewed for Lessons Learned/Feedback

☐ YES ☒ NO N/A ☐

☒ Review of the completed work package is complete per AP-WORK-005, and the work package is ready to be set to complete in CMMS.

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Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # **-0-**	Activity/Task Title: **53 0006 BHW-02 FALL START UP**
Work Document #: (WO # / Task) 529287-01	Planner/Preparer (Name/Z#/Date) **Troy Calloway #186163 10/19/15**
TA: **53** Building: 365 Room:	Additional Location Description: **Equip Room**

Activity Description/Overview:

PERFORM ANNUAL INSPECTION, MAINTENANCE, AND FALL STARTUP PER UNIT (NOTE: EQUIPMENT LIST TO FOLLOW - INSPECTION SHEET and/or CHECKLIST IS REQUIRED AND MUST BE COMPLETED AND FILED FOR EACH INDIVIDUAL PIECE OF EQUIPMENT ON THIS LIST.)
NOTIFY COORDINATOR PRIOR TO STARTING PROCEDURE.
REPORT ANY DEFICIENCIES FOUND TO FACILITY COORDINATOR AS SOON AS PRACTICAL.

LOTO point:
LP-5B Ckt 7 (by TR2 <125kva)

MC: Robert Patton 4-6006

NOTE: Maintenance Coordinator requests notification of progress at the end of each day and on completion of the job.

List Names of Hazard Analysis (HA) Team: Troy Calloway, Tommy Martinez, Lewis Mondragon

Date HA Performed: 10/1/15

PRECAUTIONS/LIMITATIONS/PREREQUISITES:

- If steps cannot be completed as described, or if unforeseen situations occur, **PAUSE WORK**, stabilize the situation, contact your supervisor, and await further instructions before proceeding. **ASK YOURSELF –**
  - **WHAT NON-RELATED ACTIVITIES / HAZARDS ARE OCCURRING IN THE VICINITY? HOW MAY THEY AFFECT ME AND MY WORK?**
  - **AM I READY AND COMFORTABLE TO PERFORM THIS WORK?**
  - **WHERE IS THE NEAREST AED LOCATED?**
  - **WHATS THE WORST THING THAT CAN HAPPEN? HOW DO I PREVENT IT?**

- Craft will review all postings for entry, work and exit of area.
  Be aware of any alarms that may be in area and what the procedure is if alarm sounds.
  Locate and identify nearest fire extinguisher and emergency pull station, eyewash/shower station.
  Locate and identify nearest phone capabilities and contact numbers in case of emergency.

- The following trainings are required of ALL craft for the General Hazard Section:
  - Core training (#10968)
  - TA53 Facility Specific (#57262)

- Training for tasks - **Fitters**
  - Journeyman craftsman – Boiler Specifc
  - LOTO training – TP #127
  - Energized electrical training - #2908 (non-electricians)
  - HAZCOM - #25418
  - Pressure Safety Orientation - #769

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # -0-			Activity/Task Title: 53 0006 BHW-02 FALL START UP
Work Document #: (WO # / Task) S29287-01			Planner/Preparer (Name/Z#/Date) Troy Calloway #186163 10/19/15
TA: 53	Building: 305	Room:	Additional Location Description: Equip Room

Core Training (#10968) covers use of tools and general PPE.

The following PPE is required **at a minimum**; Task specific PPE listed within task:

- Safety Shoes
- Safety Glasses with Side shields
- Leather or Light Duty High Dexterity Gloves
- Minimize exposure to noise. Wear hearing protection as applicable.
  - ➢ If questions or concerns arise regarding noise levels contact LANSCE IH for a Hazard Assessment. **Bob Brennecke 665-9391 or 695-6231**

HOLD POINT

❖ **Erect** and set in place barriers / demarcation at room entrances

- ✓ Signage shall be sufficiently legible and noticeable
- ✓ Set barricade at sufficient distance to allow safe working area
- ✓ NO non-essential personnel are to enter work area without authorization and proper PPE
- ✓ Ensure barriers are sufficiently secured to not fall over

❖ **Remove** barriers at end of project

RP-1 CONTACT 7-7069 RCT ON-CALL 699-4046

❖ **Working** posted radiological area

- Follow all postings for entry, work and exit of building/room
- Coordinate all work with the Maintenance Coordinator and RP-1

❖ **REVIEW O&M** manual as necessary for specified steps

❖ **CYCLE** boiler and inspect operations

- Only qualified personnel to perform operation of boiler
- Coordinate efforts with facility coordinator

To be discussed during the pre-job brief:

Upon removal of the cover of enclosed electrical equipment workers assure that all recognizable electrical hazards have been identified in the IWD and have the correct controls in place.

If any previously unknown or potentially unknown electrical hazard is suspected, PAUSE work and bring in an SME (facility electrician or Electrical Safety Officer) to assess the potentially unknown electrical hazard. If necessary, modify the IWD to include the previously unanticipated electrical hazard.

❖ **Purge** system (if necessary) per Page 1 of **PMI 403-A.001**

- NO spark or flame within area

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # -0-			Activity/Task Title: 53 0006 BHW-02 FALL START UP
Work Document #: (WO # / Task) 529287-01			Planner/Preparer (Name/Z#/Date) Troy Calloway #186163 10/19/15
TA: 53	Building: 305	Room:	Additional Location Description: Equip Room

- HAZCOM training
- Purge gas to outside – IF NOT possible contact LANSCE IH for air quality monitoring and LANL Fire Marshall.
  - 670-1958

❖ **Perform Inspection** and Maintenance activities of PMI sections 2 and 3
- Fitter must be certified person
- Test liquid must be approved liquid
- PPE per core training
- HAZCOM training required

Working with battery powered/electrical tools:
- GFCI protection for all cords and electric devices
- Inspect all cords, plugs and electric tools for damage – remove and tag if found defective

Pinching or crushing/hand injury:
- Do not place hands or body in the path of potential pinch points or crush points.
- Be aware of and keep from 'Line-of-Fire'
- Be aware of hand and body position while rotating tools, valves and/or fasteners.

❖ **Fill out required documentation.**

NOTE:

PMI Steps may be worked out of sequence to facilitate ease of job – so long as doing so does not create additional hazards or tasks not covered by this IWD.

ANY time a worker may be exposed to energy (gas, electrical, stored) LOTO procedures MUST be put in place PRIOR to possible exposure.

EXCEPT: Performing Mode 1 or 2 Electrical Work

❖ **Purge** system (if necessary) per Page 1 of **PMI 403-A.006**
- NO spark or flame within area
- HAZCOM training
- Purge gas to outside – IF NOT possible contact LANSCE IH for air quality monitoring and LANL Fire Marshall.
  - 670-1958

PAUSE POINT

Craft shall check panel front at LOTO point for arc flash calculations provided by engineering.
Panel labeling shall override requirements in this IWD for PPE.

IF panel is properly labeled, craft shall follow label requirements.
IF panel is NOT labeled, craft shall proceed with PPE and approach limits listed in this IWD.

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Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # **-0-**			Activity/Task Title: **53 0006 BHW-02 FALL START UP**
Work Document #: (WO # / Task) 529287-01			Planner/Preparer (Name/Z#/Date) **Troy Calloway #186163 10/19/15**
TA: **53**	Building: 365	Room:	Additional Location Description: **Equip Room**

NOTE: *Calculations by engineering*	**LOTO Designator: Robert Patton** **LOTO Point: LP-5B / 7** **Voltage: 208v** **Transformer: TR 2** **<125 kVa**

⚠WARNING

FLASH HAZARD
EQUIPMENT OPERATION CLASS 1.2

- **Contact** equipment owner for energy assessment of all energy sources
  - **Each energy source shall be identified, physically located and marked / labelled.**
  - **If source not labelled, Owner shall identify with plain manila tag with unique identifier.**
- **Verify** Disconnect / Breaker controls unit power
  - Ensure unit runs/starts
  - Don PPE
    - Non melting long sleeve cotton shirt and long cotton pants. Safety glasses, leather work shoes and hearing protection. Leather work gloves.
  - Open Disconnect / Breaker and verify the unit stops or will not start

  Repeat process:
  - Close Disconnect / Breaker and ensure unit starts
  - Open Disconnect / Breaker and verify the unit stops or will not start

CAUTION: If unit does not start AND stop by operation of breaker, PAUSE work and contact MC. LOTO point may be incorrect OR power may not be supplied to unit.

- **Turn** off and apply **LOTO**
  - Obtain locks and tags from FOD Designated Lock Coordinator
  - Make necessary notifications per Simple LOTO procedure – (ONLY 1 LOTO point) OR Attachment B – (multiple LOTO points)
  - Determine all sources of power
  - Check applicable drawings/diagrams/ID tags
  - Turn off EQ
  - Open disconnecting device(s)
  - IF possible, visually verify devices are open/removed/disconnected
  - LOTO devices/tags shall be applied in accordance with P101-3R5

IF Necessary:

- **Turn off** and apply LOTO to gas supply at pilot valve
  - Obtain locks and tags from FOD
  - Make necessary notifications per Attachment B LOTO orders
  - Determine all sources of power

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Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # -0-			Activity/Task Title: 53 0006 BHW-01 FALL START UP
Work Document #: (WO # / Task) 529287-01			Planner/Preparer (Name/Z#/Date) Troy Calloway #186163 10/19/15
TA: 53	Building: 3125	Room:	Additional Location Description: Equip Room

- Check applicable drawings/diagrams/ID tags
- Turn off EQ
- Close valves.
- LOTO devices/tags shall be applied in accordance with P101-3R5
- PPE and hand tool use per core training

❖ **Perform maintenance per PMI section 2**

❖ **Remove** and replace defective components per PMI
- Ensure all components are sufficiently cool before contact with skin
- PPE per core training

Working with simple hand tools, Cuts and Abrasions:
- Inspect all tools prior to use
- Wear leather gloves and safety glasses

Working with battery powered/electrical tools:
- GFCI protection for all cords and electric devices
- Inspect all cords, plugs and electric tools for damage – remove and tag if found defective
- Minimize exposure to noise. Wear hearing protection as applicable.

⚠WARNING

Soldering and Brazing Hazards:
Fire Hazard
Inhalation Hazard
Eye and Dermal Burn Hazard

NOTE: Must have approved and signed spark and flame permit in package prior to working

❖ **Low temp soldering – IF necessary**
- Review current LANL fire danger rating, follow appropriate cautions
- Review spark and flame permit
- Provide fire watch if permit deems necessary
- Ensure adequate ventilation in work area
- Wear leather gloves, long sleeve shirt and tinted goggles
- Have a 5lb (minimum) ABC fire extinguisher present
- Scope area for possible flammable material within spark/flame range
- Verify NEAREST eyewash capabilities

⚠WARNING

ELECTRIC ARC FLASH
BREAKER OPERATION CLASS 1.2

❖ **Remove** LOTO
- Check equipment and area

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Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # -0-			Activity/Task Title: 53 0006 BHW-02 FALL START UP
Work Document #: (WO # / Task) S29287-01			Planner/Preparer (Name/Z#/Date) Troy Calloway #186163 10/19/15
TA: 53	Building: 3605	Room:	Additional Location Description: Equip Room

- Don PPE
  - Non melting long sleeve cotton shirt and long cotton pants. Safety glasses, leather work shoes and hearing protection. Leather gloves.
- Verify equipment controls are in OFF position
- Make necessary notifications
- LOTO devices/tags shall be removed in accordance with the requirements of P101-3, Chapter 1 – Lockout/Tagout for Safety.
- Close disconnecting device(s)
- Re-energize system
- Notify MC and return locks

❖ **Remove** LOTO at gas
- Check equipment and area
- Verify valves are in correct position (should be OFF)
- Make necessary notifications
- LOTO devices/tags shall be removed in accordance with the requirements of P101-3, Chapter 1 – Lockout/Tagout for Safety.
- Open valve(s)
- Re-energize system
- Notify MC and return locks

❖ **Return** system to normal operation

❖ **PERFORM** combustion analyzer test (if required for testing or requested by MC)
❖ **PERFORM** post-maintenance activities per **PMI Section 3**
❖ **FIRE** unit and verify proper operation
- Qualified personnel to operate unit
- Verify proper operation of boiler
- Verify boiler starts and fires properly.
- Verify boiler stays operational for extended amount of time
- Verify proper operation of flame rod
- Verify no gas leakage
- Verify proper operation of gauges and valves
- Verify that the support or auxiliary systems related to the component are functioning properly.

NOTE: **Only Certified Personnel to Operate Equipment**

❖ **Start** unit, observe and check for proper operation
❖ **Ensure** all panels, doors and/or guards are re-installed and secured.
- No additional controls

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # -0-			Activity/Task Title: 53 0006 BHW-02 FALL START UP
Work Document #: (WO # / Task) 52928701			Planner/Preparer (Name/Z#/Date) Troy Calloway #186163 10/19/15
TA: 53	Building: 365	Room:	Additional Location Description: Equip Room

- **Clean** the work area and dispose of all work generated debris and remove any barricades.
  - Dispose of debris in accordance with LANL waste generation
  - Coordinate disposal of chemicals, oils and/or lubes with Area Waste Coordinator
  - **BRETT CUMMINS: 5-2876 or 412-9996**

- **CONTACT the MC and inform them the work is completed.**
- **Complete** all the required documentation and return the Master Work Package to the Area Work Control Office.

***Insert Rows above** for additional Tasks/Steps or attach pages to clearly communicate ESH&Q/S&S hazards and associated controls.*	The RLM, and FOD or FOD Representative (if required or recommended by RLM, e.g. high hazard) approval indicates IWM has been applied appropriately, work is authorized, workers are qualified, work will be performed in accordance with ESH&Q/S&S requirements and the IWD, and facility safety basis, aggregate hazards, and collocated hazards were appropriately included in the hazard analysis and acknowledges completion of a peer review.	**RLM** (Signature/Z#/Date) **Required** 112529 11/12/15 **FOD or Representative** (Signature/Z#/Date) **If Required or Recommended by RLM** NA **SME Review** (Signature/Z#/Date) **If Required** NA **ESO Review** (Signature/Z#/Date) **If Required** NA
IWD Type ☒ Moderate-Hazard ☐ High-Hazard/Complex ☐ Standing IWD	Date when RLM re-approval is required: 12/1/15 Other Conditions for Re- Approval: Scope Change or New Hzrd (Print) Name of Primary PIC: Lewis Mondragon Name of Alternate PIC: ~~Shawn~~ Sean Smythe Name of Alternate PIC:	Classification review completed, if required. NA Reviewer Signature/Z#/Date

Attachment B, LO/TO Orders

Lock Coordinator Name/Z# KUNADRO Phone # 5-0944 231-0299 Alternate Lock Coordinator Name/Z# Phone #

Section 1: General Information

1. Work Document Number (i.e., Package/Procedure #): 529287-01
2. LO/TO (Parent) Record # 39552
3. Date: 11-12-15

Location

4. TA: 53 5. Bldg: 365 6. Rm: 403
7. Equipment/Machinery/Name/Number: BHW-10.

8. Reason for LO/TO: FSWS

9. Name of Equipment Owner/Operator:

10. Energy Type to be Isolated (check all that apply)
☒ Electrical ☒ Mechanical ☐ Hydraulic ☐ Pneumatic ☐ Steam ☐ Capacitors ☐ Compressed Energy ☐ Gravity ☐ Other (specify):

11. Group LO/TO: ☐ Yes ☒ No
If Yes, Name of Lead Authorized Worker:

12. Group Lock Box used: ☐ Yes ☒ No If yes, enter ID# of Lock Box
Lock Box ID:

13. Sequencing Required for LO/TO ***Installation***
If Yes, enter the required sequence in column 20 below. If No, place N/A in column 20 below.
☐ Yes ☒ No

14. Sequencing Required for LO/TO ***Removal***
If Yes, enter the required sequence in column 28 below. If No, place N/A in column 28 below.
☐ Yes ☒ No

Section 2: LO/TO Installation & Removal

LO/TO Installation

15. Approval to Install LO/TO (signature & Z#) [signature]

16. Verification required for LO/TO Installation ☐ No ☒ Peer Concurrent Dual ☐ Independent Verification

17. Verification Determination Approved by FOD/Designee (signature) [signature] Z# 117813 Date 11-12-15

LO/TO Removal / Return to Service

24. Approval to Remove LO/TO (signature & Z#). Call # [signature] 117813

25. Verification required for LO/TO Removal ☒ No ☐ Peer Concurrent Dual ☐ Independent Verification

26. Verification Determination Approved by [signature] Z# 117813 Date 11-12-15

18. Specific Energy Isolation Device/ID	19. Location of locking Device	20. LO/TO Installation Sequence	21. Required Position/Alignment for LO/TO	22. LO/TO Installation verified By:	27. Required Position/Alignment following Removal	28. LO/TO Removal Sequence	29. LO/TO Removal Verified By:	30. As-Left Position
Local Disc		N/A	ON/OFF		Local Disc	N/A		ON
Supply		N/A	closed		Supply	N/A		OPEN
Return		N/A	closed		Return	N/A		OPEN
Gas Valve		N/A	closed		Gas Valve	N/A		OPEN

23. LO/TO Points Positioned and First Lock installed by Signature [signature] Z# 301408 Date 11/12/15

31. LO/TO Removed, Positioned and Verified by Signature [signature] Z# 301408 Date 11/12/15

Page 1 of 5
Rev 1.

Attachment B, LO/TO Orders

Attachment B, LO/TO Orders (Cont.)		
1. Work Document Number (i.e., Package/Procedure #): 529287-01	2. LO/TO (Parent) Record # 29552	3. Date: 11-10-15
32. Zero Energy Checks have been completed ☒ Yes ☐ No	33. Completed by Signature	Z# 301408 Date 11/12/15

Section 3: Lead Authorized Worker and Authorized Workers (anyone applying a lock for this activity)

34. Authorized Workers Name(s)	Z#	35. Date workers lock is hung	36. Date workers lock is removed
1. Joe Valpando	301408	11-12-15	11-12-15
2. Mark Ramirez	234534	11-12-15	11-12-15
3. Jacob vigil	229857		11-12-15
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Section 4: Return of Lock(s)/Tag(s) and Locking Devices

All Lock(s)/Tag(s) and Locking Devices have been removed and returned to the Lock Coordinator or Designee

37. Signature of Lock Coordinator or Designee	Z# 178(3	Date 11-12-15

*If you have questions with regards to filling out the Attachment B, *LO/TO Orders* form, see the directions associated with the form.

*Take the completed forms back to the Lock Coordinator or Designee for closeout.

Attachment B, LO/TO Orders

Continuation Page (print as needed)

18. Specific Energy Isolation Device/ID	19. Location of locking Device	20. LO/TO Installation Sequence	21. Required Position/Alignment for LO/TO	22. LO/TO Installation verified By:	27. Required Position/Alignment following Removal	28. LO/TO Removal Sequence	29. LO/TO Removal Verified By:	30. As-Left Position
MAKE up with		n/a	closed		MAKE up nothing	n/a		open
LOCKBOX		n/a	locked		LOCKBOX	n/a		unlocked
23. LO/TO Points Positioned and First Lock installed by Signature		Z# 301408	Date 11/12/15		31. LO/TO Removed, Positioned and Verified by Signature		Z# 301408	Date 11/12/15

Attachment B, LO/TO Orders

16. Is verification required for this LO/TO. Determine if this is Peer Verification (see P101-3, Section 3.15), Concurrent Dual verification (see P315, Attachment 10, Section 10.3.6) or Independent Verification. For Independent Verification see P315, Attachment 10, Independent Verification, The Operations Manager (OM) prepares and maintains a facility-specific list of systems and components requiring Independent Verification.
17. The FOD/Designee must sign after determining if verification is required. If Independent Verifier is identified at this time then it must be entered into the Remedy database.
18. Enter the specific Energy isolation device/ID, (example, MCC-A, A4)
19. Location of locking device, this is the location of where the lock is applied (example, MCC-A, A4 TA-XX, Bld. XXX, rm. 123)
20. If the LO/TO needs to be installed in a particular order, number the order in which the locks need to be installed. If the "No" box is checked in #13, then place N/A in this column.
21. Required Position/alignment for LO/TO, open, closed, connected, disconnected, on, off, etc..
22. LO/TO installation verified by – Has the equipment /system/component being locked out, been identified by the FOD as requiring verification, see line #16. If verification is required the person who performed the verification initials here.
23. The Lead Authorized worker positions the LO/TO points and installs his/her lock and signs that this has been completed.
24. This is the person, who authorized the LO/TO to be removed, signs and places his/her Z# in this box. This signature authority may place a phone number here for the Lead Authorized worker to call for authorization to remove the LO/TO. When verbal authorization is given, it must be documented in this section. Example: John Smith per telecom, 8/13/14 and your initials. Note: It is also permissible to pre-authorize the removal of the lock by pre-signing.
25. Depending on the verification type required for LO/TO removal, check the appropriate verification type box, otherwise check the "No" box.
26. If verification is required, the FOD/Designee must sign. Independent Verifier is identified at this time and entered into the database.
27. Write the required position/alignment the system/component will be placed in following the removal of the lock(s).
28. If the isolation device needs to be positioned in a particular order/sequence, (per Post Maintenance) number the order/sequence in which the isolation device is to be position. If not, place N/A in the box(s).
29. LO/TO removal verified by Lead Authorized Worker – the lock(s) have been removed and the As-Left position is documented in column 30.
30. Enter the As-Left Position. For Nuclear Facilities see the NOTE after #14.
31. If the removal of the lock has been identified as needing to be verified, the verifier writes name and Z# after verifying the lock has been removed.
32. The authorized worker must verify that the steps utilized in the energy control procedure have effectively isolated the machine or equipment from the hazardous energy.
33. The authorized worker signs after zero energy checks have been completed.
34. All authorized workers applying a lock for this activity names/Z# and the Date must be entered.
35. Enter the date the authorized worker hangs lock.
36. Enter the date the authorized worker removes lock.
37. The Lock Coordinator or designee signs once locks, tags, and locking devices have been removed and returned. If a lock and/or tag are found to be contaminated then that will be noted by the Lock Coordinator or designee and the Lock Coordinator or designee will sign.

Attachment B, LO/TO Orders

The following are directions for filling out Attachment B.

1. Enter the Work Document Number, this will be the number from the IWD or the procedure number (i.e., TA88-DOP-0001)
2. Enter the LO/TO Parent Record number, this is obtained from the Lock Coordinator when the HEC lock(s) are issued. The Remedy LO/TO database issues this number.
3. Enter the date of when the locks will be applied.
4. Enter the TA where the lock(s) will be hung.
5. Enter the Building number of where the lock(s) will be hung.
6. Enter the Room number where the equipment is located/where work is being performed.
7. Enter the Equipment/Machinery/Name/Number (example, HVA-001)
8. Write a brief description of the reason for LO/TO (example, Removing and replacing belts)
9. Enter the Name of the Equipment Owner/Operator. Each FOD is different in the assigning of Equipment Owner/Operators. There are also programmatic Equipment Owner/Operators.
10. Check the appropriate energy type to be isolated, check all that apply. Make sure you have considered all energy sources, if other you will need to specify what "other" is.
11. Check applicable box to identify if a group LO/TO (A LO/TO where two or more authorized workers, regardless of their occupation or craft, lock out and tag out the same equipment to perform servicing or maintenance).
12. Check applicable box if lock box is used for the job. Enter the lock box ID#. Each organization that issues locks will be required to uniquely number and track lock boxes in their possession.
13. When installing the lock(s)/tag(s), is there a specific sequence in which the isolation devices are to be positioned. If a specific sequence must be followed, THEN number the sequence order in column 20. If there is not a specific sequence to follow then place N/A in column 20. This needs to be an operations type person (Operator) who understands the equipment/system/component.
14. When removing the lock(s)/tag(s), is there a specific sequence in which the isolation devices are positioned after lock/tag removal? If a specific sequence must be followed, THEN number the sequence order in column 28. If not, place N/A in the box(s).

NOTE: Section 2, *LO/TO Installation & Removal* – In some of the nuclear facilities, the operations personnel will identify the required position(s) for credited equipment/machinery depending on operational requirements for return to service. In most cases when workers remove locks, the "As-Left" Position will be different then the final position the operations personnel will place the equipment in.

15. The Equipment Owner/Operator signs and enters their Z#, authorizing the installation of the LO/TO. With some FODs this will be the maintenance coordinators.

Labor Hours Cost

Work Date	Work Order	WO Task	Task Title	WO Type	Type of Time	Quantity	Amount	Employee ID	Rate
10/26/2015	00529287	01	BHW ANNUAL FIRESIDE/WATERSIDE PM	PM	10	1	65.78	091836	65.78
11/12/2015	00529287	01	BHW ANNUAL FIRESIDE/WATERSIDE PM	PM	10	-8	-492.88	234334	61.61
11/12/2015	00529287	01	BHW ANNUAL FIRESIDE/WATERSIDE PM	PM	10	0.5	34.97	090036	69.94
11/12/2015	00529287	01	BHW ANNUAL FIRESIDE/WATERSIDE PM	PM	10	8	492.88	229857	61.61
11/12/2015	00529287	01	BHW ANNUAL FIRESIDE/WATERSIDE PM	PM	10	8	492.88	234334	61.61
11/12/2015	00529287	01	BHW ANNUAL FIRESIDE/WATERSIDE PM	PM	10	8	492.88	301408	61.61
11/12/2015	00529287	01	BHW ANNUAL FIRESIDE/WATERSIDE PM	PM	10	8	526.24	234334	65.78
11/13/2015	00529287	01	BHW ANNUAL FIRESIDE/WATERSIDE PM	PM	10	8	492.88	229857	61.61
					Sum:	33.5	2105.63		

11-13

Facility: F04 Unit: 530365 Proj:
Task Title: BHW ANNUAL FIRESIDE/WATERSIDE PM

W/O Type: PM W/O Group: Task Priority: 3
Planner : 112527 PADILLA B A
W/O Title: 530365-BHW-011 FALL START UP
Written To: BOILER,HOT WATER
Task Dspln: F Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00529288 01

MASTER

Date: 10/13/2015
Page: 1

Work Order Task Written To

Facility : F04 **Unit : 530365** **Op Sys : HW**
Room : 403ER **Area :** **Sys/Cls: R ML4**
Equipment : BOILER BHW-011 **Component:**
Location : S-53-0365-403ER
Job Type : PM
Tag 1 : 35835 Tag 2 :
Work Item : Ops Review Reqd: N

Authorization

Start Permission : K. MARRID Start Date: 11.5.15
Complete Notice : Complete Date:

NOTE:

*** Refer to attached Form 2101 - Non-Tenant Activity Form - or Form 2102- Tenant Activity Form - for a description of site specific training or escort and access requirements.**

Work Order Task Instructions

PERFORM ANNUAL INSPECTION, MAINTENANCE, AND FALL STARTUP PER UNIT
.
CONTACT: FACILITY COORDINATOR
PHONE: PAGER:
COORDINATION MEETING: NO[X] YES[ ]
.
NOTIFY COORDINATOR PRIOR TO STARTING PROCEDURE.
FILL OUT ATTACHED CHECKLISTS & REPORT ANY DEFICIENCIES FOUND
TO FACILITY COORDINATOR AS SOON AS PRACTICAL.

QC Requirements/Comments

Facility: F04 Unit: 530365 Proj:
Task Title: BHW ANNUAL FIRESIDE/WATERSIDE PM

W/O Type: PM W/O Group: Task Priority: 3
Planner : 112527 PADILLA B A
W/O Title: 530365-BHW-011 FALL START UP
Written To: BOILER,HOT WATER
Task Dspln: F Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00529288 01

MASTER

Date: 10/13/2015
Page: 2

Rework Reason/Cause

		(Y/N)
CDSG	CUSTOMER DESIGN	
IMCW	IMPROPER CONSTRUCTION/WORKMANSHIP	
IMDN	IMPROPER DESIGN	
PDMS	PARTS/MATERIAL DID NOT MEET SPECIFICATIONS	
WR	WARRANTY REWORK/REPAIR	

Date: Hours: Crew: Shift:
Comments:

Rework/Approval

Deficiency Tag No.: Loc: Tag Removed:
ReWork Job : N Comments:

Trouble Found/Work Performed

Continued on Additional Sheets? : _____

Work Delay Reason

		(Y/N)
A	ACCESS	
EQPT	EQUIPMENT	
MISC	MISCELLANEOUS	
OPS	OPERATIONS	
P	POOR PLANNING	
S	SAFETY	

Date: Hours: Crew: Shift:

Facility: F04 Unit: 530365 Proj:
Task Title: BHW ANNUAL FIRESIDE/WATERSIDE PM

W/O Type: PM W/O Group: Task Priority: 3
Planner : 112527 PADILLA B A
W/O Title: 530365-BHW-011 FALL START UP
Written To: BOILER,HOT WATER
Task Dspln: F Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00529288 01

MASTER

Date: 10/13/2015
Page: 3

SCH SCHEDULING
Date: Hours: Crew: Shift:
T TRAVEL
Date: Hours: Crew: Shift:
W WEATHER
Date: Hours: Crew: Shift:
Comments:

Major Failure/Action Taken

Major Failure : Action Taken :
Deficiency Tag Loc: Removed (Y/N):
Deficiency Tag No.: Limited Cond Operation:

Work Completion Signatures

Name	Function/Dept.	Date
Valparaiso, Joe	Log C8	11-13-15

Comments:
(rework?)

Cost Center: P2070A Activity : 640CL000 User Def:
Percentage : 100.000 Acct No : XFM400 1G530365

Facility: F04 Unit: 530365 Proj:
Task Title: BHW ANNUAL FIRESIDE/WATERSIDE PM

W/O Type: PM W/O Group: Task Priority: 3
Planner : 112527 PADILLA B A
W/O Title: 530365-BHW-011 FALL START UP
Written To: BOILER,HOT WATER
Task Dspln: F Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00529288 01

MASTER

Date: 10/13/2015
Page: 4

Work Order Task Written To

Facility : F04 **Unit : 530365** **Op Sys : HW**
Room : 403ER **Area :** **Sys/Cls: R ML4**
Equipment : BOILER BHW-011 **Component:**
Location : S-53-0365-403ER
Job Type : PM
Tag 1 : 35835 Tag 2 :
Work Item : Ops Review Reqd: N

Print Request - Work Order Documents

Facility	Type/Subtype		Document Number	Sheet	Image Addr
LNL	PROC	STD	403-A.001 HOT WATER BOILER STARTUP AFTER LAY-UP		
LNL	PROC	STD	403-A.006 HOT WATER BOILERS ANNUAL FIRESIDE/WATERSIDE		

References/Document Information

Type/Subtyp: PROC STD Number: 403-A.001 Sheet:
Title/Desc : HOT WATER BOILER STARTUP AFTER LAY-UP Image: N
Type/Subtyp: PROC STD Number: 403-A.006 Sheet:
Title/Desc : HOT WATER BOILERS ANNUAL FIRESIDE/WATERSIDE Image: N

***** E N D O F R E P O R T *****

Los Alamos NATIONAL LABORATORY EST. 1943

Form 2101

IWD Part 2
FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: 529288-01 Revision #: _

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD 4	TA 53	Bldg. 0365	Room 403	Other Location
FOD Designated Facility Point-of-Contact	Name K. MADRID	Phone 665-0944	Pager 104-8327	Email

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☑ Plan of the Day/Plan of the Week (POTD/POTW)
- ☐ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☑ Check out at End of Work
- ☐ Escort Required
- ☐ Other Bounding Conditions _____
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☑ Check in at Start of Work
- ☑ Work-Area Training Required
- ☑ Work must be Scheduled
- ☐ Check in Daily
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Check out Daily
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				
Ionizing Radiation Work in posted radiological areas, work with radioactive materials, or work on or near radiation producing devices. **Specify Hazard:**	☐ Yes ☑ No			

2101 (6/12)

IWD No./Work Request No: 529288-01 Revision #: _

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Worker Exposure Working near non-ionizing radiation, beryllium, noise, chemicals, hazardous biological materials, lead, asbestos, temperature/humidity extremes, or high explosives. **Specify Hazards:**	☐ Yes ☑ No			
Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations. **Specify Hazards:** GAS fired Boiler(s)	☑ Yes ☐ No	use caution: around: Hot SURFACES		
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:**	☐ Yes ☑ No			
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☐ Yes ☑ No			
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:**	☐ Yes ☑ No			
Security Requirements **Specify:**	☐ Yes ☑ No			
Other Hazards **Specify:**	☐ Yes ☑ No			

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** [signature] 111877 11-5-15

Date Approval Expires 12-31-16

2101 (6/12)

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.001: Hot Water Boiler Startup After Lay-Up**

Work Order No.: 529288-01 Equipment ID No.: BHW 11

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 53 Building: 365 Room: 403

Date Inspected: 11 / 13 / 15 Inspectors: 301408

Calibrated tools needed:

Name:	Serial Number:	Calibration Exp. Date:
Flue gas analyzer	N/A	

1.0 PRE-MAINTENANCE

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

Remarks:

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.001: Hot Water Boiler Startup After Lay-Up**

Work Order No.: 529288-01 Equipment ID No.: BHL-11

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.		Initials:
1.2	Review manufacturer's recommendations for startup of burner and boiler.		Initials:
2.0	**MAINTENANCE**		
2.1	Fill boiler and system, if not already full.		Initials:
2.2	Vent air at high point in system.		Initials:
2.3	Check pressure/altitude gauge and expansion tank to ensure system is properly filled.	Circle one: **S U N/A**	Initials:
NOTE	If expansion tank is waterlogged, drain and refill the tank. If tank does not hold air, report to the MC for repair or replacement.		
2.4	Set control switch to Off position.		Initials:
2.5	Make sure fresh air to boiler room is unobstructed and manual dampers are open.		Initials:
2.6	Check availability of fuel.	Circle one: **S U N/A**	Initials:
2.7	Vent combustion chamber to remove unburned gases.		Initials:
2.8	Clean glass on fire scanner, if provided.		Initials:
2.9	Observe proper functioning of water pressure regulator.	Circle one: **S U N/A**	Initials:
2.10	Turn circulator pumps on electrically.	Circle one: **S U N/A**	Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.001: Hot Water Boiler Startup After Lay-Up**

Work Order No.: 529288-01 Equipment ID No.: BHW 11

2.11 Check temperature control(s) for proper setting.	Circle one: **S U N/A**	Initials:
2.12 Check manual reset button on low-water fuel cutoff and high-limit temperature control.	Circle one: **S U N/A**	Initials:
2.13 Set manual fuel oil supply or manual gas valve in Open position.		Initials:
2.14 Place circuit breaker or fuse disconnect in On position.		Initials:
2.15 Place all boiler emergency switches in On position.		Initials:
2.16 Place boiler control starting switch to On or Start position.		Initials:
! WARNING Boiler should fire at this point. Do NOT stand in front of boiler doors or breeching!		
2.17 Do not leave the boiler until it reaches the established cutout point to make sure the controls shut off the boiler.	Circle one: **S U N/A**	Initials:
NOTE If any abnormal conditions occur during light-off or temperature buildup, immediately open emergency switch. Do not attempt to restart unit until difficulties have been identified and corrected.		
2.18 During the temperature and pressure buildup period, walk around the boiler frequently to observe that all associated equipment and piping is functioning properly.	Circle one: **S U N/A**	Initials:
2.19 Visually check burner for proper combustion.	Circle one: **S U N/A**	Initials:
NOTE Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.		
2.20 Immediately after burner shuts off, inspect water pressure.	Circle one: **S U N/A**	Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.001: Hot Water Boiler Startup After Lay-Up**

Work Order No.: 529288-01 Equipment ID No.: BHW-11

2.21	Open the highest vent to determine that system is completely full of water.	Circle one: **S U N/A**	Initials:

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Enter the following information in boiler logbook:		Initials:
3.2	Date and time of startup. Date: 11-13-15 Time: 3:30		Initials:
3.3	Any irregularities observed and corrective action taken.		Initials:
3.4	Time when controls shut off burner at the pre-established temperature.		Initials:
3.5	Signature of operator.		Initials:
3.6	Check safety relief valve for evidence of leaking.	Circle one: **S U N/A**	Initials:
3.7	Perform "Try Lever Test" in accordance with ASME Section VI, Exhibit C.	Circle one: **S U N/A**	Initials:
3.8	Once boilers have been checked out and put into service, contact the MC.		Initials:

Remarks:

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.001: Hot Water Boiler Startup After Lay-Up**
Work Order No.: 529288-01	Equipment ID No.: BHW-11

Name of Craft Worker: Joe Halpowski Z Number: 301408

Signature: Date: 11 / 13 / 15

Name of Craft Worker: _____ Z Number: _____

Signature: _____ Date: ____/____/____

Foreman Verification: _____ Z Number: _____

Signature: _____ Date: ____/____/____

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**
Work Order No.: S 29288-01	Equipment ID No.: BHW 11

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 53 Building: 365 Room: 403

Date Inspected: 11 / 13 / 15 Inspectors: 301408

Calibrated tools needed:

Name:	Serial Number:	Calibration Exp. Date:
Flue gas analyzer	N/A	

1.0 PRE-MAINTENANCE

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

Remarks:

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 529288-01 Equipment ID No.: BHW-11

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.	Initials:

2.0 MAINTENANCE

NOTE These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler SME @ 5-1159 with questions or concerns.

2.1	Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials:
2.2	Cool boiler, open air cock, and drain the boiler.		Initials:
2.3	Perform an internal and external inspection after thorough cleaning.	Circle one: S U N/A	Initials:
2.3.1	Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	Circle one: S U N/A	Initials:
2.3.2	Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials:
2.3.3	Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure (MAWP) and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	Circle one: S U N/A	Initials:
2.3.4	Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 529288-01 Equipment ID No.: BHW-11

2.3.5 On one-pass boilers (Sellers), check condition of all heat extractors.	Circle one: **S U N/A**	Initials:
2.3.6 Check refractory materials.	Circle one: **S U N/A**	Initials:
2.3.7 Replace if needed.		Initials:
2.4 Perform routine burner maintenance.		Initials:
2.4.1 Observe temperature and operating pressure and general conditions.	Circle one: **S U N/A**	Initials:
2.4.2 Fire and cycle the burner.		Initials:
2.5 Perform routine maintenance of circulating pump and expansion pump equipment.		Initials:
2.5.1 Observe condition of expansion tank.	Circle one: **S U N/A**	Initials:
2.5.2 Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	Circle one: **S U N/A**	Initials:
2.5.3 Check the air pressure on the bladder-type expansion tanks.	Circle one: **S U N/A**	Initials:
2.5.4 Observe operation of circulating pumps.	Circle one: **S U N/A**	Initials:
2.5.5 Lubricate pump motors.		Initials:
2.6 Perform routine maintenance of entire combustion control equipment.		Initials:

Remarks:

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 529288-01 Equipment ID No.: BHW-11

2.6.1	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: **S U N/A**	Initials:
2.6.2	Adjust air/fuel mixture as needed.		Initials:
2.6.3	Test flame detection devices on boilers with flame scanners.	Circle one: **S U N/A**	Initials:
2.6.4	Remove the flame scanner with the burner firing.		Initials:
NOTE	The burner should shut off as a flame failure condition.		
2.6.5	Clean the flame scanner, reinstall and test programmer.		Initials:
2.6.6	Check for proper operation as boiler goes through a firing cycle and light-off.	Circle one: **S U N/A**	Initials:
2.6.7	Check all electrical control and circuitry.	Circle one: **S U N/A**	Initials:
2.6.8	Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumpered conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	Circle one: **S U N/A**	Initials:
2.6.9	Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	Circle one: **S U N/A**	Initials:
2.6.10	Lubricate fan motors where necessary.		Initials:
2.7	Perform combustion and draft tests.		Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 529288-01 Equipment ID No.: BHW 11

2.7.1 Visually inspect combustion.	Circle one: S U N/A	Initials:
NOTE Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.8 Perform safety relief valve(s) pop test.	Circle one: S U N/A	Initials:
2.8.1 Check pressure-reducing valve.	Circle one: S U N/A	Initials:
2.8.2 Replace the strainer in the valve if needed.		Initials:
2.9 Perform slow drain test of low-water cutoff.	Circle one: S U N/A	Initials:
2.10 Inspect gas piping for proper support and tightness.	Circle one: S U N/A	Initials:
2.10.1 Inspect fuel supply system and gas controls.	Circle one: S U N/A	Initials:
2.10.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	Circle one: S U N/A	Initials:
2.11 Inspect boiler room ventilation louvers and intake.	Circle one: S U N/A	Initials:
2.11.1 Listen for any unusual noises or conditions and correct as necessary.	Circle one: S U N/A	Initials:
2.11.2 Report any needed corrections to the MC for Corrective Maintenance.		Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 52928801 Equipment ID No.: BHW-11

2.11.3	Check combustion air supply openings to ensure that they are not closed or stopped up.	Circle one: **S U N/A**	Initials:
2.11.4	Inspect conditions of stacks and rain caps.	Circle one: **S U N/A**	Initials:
2.11.5	Inspect flue door gaskets to ensure they are in good condition, and properly secured.	Circle one: **S U N/A**	Initials:
2.11.6	Replace if necessary.		Initials:

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Close and secure front and rear flue doors.		Initials:
3.2	Hook up all associated piping and refill boiler.		Initials:
3.3	Fire up boiler and check for air, gas, and water leaks.	Circle one: **S U N/A**	Initials:
3.4	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: **S U N/A**	Initials:
3.5	Check pilot burners and ignition equipment for proper condition and adjustment.	Circle one: **S U N/A**	Initials:
3.6	Visually check burner for proper combustion.	Circle one: **S U N/A**	Initials:
3.7	Record all mechanical maintenance data, testing data, and other notable items.		Initials:

Remarks: _____

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**
Work Order No.: 529288-01	Equipment ID No.: BHL-11

NOTE	Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.		
3.8	Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002 (old number 40-40-003.2).	Circle one: S U N/A	Initials:
3.9	Record all mechanical maintenance data, testing data, and other notable items.		Initials:
3.10	Notify MC that work on the boiler system is complete.		Initials:

Name of Craft Worker: Joe Vialpando Z Number: 301408

Signature: [signature] Date: 11/13/15

Name of Craft Worker: _____ Z Number: _____

Signature: _____ Date: ___/___/___

Foreman Verification: _____ Z Number: _____

Signature: _____ Date: ___/___/___

Remarks: _____

Form 2103

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD #: 529288-01 Revision #: _____ **Work Release**

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Ops Mgr or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: _____

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, required initial conditions and other prerequisites are in-place.
- The assigned workers are authorized and are qualified to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers have been briefed.
- I have ensured coordination with any required FOD work-area representatives (*e.g., area work coordinators*).

Primary PIC (Signature/Z#/Date) **Required**: [signature] 234334 11-13-15

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff).*

Alternate PIC (Signature/Z#/Date) **Required**: _____

Alternate PIC (Signature/Z#/Date) **Required**: _____

Pre-Job Brief Content

- What are the critical steps or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g. for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

Pre-Job Brief Attendance Roster

By signing below **as required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) [signature] 301408 11-13-15	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) [signature] 229857 11-13-15	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)

Mandatory Questions for All Pre-Job Briefs

The purpose of this document is to demonstrate compliance with the Release of Craft requirements directed by MSS-DO on 17 June 15. Until a formal document is institutionalized by the Work Control Group this document will be included in **all** work control packages (CM, PM, Planned, Unplanned, etc). Each of the questions listed below will be discussed at each Pre Job Brief with all affected personnel. Compliance will be demonstrated by the signature from the person performing the Pre Job Brief on the bottom of this document. This document is a permanent part of **all** work packages until further notice.

Topic	Completed (X)
Assume we are going to have an accident on this job. How did it happen? How can we prevent it?	X
What is the worst thing that can happen on this job? How can we keep it from happening?	X
What hazards will you encounter in performing this work?	X
Is there a better way to address the hazards you will encounter?	X
Have all safety issues concerning this task been addressed to your satisfaction?	X

Signature (Person Performing Pre-Job)

11-13-15

Date

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-002: Attachment 11
Maintenance and Site Services Work Completion Form

Work Order/Task: 529288-01

Start Date: 11-13-15	Completion Date: 11/13/15

SUMMARIZE THE WORK PERFORMED

Date 11/13/15	Boiler PM

FOR CORRECTIVE WORK – WHAT FAILED AND WHAT WAS FIXED

11/13/15	NEED NEW pressure Guage for water, as well
	as supply Temp Guage

FOR PMs – SUMMARIZE AS FOUND AND AS LEFT CONDITIONS BELOW

As found	ON
As left	ON
Parts/Repairs	
Read/meas.	
Post test info.	

Problems Encountered (delays, safety, etc.):

11/13/15	NEED guages
	need supply Guage

Lessons Learned/Recommendations:

Name: Joe Valdez **Signature:** [signature] **Date:** 11/13/15

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-002: Attachment 11
Maintenance and Site Services Work Completion Form

529288-01

PIC/SUPT

☑ PM has been completed in its entirety and ready for closure.

IF A PM COULD NOT BE COMPLETED:

☑ Percentage complete is 100 %

☐ Sections that did not work and need to be rescheduled

Reasons why:

MAINTENANCE COORDINATOR/AREA WORK COORDINATOR

Work Package is Complete and may be closed out: YES ☐ NO ☐

IF no: State Reason

Additional Work Needed? ☐ YES ☐ NO

Document UP/WO/FSR Number:

ENGINEERING (FOR MD and CD Work Orders)

IF a configuration baseline has been changed, THEN indicate the changes are to be incorporated into the following documents and/or configuration baseline:

☐ Drawings ☐ FDD/SDD

☐ Procedures ☐ Master Equipment List

☐ Permits ☐ Checklists

SE Name: Signature: Date:

WORK CONTROL

Moderate/High Hazard – WMC/Planner reviewed for Lessons Learned/Feedback

☐ YES ☐ NO N/A ☐

☐ Review of the completed work package is complete per AP-WORK-005, and the work package is ready to be set to complete in CMMS.

Los Alamos NATIONAL LABORATORY EST. 1943

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # **-0-**	Activity/Task Title: **53 0006 BHW-02/FALL START UP**
Work Document #: (WO # / Task) 529288-01	Planner/Preparer (Name/Z#/Date) **Troy Calloway #186163 10/19/15**
TA: **53** Building: 35 Room:	Additional Location Description: **Equip Room**

Activity Description/Overview:

PERFORM ANNUAL INSPECTION, MAINTENANCE, AND FALL STARTUP PER UNIT (NOTE: EQUIPMENT LIST TO FOLLOW - INSPECTION SHEET and/or CHECKLIST IS REQUIRED AND MUST BE COMPLETED AND FILED FOR EACH INDIVIDUAL PIECE OF EQUIPMENT ON THIS LIST.)
NOTIFY COORDINATOR PRIOR TO STARTING PROCEDURE.
REPORT ANY DEFICIENCIES FOUND TO FACILITY COORDINATOR AS SOON AS PRACTICAL.

LOTO point:
LP-5B Ckt 7 (by TR2 <125kva)

MC: Robert Patton 4-6006

NOTE: Maintenance Coordinator requests notification of progress at the end of each day and on completion of the job.

List Names of Hazard Analysis (HA) Team: Troy Calloway, Tommy Martinez, Lewis Mondragon

Date HA Performed: 10/1/15

PRECAUTIONS/LIMITATIONS/PREREQUISITES:

- If steps cannot be completed as described, or if unforeseen situations occur, **PAUSE WORK**, stabilize the situation, contact your supervisor, and await further instructions before proceeding. **ASK YOURSELF –**
  - **WHAT NON-RELATED ACTIVITIES / HAZARDS ARE OCCURRING IN THE VICINITY? HOW MAY THEY AFFECT ME AND MY WORK?**
  - **AM I READY AND COMFORTABLE TO PERFORM THIS WORK?**
  - **WHERE IS THE NEAREST AED LOCATED?**
  - **WHATS THE WORST THING THAT CAN HAPPEN? HOW DO I PREVENT IT?**

- Craft will review all postings for entry, work and exit of area.
  Be aware of any alarms that may be in area and what the procedure is if alarm sounds.
  Locate and identify nearest fire extinguisher and emergency pull station, eyewash/shower station.
  Locate and identify nearest phone capabilities and contact numbers in case of emergency.

- The following trainings are required of ALL craft for the General Hazard Section:
  - Core training (#10968)
  - TA53 Facility Specific (#57262)

- Training for tasks - **Fitters**
  - Journeyman craftsman – Boiler Specifc
  - LOTO training – TP #127
  - Energized electrical training - #2908 (non-electricians)
  - HAZCOM - #25418
  - Pressure Safety Orientation - #769

Los Alamos NATIONAL LABORATORY EST. 1943

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # **-0-**	Activity/Task Title: **53 0006 BHW-02 FALL START UP**
Work Document #: (WO # / Task) 529288-01	Planner/Preparer (Name/Z#/Date) **Troy Calloway #186163 10/19/15**
TA: **53** Building: 165 Room:	Additional Location Description: **Equip Room**

Core Training (#10968) covers use of tools and general PPE.

The following PPE is required **at a minimum**; Task specific PPE listed within task:

- Safety Shoes
- Safety Glasses with Side shields
- Leather or Light Duty High Dexterity Gloves
- Minimize exposure to noise. Wear hearing protection as applicable.
  - ➢ If questions or concerns arise regarding noise levels contact LANSCE IH for a Hazard Assessment. **Bob Brennecke 665-9391 or 695-6231**

HOLD POINT

❖ **Erect** and set in place barriers / demarcation at room entrances

- ✓ Signage shall be sufficiently legible and noticeable
- ✓ Set barricade at sufficient distance to allow safe working area
- ✓ NO non-essential personnel are to enter work area without authorization and proper PPE
- ✓ Ensure barriers are sufficiently secured to not fall over

❖ **Remove** barriers at end of project

RP-1 CONTACT 7-7069 RCT ON-CALL 699-4046

❖ **Working** posted radiological area

- Follow all postings for entry, work and exit of building/room
- Coordinate all work with the Maintenance Coordinator and RP-1

❖ **REVIEW O&M** manual as necessary for specified steps

❖ **CYCLE** boiler and inspect operations

- Only qualified personnel to perform operation of boiler
- Coordinate efforts with facility coordinator

To be discussed during the pre-job brief:

Upon removal of the cover of enclosed electrical equipment workers assure that all recognizable electrical hazards have been identified in the IWD and have the correct controls in place.

If any previously unknown or potentially unknown electrical hazard is suspected, PAUSE work and bring in an SME (facility electrician or Electrical Safety Officer) to assess the potentially unknown electrical hazard. If necessary, modify the IWD to include the previously unanticipated electrical hazard.

❖ **Purge** system (if necessary) per Page 1 of **PMI 403-A.001**

- NO spark or flame within area

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision #	Activity/Task Title:
-0-	53 0006 BHW-02/FALL START UP
Work Document #: (WO # / Task)	Planner/Preparer (Name/Z#/Date)
5292880	Troy Calloway #186163 10/19/15
TA: 53 / Building: 365 / Room:	Additional Location Description: Equip Room

- HAZCOM training
- Purge gas to outside – IF NOT possible contact LANSCE IH for air quality monitoring and LANL Fire Marshall.
  - 670-1958

❖ **Perform Inspection** and Maintenance activities of PMI sections 2 and 3
- Fitter must be certified person
- Test liquid must be approved liquid
- PPE per core training
- HAZCOM training required

Working with battery powered/electrical tools:
- GFCI protection for all cords and electric devices
- Inspect all cords, plugs and electric tools for damage – remove and tag if found defective

Pinching or crushing/hand injury:
- Do not place hands or body in the path of potential pinch points or crush points.
- Be aware of and keep from 'Line-of-Fire'
- Be aware of hand and body position while rotating tools, valves and/or fasteners.

❖ **Fill out required documentation.**

NOTE:

PMI Steps may be worked out of sequence to facilitate ease of job – so long as doing so does not create additional hazards or tasks not covered by this IWD.

ANY time a worker may be exposed to energy (gas, electrical, stored) LOTO procedures MUST be put in place PRIOR to possible exposure.

EXCEPT: Performing Mode 1 or 2 Electrical Work

❖ **Purge** system (if necessary) per Page 1 of **PMI 403-A.006**
- NO spark or flame within area
- HAZCOM training
- Purge gas to outside – IF NOT possible contact LANSCE IH for air quality monitoring and LANL Fire Marshall.
  - 670-1958

PAUSE POINT

Craft shall check panel front at LOTO point for arc flash calculations provided by engineering.
Panel labeling shall override requirements in this IWD for PPE.

IF panel is properly labeled, craft shall follow label requirements.
IF panel is NOT labeled, craft shall proceed with PPE and approach limits listed in this IWD.

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Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # **-0-**			Activity/Task Title: **53 0006 BHW-02 FALL START UP**
Work Document #: (WO # / Task) S 29288-01			Planner/Preparer (Name/Z#/Date) **Troy Calloway #186163 10/19/15**
TA: **53**	Building: 3165	Room:	Additional Location Description: **Equip Room**

NOTE: *Calculations by engineering*	**LOTO Designator: Robert Patton** **LOTO Point: LP-5B / 7** **Voltage: 208v** **Transformer: TR 2** **<125 kVa**

⚠WARNING

FLASH HAZARD
EQUIPMENT OPERATION CLASS 1.2

- **Contact** equipment owner for energy assessment of all energy sources
  - **Each energy source shall be identified, physically located and marked / labelled.**
  - **If source not labelled, Owner shall identify with plain manila tag with unique identifier.**
- **Verify** Disconnect / Breaker controls unit power
  - Ensure unit runs/starts
  - Don PPE
    - Non melting long sleeve cotton shirt and long cotton pants. Safety glasses, leather work shoes and hearing protection. Leather work gloves.
  - Open Disconnect / Breaker and verify the unit stops or will not start

  Repeat process:
  - Close Disconnect / Breaker and ensure unit starts
  - Open Disconnect / Breaker and verify the unit stops or will not start

CAUTION: If unit does not start AND stop by operation of breaker, PAUSE work and contact MC. LOTO point may be incorrect OR power may not be supplied to unit.

- **Turn** off and apply **LOTO**
  - Obtain locks and tags from FOD Designated Lock Coordinator
  - Make necessary notifications per Simple LOTO procedure – (ONLY 1 LOTO point) OR Attachment B – (multiple LOTO points)
  - Determine all sources of power
  - Check applicable drawings/diagrams/ID tags
  - Turn off EQ
  - Open disconnecting device(s)
  - IF possible, visually verify devices are open/removed/disconnected
  - LOTO devices/tags shall be applied in accordance with P101-3R5

IF Necessary:

- **Turn off** and apply LOTO to gas supply at pilot valve
  - Obtain locks and tags from FOD
  - Make necessary notifications per Attachment B LOTO orders
  - Determine all sources of power

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # -0-			Activity/Task Title: 53 0006 BHW-02/FALL START UP
Work Document #: (WO # / Task) 529288-01			Planner/Preparer (Name/Z#/Date) Troy Calloway #186163 10/19/15
TA: 53	Building: 365	Room:	Additional Location Description: Equip Room

- Check applicable drawings/diagrams/ID tags
- Turn off EQ
- Close valves.
- LOTO devices/tags shall be applied in accordance with P101-3R5
- PPE and hand tool use per core training

❖ **Perform maintenance per PMI section 2**

❖ **Remove** and replace defective components per PMI
- Ensure all components are sufficiently cool before contact with skin
- PPE per core training

Working with simple hand tools, Cuts and Abrasions:
- Inspect all tools prior to use
- Wear leather gloves and safety glasses

Working with battery powered/electrical tools:
- GFCI protection for all cords and electric devices
- Inspect all cords, plugs and electric tools for damage – remove and tag if found defective
- Minimize exposure to noise. Wear hearing protection as applicable.

⚠WARNING

Soldering and Brazing Hazards:
Fire Hazard
Inhalation Hazard
Eye and Dermal Burn Hazard

NOTE: Must have approved and signed spark and flame permit in package prior to working

❖ **Low temp soldering – IF necessary**
- Review current LANL fire danger rating, follow appropriate cautions
- Review spark and flame permit
- Provide fire watch if permit deems necessary
- Ensure adequate ventilation in work area
- Wear leather gloves, long sleeve shirt and tinted goggles
- Have a 5lb (minimum) ABC fire extinguisher present
- Scope area for possible flammable material within spark/flame range
- Verify NEAREST eyewash capabilities

⚠WARNING

ELECTRIC ARC FLASH
BREAKER OPERATION CLASS 1.2

❖ **Remove** LOTO
- Check equipment and area

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Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # **-0-**	Activity/Task Title: **53 0006 BHW-02/FALL START UP**
Work Document #: (WO # / Task) S292288-01	Planner/Preparer (Name/Z#/Date) **Troy Calloway #186163 10/19/15**
TA: **53** / Building: 365 / Room:	Additional Location Description: **Equip Room**

- Don PPE
  - Non melting long sleeve cotton shirt and long cotton pants. Safety glasses, leather work shoes and hearing protection. Leather gloves.
- Verify equipment controls are in OFF position
- Make necessary notifications
- LOTO devices/tags shall be removed in accordance with the requirements of P101-3, Chapter 1 – Lockout/Tagout for Safety.
- Close disconnecting device(s)
- Re-energize system
- Notify MC and return locks

❖ **Remove** LOTO at gas
- Check equipment and area
- Verify valves are in correct position (should be OFF)
- Make necessary notifications
- LOTO devices/tags shall be removed in accordance with the requirements of P101-3, Chapter 1 – Lockout/Tagout for Safety.
- Open valve(s)
- Re-energize system
- Notify MC and return locks

❖ **Return** system to normal operation

❖ **PERFORM** combustion analyzer test (if required for testing or requested by MC)
❖ **PERFORM** post-maintenance activities per **PMI Section 3**
❖ **FIRE** unit and verify proper operation
- Qualified personnel to operate unit
- Verify proper operation of boiler
- Verify boiler starts and fires properly.
- Verify boiler stays operational for extended amount of time
- Verify proper operation of flame rod
- Verify no gas leakage
- Verify proper operation of gauges and valves
- Verify that the support or auxiliary systems related to the component are functioning properly.

NOTE: **Only Certified Personnel to Operate Equipment**

❖ **Start** unit, observe and check for proper operation
❖ **Ensure** all panels, doors and/or guards are re-installed and secured.
- No additional controls

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Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # **-0-**			Activity/Task Title: **53 0006 BHW-02/FALL START UP**
Work Document #: (WO # / Task) 529288-01			Planner/Preparer (Name/Z#/Date) **Troy Calloway #186163 10/19/15**
TA: **53**	Building: 365	Room:	Additional Location Description: **Equip Room**

- **Clean** the work area and dispose of all work generated debris and remove any barricades.
  - Dispose of debris in accordance with LANL waste generation
  - Coordinate disposal of chemicals, oils and/or lubes with Area Waste Coordinator
  - **BRETT CUMMINS: 5-2876 or 412-9996**

- **CONTACT the MC and inform them the work is completed.**
- **Complete** all the required documentation and return the Master Work Package to the Area Work Control Office.

***Insert Rows above** for additional Tasks/Steps or attach pages to clearly communicate ESH&Q/S&S hazards and associated controls.*	The RLM, and FOD or FOD Representative (if required or recommended by RLM, e.g. high hazard) approval indicates IWM has been applied appropriately, work is authorized, workers are qualified, work will be performed in accordance with ESH&Q/S&S requirements and the IWD, and facility safety basis, aggregate hazards, and collocated hazards were appropriately included in the hazard analysis and acknowledges completion of a peer review.	**RLM** (Signature/Z#/Date) **Required** 112529 11/13/15 **FOD or Representative** (Signature/Z#/Date) **If Required or Recommended by RLM** NA **SME Review** (Signature/Z#/Date) **If Required** NA **ESO Review** (Signature/Z#/Date) **If Required** NA
IWD Type ☒ Moderate-Hazard ☐ High-Hazard/Complex ☐ Standing IWD	Date when RLM re-approval is required: 12/1/15 Other Conditions for Re- Approval: SCOPE CHANGE (Print) Name of Primary PIC: MARK LAMERS Name of Alternate PIC: ____ Name of Alternate PIC: ____	Classification review completed, if required. NA Reviewer Signature/Z#/Date

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-1

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 55 Building: 440 Room: U209

Date Inspected: 9 / 28 / 15 Inspectors: 301408

Calibrated tools needed:

Name:	Serial Number:	Calibration Exp. Date:
Flue gas analyzer	N/A.	N/A

1.0 PRE-MAINTENANCE

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

Remarks:

Los Alamos NATIONAL LABORATORY EST. 1943	*Preventive Maintenance Instruction* Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance **403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance**

Work Order No.: 526530-01 Equipment ID No.: BHC-1

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

1.1 Notify maintenance coordinator (MC) that work will be in progress on the boiler system.		Initials:

2.0 MAINTENANCE

NOTE These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler SME @ 5-1159 with questions or concerns.

2.1 Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials:
2.2 Cool boiler, open air cock, and drain the boiler.		Initials:
2.3 Perform an internal and external inspection after thorough cleaning.	Circle one: (S) U N/A	Initials:
2.3.1 Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	Circle one: S U (N/A)	Initials:
2.3.2 Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials:
2.3.3 Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure (MAWP) and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	Circle one: S U (N/A)	Initials:
2.3.4 Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials:

Remarks: _____

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-1

2.3.5 On one-pass boilers (Sellers), check condition of all heat extractors.	Circle one: S U N/A	Initials:
2.3.6 Check refractory materials.	Circle one: S U N/A	Initials:
2.3.7 Replace if needed.		Initials:
2.4 Perform routine burner maintenance.		Initials:
2.4.1 Observe temperature and operating pressure and general conditions.	Circle one: S U N/A	Initials:
2.4.2 Fire and cycle the burner.		Initials:
2.5 Perform routine maintenance of circulating pump and expansion pump equipment.		Initials:
2.5.1 Observe condition of expansion tank.	Circle one: S U N/A	Initials:
2.5.2 Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	Circle one: S U N/A	Initials:
2.5.3 Check the air pressure on the bladder-type expansion tanks.	Circle one: S U N/A	Initials:
2.5.4 Observe operation of circulating pumps.	Circle one: S U N/A	Initials:
2.5.5 Lubricate pump motors. N/A		Initials:
2.6 Perform routine maintenance of entire combustion control equipment.		Initials:

Remarks:

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-1

2.6.1	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: S U N/A	Initials:
2.6.2	Adjust air/fuel mixture as needed.		Initials:
2.6.3	Test flame detection devices on boilers with flame scanners.	Circle one: S U N/A	Initials:
2.6.4	Remove the flame scanner with the burner firing.		Initials:
NOTE	The burner should shut off as a flame failure condition.		
2.6.5	Clean the flame scanner, reinstall and test programmer.		Initials:
2.6.6	Check for proper operation as boiler goes through a firing cycle and light-off.	Circle one: S U N/A	Initials:
2.6.7	Check all electrical control and circuitry.	Circle one: S U N/A	Initials:
2.6.8	Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumpered conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	Circle one: S U N/A	Initials:
2.6.9	Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	Circle one: S U N/A	Initials:
2.6.10	Lubricate fan motors where necessary.		Initials:
2.7	Perform combustion and draft tests.		Initials:

Remarks:

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-1

2.7.1 Visually inspect combustion.	Circle one: (S) U N/A	Initials:
NOTE Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.8 Perform safety relief valve(s) pop test.	Circle one: (S) U N/A	Initials:
2.8.1 Check pressure-reducing valve.	Circle one: (S) U N/A	Initials:
2.8.2 Replace the strainer in the valve if needed.		Initials:
2.9 Perform slow drain test of low-water cutoff.	Circle one: (S) U N/A	Initials:
2.10 Inspect gas piping for proper support and tightness.	Circle one: (S) U N/A	Initials:
2.10.1 Inspect fuel supply system and gas controls.	Circle one: (S) U N/A	Initials:
2.10.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	Circle one: (S) U N/A	Initials:
2.11 Inspect boiler room ventilation louvers and intake.	Circle one: (S) U N/A	Initials:
2.11.1 Listen for any unusual noises or conditions and correct as necessary.	Circle one: (S) U N/A	Initials:
2.11.2 Report any needed corrections to the MC for Corrective Maintenance.		Initials:

Remarks: _____

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-1

2.11.3	Check combustion air supply openings to ensure that they are not closed or stopped up.	Circle one: S U N/A	Initials:
2.11.4	Inspect conditions of stacks and rain caps.	Circle one: S U N/A	Initials:
2.11.5	Inspect flue door gaskets to ensure they are in good condition, and properly secured.	Circle one: S U N/A	Initials:
2.11.6	Replace if necessary.		Initials:

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Close and secure front and rear flue doors.		Initials:
3.2	Hook up all associated piping and refill boiler.		Initials:
3.3	Fire up boiler and check for air, gas, and water leaks.	Circle one: S U N/A	Initials:
3.4	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: S U N/A	Initials:
3.5	Check pilot burners and ignition equipment for proper condition and adjustment.	Circle one: S U N/A	Initials:
3.6	Visually check burner for proper combustion.	Circle one: S U N/A	Initials:
3.7	Record all mechanical maintenance data, testing data, and other notable items.		Initials:

Remarks: _____

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-1

NOTE	Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.		
3.8	Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002 (old number 40-40-003.2).	Circle one: S U N/A	Initials:
3.9	Record all mechanical maintenance data, testing data, and other notable items.		Initials:
3.10	Notify MC that work on the boiler system is complete.		Initials:

Name of Craft Worker: Joe Valpondi Z Number: 301408

Signature: Date: 9 / 28 / 15

Name of Craft Worker: Z Number:

Signature: Date: / /

Foreman Verification: Z Number:

Signature: Date: / /

Remarks:

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 52653001 Equipment ID No.: BHW-2

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 55 Building: 440 Room: U209

Date Inspected: 9 / 25 / 15 Inspectors: 301408

Calibrated tools needed:

Name:	Serial Number:	Calibration Exp. Date:
Flue gas analyzer	N/A	N/A

1.0 PRE-MAINTENANCE

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

Remarks:

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-2

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

1.1	Notify maintenance coordinator (MC) that work will be in progress on the boiler system.	Initials:

2.0 MAINTENANCE

NOTE These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler SME @ 5-1159 with questions or concerns.

2.1	Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials:
2.2	Cool boiler, open air cock, and drain the boiler.		Initials:
2.3	Perform an internal and external inspection after thorough cleaning.	Circle one: S U N/A	Initials:
2.3.1	Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	Circle one: S U N/A	Initials:
2.3.2	Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials:
2.3.3	Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure (MAWP) and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	Circle one: S U N/A	Initials:
2.3.4	Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials:

Remarks: _____

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: B4W-2

2.3.5 On one-pass boilers (Sellers), check condition of all heat extractors.	Circle one: S U N/A	Initials:
2.3.6 Check refractory materials.	Circle one: S U N/A	Initials:
2.3.7 Replace if needed.		Initials:
2.4 Perform routine burner maintenance.		Initials:
2.4.1 Observe temperature and operating pressure and general conditions.	Circle one: S U N/A	Initials:
2.4.2 Fire and cycle the burner.		Initials:
2.5 Perform routine maintenance of circulating pump and expansion pump equipment.		Initials:
2.5.1 Observe condition of expansion tank.	Circle one: S U N/A	Initials:
2.5.2 Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	Circle one: S U N/A	Initials:
2.5.3 Check the air pressure on the bladder-type expansion tanks.	Circle one: S U N/A	Initials:
2.5.4 Observe operation of circulating pumps.	Circle one: S U N/A	Initials:
2.5.5 Lubricate pump motors. N/A		Initials:
2.6 Perform routine maintenance of entire combustion control equipment.		Initials:

Remarks:

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Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW 2

2.6.1	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: **S U N/A**	Initials:
2.6.2	Adjust air/fuel mixture as needed.		Initials:
2.6.3	Test flame detection devices on boilers with flame scanners.	Circle one: **S U N/A**	Initials:
2.6.4	Remove the flame scanner with the burner firing.		Initials:
NOTE	The burner should shut off as a flame failure condition.		
2.6.5	Clean the flame scanner, reinstall and test programmer.		Initials:
2.6.6	Check for proper operation as boiler goes through a firing cycle and light-off.	Circle one: **S U N/A**	Initials:
2.6.7	Check all electrical control and circuitry.	Circle one: **S U N/A**	Initials:
2.6.8	Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumpered conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	Circle one: **S U N/A**	Initials:
2.6.9	Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	Circle one: **S U N/A**	Initials:
2.6.10	Lubricate fan motors where necessary.		Initials:
2.7	Perform combustion and draft tests.		Initials:

Remarks: _____

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-2

2.7.1 Visually inspect combustion.	Circle one: (S) U N/A	Initials:
NOTE Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.8 Perform safety relief valve(s) pop test.	Circle one: (S) U N/A	Initials:
2.8.1 Check pressure-reducing valve.	Circle one: (S) U N/A	Initials:
2.8.2 Replace the strainer in the valve if needed.		Initials:
2.9 Perform slow drain test of low-water cutoff.	Circle one: (S) U N/A	Initials:
2.10 Inspect gas piping for proper support and tightness.	Circle one: (S) U N/A	Initials:
2.10.1 Inspect fuel supply system and gas controls.	Circle one: (S) U N/A	Initials:
2.10.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	Circle one: (S) U N/A	Initials:
2.11 Inspect boiler room ventilation louvers and intake.	Circle one: (S) U N/A	Initials:
2.11.1 Listen for any unusual noises or conditions and correct as necessary.	Circle one: (S) U N/A	Initials:
2.11.2 Report any needed corrections to the MC for Corrective Maintenance.		Initials:

Remarks: _____

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-2

2.11.3 Check combustion air supply openings to ensure that they are not closed or stopped up.	Circle one: (S) U N/A	Initials:
2.11.4 Inspect conditions of stacks and rain caps.	Circle one: (S) U N/A	Initials:
2.11.5 Inspect flue door gaskets to ensure they are in good condition, and properly secured.	Circle one: (S) U N/A	Initials:
2.11.6 Replace if necessary.		Initials:

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1 Close and secure front and rear flue doors.		Initials:
3.2 Hook up all associated piping and refill boiler.		Initials:
3.3 Fire up boiler and check for air, gas, and water leaks.	Circle one: (S) U N/A	Initials:
3.4 Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: (S) U N/A	Initials:
3.5 Check pilot burners and ignition equipment for proper condition and adjustment.	Circle one: (S) U N/A	Initials:
3.6 Visually check burner for proper combustion.	Circle one: (S) U N/A	Initials:
3.7 Record all mechanical maintenance data, testing data, and other notable items.		Initials:

Remarks: _____

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-2

NOTE	Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.		
3.8	Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002 (old number 40-40-003.2).	Circle one: S U N/A	Initials:
3.9	Record all mechanical maintenance data, testing data, and other notable items.		Initials:
3.10	Notify MC that work on the boiler system is complete.		Initials:

Name of Craft Worker: Joe Valdez Z Number: 301408

Signature: Date: 9 / 26 / 15

Name of Craft Worker: Z Number:

Signature: Date: / /

Foreman Verification: Z Number:

Signature: Date: / /

Remarks:

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Work Order No.: 526530-01 Equipment ID No.: BHW-3

Instructions: Enter the requested information. All items marked **S** or **Y** are satisfactory. Document all items marked **U**, **N**, or **N/A** in the Remarks section below, noting the step number and reason. Notify the foreman or supervisor of problems involving imminent danger.

TA: 55 Building: 440 Room: U209

Date Inspected: 9/25/15 Inspectors: 301408

Calibrated tools needed:

Name:	Serial Number:	Calibration Exp. Date:
Flue gas analyzer	N/A	N/A

1.0 PRE-MAINTENANCE

NOTE Preoperational and pre-maintenance activities shall be conducted per the work order package, e.g., lockout/tagout, permits, special instructions, etc.

! WARNING If purging of gas lines will be required during this maintenance, ensure that the purging activity is addressed in the Integrated Work Document (IWD). The following must be addressed (see Master Specification 23 1123):

1. Purged fuel gases shall be directly vented to a safe location outdoors, away from personnel and ignition sources. This may be accomplished through permanent piping or temporary piping or hosing.
2. If it is not possible to vent purged gases outdoors, the following conditions must be met:
   a. Purging activity must be approved by the LANL Fire Marshal based on a documented justification detailing why outdoor venting is not possible and IWD.
   b. Gas concentration in the space to which the purge is vented shall be maintained at no more than 25% of the Lower Explosive Limit (LEL). For natural gas, the LEL is a concentration of 5% in air or 50,000 ppm. Therefore a maximum concentration of 12,500 ppm is allowed for natural gas. The concentration may be controlled by providing adequate ventilation or by limiting the amount of purge gas.
   c. Combustible gas detectors shall be used during the purging operation to monitor the gas concentration.
   d. Nonessential personnel shall be evacuated from the vicinity (including adjacent spaces) during the purging operation.
   e. Ignition sources in the purging space shall be controlled or eliminated.

Remarks:

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Work Order No.: 526530-01 Equipment ID No.: BHW-3

NOTE All repair work, adjustments, or the replacement of parts shall be done in accordance with the manufacturer's procedures, specifications, recommendations, and instructions.

1.1 Notify maintenance coordinator (MC) that work will be in progress on the boiler system.		Initials:

2.0 MAINTENANCE

NOTE These selected hot water boilers are mainly boilers with power burners that have refractory in front and rear flue doors or have heat extractors in the fire-tubes as are found in most one-pass boilers (Sellers). Hot water heating boilers with atmospheric burners generally require minimal fireside preventative maintenance. Contact the MSS-MP Boiler SME @ 5-1159 with questions or concerns.

2.1 Lock and tag out electrical and all associated valves on boiler and shut off gas supply.		Initials:
2.2 Cool boiler, open air cock, and drain the boiler.		Initials:
2.3 Perform an internal and external inspection after thorough cleaning.	Circle one: (S) U N/A	Initials:
2.3.1 Check the fireside furnace and fire-tubes for any evidence of soot formation or corrosion.	Circle one: S U (N/A)	Initials:
2.3.2 Brush and vacuum furnace and fire-tubes if such conditions exist.		Initials:
2.3.3 Perform hydrostatic test based on the boiler's Maximum Allowable Working Pressure (MAWP) and/or facility potable water pressure as long as the potable water pressure is at least 30 psi over boiler operating pressure.	Circle one: S U (N/A)	Initials:
2.3.4 Note if any boiler tubes and/or fittings are leaking, and repair as required. For any major repairs (determined by the SME), request a work order for the repairs from the MC.		Initials:

Remarks: _____

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW 3

2.3.5 On one-pass boilers (Sellers), check condition of all heat extractors.	Circle one: S U N/A	Initials:
2.3.6 Check refractory materials.	Circle one: S U N/A	Initials:
2.3.7 Replace if needed.		Initials:
2.4 Perform routine burner maintenance.		Initials:
2.4.1 Observe temperature and operating pressure and general conditions.	Circle one: S U N/A	Initials:
2.4.2 Fire and cycle the burner.		Initials:
2.5 Perform routine maintenance of circulating pump and expansion pump equipment.		Initials:
2.5.1 Observe condition of expansion tank.	Circle one: S U N/A	Initials:
2.5.2 Drain expansion tank if it is of a non-bladder type and refill to reestablish an air cushion.	Circle one: S U N/A	Initials:
2.5.3 Check the air pressure on the bladder-type expansion tanks.	Circle one: S U N/A	Initials:
2.5.4 Observe operation of circulating pumps.	Circle one: S U N/A	Initials:
2.5.5 Lubricate pump motors.	N/A	Initials:
2.6 Perform routine maintenance of entire combustion control equipment.		Initials:

Remarks:

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-3

2.6.1	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: (S) U N/A	Initials:
2.6.2	Adjust air/fuel mixture as needed.		Initials:
2.6.3	Test flame detection devices on boilers with flame scanners.	Circle one: (S) U N/A	Initials:
2.6.4	Remove the flame scanner with the burner firing.		Initials:
NOTE	The burner should shut off as a flame failure condition.		
2.6.5	Clean the flame scanner, reinstall and test programmer.		Initials:
2.6.6	Check for proper operation as boiler goes through a firing cycle and light-off.	Circle one: (S) U N/A	Initials:
2.6.7	Check all electrical control and circuitry.	Circle one: (S) U N/A	Initials:
2.6.8	Inspect for cracked mercury tubes, separation of mercury, cracked insulators (probe type), jumpered conditions, loose connections, poor or deteriorated wiring, improperly used bypass switches, cutoff switches wired in parallel, shut-offs installed at improper levels, wedges behind mercury tubes.	Circle one: S U (N/A)	Initials:
2.6.9	Observe operation of forced draft fan motors on boilers with power burners and induced draft fan motors on horizontal breeching where applicable.	Circle one: (S) U N/A	Initials:
2.6.10	Lubricate fan motors where necessary.		Initials:
2.7	Perform combustion and draft tests.		Initials:

Remarks: _____

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-3

2.7.1 Visually inspect combustion.	Circle one: S U N/A	Initials:
NOTE Changes in flame shape, color, and sound are among early indicators of potential combustion-related problems. Changes may be due to changes in fuel pressure or gas/air linkage movement.		
2.8 Perform safety relief valve(s) pop test.	Circle one: S U N/A	Initials:
2.8.1 Check pressure-reducing valve.	Circle one: S U N/A	Initials:
2.8.2 Replace the strainer in the valve if needed.		Initials:
2.9 Perform slow drain test of low-water cutoff.	Circle one: S U N/A	Initials:
2.10 Inspect gas piping for proper support and tightness.	Circle one: S U N/A	Initials:
2.10.1 Inspect fuel supply system and gas controls.	Circle one: S U N/A	Initials:
2.10.2 Leak check gas controls and associated gas piping with a gas detector or soap suds.	Circle one: S U N/A	Initials:
2.11 Inspect boiler room ventilation louvers and intake.	Circle one: S U N/A	Initials:
2.11.1 Listen for any unusual noises or conditions and correct as necessary.	Circle one: S U N/A	Initials:
2.11.2 Report any needed corrections to the MC for Corrective Maintenance.		Initials:

Remarks:

Preventive Maintenance Instruction

Low- and High-Pressure Steam Boiler and Low-Temperature Water Heating Boiler Inspection, Testing, and Maintenance

403-A.006: Hot Water Boiler Annual Fireside/Waterside Inspection and Maintenance

Work Order No.: 526530-01 Equipment ID No.: BHW-1

2.11.3	Check combustion air supply openings to ensure that they are not closed or stopped up.	Circle one: S U N/A	Initials:
2.11.4	Inspect conditions of stacks and rain caps.	Circle one: S U N/A	Initials:
2.11.5	Inspect flue door gaskets to ensure they are in good condition, and properly secured.	Circle one: S U N/A	Initials:
2.11.6	Replace if necessary.		Initials:

3.0 POST-MAINTENANCE ACTIVITIES

NOTE Post-maintenance activities shall be conducted in accordance with the work order package instructions (e.g., lockout/tagout, special instructions, etc.).

3.1	Close and secure front and rear flue doors.		Initials:
3.2	Hook up all associated piping and refill boiler.		Initials:
3.3	Fire up boiler and check for air, gas, and water leaks.	Circle one: S U N/A	Initials:
3.4	Check gas/air linkages and moving parts (on power burners that modulate) for positioning, tightness, and binding.	Circle one: S U N/A	Initials:
3.5	Check pilot burners and ignition equipment for proper condition and adjustment.	Circle one: S U N/A	Initials:
3.6	Visually check burner for proper combustion.	Circle one: S U N/A	Initials:
3.7	Record all mechanical maintenance data, testing data, and other notable items.		Initials:

Remarks: _____

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Work Order No.: 526530-01 Equipment ID No.: BHW-3

NOTE	Combustion analysis is verifiable only with a flue gas analyzer and is performed mainly on boilers with power burners.		
3.8	Test water for proper chemical levels. Test and treat water as defined on Datasheet 403-A.002 (old number 40-40-003.2).	Circle one: S U N/A	Initials:
3.9	Record all mechanical maintenance data, testing data, and other notable items.		Initials:
3.10	Notify MC that work on the boiler system is complete.		Initials:

Name of Craft Worker: Joe Valpondo Z Number: 301408

Signature: Date: 9/25/15

Name of Craft Worker: Z Number:

Signature: Date: / /

Foreman Verification: Z Number:

Signature: Date: / /

Remarks:

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ATTACHMENT A907.A.

Chemical Usage

Chemical Purchases

(From ChemDB)

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Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311685		SANDABLE PRIMER	12	oz	7/1/2015
0001311790		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311694	7440-21-3	SILICON RTV SEALANT 732 MULTI PURPOSE SEALANT	10.1	oz	7/1/2015
0001311693	7440-21-3	SILICON RTV SEALANT 732 MULTI PURPOSE SEALANT	10.1	oz	7/1/2015
0001311692		BRAKE FLUID DOT 3	12	oz	7/1/2015
0001311691		DIESEL FUEL SUPPLEMENT	32	oz	7/1/2015
0001311690		Premium enamel	12	oz	7/1/2015
0001311689		Premium enamel	12	oz	7/1/2015
0001311688		SANDABLE PRIMER	12	oz	7/1/2015
0001311696		SAE 75W-90 GEAR OIL	1	qt	7/1/2015
0001311686		SANDABLE PRIMER	12	oz	7/1/2015
0001311697		SAE 75W-90 GEAR OIL	1	qt	7/1/2015
0001311683		Multipurpose Grease	14	oz	7/1/2015
0001311682		Multipurpose Grease	14	oz	7/1/2015
0001311681		Multipurpose Grease	14	oz	7/1/2015
0001311680		Multipurpose Grease	14.1	oz	7/1/2015
0001311679		Multipurpose Grease	14.1	oz	7/1/2015
0001311678		Multipurpose Grease	14.1	oz	7/1/2015
0001311677		Multipurpose Grease	14.1	oz	7/1/2015
0001311676		Multipurpose Grease	14.1	oz	7/1/2015
0001311687		SANDABLE PRIMER	12	oz	7/1/2015
0001311765		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390570		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390603		Chemsafe Clear	5	gal	7/1/2015
0001390605		Chemsafe Clear	5	gal	7/1/2015
0001311753		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311752		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311751		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311750		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311749		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311695		SAE 75W-90 GEAR OIL	1	qt	7/1/2015
0001311764		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311673		Multipurpose Grease	14.1	oz	7/1/2015
0001311766		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311794		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311767		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311768		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001363095		1020 ppm Carbon Dioxide/Bal. Nitrogen	150	cf	7/1/2015
0001363094		997 ppm Hydrogen/Bal Nitrogen	150	cf	7/1/2015
0001311699	Multi	DIESEL 9.1.1	80	oz	7/1/2015
0001311698		SAE 75W-90 GEAR OIL	1	qt	7/1/2015
0001311763		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390561		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390556		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001311777		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311776		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311775		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311774		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311773		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311772		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311771		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311675		Multipurpose Grease	14.1	oz	7/1/2015
0001311769		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390571		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390562		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390563		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390564		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390565		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390566		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390567		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390568		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390569		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001311770		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390572		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001311789		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311672		Multipurpose Grease	14.1	oz	7/1/2015
0001311671		Multipurpose Grease	14.1	oz	7/1/2015
0001390579		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390578		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390577		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390576		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390575		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001311807		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390573		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001311806		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311797		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311798		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311799		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311800		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311801		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311802		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311804		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311805		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311674		Multipurpose Grease	14.1	oz	7/1/2015
0001390574		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390604		Chemsafe Clear	5	gal	7/1/2015
0001311791		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311762		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311757		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311747		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311743		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311744		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311745		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311746		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390583		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001311796		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390536		Permacryl DS-1579 PURE WHITE, SEMI GLOSS BASE	1	gal	7/1/2015
0001390540		PERMACRYL INTERIOR FLAT MIDTONE BASE	1	gal	7/1/2015
0001390546		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	7/1/2015
0001390547		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	7/1/2015
0001390548		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	7/1/2015
0001390549		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	7/1/2015
0001311755		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390586		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390587		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001311756		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390559		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390584		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001311792		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390585		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001311793		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311778		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311779		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311780		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311781		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311795		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390560		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390590		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390558		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001390557		PREMIUM ACRYLIC CAULK - MAX 3500	10.1	oz	7/1/2015
0001311758		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311788		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390538		PERMACRYL INTERIOR FLAT MIDTONE BASE	1	gal	7/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311783		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311784		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001363096		HELIUM 3 99.9 ATOM%	40	l	7/1/2015
0001311782		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390552		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	7/1/2015
0001390529		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	7/1/2015
0001390530		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	7/1/2015
0001390539		PERMACRYL INTERIOR FLAT MIDTONE BASE	1	gal	7/1/2015
0001311748		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311754		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311761		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311760		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311759		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390588		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390551		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	7/1/2015
0001390526		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	7/1/2015
0001390554		PERMACRYL INTERIOR SEMI-GLOSS NEUTRAL BASE	1	gal	7/1/2015
0001390555		PERMACRYL INTERIOR SEMI-GLOSS NEUTRAL BASE	1	gal	7/1/2015
0001390534		Permacryl DS-1579 PURE WHITE, SEMI GLOSS BASE	1	gal	7/1/2015
0001390535		Permacryl DS-1579 PURE WHITE, SEMI GLOSS BASE	1	gal	7/1/2015
0001390532		C PAINT COLORANT	1	qt	7/1/2015
0001311785		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311786		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001311787		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001390550		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	7/1/2015
0001390598		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390591		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390592		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390593		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390582		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001390581		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390594		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390595		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390528		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	7/1/2015
0001390597		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390527		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	7/1/2015
0001390599		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390600		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390601		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390542		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	1	gal	7/1/2015
0001390543		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	1	gal	7/1/2015
0001390544		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	1	gal	7/1/2015
0001390524		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	7/1/2015
0001390525		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	7/1/2015
0001390589		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001390596		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/1/2015
0001311684		ULTRA-LOW VOC BRAKLEEN	14	oz	7/1/2015
0001311803		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	7/1/2015
0001363197	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363218		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363195	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363201	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363203	1333-74-0	HYDROGEN	220	cf	7/2/2015
0001363204	1333-74-0	HYDROGEN	220	cf	7/2/2015
0001363205	1333-74-0	HYDROGEN	220	cf	7/2/2015
0001363206	1333-74-0	HYDROGEN	220	cf	7/2/2015
0001363207		25% CARBON DIOXIDE/75% ARGON	220	cf	7/2/2015
0001363210		2.9% Hydrogen/Bal. Helium	220	cf	7/2/2015
0001363211	2551-62-4	SULFUR HEXAFLUORIDE	80	cf	7/2/2015
0001363212	2551-62-4	SULFUR HEXAFLUORIDE	80	cf	7/2/2015
0001363213		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363199	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363217		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363214		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363219		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363220		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363221		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363222		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363223		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363224		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363225	75-45-6	CHLORODIFLUOROMETHANE	30	lb	7/2/2015
0001390613		HENRY440	1	gal	7/2/2015
0001390627		HENRY440	1	gal	7/2/2015
0001363208		25% CARBON DIOXIDE/75% ARGON	220	cf	7/2/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363111	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001390640		HENRY440	1	gal	7/2/2015
0001363215		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363184	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363170	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363171	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363172	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363173	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363174	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363175	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363176	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363177	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363178	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363179	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363180	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363200	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363182	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363202	1333-74-0	HYDROGEN	220	cf	7/2/2015
0001363185	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363186	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363187	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363188	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363189	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363190	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363191	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363192	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363193	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363194	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363209		2.9% Hydrogen/Bal. Helium	220	cf	7/2/2015
0001363196	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363181	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001390622		HENRY440	1	gal	7/2/2015
0001311721		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/2/2015
0001390631		HENRY440	1	gal	7/2/2015
0001390630		HENRY440	1	gal	7/2/2015
0001390629		HENRY440	1	gal	7/2/2015
0001390628		HENRY440	1	gal	7/2/2015
0001390626		HENRY440	1	gal	7/2/2015
0001390625		HENRY440	1	gal	7/2/2015
0001390633		HENRY440	1	gal	7/2/2015
0001390623		HENRY440	1	gal	7/2/2015
0001390634		HENRY440	1	gal	7/2/2015
0001390621		HENRY440	1	gal	7/2/2015
0001390620		HENRY440	1	gal	7/2/2015
0001390619		HENRY440	1	gal	7/2/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363169	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363168	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363167	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363166	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363165	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001390624		HENRY440	1	gal	7/2/2015
0001311708		SAE 5W20 MOTOR OIL	1	qt	7/2/2015
0001311720		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/2/2015
0001311719		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/2/2015
0001311716		15/40 MOTOR OIL	1	qt	7/2/2015
0001311715		15/40 MOTOR OIL	1	qt	7/2/2015
0001311714		15/40 MOTOR OIL	1	qt	7/2/2015
0001311713		15/40 MOTOR OIL	1	qt	7/2/2015
0001311712		15/40 MOTOR OIL	1	qt	7/2/2015
0001390632		HENRY440	1	gal	7/2/2015
0001311709		SAE 5W20 MOTOR OIL	1	qt	7/2/2015
0001363162	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001311707		SAE 5W20 MOTOR OIL	1	qt	7/2/2015
0001311706		SAE 5W20 MOTOR OIL	1	qt	7/2/2015
0001390641		HENRY440	1	gal	7/2/2015
0001390639		HENRY440	1	gal	7/2/2015
0001390638		HENRY440	1	gal	7/2/2015
0001390637		HENRY440	1	gal	7/2/2015
0001390636		HENRY440	1	gal	7/2/2015
0001390635		HENRY440	1	gal	7/2/2015
0001311711		15/40 MOTOR OIL	1	qt	7/2/2015
0001363127	74-98-6	PROPANE	11	gal	7/2/2015
0001363137	74-98-6	PROPANE	11	gal	7/2/2015
0001363136	74-98-6	PROPANE	11	gal	7/2/2015
0001363134	74-98-6	PROPANE	7	gal	7/2/2015
0001363133	74-98-6	PROPANE	11	gal	7/2/2015
0001363132	74-98-6	PROPANE	11	gal	7/2/2015
0001363131	74-98-6	PROPANE	11	gal	7/2/2015
0001363130	74-98-6	PROPANE	11	gal	7/2/2015
0001363164	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363128	74-98-6	PROPANE	11	gal	7/2/2015
0001363141	1333-74-0	HYDROGEN	20	cf	7/2/2015
0001363126	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001390618		HENRY440	1	gal	7/2/2015
0001363216		SUVA 410A Refrigerant	25	lb	7/2/2015
0001363125	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363124	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363123	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363121	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363120	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363129	74-98-6	PROPANE	11	gal	7/2/2015
0001363150	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363158	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363161	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363160	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363119	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363159	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363157	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363154	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363153	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363139	74-98-6	PROPANE	11	gal	7/2/2015
0001363151	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363140	1333-74-0	HYDROGEN	20	cf	7/2/2015
0001363149	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363148	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363147	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363146	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363145	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363144	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363142	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363163	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363152	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001390609		HENRY440	1	gal	7/2/2015
0001363115	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363113	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001311729		WINDSHIELD WASHER FLUID	1	gal	7/2/2015
0001311718		ANTIFREEZE/COOLANT	1	gal	7/2/2015
0001311710		15/40 MOTOR OIL	1	qt	7/2/2015
0001390614		HENRY440	1	gal	7/2/2015
0001311705		SAE 5W20 MOTOR OIL	1	qt	7/2/2015
0001363102	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363103	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363104	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363105	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363116	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001311704		POWER STEERING FLUID	1	qt	7/2/2015
0001311717		ANTIFREEZE/COOLANT	1	gal	7/2/2015
0001390608		HENRY440	1	gal	7/2/2015
0001390607		HENRY440	1	gal	7/2/2015
0001390606		HENRY440	1	gal	7/2/2015
0001311702		DX-III/MERCON ATF	1	qt	7/2/2015
0001363112	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363110	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363109	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363107	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363106	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001311700		DX-III/MERCON ATF	1	qt	7/2/2015
0001311701		DX-III/MERCON ATF	1	qt	7/2/2015
0001390610		HENRY440	1	gal	7/2/2015
0001311735	Multi	Purus Diesel Exhaust Fluid	2.5	gal	7/2/2015
0001390616		HENRY440	1	gal	7/2/2015
0001390617		HENRY440	1	gal	7/2/2015
0001311730		WINDSHIELD WASHER FLUID	1	gal	7/2/2015
0001311731		WINDSHIELD WASHER FLUID	1	gal	7/2/2015
0001311732		WINDSHIELD WASHER FLUID	1	gal	7/2/2015
0001311733		WINDSHIELD WASHER FLUID	1	gal	7/2/2015
0001390611		HENRY440	1	gal	7/2/2015
0001311724		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/2/2015
0001363117	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001311723		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/2/2015
0001311725		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/2/2015
0001390615		HENRY440	1	gal	7/2/2015
0001311734		WINDSHIELD WASHER FLUID	1	gal	7/2/2015
0001311736	Multi	Purus Diesel Exhaust Fluid	2.5	gal	7/2/2015
0001363097	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363098	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363099	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363100	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363101	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363156	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001311726		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/2/2015
0001311722		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/2/2015
0001311703		DX-III/MERCON ATF	1	qt	7/2/2015
0001390612		HENRY440	1	gal	7/2/2015
0001363118	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001311727		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/2/2015
0001363108	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363138	74-98-6	PROPANE	11	gal	7/2/2015
0001363143	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363155	75-28-5	ISOBUTANE	220	cf	7/2/2015
0001363122	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001311728		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/2/2015
0001363198	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363183	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363114	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/2/2015
0001363135	74-98-6	PROPANE	11	gal	7/2/2015
0001311742		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/6/2015
0001311741		DIESEL ENGINE OIL SAE 15W-40	1	gal	7/6/2015
0001311808		DIESEL FUEL THERAPY	1	gal	7/6/2015
0001311740		SAE 75W-90 GEAR OIL	5	gal	7/6/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311739		SAE 75W-90 GEAR OIL	5	gal	7/6/2015
0001390663		LPS-1	11	oz	7/6/2015
0001390664		LPS-1	11	oz	7/6/2015
0001311810		HYDRAULIC FLUID	5	gal	7/6/2015
0001311737		SAE 75W-90 GEAR OIL	5	gal	7/6/2015
0001311738		SAE 75W-90 GEAR OIL	5	gal	7/6/2015
0001311809		Hydraulic Fluid AW #32	5	gal	7/6/2015
0001390661		LPS-1	11	oz	7/6/2015
0001390649		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001363230	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/6/2015
0001390650		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001390642		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001390648		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001390647		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001390646		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001390645		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001390662		LPS-1	11	oz	7/6/2015
0001390658		LPS-1	11	oz	7/6/2015
0001390659		LPS-1	11	oz	7/6/2015
0001390660		LPS-1	11	oz	7/6/2015
0001390644		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001390656		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0030911393	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	7/6/2015
0001363229	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/6/2015
0001390643		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001363228	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/6/2015
0001390655		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001390654		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001390653		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001390652		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001390651		QUIKRETE CONCRETE BONDING GLUE	1	gal	7/6/2015
0001363227	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/6/2015
0001390667		concrete bonding glue	1	gal	7/7/2015
0001390665		concrete bonding glue	1	gal	7/7/2015
0001390666		concrete bonding glue	1	gal	7/7/2015
0001390669		concrete bonding glue	1	gal	7/7/2015
0001390668		concrete bonding glue	1	gal	7/7/2015
0001334063		CONTACT CLEANER 2000	15	oz	7/7/2015
0001331802		STRUERS OP-S SUSPENSION	5	l	7/8/2015
0001331804		STRUERS OP-S SUSPENSION	5	l	7/8/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001331803		STRUERS OP-S SUSPENSION	5	l	7/8/2015
0001331801		HYDRAULIC OIL	1	l	7/8/2015
0001390681		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001311840		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311823		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001390683		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001390680		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001311841		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001390679		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001390682		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001311832		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311833		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311835		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311836		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001390678		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001311839		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311838		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311837		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311834		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311821		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311830		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311831		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311816		LACQUER PAINT HOT ROD BLACK	12	oz	7/9/2015
0001311817		LACQUER PAINT HOT ROD BLACK	12	oz	7/9/2015
0001311815		LACQUER PAINT HOT ROD BLACK	12	oz	7/9/2015
0001311842		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311818		LACQUER PAINT HOT ROD BLACK	12	oz	7/9/2015
0001311822		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311820		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001390677		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001390686		100% SILICONE SEALANT	10.1	oz	7/9/2015
0001390671		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001390672		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001390673		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001390674		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001390675		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001390676		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001311819		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311876		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311812		LACQUER PAINT HOT ROD BLACK	12	oz	7/9/2015
0001311813		LACQUER PAINT HOT ROD BLACK	12	oz	7/9/2015
0001311814		LACQUER PAINT HOT ROD BLACK	12	oz	7/9/2015
0001311867		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311868		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311869		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311870		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311871		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311872		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311811		LACQUER PAINT HOT ROD BLACK	12	oz	7/9/2015
0001311874		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311877		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311843		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311878		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311866		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311829		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311828		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311827		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311826		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311825		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311824		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311873		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311854		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001334856	9011-18-1	DEXTRAN SULPHATE SODIUM SALT	5	gm	7/9/2015
0001311850		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311849		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311848		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311844		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311846		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311845		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311851		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001390708		ULTRA COOLANT	1	gal	7/9/2015
0001311853		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311855		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311862		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001334855	25322-68-3	POLYETHYLENE GLYCOLS	250	gm	7/9/2015
0001390684		5080 PRESSURE SENSITIVE ADHESIVE	5	gal	7/9/2015
0001311865		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311852		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311863		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311856		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311860		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311859		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311858		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311857		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311864		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311847		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311875		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001311861		SAE 5W-30 MOTOR OIL	1	qt	7/9/2015
0001317815	75-12-7	FORMAMIDE	5	ml	7/10/2015
0001349927		Flexible Resin	500	ml	7/13/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001349926		Flexible Resin	500	ml	7/13/2015
0001349898	7446-08-4	SELENIUM(IV) OXIDE	25	gm	7/13/2015
0001349925		Clear Resin	1	l	7/13/2015
0001349924		Clear Resin	1	l	7/13/2015
0001349923		Black Resin	1	l	7/13/2015
0001349922		Black Resin	1	l	7/13/2015
0001349920		Castable Resin	500	ml	7/13/2015
0001349919		Castable Resin	500	ml	7/13/2015
0001349902		DGA RESIN	1	gm	7/13/2015
0001349901		DGA RESIN	50	gm	7/13/2015
0001349899	1665-00-5	DICHLOROMETHANE-D2	25	gm	7/13/2015
0001390730		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001349900	50446-44-1	1,3,5-Tri(4-carboxyphenyl)benzene	5	gm	7/13/2015
0001349928	3599-32-4	Cardiogreen	25	mg	7/13/2015
0001390736		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390735		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390734		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390733		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390731		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390729		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390728		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390727		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390718		PSX 700 PART A(RESIN)	.8	gal	7/13/2015
0001349883	3012-65-5	AMMONIUM CITRATE, DIBASIC	500	gm	7/13/2015
0001349863		nitrogen	500	ml	7/13/2015
0001390719		PSX 700 PART A(RESIN)	.8	gal	7/13/2015
0001349897	23746-81-8	2-(2-Naphthyl)indole	5	gm	7/13/2015
0001390732		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390749		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001382819		Scotch Weld Epoxy Adhesive 2216 B/A Gray	1.45	oz	7/13/2015
0001390740		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390741		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001349933	64-17-5	ETHANOL	1	l	7/13/2015
0001390743		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390745		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390746		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390738		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390748		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390737		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001390720		PSX 700 PART A(RESIN)	.8	gal	7/13/2015
0001382823		ARATHANE 5753 B	700	gm	7/13/2015
0001382813		Scotch Weld Epoxy Adhesive 2216 B/A Gray	1.45	oz	7/13/2015
0001382814		Scotch Weld Epoxy Adhesive 2216 B/A Gray	1.45	oz	7/13/2015
0001382815		Scotch Weld Epoxy Adhesive 2216 B/A Gray	1.45	oz	7/13/2015
0001382816		Scotch Weld Epoxy Adhesive 2216 B/A Gray	1.45	oz	7/13/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001382817		Scotch Weld Epoxy Adhesive 2216 B/A Gray	1.45	oz	7/13/2015
0001382818		Scotch Weld Epoxy Adhesive 2216 B/A Gray	1.45	oz	7/13/2015
0001390747		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001382831	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/13/2015
0001349934		OMEGABOND 500 LIQUID	8	oz	7/13/2015
0001349935		OMEGABOND 500 LIQUID	8	oz	7/13/2015
0001349932	9041-93-4	BLEOMYCIN SULFATE (BLENOXANE) STERILE	100	mg	7/13/2015
0001349931	865-49-6	CHLOROFORM-D	250	gm	7/13/2015
0001349930	865-49-6	CHLOROFORM-D	250	gm	7/13/2015
0001349929	2206-27-1	DIMETHYL SULFOXIDE-D6	100	gm	7/13/2015
0001382828	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/13/2015
0001390739		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001382830	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/13/2015
0001390744		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001382832	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/13/2015
0001382833	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/13/2015
0001349884		Mark 440 Stencil Maker Combo Kit	1	qt	7/13/2015
0001390750		EP GEL-FAST Components A/B	250	ml	7/13/2015
0001390751		EP GEL-FAST Components A/B	250	ml	7/13/2015
0001390722		PSX 700 CURE	.2	gal	7/13/2015
0001382855		ARATHANE 5753-A/B	140	gm	7/13/2015
0001349896		HIVAC GREASE	3.6	kg	7/13/2015
0001382829	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/13/2015
0001390711		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	7/13/2015
0001349885	7447-40-7	POTASSIUM CHLORIDE	500	gm	7/13/2015
0001390742		BIG STRETCH CAULK	10.1	oz	7/13/2015
0001382820		Scotch Weld Epoxy Adhesive 2216 B/A Gray	1.45	oz	7/13/2015
0001390714		EXTERIOR ACRYLIC LATEX FLAT	1	gal	7/13/2015
0001390715		EXTERIOR ACRYLIC LATEX FLAT	1	gal	7/13/2015
0001390716		EXTERIOR ACRYLIC LATEX FLAT	1	gal	7/13/2015
0001390723		PSX 700 CURE	.2	gal	7/13/2015
0001349886	50982-13-3	DICHLORO(1,5-CYCLOOCTADIENE)RUTHENIUM(II)	2	gm	7/13/2015
0001390712		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	7/13/2015
0001390713		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	7/13/2015
0001349887	50982-13-3	DICHLORO(1,5-CYCLOOCTADIENE)RUTHENIUM(II)	2	gm	7/13/2015
0001349888	1072-83-9	2-Acetylpyrrole	25	gm	7/13/2015
0001349889	557-34-6	ZINC ACETATE	25	gm	7/13/2015
0001382380		Scotch Weld Epoxy Adhesive 2216 B/A Gray	1.45	oz	7/13/2015
0001390717		EXTERIOR ACRYLIC LATEX FLAT	1	gal	7/13/2015
0001390710		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	7/13/2015
0001349893		PLATINUM GAUZE	425	mg	7/13/2015
0001349895	1074-82-4	PHTHALIMIDE POTASSIUM SALT	100	gm	7/13/2015
0001349892		PLATINUM GAUZE	425	mg	7/13/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001349891	13909-34-7	N-Benzylidenebenzenesulfonamide	5	gm	7/13/2015
0001349890	13909-34-7	N-Benzylidenebenzenesulfonamide	5	gm	7/13/2015
0001382822		Scotch Weld Epoxy Adhesive 2216 B/A Gray	1.45	oz	7/13/2015
0001382821		Scotch Weld Epoxy Adhesive 2216 B/A Gray	1.45	oz	7/13/2015
0001349894	2857-97-8	BROMOTRIMETHYLSILANE	25	gm	7/13/2015
0001390757		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390809		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390806		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390807		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390808		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390810		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390812		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390815		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390813		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390814		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390758		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390803		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001349952	108-88-3	TOLUENE	4	l	7/14/2015
0001390817		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390811		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390794		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390764		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390765		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390766		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001350024		TRU RESIN	2	ml	7/14/2015
0001390767		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390805		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390769		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390761		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390795		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390796		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390797		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390770		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390798		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390800		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390768		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390776		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390760		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390804		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390802		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390801		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390779		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390780		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390763		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390777		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001390762		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390775		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390774		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390773		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390772		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390771		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390759		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390778		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001382834	7705-08-0	FERRIC CHLORIDE	3400	lb	7/14/2015
0001350022		TRU RESIN	2	ml	7/14/2015
0001350011	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350010	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350009	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350008	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350007	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350006	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350005	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350004	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350003	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350013	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350001	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350014	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001382835	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/14/2015
0001382836	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/14/2015
0001382837	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/14/2015
0001382838	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/14/2015
0001382839	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/14/2015
0001382840	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/14/2015
0001390752		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390753		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390754		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390755		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390756		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001350002	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350019	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001390820		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390821		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390822		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390823		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390824		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390825		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390793		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390826		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001350015	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350016	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350012	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350018	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001390819		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001350020	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001350021		TRU RESIN	2	ml	7/14/2015
0001350023		TRU RESIN	2	ml	7/14/2015
0001350025		TEVA RESIN	2	ml	7/14/2015
0001350026		TEVA RESIN	2	ml	7/14/2015
0001350027		TEVA RESIN	2	ml	7/14/2015
0001350028		TEVA RESIN	2	ml	7/14/2015
0001350029	112-90-3	OLEYLAMINE	100	ml	7/14/2015
0001350030	112-90-3	OLEYLAMINE	100	ml	7/14/2015
0001350031	112-90-3	OLEYLAMINE	100	ml	7/14/2015
0001350032	37199-66-9	POTASSIUM POLYSULFIDE	250	gm	7/14/2015
0001350017	125-20-2	THYMOLPHTHALEIN	15	ml	7/14/2015
0001349982		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349996	7664-93-9	SULFURIC ACID	100	ml	7/14/2015
0001349947	60-29-7	ETHYL ETHER ANHYDROUS	1	l	7/14/2015
0001349948	60-29-7	ETHYL ETHER ANHYDROUS	1	l	7/14/2015
0001349949	60-29-7	ETHYL ETHER ANHYDROUS	1	l	7/14/2015
0001349950	60-29-7	ETHYL ETHER ANHYDROUS	1	l	7/14/2015
0001349951	108-88-3	TOLUENE	4	l	7/14/2015
0001349953		MemPlus Single Reagent	100	ml	7/14/2015
0001349975		DC 3-4155 HV Dielectric Gel Kit	210	ml	7/14/2015
0001349976		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349977		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349978		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349979		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349945	107-21-1	ETHYLENE GLYCOL	4	l	7/14/2015
0001349981		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349944	110-54-3	HEXANE	4	l	7/14/2015
0001349983		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349984		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349954		MemPlus Single Reagent	100	ml	7/14/2015
0001349986		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349988		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349989		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349990		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349991		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349992		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349993		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349994		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349995		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001349980		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001390842		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001390843		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390844		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390848		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390849		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390850		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390851		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390799		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390827		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390828		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390829		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390845		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390846		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001349946	67-66-3	CHLOROFORM OPTIMA	4	l	7/14/2015
0001390830		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001349987		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001390841		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390840		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390839		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390838		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001349936	7697-37-2	NITRIC ACID	2.5	l	7/14/2015
0001349937	7697-37-2	NITRIC ACID	2.5	l	7/14/2015
0001349938	7697-37-2	NITRIC ACID	2.5	l	7/14/2015
0001349939	7697-37-2	NITRIC ACID	2.5	l	7/14/2015
0001349940	7697-37-2	NITRIC ACID	2.5	l	7/14/2015
0001349941	7697-37-2	NITRIC ACID	2.5	l	7/14/2015
0001349942	7783-90-6	SILVER CHLORIDE	10	gm	7/14/2015
0001349943	593-45-3	OCTADECANE	1	l	7/14/2015
0001390847		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390789		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390818		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390837		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390835		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390834		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390833		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390832		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390831		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390816		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390790		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390792		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390784		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001349997	7664-93-9	SULFURIC ACID	100	ml	7/14/2015
0001390785		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001349985		Osorb Sentinel Passive Sampler	1	oz	7/14/2015
0001390786		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390787		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001390788		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390791		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001349999	7664-93-9	SULFURIC ACID	100	ml	7/14/2015
0001390836		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390781		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001390782		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001349998	7664-93-9	SULFURIC ACID	100	ml	7/14/2015
0001390783		FANTASTIK ALL PURPOSE CLEANER	1	qt	7/14/2015
0001350000	7664-93-9	SULFURIC ACID	100	ml	7/14/2015
0001350138		TRA-BOND F113	2	gm	7/15/2015
0001349964	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/15/2015
0001350137		TRA-BOND F113	2	gm	7/15/2015
0001350136		TRA-BOND F113	2	gm	7/15/2015
0001349970	67-63-0	ISOPROPYL ALCOHOL	4	l	7/15/2015
0001349968	67-63-0	ISOPROPYL ALCOHOL	4	l	7/15/2015
0001349967	67-63-0	ISOPROPYL ALCOHOL	4	l	7/15/2015
0001349966	67-63-0	ISOPROPYL ALCOHOL	4	l	7/15/2015
0001350139		TRA-BOND F113	2	gm	7/15/2015
0001350140		TRA-BOND F113	2	gm	7/15/2015
0001350141		TRA-BOND F113	2	gm	7/15/2015
0001349965	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/15/2015
0001350145		TRA-BOND F113	2	gm	7/15/2015
0001349963	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/15/2015
0001349962	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/15/2015
0001349961	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/15/2015
0001349959	24424-99-5	DI-TERT-BUTYL DICARBONATE	100	gm	7/15/2015
0001349955	75-09-2	DICHLOROMETHANE	4	l	7/15/2015
0001350135		TRA-BOND F113	2	gm	7/15/2015
0001349971	67-63-0	ISOPROPYL ALCOHOL	4	l	7/15/2015
0001350146		TRA-BOND F113	2	gm	7/15/2015
0001350143		TRA-BOND F113	2	gm	7/15/2015
0001350144		TRA-BOND F113	2	gm	7/15/2015
0001350142		TRA-BOND F113	2	gm	7/15/2015
0001350119		TRA-BOND F113	2	gm	7/15/2015
0001350127		TRA-BOND F113	2	gm	7/15/2015
0001350114		TRA-BOND F113	2	gm	7/15/2015
0001350115		TRA-BOND F113	2	gm	7/15/2015
0001350116		TRA-BOND F113	2	gm	7/15/2015
0001350117		TRA-BOND F113	2	gm	7/15/2015
0001350112		TRA-BOND F113	2	gm	7/15/2015
0001349969	67-63-0	ISOPROPYL ALCOHOL	4	l	7/15/2015
0001350111		TRA-BOND F113	2	gm	7/15/2015
0001350125		TRA-BOND F113	2	gm	7/15/2015
0001350120		TRA-BOND F113	2	gm	7/15/2015
0001350121		TRA-BOND F113	2	gm	7/15/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350122		TRA-BOND F113	2	gm	7/15/2015
0001350123		TRA-BOND F113	2	gm	7/15/2015
0001350124		TRA-BOND F113	2	gm	7/15/2015
0001350118		TRA-BOND F113	2	gm	7/15/2015
0001349972	67-63-0	ISOPROPYL ALCOHOL	4	l	7/15/2015
0001350133		TRA-BOND F113	2	gm	7/15/2015
0001350132		TRA-BOND F113	2	gm	7/15/2015
0001350131		TRA-BOND F113	2	gm	7/15/2015
0001350130		TRA-BOND F113	2	gm	7/15/2015
0001350129		TRA-BOND F113	2	gm	7/15/2015
0001350113		TRA-BOND F113	2	gm	7/15/2015
0001350126		TRA-BOND F113	2	gm	7/15/2015
0001350134		TRA-BOND F113	2	gm	7/15/2015
0001349973	67-63-0	ISOPROPYL ALCOHOL	4	l	7/15/2015
0001350033	1344-28-1	ALUMINUM OXIDE	5	kg	7/15/2015
0001350034	308080-99-1	MOLECULAR SIEVES 3A, POWDER	5000	gm	7/15/2015
0001350035	7440-48-4	COBALT	100	gm	7/15/2015
0001350109		TRA-BOND F113	2	gm	7/15/2015
0001350110		TRA-BOND F113	2	gm	7/15/2015
0001350128		TRA-BOND F113	2	gm	7/15/2015
0001350073		TRA-BOND F113	2	gm	7/15/2015
0001350087		TRA-BOND F113	2	gm	7/15/2015
0001350170		TRA-BOND F113	2	gm	7/15/2015
0001350169		TRA-BOND F113	2	gm	7/15/2015
0001350168		TRA-BOND F113	2	gm	7/15/2015
0001350068		TRA-BOND F113	2	gm	7/15/2015
0001350105		TRA-BOND F113	2	gm	7/15/2015
0001350106		TRA-BOND F113	2	gm	7/15/2015
0001350107		TRA-BOND F113	2	gm	7/15/2015
0001350108		TRA-BOND F113	2	gm	7/15/2015
0001350196		TRA-BOND F113	2	gm	7/15/2015
0001350069		TRA-BOND F113	2	gm	7/15/2015
0001350070		TRA-BOND F113	2	gm	7/15/2015
0001350172		TRA-BOND F113	2	gm	7/15/2015
0001350072		TRA-BOND F113	2	gm	7/15/2015
0001350173		TRA-BOND F113	2	gm	7/15/2015
0001350074		TRA-BOND F113	2	gm	7/15/2015
0001350075		TRA-BOND F113	2	gm	7/15/2015
0001350076		TRA-BOND F113	2	gm	7/15/2015
0001350077		TRA-BOND F113	2	gm	7/15/2015
0001350078		TRA-BOND F113	2	gm	7/15/2015
0001350079		TRA-BOND F113	2	gm	7/15/2015
0001350080		TRA-BOND F113	2	gm	7/15/2015
0001350081		TRA-BOND F113	2	gm	7/15/2015
0001350082		TRA-BOND F113	2	gm	7/15/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350083		TRA-BOND F113	2	gm	7/15/2015
0001350084		TRA-BOND F113	2	gm	7/15/2015
0001350085		TRA-BOND F113	2	gm	7/15/2015
0001350071		TRA-BOND F113	2	gm	7/15/2015
0001311920		ATF	1	qt	7/15/2015
0001350195		TRA-BOND F113	2	gm	7/15/2015
0001350194		TRA-BOND F113	2	gm	7/15/2015
0001350193		TRA-BOND F113	2	gm	7/15/2015
0001350192		TRA-BOND F113	2	gm	7/15/2015
0001350191		TRA-BOND F113	2	gm	7/15/2015
0001350190		TRA-BOND F113	2	gm	7/15/2015
0001350188		TRA-BOND F113	2	gm	7/15/2015
0001350187		TRA-BOND F113	2	gm	7/15/2015
0001311914		ATF	1	qt	7/15/2015
0001311915		ATF	1	qt	7/15/2015
0001311916		ATF	1	qt	7/15/2015
0001311917		ATF	1	qt	7/15/2015
0001350171		TRA-BOND F113	2	gm	7/15/2015
0001311919		ATF	1	qt	7/15/2015
0001350088		TRA-BOND F113	2	gm	7/15/2015
0001350186		TRA-BOND F113	2	gm	7/15/2015
0001350185		TRA-BOND F113	2	gm	7/15/2015
0001350184		TRA-BOND F113	2	gm	7/15/2015
0001350183		TRA-BOND F113	2	gm	7/15/2015
0001350182		TRA-BOND F113	2	gm	7/15/2015
0001350180		TRA-BOND F113	2	gm	7/15/2015
0001350179		TRA-BOND F113	2	gm	7/15/2015
0001350178		TRA-BOND F113	2	gm	7/15/2015
0001350177		TRA-BOND F113	2	gm	7/15/2015
0001350176		TRA-BOND F113	2	gm	7/15/2015
0001350175		TRA-BOND F113	2	gm	7/15/2015
0001350174		TRA-BOND F113	2	gm	7/15/2015
0001311918		ATF	1	qt	7/15/2015
0001311886		ATF	1	qt	7/15/2015
0001311900		ATF	1	qt	7/15/2015
0001311899		ATF	1	qt	7/15/2015
0001311898		ATF	1	qt	7/15/2015
0001311897		ATF	1	qt	7/15/2015
0001311896		ATF	1	qt	7/15/2015
0001311895		ATF	1	qt	7/15/2015
0001311894		ATF	1	qt	7/15/2015
0001311893		ATF	1	qt	7/15/2015
0001311892		ATF	1	qt	7/15/2015
0001311891		ATF	1	qt	7/15/2015
0001311890		ATF	1	qt	7/15/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311889		ATF	1	qt	7/15/2015
0001350063		TRA-BOND F113	2	gm	7/15/2015
0001311887		ATF	1	qt	7/15/2015
0001311903		ATF	1	qt	7/15/2015
0001311885		ATF	1	qt	7/15/2015
0001311884		ATF	1	qt	7/15/2015
0001311883		ATF	1	qt	7/15/2015
0001311882		ATF	1	qt	7/15/2015
0001311881		ATF	1	qt	7/15/2015
0001311880		ATF	1	qt	7/15/2015
0001311879		ATF	1	qt	7/15/2015
0001350038		Yellow Epoxy	1	kg	7/15/2015
0001350039		ALUMINUM CUTTING FLUID	4	oz	7/15/2015
0001349960	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/15/2015
0001349958	75-09-2	DICHLOROMETHANE	4	l	7/15/2015
0001349957	75-09-2	DICHLOROMETHANE	4	l	7/15/2015
0001311888		ATF	1	qt	7/15/2015
0001350102		TRA-BOND F113	2	gm	7/15/2015
0001349956	75-09-2	DICHLOROMETHANE	4	l	7/15/2015
0001350089		TRA-BOND F113	2	gm	7/15/2015
0001350090		TRA-BOND F113	2	gm	7/15/2015
0001350091		TRA-BOND F113	2	gm	7/15/2015
0001350092		TRA-BOND F113	2	gm	7/15/2015
0001350093		TRA-BOND F113	2	gm	7/15/2015
0001350094		TRA-BOND F113	2	gm	7/15/2015
0001350095		TRA-BOND F113	2	gm	7/15/2015
0001350096		TRA-BOND F113	2	gm	7/15/2015
0001350097		TRA-BOND F113	2	gm	7/15/2015
0001350098		TRA-BOND F113	2	gm	7/15/2015
0001350099		TRA-BOND F113	2	gm	7/15/2015
0001311901		ATF	1	qt	7/15/2015
0001350101		TRA-BOND F113	2	gm	7/15/2015
0001311902		ATF	1	qt	7/15/2015
0001350103		TRA-BOND F113	2	gm	7/15/2015
0001350104		TRA-BOND F113	2	gm	7/15/2015
0001311913		ATF	1	qt	7/15/2015
0001311912		ATF	1	qt	7/15/2015
0001311911		ATF	1	qt	7/15/2015
0001311910		ATF	1	qt	7/15/2015
0001311909		ATF	1	qt	7/15/2015
0001311908		ATF	1	qt	7/15/2015
0001311907		ATF	1	qt	7/15/2015
0001311906		ATF	1	qt	7/15/2015
0001311905		ATF	1	qt	7/15/2015
0001311904		ATF	1	qt	7/15/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350086		TRA-BOND F113	2	gm	7/15/2015
0001350100		TRA-BOND F113	2	gm	7/15/2015
0001350042	407-24-9	Bistrifluoroacetamide	5	gm	7/15/2015
0001363276		nitrogen	220	cf	7/15/2015
0001363278		nitrogen	220	cf	7/15/2015
0001350160		TRA-BOND F113	2	gm	7/15/2015
0001350037	7440-48-4	COBALT	100	gm	7/15/2015
0001363279	7440-37-1	ARGON	220	cf	7/15/2015
0001363280	7440-37-1	ARGON	220	cf	7/15/2015
0001363281	7440-37-1	ARGON	220	cf	7/15/2015
0001363282	7440-37-1	ARGON	220	cf	7/15/2015
0001363283	7440-37-1	ARGON	220	cf	7/15/2015
0001350040		IF 10b GNGP Base	125	ml	7/15/2015
0001363245	7440-59-7	HELIUM	220	cf	7/15/2015
0001350041		IF 10b GNGP Base	125	ml	7/15/2015
0001363273		nitrogen	220	cf	7/15/2015
0001350043		SILVER CONDUCTIVE EPOXY	20	gm	7/15/2015
0001350046	791629-96-4	chlorodihydrido[bis[(2-diisopropylphosphino)ethyl]amine]iridium	1	gm	7/15/2015
0001350047		TRA-BOND F113	2	gm	7/15/2015
0001363285	7440-37-1	ARGON	220	cf	7/15/2015
0001363286	7440-37-1	ARGON	220	cf	7/15/2015
0001350048		TRA-BOND F113	2	gm	7/15/2015
0001363287	7440-37-1	ARGON	220	cf	7/15/2015
0001363288	7440-37-1	ARGON	220	cf	7/15/2015
0001363289	7440-37-1	ARGON	220	cf	7/15/2015
0001363290	7440-37-1	ARGON	220	cf	7/15/2015
0001363284	7440-37-1	ARGON	220	cf	7/15/2015
0001363260		nitrogen	220	cf	7/15/2015
0001363246	7440-59-7	HELIUM	220	cf	7/15/2015
0001363247	7440-59-7	HELIUM	220	cf	7/15/2015
0001363248	7440-59-7	HELIUM	220	cf	7/15/2015
0001363249	7440-59-7	HELIUM	220	cf	7/15/2015
0001363250		nitrogen	220	cf	7/15/2015
0001363251		nitrogen	220	cf	7/15/2015
0001363252		nitrogen	220	cf	7/15/2015
0001363254		nitrogen	220	cf	7/15/2015
0001363255		nitrogen	220	cf	7/15/2015
0001363256		nitrogen	220	cf	7/15/2015
0001350036	7440-48-4	COBALT	100	gm	7/15/2015
0001363258		nitrogen	220	cf	7/15/2015
0001363275		nitrogen	220	cf	7/15/2015
0001363261		nitrogen	220	cf	7/15/2015
0001363262		nitrogen	220	cf	7/15/2015
0001363263		nitrogen	220	cf	7/15/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363264		nitrogen	220	cf	7/15/2015
0001363266		nitrogen	220	cf	7/15/2015
0001363267		nitrogen	220	cf	7/15/2015
0001363268		nitrogen	220	cf	7/15/2015
0001363269		nitrogen	220	cf	7/15/2015
0001363270		nitrogen	220	cf	7/15/2015
0001363272		nitrogen	220	cf	7/15/2015
0001363293	7440-37-1	ARGON	220	cf	7/15/2015
0001363257		nitrogen	220	cf	7/15/2015
0001350148		TRA-BOND F113	2	gm	7/15/2015
0001363291	7440-37-1	ARGON	220	cf	7/15/2015
0001350066		TRA-BOND F113	2	gm	7/15/2015
0001350067		TRA-BOND F113	2	gm	7/15/2015
0001350147		TRA-BOND F113	2	gm	7/15/2015
0001350167		TRA-BOND F113	2	gm	7/15/2015
0001350166		TRA-BOND F113	2	gm	7/15/2015
0001350165		TRA-BOND F113	2	gm	7/15/2015
0001350164		TRA-BOND F113	2	gm	7/15/2015
0001350163		TRA-BOND F113	2	gm	7/15/2015
0001350162		TRA-BOND F113	2	gm	7/15/2015
0001350064		TRA-BOND F113	2	gm	7/15/2015
0001350161		TRA-BOND F113	2	gm	7/15/2015
0001350062		TRA-BOND F113	2	gm	7/15/2015
0001350149		TRA-BOND F113	2	gm	7/15/2015
0001350150		TRA-BOND F113	2	gm	7/15/2015
0001350151		TRA-BOND F113	2	gm	7/15/2015
0001350152		TRA-BOND F113	2	gm	7/15/2015
0001350153		TRA-BOND F113	2	gm	7/15/2015
0001350154		TRA-BOND F113	2	gm	7/15/2015
0001350155		TRA-BOND F113	2	gm	7/15/2015
0001350156		TRA-BOND F113	2	gm	7/15/2015
0001350157		TRA-BOND F113	2	gm	7/15/2015
0001350158		TRA-BOND F113	2	gm	7/15/2015
0001350159		TRA-BOND F113	2	gm	7/15/2015
0001350061		TRA-BOND F113	2	gm	7/15/2015
0001350050		TRA-BOND F113	2	gm	7/15/2015
0001363277		nitrogen	220	cf	7/15/2015
0001363294		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363295		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363328		nitrogen	70	cf	7/15/2015
0001363327		nitrogen	70	cf	7/15/2015
0001363326		propane	33	lb	7/15/2015
0001363325		propane	100	lb	7/15/2015
0001363324		propane	100	lb	7/15/2015
0001363323		propane	100	lb	7/15/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363322		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001350065		TRA-BOND F113	2	gm	7/15/2015
0001350049		TRA-BOND F113	2	gm	7/15/2015
0001363292	7440-37-1	ARGON	220	cf	7/15/2015
0001363320		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001350051		TRA-BOND F113	2	gm	7/15/2015
0001350052		TRA-BOND F113	2	gm	7/15/2015
0001350053		TRA-BOND F113	2	gm	7/15/2015
0001350054		TRA-BOND F113	2	gm	7/15/2015
0001350055		TRA-BOND F113	2	gm	7/15/2015
0001350056		TRA-BOND F113	2	gm	7/15/2015
0001350057		TRA-BOND F113	2	gm	7/15/2015
0001350058		TRA-BOND F113	2	gm	7/15/2015
0001350059		TRA-BOND F113	2	gm	7/15/2015
0001350060		TRA-BOND F113	2	gm	7/15/2015
0001363321		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363309		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363297		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363298		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363299		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363300		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363301		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363302		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363303		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363304		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363305		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363306		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363296		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363308		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363310		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363311		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363313		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363314		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363315		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363316		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363317		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363318		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363319		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363237	7440-59-7	HELIUM	220	cf	7/15/2015
0001363244	7440-59-7	HELIUM	220	cf	7/15/2015
0001363307		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363242	7440-59-7	HELIUM	220	cf	7/15/2015
0001363312		P-10 (90% ARGON 10% METHANE)	220	cf	7/15/2015
0001363330		propane	57	gal	7/15/2015
0001363238	7440-59-7	HELIUM	220	cf	7/15/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363239	7440-59-7	HELIUM	220	cf	7/15/2015
0001363240	7440-59-7	HELIUM	220	cf	7/15/2015
0001363236	7440-59-7	HELIUM	220	cf	7/15/2015
0001363235	7440-59-7	HELIUM	220	cf	7/15/2015
0001363234	7440-59-7	HELIUM	220	cf	7/15/2015
0001363329		nitrogen	70	cf	7/15/2015
0001363243	7440-59-7	HELIUM	220	cf	7/15/2015
0001363233	74-82-8	METHANE	100	l	7/15/2015
0001363331	7782-50-5	CHLORINE	20	cf	7/15/2015
0001363332		Germane 30%/Bal Hydrogen	500	gm	7/15/2015
0001363226	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	7/15/2015
0001363241	7440-59-7	HELIUM	220	cf	7/15/2015
0001363232	124-38-9	CARBON DIOXIDE, GAS	100	l	7/15/2015
0001363231	630-08-0	CARBON MONOXIDE	100	l	7/15/2015
0001363259		nitrogen	220	cf	7/15/2015
0001363274		nitrogen	220	cf	7/15/2015
0001363253		nitrogen	220	cf	7/15/2015
0001350189		TRA-BOND F113	2	gm	7/15/2015
0001363271		nitrogen	220	cf	7/15/2015
0001363265		nitrogen	220	cf	7/15/2015
0001350181		TRA-BOND F113	2	gm	7/15/2015
0001363425	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363362	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363363	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363364	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363423	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363365	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363424	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363366	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363368	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363352	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363396	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363397	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363422	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363419	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363420	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363361	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363421	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363367	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363518	74-98-6	PROPANE	7	gal	7/16/2015
0001363398	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001390888		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001363399	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363400	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363521	74-86-2	ACETYLENE	40	cf	7/16/2015
0001363401	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363402	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363403	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363404	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001350222	12135-76-1	AMMONIUM SULFIDE	25	ml	7/16/2015
0001363354	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363418	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363360	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363348	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001350207	7789-24-4	LITHIUM FLUORIDE	50	gm	7/16/2015
0001363349	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363350	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363351	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363353	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363356	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363357	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363358	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363359	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363413	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363523	7440-59-7	HELIUM	300	cf	7/16/2015
0001363414	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363385	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363387	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363436	7440-59-7	HELIUM	40	cf	7/16/2015
0001363437	7440-59-7	HELIUM	40	cf	7/16/2015
0001363438	7440-59-7	HELIUM	40	cf	7/16/2015
0001363519	74-98-6	PROPANE	11	gal	7/16/2015
0001363384	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363522	74-86-2	ACETYLENE	240	cf	7/16/2015
0001363383	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363524	7727-37-9	NITROGEN, COMPRESSED GAS	300	cf	7/16/2015
0001363525		5% HYDROGEN/BAL. NITROGEN	220	cf	7/16/2015
0001363526		5% HYDROGEN/BAL. NITROGEN	220	cf	7/16/2015
0001363527		5% HYDROGEN/BAL. NITROGEN	220	cf	7/16/2015
0001363528		5% HYDROGEN/BAL. NITROGEN	220	cf	7/16/2015
0001363529		5% HYDROGEN/BAL. NITROGEN	220	cf	7/16/2015
0001363531		5% HYDROGEN/BAL. NITROGEN	220	cf	7/16/2015
0001363520	74-98-6	PROPANE	11	gal	7/16/2015
0001363374	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363369	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363370	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363371	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363372	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363373	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363347	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001350225	554-13-2	LITHIUM CARBONATE	50	gm	7/16/2015
0001363568		P-10 (90% ARGON 10% METHANE)	220	cf	7/16/2015
0001350228	112-80-1	OLEIC ACID	1000	ml	7/16/2015
0001363534		5% HYDROGEN/BAL. NITROGEN	220	cf	7/16/2015
0001363375	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363376	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363377	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363378	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363379	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363381	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363382	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001350227	112-80-1	OLEIC ACID	1000	ml	7/16/2015
0001363410	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363392	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363393	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363394	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001350231		Poly(N-isopropylacrylamide), amine terminated	1	gm	7/16/2015
0001350232	9004-74-4	POLY(ETHYLENE GLYCOL) METHYL ETHER	250	gm	7/16/2015
0001363406	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363407	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363532		5% HYDROGEN/BAL. NITROGEN	220	cf	7/16/2015
0001363409	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363552	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363411	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363412	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363390	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363435	7440-59-7	HELIUM	40	cf	7/16/2015
0001363415	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363395	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363416	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363408	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363545	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363417	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363537	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363538	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363388	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363539	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363540	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363542	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363391	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363544	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363553	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363389	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363546	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363547	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363548	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363549	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363550	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363551	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363533		5% HYDROGEN/BAL. NITROGEN	220	cf	7/16/2015
0001363543	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001390884		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001363541	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363434	7440-59-7	HELIUM	40	cf	7/16/2015
0001363570		P-10 (90% ARGON 10% METHANE)	220	cf	7/16/2015
0001350233	85-41-6	PHTHALIMIDE, 98%	250	gm	7/16/2015
0001350230	57-50-1	SUCROSE	1	kg	7/16/2015
0001350229	9007-43-6	CYTOCHROME C, FROM HORSE HEART	50	mg	7/16/2015
0001350224	1277-43-6	BIS(CYCLOPENTADIENYL) COBALT(II)	5	gm	7/16/2015
0001390887		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001363560	7440-59-7	HELIUM	220	cf	7/16/2015
0001390885		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001363535		Carbon Dioxide 4%/Helium 25%/Bal. Argon	220	cf	7/16/2015
0001390883		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390882		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390881		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390880		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390879		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390878		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001363563		P-10 (90% ARGON 10% METHANE)	220	cf	7/16/2015
0001363562		P-10 (90% ARGON 10% METHANE)	220	cf	7/16/2015
0001363512	7440-59-7	HELIUM	20	cf	7/16/2015
0001390886		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390891		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001350221	28077-64-7	ACETOPHENONE-2',3',4',5',	5	gm	7/16/2015
0001350220	28077-64-7	ACETOPHENONE-2',3',4',5',	5	gm	7/16/2015
0001350219	28077-64-7	ACETOPHENONE-2',3',4',5',	5	gm	7/16/2015
0001350218	28077-64-7	ACETOPHENONE-2',3',4',5',	5	gm	7/16/2015
0001350217	28077-64-7	ACETOPHENONE-2',3',4',5',	5	gm	7/16/2015
0001350216	28077-64-7	ACETOPHENONE-2',3',4',5',	5	gm	7/16/2015
0001350215	28077-64-7	ACETOPHENONE-2',3',4',5',	5	gm	7/16/2015
0001349974	9007-43-6	CYTOCHROME C	25	mg	7/16/2015
0001381361		FANTASTIKE ALL PURPOSE CLEANER	32	oz	7/16/2015
0001363516	7440-37-1	ARGON, COMPRESSED	40	cf	7/16/2015
0001390890		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001363536		Carbon Dioxide 4%/Helium 25%/Bal. Argon	220	cf	7/16/2015
0001390892		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390893		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015

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0001390894		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390895		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390896		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390897		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390898		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390899		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001363559	7440-59-7	HELIUM	220	cf	7/16/2015
0001390889		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001382842	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/16/2015
0001350199	107-21-1	ETHYLENE GLYCOL	4	l	7/16/2015
0001350198	7791-25-5	SULFURYL CHLORIDE	500	ml	7/16/2015
0001350197	1277-43-6	BIS(CYCLOPENTADIENYL) COBALT	1	gm	7/16/2015
0001350045	1330-20-7	XYLENES	1	l	7/16/2015
0001350044	23746-81-8	2-(2-Naphthyl)indole	5	gm	7/16/2015
0001382847	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/16/2015
0001382846	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/16/2015
0001382845	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/16/2015
0001363561	7440-59-7	HELIUM	220	cf	7/16/2015
0001382843	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/16/2015
0001350202	107-21-1	ETHYLENE GLYCOL	4	l	7/16/2015
0001390875		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390874		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390873		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390972		WEST R-630 SULFITE	55	gal	7/16/2015
0001390971		WEST R-630 SULFITE	55	gal	7/16/2015
0001390970		WEST R-630 SULFITE	55	gal	7/16/2015
0001390969		WEST R-630 SULFITE	55	gal	7/16/2015
0001381366		FANTASTIK SPRAY CLEAN	1	qt	7/16/2015
0001381365		FANTASTIK SPRAY CLEAN	1	qt	7/16/2015
0001382844	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/16/2015
0001350212	1486-01-7	BIPHENYL-D10	1	gm	7/16/2015
0001363557	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363517	7440-37-1	ARGON, COMPRESSED	40	cf	7/16/2015
0001363556	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363555	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001363554	1333-74-0	HYDROGEN	220	cf	7/16/2015
0001390877		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001390876		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	7/16/2015
0001382849	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/16/2015
0001382848	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/16/2015
0001350200	107-21-1	ETHYLENE GLYCOL	4	l	7/16/2015
0001350213	1486-01-7	BIPHENYL-D10	1	gm	7/16/2015
0001350201	107-21-1	ETHYLENE GLYCOL	4	l	7/16/2015
0001350211	1486-01-7	BIPHENYL-D10	1	gm	7/16/2015
0001350210	1486-01-7	BIPHENYL-D10	1	gm	7/16/2015

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0001350209	1486-01-7	BIPHENYL-D10	1	gm	7/16/2015
0001350208	Multi	MinElute PCR Purification Kit	2	ugm	7/16/2015
0001350206	67-66-3	CHLOROFORM,ANHYDROUS	1	l	7/16/2015
0001350205	67-66-3	CHLOROFORM,ANHYDROUS	1	l	7/16/2015
0001350204	67-66-3	CHLOROFORM,ANHYDROUS	1	l	7/16/2015
0001350203	67-66-3	CHLOROFORM,ANHYDROUS	1	l	7/16/2015
0001363511	7440-59-7	HELIUM	20	cf	7/16/2015
0001350214	1486-01-7	BIPHENYL-D10	1	gm	7/16/2015
0001363427	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363335	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363333	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363513	7440-59-7	HELIUM	20	cf	7/16/2015
0001363564		P-10 (90% ARGON 10% METHANE)	220	cf	7/16/2015
0001363431	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363430	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363336	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363428	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363334	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363426	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001381362		FANTASTIKE ALL PURPOSE CLEANER	1	qt	7/16/2015
0001363565		P-10 (90% ARGON 10% METHANE)	220	cf	7/16/2015
0001363566		P-10 (90% ARGON 10% METHANE)	220	cf	7/16/2015
0001363567		P-10 (90% ARGON 10% METHANE)	220	cf	7/16/2015
0001363569		P-10 (90% ARGON 10% METHANE)	220	cf	7/16/2015
0001363571		P-10 (90% ARGON 10% METHANE)	220	cf	7/16/2015
0001363429	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363343	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363514	7440-59-7	HELIUM	20	cf	7/16/2015
0001363515	7440-59-7	HELIUM	20	cf	7/16/2015
0001363558	7440-59-7	HELIUM	220	cf	7/16/2015
0001363346	7440-63-3	XENON	80	cf	7/16/2015
0001266317		DOW CORNING HIGH VACUUM GREASE	5.3	oz	7/16/2015
0001381364		GLASS AND MULTI-SURFACE CLEANER	32	oz	7/16/2015
0001363344	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363337	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363405	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363433	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015
0001363432	7440-37-1	ARGON, COMPRESSED	220	cf	7/16/2015

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0001363342	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363341	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363340	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363339	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363338	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363345	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/16/2015
0001363386	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363380	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363355	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/16/2015
0001363530		5% HYDROGEN/BAL. NITROGEN	220	cf	7/16/2015
0001363581	7440-59-7	HELIUM	220	cf	7/17/2015
0001363577	7440-59-7	HELIUM	220	cf	7/17/2015
0001363578	7440-59-7	HELIUM	220	cf	7/17/2015
0001363582	7440-59-7	HELIUM	220	cf	7/17/2015
0001363579	7440-59-7	HELIUM	220	cf	7/17/2015
0001363580	7440-59-7	HELIUM	220	cf	7/17/2015
0001363575	7440-59-7	HELIUM	220	cf	7/17/2015
0001363572	7440-59-7	HELIUM	220	cf	7/17/2015
0001363439	7440-59-7	HELIUM	220	cf	7/17/2015
0001363573	7440-59-7	HELIUM	220	cf	7/17/2015
0001363574	7440-59-7	HELIUM	220	cf	7/17/2015
0001363576	7440-59-7	HELIUM	220	cf	7/17/2015
0001350273	111-01-3	SQUALINE	500	gm	7/20/2015
0001350240		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001350238	67-56-1	METHANOL	4	l	7/20/2015
0001350276	127-18-4	TETRACHLOROETHYLENE	1	l	7/20/2015
0001350237	67-63-0	2-PROPANOL	20	l	7/20/2015
0001350274	111-01-3	SQUALINE	500	gm	7/20/2015
0001312016		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001312015		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001312012		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001312013		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001350264	94219-55-33	Gadolinium Nitrate	100	gm	7/20/2015
0001350241		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001350272		LB BROTH, LENNOX	1	kg	7/20/2015
0001350245		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001350270	100-44-7	BENZYL CHLORIDE	250	gm	7/20/2015
0001312011		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001312010		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312009		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001312014		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001350234	1888-71-7	HEXACHLOROPROPENE	500	gm	7/20/2015
0001350284	112-88-9	1-OCTADECENE	1	l	7/20/2015
0001312019		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001350278	67-66-3	CHLOROFORM	1	l	7/20/2015
0001312018		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001350256	1336-21-6	AMMONIUM HYDROXIDE OPTIMA	250	ml	7/20/2015
0001350255	1336-21-6	AMMONIUM HYDROXIDE OPTIMA	250	ml	7/20/2015
0001350254	1336-21-6	AMMONIUM HYDROXIDE OPTIMA	250	ml	7/20/2015
0001350251		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001350243		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001350252	91-20-3	NAPHTHALENE	500	gm	7/20/2015
0001350242		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001350235	5057-99-8	trans-Cyclopentane-1,2-diol	1	gm	7/20/2015
0001350250		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001350249		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001350248		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001350247		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001350246		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001312020		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001350244		FANTASTIK ALL PURPOSE CLEANER	32	oz	7/20/2015
0001312021		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001312017		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001312006		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001350271	9032-08-0	AMYLOGLUCOSIDASE FROM ASPERGILLUS NIGER	5	gm	7/20/2015
0001350275	25114-58-3	INDIUM (III) ACETATE	50	gm	7/20/2015
0001350277	127-18-4	TETRACHLOROETHYLENE	1	l	7/20/2015
0001350280	112-88-9	1-OCTADECENE	1	l	7/20/2015
0001382850	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/20/2015
0001382999	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/20/2015
0001311999		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001312000		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001312001		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001312002		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001312003		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001350282	112-88-9	1-OCTADECENE	1	l	7/20/2015
0001312005		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001350267	94219-55-33	Gadolinium Nitrate	100	gm	7/20/2015
0001312007		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001312022		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001312023		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001312024		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001312025		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001312026		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312027		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001312028		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001312029		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001312008		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001350291	13450-91-4	GALLIUM (III) IODIDE	1	gm	7/20/2015
0001312004		GROUNDED (ADJUVANT)	2.5	gal	7/20/2015
0001383005	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/20/2015
0001350305		TURBIDITY STANDARD	60	ml	7/20/2015
0001350236		-Trans-1,2-cyclopentanediol	1	gm	7/20/2015
0001350281	112-88-9	1-OCTADECENE	1	l	7/20/2015
0001363444	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/20/2015
0001350315		TEVA RESIN	2	ml	7/20/2015
0001350316		TEVA RESIN	2	ml	7/20/2015
0001350317		TEVA RESIN	2	ml	7/20/2015
0001350318		TEVA RESIN	2	ml	7/20/2015
0001350319		TEVA RESIN	2	ml	7/20/2015
0001350320		TEVA RESIN	2	ml	7/20/2015
0001350321		TEVA RESIN	2	ml	7/20/2015
0001350269	67-66-3	CHLOROFORM	1	l	7/20/2015
0001383004	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/20/2015
0001350268	94219-55-33	Gadolinium Nitrate	100	gm	7/20/2015
0001383006	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/20/2015
0001350283	112-88-9	1-OCTADECENE	1	l	7/20/2015
0001382851	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/20/2015
0001382852	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/20/2015
0001382853	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/20/2015
0001382854	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/20/2015
0001350223	107-06-2	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE (EDC))	100	ml	7/20/2015
0001350239	67-56-1	METHANOL	4	l	7/20/2015
0001350263	1330-20-7	XYLENES	1	l	7/20/2015
0001350265	94219-55-33	Gadolinium Nitrate	100	gm	7/20/2015
0001350266	94219-55-33	Gadolinium Nitrate	100	gm	7/20/2015
0001350279	7446-07-3	TELLURIUM DIOXIDE	10	gm	7/20/2015
0001383003	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/20/2015
0001312031		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001383000		NALCO 7408 CHLORINE SCAVENGER SOLUTION	2209	lb	7/20/2015
0001350258	67-63-0	ISOPROPYL ALCOHOL	4	l	7/20/2015
0001350259	67-63-0	ISOPROPYL ALCOHOL	4	l	7/20/2015
0001350260	67-63-0	ISOPROPYL ALCOHOL	4	l	7/20/2015
0001350287	13450-90-3	GALLIUM(III) CHLORIDE	25	gm	7/20/2015
0001350289	10025-82-8	INDIUM(III) CHLORIDE	25	gm	7/20/2015
0001350290	7646-78-8	TIN(IV) CHLORIDE	25	gm	7/20/2015
0001383002	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/20/2015

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0001350257	67-63-0	ISOPROPYL ALCOHOL	4	l	7/20/2015
0001350301	67-63-0	ISOPROPANOL, REAGENT, ACS	1	l	7/20/2015
0001312030		BAR AND CHAIN LUBRICATING OIL	1	qt	7/20/2015
0001312032		BAR AND CHAIN LUBRICATING OIL	1	gal	7/20/2015
0001350292	13450-91-4	GALLIUM (III) IODIDE	1	gm	7/20/2015
0001350293	13450-91-4	GALLIUM (III) IODIDE	1	gm	7/20/2015
0001312033		BAR AND CHAIN LUBRICATING OIL	1	gal	7/20/2015
0001350306		TRU RESIN	2	ml	7/20/2015
0001350307		TRU RESIN	2	ml	7/20/2015
0001383001	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/20/2015
0001350294	122648-99-1	9,10-Bis(2-naphthyl)anthrace	1	gm	7/20/2015
0001363441	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/20/2015
0001350314		TEVA RESIN	2	ml	7/20/2015
0001350313		TRU RESIN	2	ml	7/20/2015
0001350312		TRU RESIN	2	ml	7/20/2015
0001350311		TRU RESIN	2	ml	7/20/2015
0001350310		TRU RESIN	2	ml	7/20/2015
0001350309		TRU RESIN	2	ml	7/20/2015
0001350303	67-63-0	ISOPROPANOL, REAGENT, ACS	1	l	7/20/2015
0001350295	122648-99-1	9,10-Bis(2-naphthyl)anthrace	1	gm	7/20/2015
0001350304	67-63-0	ISOPROPANOL, REAGENT, ACS	1	l	7/20/2015
0001363443	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/20/2015
0001350302	67-63-0	ISOPROPANOL, REAGENT, ACS	1	l	7/20/2015
0001363440	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/20/2015
0001363442	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/20/2015
0001350297	1092356-36-9	Tris(4-(5-phenylthiophen-2-yl)phenyl)amine	1	gm	7/20/2015
0001350298	8032-32-4	PETROLEUM ETHER ACS CERTIFIED	1	l	7/20/2015
0001350299	67-63-0	ISOPROPANOL, REAGENT, ACS	1	l	7/20/2015
0001350300	67-63-0	ISOPROPANOL, REAGENT, ACS	1	l	7/20/2015
0001350308		TRU RESIN	2	ml	7/20/2015
0001350288	2800-96-6	TIN(IV) ACETATE	10	gm	7/20/2015
0001350296	105598-27-4	Dipyrazino[2,3-f:2',3'-h]quinoxaline-2,3,6,7,10,11-hexacarbonitrile	1	gm	7/20/2015
0001390955		Flashing Cement SBS 202	5	gal	7/20/2015
0001390956		Flashing Cement SBS 202	5	gal	7/20/2015
0001390954		Flashing Cement SBS 202	5	gal	7/20/2015
0001350286	7705-08-0	IRON(III) CHLORIDE	5	gm	7/20/2015
0001350617	7705-08-0	FERRIC CHLORIDE	55	gal	7/21/2015
0001350454	993-13-5	METHYLPHOSPHONIC ACID	1	gm	7/21/2015
0001350565	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015

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0001350564	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001390964		WEST R-630 SULFITE	55	gal	7/21/2015
0001390965		WEST R-630 SULFITE	55	gal	7/21/2015
0001390966		WEST R-630 SULFITE	55	gal	7/21/2015
0001390967		WEST R-630 SULFITE	55	gal	7/21/2015
0001350618	7705-08-0	FERRIC CHLORIDE	55	gal	7/21/2015
0001350448		Standard Solution LANL-16	500	ml	7/21/2015
0001350616	7705-08-0	FERRIC CHLORIDE	55	gal	7/21/2015
0001350615	7705-08-0	FERRIC CHLORIDE	55	gal	7/21/2015
0001350455	993-13-5	METHYLPHOSPHONIC ACID	1	gm	7/21/2015
0001350456	993-13-5	METHYLPHOSPHONIC ACID	1	gm	7/21/2015
0001350457	993-13-5	METHYLPHOSPHONIC ACID	1	gm	7/21/2015
0001390968		WEST R-630 SULFITE	55	gal	7/21/2015
0001350391	8006-28-8	SODA LIME	1	kg	7/21/2015
0001350389	8006-28-8	SODA LIME	1	kg	7/21/2015
0001350571	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350570	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350569	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350568	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350567	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350453	993-13-5	METHYLPHOSPHONIC ACID	1	gm	7/21/2015
0001350390	8006-28-8	SODA LIME	1	kg	7/21/2015
0001311972		15W-40 MOTOR OIL	1	qt	7/21/2015
0001350392		MONOCRYSTALLINE DIAMOND POWDER	5	gm	7/21/2015
0001311938		MULTI-PURPOSE GREASE	14.1	oz	7/21/2015
0001350393	70131-67-8	POLYDIMETHYLSILOXANE, SILANOL TERMINATED	100	ml	7/21/2015
0001311939		MULTI-PURPOSE GREASE	14.1	oz	7/21/2015
0001311940		MULTI-PURPOSE GREASE	14.1	oz	7/21/2015
0001311941		MULTI-PURPOSE GREASE	14.1	oz	7/21/2015
0001350461	95-47-6	O-XYLENE	1	l	7/21/2015
0001350566	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350604	7782-42-5	CARBON NANOTUBES	1	gm	7/21/2015
0001350458	993-13-5	METHYLPHOSPHONIC ACID	1	gm	7/21/2015
0001350388	8006-28-8	SODA LIME	1	kg	7/21/2015
0001350596	11-24-7	1,10-DECANEDIOL	100	gm	7/21/2015
0001311981		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001350608	7782-42-5	CARBON NANOTUBES	1	gm	7/21/2015
0001350607	7782-42-5	CARBON NANOTUBES	1	gm	7/21/2015
0001350594	538-75-0	N,N'-DICYCLOHEXYLCARBODIIMIDE	25	gm	7/21/2015
0001350605	7782-42-5	CARBON NANOTUBES	1	gm	7/21/2015
0001350609	7782-42-5	CARBON NANOTUBES	1	gm	7/21/2015
0001350603	7782-42-5	CARBON NANOTUBES	1	gm	7/21/2015
0001350602	7558-79-4	SODIUM HYDROGENPHOSPHATE	1	kg	7/21/2015
0001350601	7558-79-4	SODIUM HYDROGENPHOSPHATE	1	kg	7/21/2015
0001350600	7558-79-4	SODIUM HYDROGENPHOSPHATE	1	kg	7/21/2015

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0001350599	7558-79-4	SODIUM HYDROGENPHOSPHATE	1	kg	7/21/2015
0001350598	7558-79-4	SODIUM HYDROGENPHOSPHATE	1	kg	7/21/2015
0001350606	7782-42-5	CARBON NANOTUBES	1	gm	7/21/2015
0001390693		fast setting cement	60	lb	7/21/2015
0001350462	95-47-6	O-XYLENE	1	l	7/21/2015
0001350463	10035-10-6	HYDROBROMIC ACID 48%	100	ml	7/21/2015
0001390688		fast setting cement	60	lb	7/21/2015
0001350614	7705-08-0	FERRIC CHLORIDE	55	gal	7/21/2015
0001390689		fast setting cement	60	lb	7/21/2015
0001390690		fast setting cement	60	lb	7/21/2015
0001350595	288-32-4	IMIDAZOLE	100	gm	7/21/2015
0001390692		fast setting cement	60	lb	7/21/2015
0001350459	7632-00-0	SODIUM NITRITE	100	gm	7/21/2015
0001390694		fast setting cement	60	lb	7/21/2015
0001350613	7705-08-0	FERRIC CHLORIDE	55	gal	7/21/2015
0001390474		CLOROX	121	oz	7/21/2015
0001390695		fast setting cement	60	lb	7/21/2015
0001350611	143-24-8	TETRAETHYLENE GLYCOL DIMETHYL ETHER	1	kg	7/21/2015
0001350610	7782-42-5	CARBON NANOTUBES	1	gm	7/21/2015
0001390691		fast setting cement	60	lb	7/21/2015
0001350521	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001311979		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001350512	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350513	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350514	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350515	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350516	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350517	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350518	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350510	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350520	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350509	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350522	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350523	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350524	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350525	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350526	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350527	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350528	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350529	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350530	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350519	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350344		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001311969		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311970		SAE 5W20 MOTOR OIL	1	qt	7/21/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311971		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001350351		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350350		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350349		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350348		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350347		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350511	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350345		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001311977		SPLASH WINDSHIELD WASHER FLUID	1	gal	7/21/2015
0001350343		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350342		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350341		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350340		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350339		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350338		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350337		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350336		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350335		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350346		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001311985		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001390856	65997-15-1	PORTLAND CEMENT	90	lb	7/21/2015
0001390855	65997-15-1	PORTLAND CEMENT	90	lb	7/21/2015
0001390854	65997-15-1	PORTLAND CEMENT	90	lb	7/21/2015
0001390853	65997-15-1	PORTLAND CEMENT	90	lb	7/21/2015
0001390852	65997-15-1	PORTLAND CEMENT	90	lb	7/21/2015
0001390707		fast setting cement	60	lb	7/21/2015
0001311990		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001311988		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001350531	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001311986		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001390861		ready mix concrete	60	lb	7/21/2015
0001311984		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001311983		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001311982		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001350583	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001311980		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001350572	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001311978		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001148964		A/W HYDRAULIC OIL 32	1	gal	7/21/2015
0001350375	60-29-7	ETHYL ETHER	4	l	7/21/2015
0001311987		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001350466	10026-11-6	ZIRCONIUM(IV) CHLORIDE	100	gm	7/21/2015
0001350380	7681-49-4	SODIUM FLUORIDE	500	gm	7/21/2015
0001383011	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/21/2015
0001311976		SYNTHETIC 4 CYCLE ENGINE OIL	1	qt	7/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311975		SYNTHETIC 4 CYCLE ENGINE OIL	1	qt	7/21/2015
0001311973		POWER STEERING FLUID	1	qt	7/21/2015
0001350544	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350543	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350542	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350541	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001390857	65997-15-1	PORTLAND CEMENT	90	lb	7/21/2015
0001350539	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001311992	Multi	Purus Diesel Exhaust Fluid	2.5	gal	7/21/2015
0001350465	12135-76-1	AMMONIUM SULFIDE	100	ml	7/21/2015
0001350464		Amershield White Resin	1	l	7/21/2015
0001350406		NI-NTA SUPERFLOW	100	ml	7/21/2015
0001350404	111-86-4	OCTYLAMINE	5	gal	7/21/2015
0001350403	67-66-3	CHLOROFORM,ANHYDROUS	1	l	7/21/2015
0001350399	865-49-6	CHLOROFORM-D	50	gm	7/21/2015
0001350398	64-17-5	ETHYL ALCOHOL	4	l	7/21/2015
0001311923		ADHESIVE E-6000	3.7	oz	7/21/2015
0001350532	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350540	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350624	112-80-1	OLEIC ACID TECHNICAL GRADE 90%	25	ml	7/21/2015
0001350325		pUC57 plasmid DNA	4	ugm	7/21/2015
0001350324		FULLCURE 835 VEROWHITE PLUS MODEL RESIN	1	kg	7/21/2015
0001350323		FULLCURE 705	1	kg	7/21/2015
0001350322	7789-23-3	POTASSIUM FLUORIDE, ANHYDROUS	250	gm	7/21/2015
0001350253		NITRAVER 5 NITRATE REAGENT POWDER PILLOWS	10	ml	7/21/2015
0001350619	7705-08-0	FERRIC CHLORIDE	55	gal	7/21/2015
0001350620	7705-08-0	FERRIC CHLORIDE	55	gal	7/21/2015
0001350621	7705-08-0	FERRIC CHLORIDE	55	gal	7/21/2015
0001350581	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350623	112-88-9	1-OCTADECENE	25	ml	7/21/2015
0001350328	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	7/21/2015
0001350625	10031-22-8	LEAD BROMIDE	100	gm	7/21/2015
0001350626		CLEANER CONTREX CONCENTRATED ALKALINE CLEANER	4	gal	7/21/2015
0001350627		CLEANER CONTREX CONCENTRATED ALKALINE CLEANER	4	gal	7/21/2015
0001350563	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350562	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350561	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350560	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350557	106-93-4	1,2-DIBROMOETHANE	1	l	7/21/2015
0001390687		ARDEX FEATHER FINISH	10	lb	7/21/2015
0001350622	7705-08-0	FERRIC CHLORIDE	55	gal	7/21/2015
0001350590	68855-54-9	CELITE 545	500	gm	7/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350366	75-05-8	ACETONITRILE OPTIMA	4	l	7/21/2015
0001350365	75-05-8	ACETONITRILE OPTIMA	4	l	7/21/2015
0001350363	67-64-1	ACETONE FOR HPLC	4	l	7/21/2015
0001350362	67-64-1	ACETONE FOR HPLC	4	l	7/21/2015
0001350361	67-64-1	ACETONE FOR HPLC	4	l	7/21/2015
0001350262	74-85-1	ETHYLENE	110	gm	7/21/2015
0001311926		DRY FILM MOLY LUBRICANT LU 200	14	oz	7/21/2015
0001311925		DRY FILM MOLY LUBRICANT LU 200	14	oz	7/21/2015
0001311924		ULTRA LOW VOC BRAKLEEN	14	oz	7/21/2015
0001350326	1665-00-5	DICHLOROMETHANE-D2	25	gm	7/21/2015
0001350589	68855-54-9	CELITE 545	500	gm	7/21/2015
0001350327	1665-00-5	DICHLOROMETHANE-D2	25	gm	7/21/2015
0001350591	68855-54-9	CELITE 545	500	gm	7/21/2015
0001350592	68855-54-9	CELITE 545	500	gm	7/21/2015
0001350593	110-86-1	PYRIDINE	500	ml	7/21/2015
0001350333		DROPEXPLUS EXPLOSIVE DETECTION KIT	25	mg	7/21/2015
0001350332		DROPEXPLUS EXPLOSIVE DETECTION KIT	25	mg	7/21/2015
0001350331		DROPEXPLUS EXPLOSIVE DETECTION KIT	25	mg	7/21/2015
0001350330	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	7/21/2015
0001350329	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	7/21/2015
0001350548	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	7/21/2015
0001350588	68855-54-9	CELITE 545	500	gm	7/21/2015
0001311955		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001350550	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	7/21/2015
0001383013	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/21/2015
0001383012	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/21/2015
0001311974		SYNTHETIC 4 CYCLE ENGINE OIL	1	qt	7/21/2015
0001383010	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/21/2015
0001350479	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350460	107-06-2	1,2-DICHLOROETHANE	1	l	7/21/2015
0001311936		RUBBERIZED UNDERCOATING	19.7	oz	7/21/2015
0001311966		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001383015	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/21/2015
0001311954		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001350397		FORMULA 2011	55	gal	7/21/2015
0001311956		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311957		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311958		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311959		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311960		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311961		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311962		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311963		SAE 5W20 MOTOR OIL	1	qt	7/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311964		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311953		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001350472		LOCTITE	4	oz	7/21/2015
0001311928		WD-40 NON-AEROSOL	20	oz	7/21/2015
0001350546		Plastic Scintillator Paint	400	ml	7/21/2015
0001390870		ready mix concrete	60	lb	7/21/2015
0001382827		CS 400	3	lb	7/21/2015
0001350545		SILICONE GREASE	120	gm	7/21/2015
0001350478		LOCTITE	4	oz	7/21/2015
0001350477		LOCTITE	4	oz	7/21/2015
0001350476		LOCTITE	4	oz	7/21/2015
0001350475		LOCTITE	4	oz	7/21/2015
0001383014	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/21/2015
0001350473		LOCTITE	4	oz	7/21/2015
0001350549	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	7/21/2015
0001350471		LOCTITE	4	oz	7/21/2015
0001350470		LOCTITE	4	oz	7/21/2015
0001350469		LOCTITE	4	oz	7/21/2015
0001350468		LOCTITE	4	oz	7/21/2015
0001350467		LOCTITE	4	oz	7/21/2015
0001350402	67-66-3	CHLOROFORM,ANHYDROUS	1	l	7/21/2015
0001350401	865-49-6	CHLOROFORM-D	50	gm	7/21/2015
0001311922		ADHESIVE E-6000	3.7	oz	7/21/2015
0001350400	865-49-6	CHLOROFORM-D	50	gm	7/21/2015
0001350474		LOCTITE	4	oz	7/21/2015
0001390864		ready mix concrete	60	lb	7/21/2015
0001381369		SHINE-UP (LIQUID)	1	qt	7/21/2015
0001390961		WEST R-630 SULFITE	55	gal	7/21/2015
0001148963		A/W HYDRAULIC OIL 32	55	gal	7/21/2015
0001311993	Multi	Purus Diesel Exhaust Fluid	2.5	gal	7/21/2015
0001311994	Multi	Purus Diesel Exhaust Fluid	2.5	gal	7/21/2015
0001311995	Multi	Purus Diesel Exhaust Fluid	2.5	gal	7/21/2015
0001311996	Multi	Purus Diesel Exhaust Fluid	2.5	gal	7/21/2015
0001311997	Multi	Purus Diesel Exhaust Fluid	2.5	gal	7/21/2015
0001311998	Multi	Purus Diesel Exhaust Fluid	2.5	gal	7/21/2015
0001390963		WEST R-630 SULFITE	55	gal	7/21/2015
0001390863		ready mix concrete	60	lb	7/21/2015
0001350538	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001390865		ready mix concrete	60	lb	7/21/2015
0001390866		ready mix concrete	60	lb	7/21/2015
0001390867		ready mix concrete	60	lb	7/21/2015
0001390868		ready mix concrete	60	lb	7/21/2015
0001390869		ready mix concrete	60	lb	7/21/2015
0001390960		WEST R-630 SULFITE	55	gal	7/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001390959		WEST R-630 SULFITE	55	gal	7/21/2015
0001390958		WEST R-630 SULFITE	55	gal	7/21/2015
0001350367	75-05-8	ACETONITRILE OPTIMA	4	l	7/21/2015
0001390862		ready mix concrete	60	lb	7/21/2015
0001390859		JOINT COMPOUND READY-TO-USE	5	gal	7/21/2015
0001350574	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350575	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350576	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350577	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350578	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350579	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350580	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001311968		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001350582	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001390962		WEST R-630 SULFITE	55	gal	7/21/2015
0001390858		JOINT COMPOUND READY-TO-USE	5	gal	7/21/2015
0001350446	40949-94-8	POTASSIUM BIS(TRIMETHYLSILYL)AMIDE	100	gm	7/21/2015
0001350533	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001390860		JOINT COMPOUND READY-TO-USE	5	gal	7/21/2015
0001350585	68855-54-9	CELITE 545	500	gm	7/21/2015
0001350586	68855-54-9	CELITE 545	500	gm	7/21/2015
0001350587	68855-54-9	CELITE 545	500	gm	7/21/2015
0001350534	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350535	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350536	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350537	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001311991		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0001350436		RTV11	1	pt	7/21/2015
0001350334	676-97-1	METHYLPHOSPHONIC DICHLORIDE	25	gm	7/21/2015
0001350425		RTV11	1	pt	7/21/2015
0001350426		RTV11	1	pt	7/21/2015
0001350427		RTV11	1	pt	7/21/2015
0001350428		RTV11	1	pt	7/21/2015
0001350429		RTV11	1	pt	7/21/2015
0001350430		RTV11	1	pt	7/21/2015
0001350431		RTV11	1	pt	7/21/2015
0001350432		RTV11	1	pt	7/21/2015
0001350423		RTV11	1	pt	7/21/2015
0001350435		RTV11	1	pt	7/21/2015
0001350422		RTV11	1	pt	7/21/2015
0001311949		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311950		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311951		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311952		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001350409		HIGH VACUUM GREASE	5.3	oz	7/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001311929		PYROIL CARB AND CHOKE CLEANER	13	oz	7/21/2015
0001350374	7439-93-2	LITHIUM	25	gm	7/21/2015
0001350372	1822-00-0	TRIMETHYLSILYLMETHYLLITHIUM	50	ml	7/21/2015
0001350573	64-17-5	ETHANOL, 200 PROOF	1	pt	7/21/2015
0001350433		RTV11	1	pt	7/21/2015
0001350395	67-66-3	CHLOROFORM,ANHYDROUS	1	l	7/21/2015
0001350438	5431-44-7	2,6-PYRIDINEDICARBOXALDEHYDE	1	gm	7/21/2015
0001350412		HIGH VACUUM GREASE	5.3	oz	7/21/2015
0001350411		HIGH VACUUM GREASE	5.3	oz	7/21/2015
0001350410		HIGH VACUUM GREASE	5.3	oz	7/21/2015
0001311942		MULTI-PURPOSE GREASE	14.1	oz	7/21/2015
0001311943		MULTI-PURPOSE GREASE	14.1	oz	7/21/2015
0001311944		MULTI-PURPOSE GREASE	14.1	oz	7/21/2015
0001311945		MULTI-PURPOSE GREASE	14.1	oz	7/21/2015
0001311946		MULTI-PURPOSE GREASE	14.1	oz	7/21/2015
0001350424		RTV11	1	pt	7/21/2015
0001350394	67-66-3	CHLOROFORM,ANHYDROUS	1	l	7/21/2015
0001350368	64742-65-0	PUMP OIL	1	gal	7/21/2015
0001350396	67-66-3	CHLOROFORM,ANHYDROUS	1	l	7/21/2015
0001350413		RTV11	1	pt	7/21/2015
0001350414		RTV11	1	pt	7/21/2015
0001350415		RTV11	1	pt	7/21/2015
0001350416		RTV11	1	pt	7/21/2015
0001350417		RTV11	1	pt	7/21/2015
0001350418		RTV11	1	pt	7/21/2015
0001350419		RTV11	1	pt	7/21/2015
0001350420		RTV11	1	pt	7/21/2015
0001311947		MULTI-PURPOSE GREASE	14.1	oz	7/21/2015
0001350506	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350451	15573-38-3	TRIS(TRIMETHYLSILYL)PHOSPHINE	1	gm	7/21/2015
0001350488	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350487	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350486	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350485	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350484	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350483	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350597		2-BROMO-6-FLUOROPYRIDINE	25	gm	7/21/2015
0001350507	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350491	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350505	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350504	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350503	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350502	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350501	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350452	15573-38-3	TRIS(TRIMETHYLSILYL)PHOSPHINE	1	gm	7/21/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350450	15573-38-3	TRIS(TRIMETHYLSILYL)PHOSPHINE	1	gm	7/21/2015
0001311989		RV AND MARINE ANTI-FREEZE	1	gal	7/21/2015
0000983772		Bondit B-45th	1.7	oz	7/21/2015
0001350612	853645-22-4	PYRIDOXAL 5'-PHOSPHATE HYDRATE	5	mg	7/21/2015
0001382841	1318-02-1	ZEOLITE	5	lb	7/21/2015
0001382826	1344-01-0	SODIUM CALCIUM ALUMINOSILICATE	3	lb	7/21/2015
0000983766		Bondit B-45th	1.7	oz	7/21/2015
0000983767		Bondit B-45th	1.7	oz	7/21/2015
0000983768		Bondit B-45th	1.7	oz	7/21/2015
0000983769		Bondit B-45th	1.7	oz	7/21/2015
0001350489	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0000983771		Bondit B-45th	1.7	oz	7/21/2015
0001350490	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350499	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350498	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350500	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350496	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350494	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350493	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350492	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001381378		SHINE-UP (LIQUID)	32	oz	7/21/2015
0000983770		Bondit B-45th	1.7	oz	7/21/2015
0001350379	1293-87-4	1,1'-FERRONCENEDICARBOXYLIC ACID	5	gm	7/21/2015
0001381376		FANTASTIKE ALL PURPOSE CLEANER	32	oz	7/21/2015
0001350441	1455-13-6	METHYL ALCOHOL-d	100	ml	7/21/2015
0001350442	1455-13-6	METHYL ALCOHOL-d	100	ml	7/21/2015
0001350443	1455-13-6	METHYL ALCOHOL-d	100	ml	7/21/2015
0001350444	1455-13-6	METHYL ALCOHOL-d	100	ml	7/21/2015
0001350445	1455-13-6	METHYL ALCOHOL-d	100	ml	7/21/2015
0001350382	7681-49-4	SODIUM FLUORIDE	500	gm	7/21/2015
0001381367		ALLSTAR BLOT THAT SPOT GENERAL PURPOSE SPOTTER	1	qt	7/21/2015
0001311937		RUBBERIZED UNDERCOATING	19.7	oz	7/21/2015
0001350439	766-11-0	5-Bromo-2-fluoropyridine	25	gm	7/21/2015
0001350378	1293-87-4	1,1'-FERRONCENEDICARBOXYLIC ACID	5	gm	7/21/2015
0001350377	98-01-1	2-FURALDEHYDE	500	ml	7/21/2015
0001350376	60-29-7	ETHYL ETHER	4	l	7/21/2015
0001381371		FANTASTIKE ALL PURPOSE CLEANER	1	qt	7/21/2015
0001381370		FANTASTIKE ALL PURPOSE CLEANER	1	qt	7/21/2015
0001311935		sUPER TRIM ADHESIVE	19	oz	7/21/2015
0001350447	26658-46-8	POLYETHYLENIMINE, 80% ETHOXYLATED , 35-40 WT. % SOLUTION IN WATER	50	ml	7/21/2015
0001381368		VIREX TB RTU DISINFECTANT CLEANER	1	qt	7/21/2015
0001350381	7681-49-4	SODIUM FLUORIDE	500	gm	7/21/2015
0001350556		LOCTITE	.14	oz	7/21/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350497	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350480	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350481	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350482	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350387	7681-49-4	SODIUM FLUORIDE	500	gm	7/21/2015
0001350386	7681-49-4	SODIUM FLUORIDE	500	gm	7/21/2015
0001350385	7681-49-4	SODIUM FLUORIDE	500	gm	7/21/2015
0001350440	1455-13-6	METHYL ALCOHOL-d	100	ml	7/21/2015
0001350383	7681-49-4	SODIUM FLUORIDE	500	gm	7/21/2015
0001381377		GLASS AND MULTI-SURFACE CLEANER	32	oz	7/21/2015
0001350555		LOCTITE	.14	oz	7/21/2015
0001350554		LOCTITE	.14	oz	7/21/2015
0001350553		LOCTITE	.14	oz	7/21/2015
0001350552		LOCTITE	.14	oz	7/21/2015
0001350551		LOCTITE	.14	oz	7/21/2015
0001350547	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	7/21/2015
0001350408	108-88-3	TOLUENE	4	l	7/21/2015
0001350437	9003-39-8	POLYVINYLPYRROLIDONE	100	gm	7/21/2015
0001350384	7681-49-4	SODIUM FLUORIDE	500	gm	7/21/2015
0001383007	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/21/2015
0001311931		PYROIL CARB AND CHOKE CLEANER	13	oz	7/21/2015
0001311932		PYROIL CARB AND CHOKE CLEANER	13	oz	7/21/2015
0001350495	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001350631		CLEANER CONTREX CONCENTRATED ALKALINE CLEANER	4	gal	7/21/2015
0001311933		LUBRIPLATE CHAIN AND CABLE FLUID	13	oz	7/21/2015
0001390696		fast setting cement	60	lb	7/21/2015
0001350358		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350633		CLEANER CONTREX CONCENTRATED ALKALINE CLEANER	4	gal	7/21/2015
0001350369	64742-65-0	PUMP OIL	1	gal	7/21/2015
0001350370	64742-65-0	PUMP OIL	1	gal	7/21/2015
0001350434		RTV11	1	pt	7/21/2015
0001311965		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001350373	1822-00-0	TRIMETHYLSILYLMETHYLLITHIUM	50	ml	7/21/2015
0001311927		WD-40 NON-AEROSOL	20	oz	7/21/2015
0001390698		fast setting cement	60	lb	7/21/2015
0001350352		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350354		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350355		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350356		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350357		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001390697		fast setting cement	60	lb	7/21/2015
0001350359		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350421		RTV11	1	pt	7/21/2015
0001383016	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/21/2015
0001383017	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/21/2015
0001383018	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/21/2015
0001350371	64742-65-0	PUMP OIL	1	gal	7/21/2015
0001390699		fast setting cement	60	lb	7/21/2015
0001350407	7722-84-1	HYDROGEN PEROXIDE 30%	100	ml	7/21/2015
0001390706		fast setting cement	60	lb	7/21/2015
0001383019	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/21/2015
0001390705		fast setting cement	60	lb	7/21/2015
0001350449	15573-38-3	TRIS(TRIMETHYLSILYL)PHOSPHINE	1	gm	7/21/2015
0001311948		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001311934		THREADLOCKER RED HIGH TEMP	10	ml	7/21/2015
0001390704		fast setting cement	60	lb	7/21/2015
0001390703		fast setting cement	60	lb	7/21/2015
0001390702		fast setting cement	60	lb	7/21/2015
0001350364	75-05-8	ACETONITRILE OPTIMA	4	l	7/21/2015
0001390700		fast setting cement	60	lb	7/21/2015
0001350261	78-78-4	2-METHYLBUTANE	4	l	7/21/2015
0001350632		CLEANER CONTREX CONCENTRATED ALKALINE CLEANER	4	gal	7/21/2015
0001350360	67-64-1	ACETONE FOR HPLC	4	l	7/21/2015
0001311967		SAE 5W20 MOTOR OIL	1	qt	7/21/2015
0001390701		fast setting cement	60	lb	7/21/2015
0001383009	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/21/2015
0001311930		PYROIL CARB AND CHOKE CLEANER	13	oz	7/21/2015
0001383021	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/21/2015
0001311921		ULTRA BLACK GASKET MAKER	3.35	oz	7/21/2015
0001350630		CLEANER CONTREX CONCENTRATED ALKALINE CLEANER	4	gal	7/21/2015
0001350629		CLEANER CONTREX CONCENTRATED ALKALINE CLEANER	4	gal	7/21/2015
0001350628		CLEANER CONTREX CONCENTRATED ALKALINE CLEANER	4	gal	7/21/2015
0001383020	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/21/2015
0001383008	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/21/2015
0001350353		DPD TOTAL CHLORINE REAGENT	25	ml	7/21/2015
0001350508	7697-37-2	NITRIC ACID	2.5	l	7/21/2015
0001391254		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391253		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391251		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001350558	126-72-7	TRIS	100	ml	7/22/2015
0001391247		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391150		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391270		SPRAY PAINT WHITE	12.8	oz	7/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391271		SPRAY PAINT WHITE	12.8	oz	7/22/2015
0001391272		SPRAY PAINT WHITE	12.8	oz	7/22/2015
0001391273		SPRAY PAINT WHITE	12.8	oz	7/22/2015
0001391128		KRUD KUTTER	1	gal	7/22/2015
0001391274		SPRAY PAINT WHITE	12.8	oz	7/22/2015
0001391203		Permacryl Exterior Latex Flat W/B	5	gal	7/22/2015
0001391204		Permacryl Exterior Latex Flat W/B	5	gal	7/22/2015
0001391205		Permacryl Exterior Latex Flat W/B	5	gal	7/22/2015
0001391255		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391227		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001390996		KRUD KUTTER	1	gal	7/22/2015
0001391233		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391232		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391231		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391230		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391206		Permacryl Exterior Latex Flat W/B	5	gal	7/22/2015
0001391118		PSX 700 CURE	1	qt	7/22/2015
0001390974		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001391117		PSX 700 CURE	1	qt	7/22/2015
0001391235		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391228		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391236		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391116		PSX 700 CURE	1	qt	7/22/2015
0001391115		PSX 700 CURE	1	qt	7/22/2015
0001391114		PSX 700 CURE	1	qt	7/22/2015
0001391113		PSX 700 CURE	1	qt	7/22/2015
0001391102		PSX 700 CURE	1	qt	7/22/2015
0001391220		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391221		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391222		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391225		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391224		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391229		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391122		PSX 700 CURE	1	qt	7/22/2015
0001391249		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391248		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391127		KRUD KUTTER	1	gal	7/22/2015
0001390998		KRUD KUTTER	1	gal	7/22/2015
0001390997		KRUD KUTTER	1	gal	7/22/2015
0001390995		KRUD KUTTER	1	gal	7/22/2015
0001391223		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391246		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001390994		KRUD KUTTER	1	gal	7/22/2015
0001391234		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001390992		KRUD KUTTER	1	gal	7/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391250		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391121		PSX 700 CURE	1	qt	7/22/2015
0001391245		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391243		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391120		PSX 700 CURE	1	qt	7/22/2015
0001391242		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391240		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391119		PSX 700 CURE	1	qt	7/22/2015
0001391239		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391238		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391237		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001390993		KRUD KUTTER	1	gal	7/22/2015
0001391016		PSX 700 CURE	1	qt	7/22/2015
0001391185		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391037		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391038		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391022		PSX 700 CURE	1	gal	7/22/2015
0001391105		PSX 700 CURE	1	gal	7/22/2015
0001391010		PSX 700 CURE	1	qt	7/22/2015
0001391011		PSX 700 CURE	1	qt	7/22/2015
0001391012		PSX 700 CURE	1	qt	7/22/2015
0001391013		PSX 700 CURE	1	qt	7/22/2015
0001391035		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391015		PSX 700 CURE	1	qt	7/22/2015
0001391034		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391017		PSX 700 CURE	1	qt	7/22/2015
0001391018		PSX 700 CURE	1	qt	7/22/2015
0001391039		PSX 700 CURE	1	qt	7/22/2015
0001391040		PSX 700 CURE	1	qt	7/22/2015
0001391041		PSX 700 CURE	1	qt	7/22/2015
0001391042		PSX 700 CURE	1	qt	7/22/2015
0001391043		PSX 700 CURE	1	qt	7/22/2015
0001391044		PSX 700 CURE	1	qt	7/22/2015
0001391046		PSX 700 CURE	1	qt	7/22/2015
0001391014		PSX 700 CURE	1	qt	7/22/2015
0001391023		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391163		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391241		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391135		LAQUER THINNER	1	gal	7/22/2015
0001390989		PSX 700 ENGINEERED SILOXANE	5	gal	7/22/2015
0001390990		PSX 700 ENGINEERED SILOXANE	5	gal	7/22/2015
0001391104		PSX 700 ENGINEERED SILOXANE	5	gal	7/22/2015
0001391020		PSX 700 ENGINEERED SILOXANE	5	gal	7/22/2015
0001391019		PSX 700 ENGINEERED SILOXANE	5	gal	7/22/2015
0001390987		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391036		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001390985		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001390982		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001391024		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391025		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391026		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391027		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391028		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391029		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391030		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391032		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391033		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001390986		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001391159		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391165		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391164		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391256		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391257		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391269		SPRAY PAINT WHITE	12.8	oz	7/22/2015
0001391278		COTE ALL SAFETY YELLOW	1	gal	7/22/2015
0001391277		COTE ALL SAFETY YELLOW	1	gal	7/22/2015
0001391276		COTE ALL SAFETY YELLOW	1	gal	7/22/2015
0001391275		COTE ALL SAFETY YELLOW	1	gal	7/22/2015
0001390984		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001391160		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391143		ORANGE PEEL SPRAY ON TEXTURE, WATER BASED	25	oz	7/22/2015
0001391158		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391157		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391156		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391155		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391154		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391153		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391152		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391151		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391208		Permacryl Exterior Latex Flat W/B	5	gal	7/22/2015
0001391161		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/22/2015
0001391187		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391207		Permacryl Exterior Latex Flat W/B	5	gal	7/22/2015
0001390981		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001390980		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001390979		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001390978		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001390977		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001391183		BIG STRETCH CAULK	10.5	oz	7/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391003		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391184		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391166		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391186		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391142		ORANGE PEEL SPRAY ON TEXTURE, WATER BASED	25	oz	7/22/2015
0001391188		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001390976		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001390975		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001391149		ORANGE PEEL SPRAY ON TEXTURE, WATER BASED	25	oz	7/22/2015
0001391148		ORANGE PEEL SPRAY ON TEXTURE, WATER BASED	25	oz	7/22/2015
0001391147		ORANGE PEEL SPRAY ON TEXTURE, WATER BASED	25	oz	7/22/2015
0001391146		ORANGE PEEL SPRAY ON TEXTURE, WATER BASED	25	oz	7/22/2015
0001391145		ORANGE PEEL SPRAY ON TEXTURE, WATER BASED	25	oz	7/22/2015
0001391144		ORANGE PEEL SPRAY ON TEXTURE, WATER BASED	25	oz	7/22/2015
0001390983		WEST C-358 INHIBITOR, ALKILINE	55	gal	7/22/2015
0001391129		KRUD KUTTER	1	gal	7/22/2015
0001391194		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391218		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391199		EASY SAND 20	18	lb	7/22/2015
0001391096		PSX 700 CURE	1	qt	7/22/2015
0001391097		PSX 700 CURE	1	qt	7/22/2015
0001391098		PSX 700 CURE	1	qt	7/22/2015
0001391099		PSX 700 CURE	1	qt	7/22/2015
0001391101		PSX 700 CURE	1	qt	7/22/2015
0001391197		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391162		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391195		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391052		PSX 700 CURE	1	qt	7/22/2015
0001391193		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391192		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391191		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391190		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391189		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391141		ORANGE PEEL SPRAY ON TEXTURE, WATER BASED	25	oz	7/22/2015
0001391140		ORANGE PEEL SPRAY ON TEXTURE, WATER BASED	25	oz	7/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391139		ORANGE PEEL SPRAY ON TEXTURE, WATER BASED	25	oz	7/22/2015
0001391047		PSX 700 CURE	1	qt	7/22/2015
0001391196		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391088		PSX 700 CURE	1	qt	7/22/2015
0001391048		PSX 700 CURE	1	qt	7/22/2015
0001391049		PSX 700 CURE	1	qt	7/22/2015
0001391050		PSX 700 CURE	1	qt	7/22/2015
0001391051		PSX 700 CURE	1	qt	7/22/2015
0001391130		KRUD KUTTER	1	gal	7/22/2015
0001391054		PSX 700 CURE	1	qt	7/22/2015
0001391005		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391085		PSX 700 CURE	1	qt	7/22/2015
0001391200		EASY SAND 20	18	lb	7/22/2015
0001391087		PSX 700 CURE	1	qt	7/22/2015
0001391217		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391089		PSX 700 CURE	1	qt	7/22/2015
0001391090		PSX 700 CURE	1	qt	7/22/2015
0001391091		PSX 700 CURE	1	qt	7/22/2015
0001391092		PSX 700 CURE	1	qt	7/22/2015
0001391093		PSX 700 CURE	1	qt	7/22/2015
0001391094		PSX 700 CURE	1	qt	7/22/2015
0001391095		PSX 700 CURE	1	qt	7/22/2015
0001391031		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391045		PSX 700 CURE	1	qt	7/22/2015
0001391086		PSX 700 CURE	1	qt	7/22/2015
0001391077		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391219		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391174		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391173		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391172		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391171		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391170		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391168		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391167		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391074		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391076		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391073		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391078		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391079		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391080		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391081		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391107		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391108		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391109		PSX 700 PART A(RESIN)	1	gal	7/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391110		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391112		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391075		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391178		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391216		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391215		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391213		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391212		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391291		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/22/2015
0001391210		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391182		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391181		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391175		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391179		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391053		PSX 700 CURE	1	qt	7/22/2015
0001391177		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391176		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391211		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391067		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391068		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391069		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391070		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391071		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391072		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391180		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391066		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391058		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/22/2015
0001391059		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/22/2015
0001391060		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/22/2015
0001391214		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391226		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391266		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391169		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391268		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391056		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/22/2015
0001391064		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391061		PSX 700 CURE	1	gal	7/22/2015
0001390957		PSX 700 CURE	1	gal	7/22/2015
0001391008		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391007		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391006		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391267		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391259		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391258		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391131		KRUD KUTTER	1	gal	7/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391132		KRUD KUTTER	1	gal	7/22/2015
0001391133		KRUD KUTTER	1	gal	7/22/2015
0001391134		KRUD KUTTER	1	gal	7/22/2015
0001391124		COTE ALL SAFETY YELLOW	1	gal	7/22/2015
0001391057		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/22/2015
0001391126		COTE ALL SAFETY YELLOW	1	gal	7/22/2015
0001391084		PSX 700 CURE	1	qt	7/22/2015
0001391260		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391261		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391262		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391263		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391264		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391265		PEEL STOP CLEAR BINDING PRIMER	1	gal	7/22/2015
0001391062		PSX 700 CURE	1	gal	7/22/2015
0001391125		COTE ALL SAFETY YELLOW	1	gal	7/22/2015
0001391280		Spray Indicator XL	1	gal	7/22/2015
0001391201		EASY SAND 20	18	lb	7/22/2015
0001391288		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391289		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391290		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391292		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/22/2015
0001391293		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/22/2015
0001391065		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391279		Spray Indicator XL	1	gal	7/22/2015
0001391004		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391281		Spray Indicator XL	1	gal	7/22/2015
0001391082		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391100		PSX 700 CURE	1	qt	7/22/2015
0001391282		Spray Indicator XL	1	gal	7/22/2015
0001391283		Spray Indicator XL	1	gal	7/22/2015
0001391286		Spray Indicator XL	1	gal	7/22/2015
0001391285		Spray Indicator XL	1	gal	7/22/2015
0001391294		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/22/2015
0001391284		Spray Indicator XL	1	gal	7/22/2015
0001391001		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391000		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391137		LAQUER THINNER	1	gal	7/22/2015
0001391002		PSX 700 ENGINEERED SILOXANE	1	gal	7/22/2015
0001391136		LAQUER THINNER	1	gal	7/22/2015
0001391252		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391244		BIG STRETCH CAULK	10.5	oz	7/22/2015
0001391083		PSX 700 CURE	1	qt	7/22/2015
0001391111		PSX 700 PART A(RESIN)	1	gal	7/22/2015
0001391106		PSX 700 CURE	1	gal	7/22/2015
0001312034		MULTI-PURPOSE GREASE	12	oz	7/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312035		LEAK DETECTOR, SNOOP, 8OZ	8	oz	7/23/2015
0001312037		LEAK DETECTOR, SNOOP, 8OZ	8	oz	7/23/2015
0001312038		LEAK DETECTOR, SNOOP, 8OZ	8	oz	7/23/2015
0001312039		LEAK DETECTOR, SNOOP, 8OZ	8	oz	7/23/2015
0001312040		LEAK DETECTOR, SNOOP, 8OZ	8	oz	7/23/2015
0001391304		LPS-1	379	ml	7/23/2015
0001391300		LPS-1	379	ml	7/23/2015
0001391301		LPS-1	379	ml	7/23/2015
0001391302		LPS-1	379	ml	7/23/2015
0001312036		LEAK DETECTOR, SNOOP, 8OZ	8	oz	7/23/2015
0001391306		LPS-1	379	ml	7/23/2015
0001391295		LPS-1	379	ml	7/23/2015
0001391296		LPS-1	379	ml	7/23/2015
0001391297		LPS-1	379	ml	7/23/2015
0001391298		LPS-1	379	ml	7/23/2015
0001391303		LPS-1	379	ml	7/23/2015
0001391299		LPS-1	379	ml	7/23/2015
0001391305		LPS-1	379	ml	7/23/2015
0001350649	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350699	2206-26-0	ACETONITRILE-D3	25	gm	7/24/2015
0001350701		MOBIL VACTRA 2	5	gal	7/24/2015
0001350700		MOBIL VACTRA 2	5	gal	7/24/2015
0001350702		MOBIL VACTRA 2	5	gal	7/24/2015
0001350703		MOBIL VACTRA 2	5	gal	7/24/2015
0001350559	25322-68-3	POLYETHYLENE GLYCOL 200	200	ml	7/24/2015
0001350634	19089-60-2	Monosodium 2-Sulfoterephthalate	25	gm	7/24/2015
0001383033	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/24/2015
0001350741		BARCO BOND	4	oz	7/24/2015
0001350664	2234-14-2	2',4',6'-Triisopropylacetophenone	25	gm	7/24/2015
0001350653	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350652	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350651	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350650	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350648	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350646	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350647	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350644	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350698	2206-26-0	ACETONITRILE-D3	25	gm	7/24/2015
0001350635	79-14-1	GLYCOLIC ACID	500	ml	7/24/2015
0001350638	80-10-4	DIPHENYLDICHLOROSILANE	5	gm	7/24/2015
0001350639	12135-76-1	AMMONIUM SULFIDE	25	mg	7/24/2015
0001350640	15878-77-0	PRASEODYMIUM(III) NITRATE HEXHYDRATE	50	gm	7/24/2015
0001350641	95-45-4	DIMETHYLGLYOXIME	100	gm	7/24/2015
0001350642	94790-37-1	HBTU	500	gm	7/24/2015
0001350643	94790-37-1	HBTU	500	gm	7/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350695		EPOXY PUTTY	2	oz	7/24/2015
0001350696	2206-26-0	ACETONITRILE-D3	25	gm	7/24/2015
0001350697	2206-26-0	ACETONITRILE-D3	25	gm	7/24/2015
0001350645	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350762	4704-94-3	2-Hydroxymethyl-1,3-propanediol	1	gm	7/24/2015
0001350661	5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	100	gm	7/24/2015
0001350711		BARCO BOND MB-165	4	oz	7/24/2015
0001350710		BARCO BOND MB-165	4	oz	7/24/2015
0001350709		BARCO BOND MB-165	4	oz	7/24/2015
0001350769	70-18-8	L-Glutathione reduced	10	gm	7/24/2015
0001350768	70-18-8	L-Glutathione reduced	10	gm	7/24/2015
0001350767	70-18-8	L-Glutathione reduced	10	gm	7/24/2015
0001350766	6132-04-3	SODIUM CITRATE TRIBASIC DEHYDRATE	25	gm	7/24/2015
0001350765	4704-94-3	2-Hydroxymethyl-1,3-propanediol	1	gm	7/24/2015
0001350737		BARCO BOND MB-165	4	oz	7/24/2015
0001350738		BARCO BOND MB-165	4	oz	7/24/2015
0001350739		BARCO BOND MB-165	4	oz	7/24/2015
0001350740		BARCO BOND MB-165	4	oz	7/24/2015
0001350713		BARCO BOND MB-165	4	oz	7/24/2015
0001350756	694-53-1	PHENYLSILANE	5	gm	7/24/2015
0001350662	7647-01-0	HYDROCHLORIC ACID, FUMING	500	ml	7/24/2015
0001350663	111-30-8	GLUTARALDEHYDE	1	l	7/24/2015
0001350753	1336-21-6	AMMONIUM HYDROXIDE	500	ml	7/24/2015
0001350706		BARCO BOND MB-165	4	oz	7/24/2015
0001350719		BARCO BOND MB-165	4	oz	7/24/2015
0001350764	4704-94-3	2-Hydroxymethyl-1,3-propanediol	1	gm	7/24/2015
0001350755	9004-74-4	POLYETHYLENE GLYCOL METHYL ETHER	100	ml	7/24/2015
0001350763	4704-94-3	2-Hydroxymethyl-1,3-propanediol	1	gm	7/24/2015
0001350757	778-24-5	Dimethyldiphenylsilane	5	gm	7/24/2015
0001350758	144-62-7	OXALIC ACID	100	gm	7/24/2015
0001350759	68412-54-4	IGEPAL CO-520	100	gm	7/24/2015
0001350760	4704-94-3	2-Hydroxymethyl-1,3-propanediol	1	gm	7/24/2015
0001350761	4704-94-3	2-Hydroxymethyl-1,3-propanediol	1	gm	7/24/2015
0001350714		BARCO BOND MB-165	4	oz	7/24/2015
0001350708		BARCO BOND MB-165	4	oz	7/24/2015
0001350729		BARCO BOND MB-165	4	oz	7/24/2015
0001350736		BARCO BOND MB-165	4	oz	7/24/2015
0001350752		BARCO BOND	4	oz	7/24/2015
0001383025	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/24/2015
0001383026	7705-08-0	FERRIC CHLORIDE	3400	lb	7/24/2015
0001383027	7732-18-5	Hydrochloric Acid 30-31%	3000	pt	7/24/2015
0001383029	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/24/2015
0001383030	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/24/2015
0001383031	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/24/2015
0001383032	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350735		BARCO BOND MB-165	4	oz	7/24/2015
0001350734		BARCO BOND MB-165	4	oz	7/24/2015
0001350733		BARCO BOND MB-165	4	oz	7/24/2015
0001350732		BARCO BOND MB-165	4	oz	7/24/2015
0001350712		BARCO BOND MB-165	4	oz	7/24/2015
0001350723		BARCO BOND MB-165	4	oz	7/24/2015
0001350715		BARCO BOND MB-165	4	oz	7/24/2015
0001350716		BARCO BOND MB-165	4	oz	7/24/2015
0001350717		BARCO BOND MB-165	4	oz	7/24/2015
0001350718		BARCO BOND MB-165	4	oz	7/24/2015
0001350720		BARCO BOND MB-165	4	oz	7/24/2015
0001350731		BARCO BOND MB-165	4	oz	7/24/2015
0001350722		BARCO BOND MB-165	4	oz	7/24/2015
0001350730		BARCO BOND MB-165	4	oz	7/24/2015
0001350724		BARCO BOND MB-165	4	oz	7/24/2015
0001350725		BARCO BOND MB-165	4	oz	7/24/2015
0001350726		BARCO BOND MB-165	4	oz	7/24/2015
0001350727		BARCO BOND MB-165	4	oz	7/24/2015
0001350728		BARCO BOND MB-165	4	oz	7/24/2015
0001350707		BARCO BOND MB-165	4	oz	7/24/2015
0001350721		BARCO BOND MB-165	4	oz	7/24/2015
0001383037	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/24/2015
0001350746		BARCO BOND	4	oz	7/24/2015
0001350745		BARCO BOND	4	oz	7/24/2015
0001350744		BARCO BOND	4	oz	7/24/2015
0001350743		BARCO BOND	4	oz	7/24/2015
0001350742		BARCO BOND	4	oz	7/24/2015
0001350705		BARCO BOND MB-165	4	oz	7/24/2015
0001350656	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350748		BARCO BOND	4	oz	7/24/2015
0001350636		TUNGSTEN FOIL	12	gm	7/24/2015
0001350770	4731-53-7	TRIOCTYLPHOSPHINE	500	ml	7/24/2015
0001383034	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/24/2015
0001383035	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/24/2015
0001350751		BARCO BOND	4	oz	7/24/2015
0001383036	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/24/2015
0001383028	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/24/2015
0001350659	10025-91-9	ANTIMONY TRICHLORIDE, CRYSTALS	5	gm	7/24/2015
0001350658	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350657	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350654	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350655	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/24/2015
0001350637		TUNGSTEN FOIL	12	gm	7/24/2015
0001350704		MOBIL VACTRA 2	5	gal	7/24/2015
0001350747		BARCO BOND	4	oz	7/24/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350749		BARCO BOND	4	oz	7/24/2015
0001350750		BARCO BOND	4	oz	7/24/2015
0001350754	9004-74-4	POLYETHYLENE GLYCOL METHYL ETHER	100	ml	7/24/2015
0001350660	5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	100	gm	7/24/2015
0001383038	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/24/2015
0001383146	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/27/2015
0001383147	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/27/2015
0001383144	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/27/2015
0001383145	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/27/2015
0001363693		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001350878	7722-84-1	HYDROGEN PEROXIDE	500	ml	7/27/2015
0001350879	7722-84-1	HYDROGEN PEROXIDE	500	ml	7/27/2015
0001363456		Isobutylene 10ppm/Bal. air	34	l	7/27/2015
0001363457		Isobutylene 10ppm/Bal. air	34	l	7/27/2015
0001383143	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/27/2015
0001363690		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363694		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363692		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363639	74-98-6	PROPANE	11	gal	7/27/2015
0001363695		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363696	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363697	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363698	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363699	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363640	74-98-6	PROPANE	11	gal	7/27/2015
0001363691		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001350690		BUFFER PACK, PH 4/7/10	1500	ml	7/27/2015
0001350773		FORMULA 9810	3.5	lb	7/27/2015
0001350693		BUFFER PACK, PH 4/7/10	1500	ml	7/27/2015
0001350692		BUFFER PACK, PH 4/7/10	1500	ml	7/27/2015
0001363709	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363713	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001350691		BUFFER PACK, PH 4/7/10	1500	ml	7/27/2015
0001383148	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/27/2015
0001363706	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363711	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001363705	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001350689		BUFFER PACK, PH 4/7/10	1500	ml	7/27/2015
0001350688	10213-79-3	SODIUM METASILICATE, PENTAHYDRATE	500	gm	7/27/2015
0001350687	112-88-9	1-OCTADECENE	1	l	7/27/2015
0001350686	112-88-9	1-OCTADECENE	1	l	7/27/2015
0001350685	112-88-9	1-OCTADECENE	1	l	7/27/2015
0001350684	112-88-9	1-OCTADECENE	1	l	7/27/2015
0001350683	112-88-9	1-OCTADECENE	1	l	7/27/2015
0001363710	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363460	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/27/2015
0001350775		FORMULA 9810	3.5	lb	7/27/2015
0001350772		FORMULA 9810	3.5	lb	7/27/2015
0001350860		PERMABOND 910	1	oz	7/27/2015
0001350771		FORMULA 9810	3.5	lb	7/27/2015
0001350694		BUFFER PACK, PH 4/7/10	1500	ml	7/27/2015
0001363638	74-98-6	PROPANE	11	gal	7/27/2015
0001363637	74-98-6	PROPANE	11	gal	7/27/2015
0001363708	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363465	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/27/2015
0001350774		FORMULA 9810	3.5	lb	7/27/2015
0001363464	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/27/2015
0001363459	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/27/2015
0001363463	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/27/2015
0001363461	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/27/2015
0001363702	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363703	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363704	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363458	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/27/2015
0001383024	57-55-6	PROPYLENE GLYCOL, INDUSTRIAL	55	gal	7/27/2015
0001350862		PERMABOND 910	1	oz	7/27/2015
0001363648	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363597		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363596		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363595		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363594		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363646	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001382957		REVERSE TRANSCRIPTASE AVIAN MYELOBIASTISIS	1.5	ml	7/27/2015
0001363645	74-98-6	PROPANE	11	gal	7/27/2015
0001383023	57-55-6	PROPYLENE GLYCOL, INDUSTRIAL	55	gal	7/27/2015
0001350779	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350778	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350777	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350776		FORMULA 9810	3.5	lb	7/27/2015
0001383022	57-55-6	PROPYLENE GLYCOL, INDUSTRIAL	55	gal	7/27/2015
0001363593		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363678		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363686		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363685		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363684		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363683		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363682		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363681		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363647	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363679		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363591		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363677		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363676		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363641	74-98-6	PROPANE	11	gal	7/27/2015
0001363642	74-98-6	PROPANE	11	gal	7/27/2015
0001363643	74-98-6	PROPANE	11	gal	7/27/2015
0001363644	74-98-6	PROPANE	11	gal	7/27/2015
0001363680		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001350864		PERMABOND 910	1	oz	7/27/2015
0001363446	7440-59-7	HELIUM	220	cf	7/27/2015
0001363781	7440-63-3	XENON	100	l	7/27/2015
0001350820	10101-63-0	LEAD(II) IODIDE	50	gm	7/27/2015
0001363454	7440-59-7	HELIUM	220	cf	7/27/2015
0001363455	7440-59-7	HELIUM	220	cf	7/27/2015
0001350859		PERMABOND 910	1	oz	7/27/2015
0001363662	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001350863		PERMABOND 910	1	oz	7/27/2015
0001363449	7440-59-7	HELIUM	220	cf	7/27/2015
0001350865		PERMABOND 910	1	oz	7/27/2015
0001350866		PERMABOND 910	1	oz	7/27/2015
0001350867		PERMABOND 910	1	oz	7/27/2015
0001350868		PERMABOND 910	1	oz	7/27/2015
0001350869	9003-53-6	POLYSTYRENE MICROSPHERES	15	ml	7/27/2015
0001350876	7722-84-1	HYDROGEN PEROXIDE	500	ml	7/27/2015
0001350861		PERMABOND 910	1	oz	7/27/2015
0001363583		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001350877	7722-84-1	HYDROGEN PEROXIDE	500	ml	7/27/2015
0001363590		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363589		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363588		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363585		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363584		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363447	7440-59-7	HELIUM	220	cf	7/27/2015
0001350682	122-51-0	TRIETHYL ORTHOFORMATE,ANHYDROUS, 99+%	1	l	7/27/2015
0001363448	7440-59-7	HELIUM	220	cf	7/27/2015
0001363688		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363689		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363453	7440-59-7	HELIUM	220	cf	7/27/2015
0001363452	7440-59-7	HELIUM	220	cf	7/27/2015
0001363451	7440-59-7	HELIUM	220	cf	7/27/2015
0001363450	7440-59-7	HELIUM	220	cf	7/27/2015
0001363592		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001383041		SODIUM HYPOCHLORITE	330	gm	7/27/2015
0001363651	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363718	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001363659	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363658	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363657	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363656	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363654	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363661	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363652	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363663	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363650	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363649	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363462	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	7/27/2015
0001363712	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001391316		BROMICIDE TABLETS	50	lb	7/27/2015
0001363707	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363653	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363671		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363789	7440-59-7	HELIUM	220	cf	7/27/2015
0001363788	7440-59-7	HELIUM	220	cf	7/27/2015
0001363787	7727-37-9	NITROGEN, COMPRESSED GAS	40	cf	7/27/2015
0001363786	7727-37-9	NITROGEN, COMPRESSED GAS	40	cf	7/27/2015
0001363675		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363674		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363660	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363672		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363601		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363670		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363668		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363667		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363666		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363665	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363664	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363673		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363625		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363633	74-98-6	PROPANE	11	gal	7/27/2015
0001363632	74-98-6	PROPANE	11	gal	7/27/2015
0001363631	74-98-6	PROPANE	11	gal	7/27/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363630	74-98-6	PROPANE	11	gal	7/27/2015
0001363629	74-98-6	PROPANE	11	gal	7/27/2015
0001363628	74-98-6	PROPANE	11	gal	7/27/2015
0001363599		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363626		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363634	74-98-6	PROPANE	11	gal	7/27/2015
0001363624		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363623		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363621		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363620		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363618		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363617		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363627		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363609		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363792	7440-59-7	HELIUM	220	cf	7/27/2015
0001363602		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363603		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363604		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363605		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363606		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363615		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363608		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363613		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363610		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363611		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363612		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363715	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001363714	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001363636	74-98-6	PROPANE	11	gal	7/27/2015
0001363600		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363607		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363724	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001350832	110-54-3	HEXANE HPLC	4	l	7/27/2015
0001350831	108-88-3	TOLUENE	1	l	7/27/2015
0001350830	108-88-3	TOLUENE	1	l	7/27/2015
0001363719	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001363720	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001363721	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001363729	7440-59-7	HELIUM	220	cf	7/27/2015
0001363723	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001350835	110-54-3	HEXANE HPLC	4	l	7/27/2015
0001350817	131890-26-1	Bis[2-(diisopropylphosphino)ethyl]amine, 10% w/w soln. in THF	20	gm	7/27/2015
0001363725	7440-59-7	HELIUM	220	cf	7/27/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350818	131890-26-1	Bis[2-(diisopropylphosphino)ethyl]amine, 10% w/w soln. in THF	20	gm	7/27/2015
0001363726	7440-59-7	HELIUM	220	cf	7/27/2015
0001363727	7440-59-7	HELIUM	220	cf	7/27/2015
0001363790	7440-59-7	HELIUM	220	cf	7/27/2015
0001363722	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001350678	141-78-6	ETHYL ACETATE	4	l	7/27/2015
0001350680	141-78-6	ETHYL ACETATE	4	l	7/27/2015
0001350679	141-78-6	ETHYL ACETATE	4	l	7/27/2015
0001383066	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/27/2015
0001383067	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/27/2015
0001383068	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/27/2015
0001383069	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/27/2015
0001350833	110-54-3	HEXANE HPLC	4	l	7/27/2015
0001363742	7440-59-7	HELIUM	220	cf	7/27/2015
0001350834	110-54-3	HEXANE HPLC	4	l	7/27/2015
0001350677	141-78-6	ETHYL ACETATE	4	l	7/27/2015
0001350676	75-09-2	DICHLOROMETHANE	2.5	l	7/27/2015
0001350675	75-09-2	DICHLOROMETHANE	2.5	l	7/27/2015
0001363598		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001350857		BRADFORD REAGENT	500	ml	7/27/2015
0001363616		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363730	7440-59-7	HELIUM	220	cf	7/27/2015
0001383070	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/27/2015
0001363797	7440-59-7	HELIUM	220	cf	7/27/2015
0001363785	7439-90-9	KRYPTON	100	l	7/27/2015
0001350674	75-09-2	DICHLOROMETHANE	2.5	l	7/27/2015
0001350673	75-09-2	DICHLOROMETHANE	2.5	l	7/27/2015
0001363794	7440-59-7	HELIUM	220	cf	7/27/2015
0001350829	108-88-3	TOLUENE	1	l	7/27/2015
0001350828	108-88-3	TOLUENE	1	l	7/27/2015
0001363728	7440-59-7	HELIUM	220	cf	7/27/2015
0001363798	7440-59-7	HELIUM	220	cf	7/27/2015
0001363782	7440-63-3	XENON	100	l	7/27/2015
0001363796	7440-59-7	HELIUM	220	cf	7/27/2015
0001363795	7440-59-7	HELIUM	220	cf	7/27/2015
0001363793	7440-59-7	HELIUM	220	cf	7/27/2015
0001391326		BROMICIDE TABLETS	50	lb	7/27/2015
0001350839		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001350681	141-78-6	ETHYL ACETATE	4	l	7/27/2015
0001363445	7440-59-7	HELIUM	220	cf	7/27/2015
0001363779	7782-44-7	OXYGEN, COMPRESSED GAS	125	cf	7/27/2015
0001363731	7440-59-7	HELIUM	220	cf	7/27/2015
0001363732	7440-59-7	HELIUM	220	cf	7/27/2015
0001363733	7440-59-7	HELIUM	220	cf	7/27/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363734	7440-59-7	HELIUM	220	cf	7/27/2015
0001363735	7440-59-7	HELIUM	220	cf	7/27/2015
0001363737	7440-59-7	HELIUM	220	cf	7/27/2015
0001363784	7440-63-3	XENON	100	l	7/27/2015
0001350819	12138-09-9	TUNGSTEN SULFIDE	50	gm	7/27/2015
0001363783	7440-63-3	XENON	100	l	7/27/2015
0001363780	7782-44-7	OXYGEN, COMPRESSED GAS	125	cf	7/27/2015
0001350821	10101-63-0	LEAD(II) IODIDE	50	gm	7/27/2015
0001350822	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	7/27/2015
0001350823	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	7/27/2015
0001350824	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	7/27/2015
0001350827	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	7/27/2015
0001363791	7440-59-7	HELIUM	220	cf	7/27/2015
0001363738	7440-59-7	HELIUM	220	cf	7/27/2015
0001383040	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/27/2015
0001350793	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350792	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350791	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350790	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350789	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350788	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350787	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350786	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350785	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350784	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350783	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350782	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350781	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350811		GLASSY CARBON SPHERICAL POWDER	25	gm	7/27/2015
0001350667		QIAQUICK GEL EXTRACTION KIT	50	ml	7/27/2015
0001350809	81133-20-2	Carbosorb Granular	25	gm	7/27/2015
0001350808	1314-56-3	SICAPENT	500	gm	7/27/2015
0001350672	627-30-5	3-CHLOROPROPANOL	100	gm	7/27/2015
0001350671	1314-35-8	TUNGSTEN(VI) OXIDE	100	gm	7/27/2015
0001350670		TUNGSTEN(IV) OXIDE	10	gm	7/27/2015
0001350780	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350668		QIAPREP SPIN MINIPREP KIT	50	ul	7/27/2015
0001391318		BROMICIDE TABLETS	50	lb	7/27/2015
0001350405		TALON METAL AFFINITY RESIN	100	ml	7/27/2015
0001350854	137349-65-6	BIS(DICYCLOHEXYLPHOSPHINO	5	gm	7/27/2015
0001350855		SILICA REAGENT KIT	10	ml	7/27/2015
0001350856		SILVER EPOXY	350	gm	7/27/2015
0001383039	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/27/2015
0001350797		VULCANXC-72	33.1	lb	7/27/2015
0001350669		QIAPREP SPIN MINIPREP KIT	50	ul	7/27/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350848		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001350794	7697-37-2	NITRIC ACID	2.5	l	7/27/2015
0001350840		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001350853	1486-28-8	METHYLDIPHENYLPHOSPHINE	25	gm	7/27/2015
0001350852	594-09-2	TRIMETHYLPHOSPHINE	25	gm	7/27/2015
0001350851	4731-53-7	TRI-N-OCTYLPHOSPHINE	500	gm	7/27/2015
0001350795		VULCANXC-72	33.1	lb	7/27/2015
0001350849		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001350810	81133-20-2	Carbosorb Granular	100	gm	7/27/2015
0001350847		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001350846		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001350845		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001350844		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001350843		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001350842		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001350850		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001363717	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001350858	60-29-7	DIETHYL ETHER	1	l	7/27/2015
0001350798	1310-73-2	SODIUM HYDROXIDE SOLUTIONS, 40% AND 50%	500	ml	7/27/2015
0001350799	1310-73-2	SODIUM HYDROXIDE SOLUTIONS, 40% AND 50%	500	ml	7/27/2015
0001350800	1310-73-2	SODIUM HYDROXIDE SOLUTIONS, 40% AND 50%	500	ml	7/27/2015
0001350801	1310-73-2	SODIUM HYDROXIDE SOLUTIONS, 40% AND 50%	500	ml	7/27/2015
0001350841		Lucas Red N Tacky #2 Grease	14	oz	7/27/2015
0001350803	1310-73-2	SODIUM HYDROXIDE SOLUTIONS, 40% AND 50%	500	ml	7/27/2015
0001350796		VULCANXC-72	33.1	lb	7/27/2015
0001350804	67-56-1	METHANOL	4	l	7/27/2015
0001350805	67-56-1	METHANOL	4	l	7/27/2015
0001350806	67-56-1	METHANOL	4	l	7/27/2015
0001350807	67-56-1	METHANOL	4	l	7/27/2015
0001350665	7647-15-6	BROMIDE STANDARD	500	ml	7/27/2015
0001350666	7647-15-6	BROMIDE STANDARD	500	ml	7/27/2015
0001350802	1310-73-2	SODIUM HYDROXIDE SOLUTIONS, 40% AND 50%	500	ml	7/27/2015
0001391317		BROMICIDE TABLETS	50	lb	7/27/2015
0001391307		BROMICIDE TABLETS	50	lb	7/27/2015
0001391308		BROMICIDE TABLETS	50	lb	7/27/2015
0001391309		BROMICIDE TABLETS	50	lb	7/27/2015
0001391310		BROMICIDE TABLETS	50	lb	7/27/2015
0001391311		BROMICIDE TABLETS	50	lb	7/27/2015
0001391312		BROMICIDE TABLETS	50	lb	7/27/2015
0001391313		BROMICIDE TABLETS	50	lb	7/27/2015
0001350815	111-16-0	PIMELIC ACID	100	gm	7/27/2015
0001391315		BROMICIDE TABLETS	50	lb	7/27/2015
0001391319		BROMICIDE TABLETS	50	lb	7/27/2015
0001391320		BROMICIDE TABLETS	50	lb	7/27/2015
0001363687		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391325		BROMICIDE TABLETS	50	lb	7/27/2015
0001391324		BROMICIDE TABLETS	50	lb	7/27/2015
0001391323		BROMICIDE TABLETS	50	lb	7/27/2015
0001391322		BROMICIDE TABLETS	50	lb	7/27/2015
0001391321		BROMICIDE TABLETS	50	lb	7/27/2015
0001363716	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/27/2015
0001391314		BROMICIDE TABLETS	50	lb	7/27/2015
0001350814		GLASSY CARBON SPHERICAL POWDER	25	gm	7/27/2015
0001350813		GLASSY CARBON SPHERICAL POWDER	25	gm	7/27/2015
0001350812		GLASSY CARBON SPHERICAL POWDER	25	gm	7/27/2015
0001350825	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	7/27/2015
0001350816	11113-63-6	FLUORINATED GRAPHITE	20	gm	7/27/2015
0001363635	74-98-6	PROPANE	11	gal	7/27/2015
0001363700	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363622		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001350826	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	7/27/2015
0001363619		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363736	7440-59-7	HELIUM	220	cf	7/27/2015
0001363701	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	7/27/2015
0001363586		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363614		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001363655	1333-74-0	HYDROGEN	220	cf	7/27/2015
0001363669		P-10 (90% ARGON 10% METHANE)	220	cf	7/27/2015
0001363587		94% ARGON/6% HYDROGEN	220	cf	7/27/2015
0001280874		Loctite 598 Silicone	2.36	oz	7/28/2015
0001280649		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280648		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280647		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281086		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281085		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001350925	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	7/28/2015
0001350926	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	7/28/2015
0001350983		CYCLOHEXYLDICHLOROPHOSPHINE	1	gm	7/28/2015
0001281111		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280837		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281113		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280652		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280873		Loctite 598 Silicone	2.36	oz	7/28/2015
0001280872		Loctite 598 Silicone	2.36	oz	7/28/2015
0001280892		SILASTIC 732 RTV ADHESIVE /SEALANT	4.7	oz	7/28/2015
0001280890		SILASTIC 732 RTV ADHESIVE /SEALANT	4.7	oz	7/28/2015
0001281138		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281137		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001280664		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280840		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280839		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280838		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281112		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001350918		EOS Stainless Steel PH1	10	kg	7/28/2015
0001280819		WD-40	11	oz	7/28/2015
0001350906	4045-44-7	1,2,3,4,5-PENTAMETHYLCYCLOPENTADIENE	25	gm	7/28/2015
0001350907	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	7/28/2015
0001350908	7697-37-2	NITRIC ACID OPTIMA	500	ml	7/28/2015
0001350909	15573-38-3	TRIS(TRIMETHYLSILYL)PHOSPHINE	5	gm	7/28/2015
0001280841		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001350911		EOS Stainless Steel PH1	10	kg	7/28/2015
0001350912		EOS Stainless Steel PH1	10	kg	7/28/2015
0001350913		EOS Stainless Steel PH1	10	kg	7/28/2015
0001350914		EOS Stainless Steel PH1	10	kg	7/28/2015
0001350915		EOS Stainless Steel PH1	10	kg	7/28/2015
0001280650		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001350917		EOS Stainless Steel PH1	10	kg	7/28/2015
0001280651		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001350919		EOS Stainless Steel PH1	10	kg	7/28/2015
0001350920		EOS Stainless Steel PH1	10	kg	7/28/2015
0001350921	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	7/28/2015
0001350922	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	7/28/2015
0001350923	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	7/28/2015
0001350924	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	7/28/2015
0001280657		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280656		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280655		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280654		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280653		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280666		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001350916		EOS Stainless Steel PH1	10	kg	7/28/2015
0001280789		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280801		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280800		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280799		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280798		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280797		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280796		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001280795		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280794		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280793		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280792		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280836		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280790		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280804		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280788		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280787		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001281170		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001281169		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001281168		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001350892	7647-14-5	SODIUM CHLORIDE CERTIFIED ACS	1	kg	7/28/2015
0001350837	107-06-2	1,2-DICHLOROETHANE	1	l	7/28/2015
0001280635		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015
0001280634		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015
0001280633		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015
0001280632		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015
0001280791		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280832		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280665		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280835		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280889		SILASTIC 732 RTV ADHESIVE /SEALANT	4.7	oz	7/28/2015
0001280667		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280888		SILASTIC 732 RTV ADHESIVE /SEALANT	4.7	oz	7/28/2015
0001280887		SILASTIC 732 RTV ADHESIVE /SEALANT	4.7	oz	7/28/2015
0001280886		SILASTIC 732 RTV ADHESIVE /SEALANT	4.7	oz	7/28/2015
0001280885		SILASTIC 732 RTV ADHESIVE /SEALANT	4.7	oz	7/28/2015
0001280894		MOBIL VACTRA OIL NO. 2	5	gal	7/28/2015
0001280834		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280660		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280802		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280883		SILASTIC 732 RTV ADHESIVE /SEALANT	4.7	oz	7/28/2015
0001280803		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280831		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280830		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280829		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280828		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280779		NU-CLEAR THREAD CUTTING OIL	1	gal	7/28/2015
0001280645		RIDGID EXTREME PERFORMANCE THREAD CUTTING OIL	1	gal	7/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001280808		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280807		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280806		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280805		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001280884		SILASTIC 732 RTV ADHESIVE /SEALANT	4.7	oz	7/28/2015
0001280833		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280385		FANTASTIKE ALL PURPOSE CLEANER	1	qt	7/28/2015
0001280823		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280876		Loctite 598 Silicone	2.36	oz	7/28/2015
0001280877		Loctite 598 Silicone	2.36	oz	7/28/2015
0001280878		Loctite 598 Silicone	2.36	oz	7/28/2015
0001280879		Loctite 598 Silicone	2.36	oz	7/28/2015
0001280880		Loctite 598 Silicone	2.36	oz	7/28/2015
0001280881		Loctite 598 Silicone	2.36	oz	7/28/2015
0001280668		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280669		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280822		WD-40	11	oz	7/28/2015
0001280893		MOBIL VACTRA OIL NO. 2	5	gal	7/28/2015
0001281084		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280882		Loctite 598 Silicone	2.36	oz	7/28/2015
0001281083		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280386		FANTASTIKE ALL PURPOSE CLEANER	1	qt	7/28/2015
0001281049		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281070		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281071		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281072		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001383150		NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	gal	7/28/2015
0001383149		NALCO 7408 CHLORINE SCAVENGER SOLUTION	2209	lb	7/28/2015
0001280387		FANTASTIKE ALL PURPOSE CLEANER	1	qt	7/28/2015
0001280388		FANTASTIKE ALL PURPOSE CLEANER	1	qt	7/28/2015
0001280814		MOBIL VACTRA OIL NO. 2	5	gal	7/28/2015
0001280389		FANTASTIKE ALL PURPOSE CLEANER	1	qt	7/28/2015
0001280658		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280670		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281042		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281039		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280818		MOBIL VACTRA OIL NO. 2	5	gal	7/28/2015
0001280817		MOBIL VACTRA OIL NO. 2	5	gal	7/28/2015
0001280816		MOBIL VACTRA OIL NO. 2	5	gal	7/28/2015
0001280815		MOBIL VACTRA OIL NO. 2	5	gal	7/28/2015
0001280821		WD-40	11	oz	7/28/2015
0001280820		WD-40	11	oz	7/28/2015
0001383155		NALCO 1720 OXYGEN SCAVENGER SOLUTION	528	lb	7/28/2015
0001383154		Nalco 22341	503	lb	7/28/2015
0001383153		NALCO 8735	639	lb	7/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001383152		NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	gal	7/28/2015
0001280875		Loctite 598 Silicone	2.36	oz	7/28/2015
0001281041		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280824		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281043		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001383151		NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	gal	7/28/2015
0001281073		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281074		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281075		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281076		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281077		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281078		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281079		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281080		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281081		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281082		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281040		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001350900		DPD TOTAL CHLORINE REAGENT	10	ml	7/28/2015
0001280390		FANTASTIKE ALL PURPOSE CLEANER	1	qt	7/28/2015
0001281045		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281096		SIMPLE GREEN	1	gal	7/28/2015
0001281044		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001350905	4045-44-7	1,2,3,4,5-PENTAMETHYLCYCLOPENTADIENE	25	gm	7/28/2015
0001350904	4045-44-7	1,2,3,4,5-PENTAMETHYLCYCLOPENTADIENE	25	gm	7/28/2015
0001350903	4045-44-7	1,2,3,4,5-PENTAMETHYLCYCLOPENTADIENE	25	gm	7/28/2015
0001350902		DPD TOTAL CHLORINE REAGENT	10	ml	7/28/2015
0001350901		DPD TOTAL CHLORINE REAGENT	10	ml	7/28/2015
0001281140		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281139		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281046		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001350897		IODIDE IODATE REAGENT	20	ml	7/28/2015
0001350985	1291-31-2	Dichlorophosphinoferrocene	1	gm	7/28/2015
0001350880	7664-93-9	SULFURIC ACID, .10 N	465	lb	7/28/2015
0001280663		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280662		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280661		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280809		MOBIL DTE 24	5	gal	7/28/2015
0001280659		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001350899		DPD TOTAL CHLORINE REAGENT	10	ml	7/28/2015
0001350898		DPD TOTAL CHLORINE REAGENT	10	ml	7/28/2015
0001350838		MECHANICAL PUMP OIL	1	qt	7/28/2015
0001350910	12036-22-5	TUNGSTEN DIOXIDE	5	gm	7/28/2015
0001281089		SIMPLE GREEN	1	gal	7/28/2015
0001281088		SIMPLE GREEN	1	gal	7/28/2015
0001350896		IODIDE IODATE REAGENT	20	ml	7/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281150		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280825		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280826		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280827		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281158		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281048		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281047		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281157		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281156		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281155		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281154		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281153		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281141		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281151		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281087		SIMPLE GREEN	1	gal	7/28/2015
0001280891		SILASTIC 732 RTV ADHESIVE /SEALANT	4.7	oz	7/28/2015
0001281149		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280842		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281148		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281147		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281146		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281145		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281144		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281143		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281142		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001350889		STYCAST 2850FT BLACK	1.36	kg	7/28/2015
0001350891	7647-14-5	SODIUM CHLORIDE CERTIFIED ACS	1	kg	7/28/2015
0001281152		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280637		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015
0001281051		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281050		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281133		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281122		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281121		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281120		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001383156	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/28/2015
0001280636		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015
0001280868		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280638		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015
0001280639		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001280640		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015
0001280641		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015
0001280642		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015
0001281091		SIMPLE GREEN	1	gal	7/28/2015
0001281134		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281062		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281092		SIMPLE GREEN	1	gal	7/28/2015
0001281093		SIMPLE GREEN	1	gal	7/28/2015
0001281069		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281095		SIMPLE GREEN	1	gal	7/28/2015
0001383160	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/28/2015
0001280861		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281132		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280871		Loctite 598 Silicone	2.36	oz	7/28/2015
0001281052		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280843		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281063		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280783		NU-CLEAR THREAD CUTTING OIL	1	gal	7/28/2015
0001281068		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281067		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281066		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280859		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280786		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001281065		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281173		WD-40	16	oz	7/28/2015
0001281172		WD-40	16	oz	7/28/2015
0001280646		RIDGID EXTREME PERFORMANCE THREAD CUTTING OIL	1	gal	7/28/2015
0001280644	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	.7	oz	7/28/2015
0001280643	7085-85-0	406 Prism Surface Insensitive Instant Adhesive	.7	oz	7/28/2015
0001281159		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001280785		AEROKROIL LUBRICANT SPRAY	10	oz	7/28/2015
0001281160		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001280860		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280870		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280869		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281171		WD-40	16	oz	7/28/2015
0001383162	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/28/2015
0001383161	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/28/2015
0001280784		NU-CLEAR THREAD CUTTING OIL	1	gal	7/28/2015
0001383157	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/28/2015
0001281064		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281053		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281054		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281055		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281164		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001281114		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281174		WD-40	16	oz	7/28/2015
0001281136		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281094		SIMPLE GREEN	1	gal	7/28/2015
0001383158	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/28/2015
0001383159	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/28/2015
0001280631		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10	oz	7/28/2015
0001281163		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001281162		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001281161		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001281135		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281119		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280858		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281128		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281129		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281130		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281167		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001281131		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281166		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001281126		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281165		TAPMATIC NATURAL CUTTING FLUID	16	oz	7/28/2015
0001281125		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281058		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280810		MOBIL DTE 24	5	gal	7/28/2015
0001281057		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280811		MOBIL DTE 24	5	gal	7/28/2015
0001280812		MOBIL DTE 24	5	gal	7/28/2015
0001280862		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280780		NU-CLEAR THREAD CUTTING OIL	1	gal	7/28/2015
0001280866		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001350836	7664-39-3	HYDROFLUORIC ACID	10	lb	7/28/2015
0001350881	7664-93-9	SULFURIC ACID, .10 N	465	lb	7/28/2015
0001281061		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280844		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280845		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001350882	7664-93-9	SULFURIC ACID, .10 N	465	lb	7/28/2015
0001350883	7664-93-9	SULFURIC ACID, .10 N	465	lb	7/28/2015
0001350884		DEOXIT	25	ml	7/28/2015
0001281127		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001350984	1291-31-2	Dichlorophosphinoferrocene	1	gm	7/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001280781		NU-CLEAR THREAD CUTTING OIL	1	gal	7/28/2015
0001350886		NICKEL STANDARD	125	ml	7/28/2015
0001350887		TITANIUM STANDARD	125	ml	7/28/2015
0001280867		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001350888		CHROMIUM STANDARD	125	ml	7/28/2015
0001350890		CATALYST 9	4	oz	7/28/2015
0001350893		IODIDE IODATE REAGENT	20	ml	7/28/2015
0001350894		IODIDE IODATE REAGENT	20	ml	7/28/2015
0001350885		DEOXIT	25	ml	7/28/2015
0001280850		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280857		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280856		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280855		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280854		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280853		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280852		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281090		SIMPLE GREEN	1	gal	7/28/2015
0001281060		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001350895		IODIDE IODATE REAGENT	20	ml	7/28/2015
0001281115		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280813		MOBIL DTE 24	5	gal	7/28/2015
0001280851		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280782		NU-CLEAR THREAD CUTTING OIL	1	gal	7/28/2015
0001280849		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280846		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280863		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280864		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280865		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281123		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281124		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281118		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281116		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281117		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280847		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001280848		Stihl HP 2-Cycle Engine Oil	6.4	oz	7/28/2015
0001281059		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001281056		TAPMATIC #1 GOLD CUTTING FLUID	11	oz	7/28/2015
0001280946		Double Bubble Red Package	3.5	gm	7/29/2015
0001280945		Double Bubble Red Package	3.5	gm	7/29/2015
0001280947		Double Bubble Red Package	3.5	gm	7/29/2015
0001350986	506-87-6	AMMONIUM CARBONATE	500	gm	7/29/2015
0001280949		Double Bubble Red Package	3.5	gm	7/29/2015
0001280954		Double Bubble Red Package	3.5	gm	7/29/2015
0001280950		Double Bubble Red Package	3.5	gm	7/29/2015
0001280951		Double Bubble Red Package	3.5	gm	7/29/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350999	99685-96-8	FULLERENE-C60 SUBLIMED	1	gm	7/29/2015
0001280952		Double Bubble Red Package	3.5	gm	7/29/2015
0001280953		Double Bubble Red Package	3.5	gm	7/29/2015
0001280955		Double Bubble Red Package	3.5	gm	7/29/2015
0001280948		Double Bubble Red Package	3.5	gm	7/29/2015
0001280981		Double Bubble Red Package	3.5	gm	7/29/2015
0001280973		Double Bubble Red Package	3.5	gm	7/29/2015
0001350980	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	7/29/2015
0001280975		Double Bubble Red Package	3.5	gm	7/29/2015
0001280976		Double Bubble Red Package	3.5	gm	7/29/2015
0001280977		Double Bubble Red Package	3.5	gm	7/29/2015
0001280978		Double Bubble Red Package	3.5	gm	7/29/2015
0001350978	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	7/29/2015
0001280980		Double Bubble Red Package	3.5	gm	7/29/2015
0001350977	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	7/29/2015
0001351148		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001351147		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001280982		Double Bubble Red Package	3.5	gm	7/29/2015
0001280983		Double Bubble Red Package	3.5	gm	7/29/2015
0001280984		Double Bubble Red Package	3.5	gm	7/29/2015
0001280985		Double Bubble Red Package	3.5	gm	7/29/2015
0001280979		Double Bubble Red Package	3.5	gm	7/29/2015
0001280972		Double Bubble Red Package	3.5	gm	7/29/2015
0001350932	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001383168	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/29/2015
0001350951	5137-46-2	SODIUM BIPHENYL 2-ETHOXYETHYL ETHER	300	ml	7/29/2015
0001350955	106-37-6	1,4-DIBROMOBENZENE	100	gm	7/29/2015
0001280968		Double Bubble Red Package	3.5	gm	7/29/2015
0001280969		Double Bubble Red Package	3.5	gm	7/29/2015
0001350979	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	7/29/2015
0001280971		Double Bubble Red Package	3.5	gm	7/29/2015
0001350933	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001280944		Double Bubble Red Package	3.5	gm	7/29/2015
0001280974		Double Bubble Red Package	3.5	gm	7/29/2015
0001363467		Refrigerant R22	30	lb	7/29/2015
0001363468		Refrigerant R22	30	lb	7/29/2015
0001363469		Refrigerant R22	30	lb	7/29/2015
0001350965		ULTIMA GOLD	10	l	7/29/2015
0001280970		Double Bubble Red Package	3.5	gm	7/29/2015
0001350947	112-90-3	OLEYLAMINE	500	gm	7/29/2015
0000957257		ACRYLIC LATEX CAULK PLUS SILICONE	400	ml	7/29/2015
0001363773		AIR, COMPRESSED	220	cf	7/29/2015
0001363770		AIR, COMPRESSED	220	cf	7/29/2015
0001350952	11104-88-4	PHOSPHOMOLYBDIC ACID	250	ml	7/29/2015
0001350950	107-06-2	1,2-DICHLOROETHANE	100	ml	7/29/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312057		MARKING PAINT, RED	17	oz	7/29/2015
0001312056		MARKING PAINT, RED	17	oz	7/29/2015
0001350949	107-06-2	1,2-DICHLOROETHANE	100	ml	7/29/2015
0001350937	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001350948	112-90-3	OLEYLAMINE	500	gm	7/29/2015
0001280961		Double Bubble Red Package	3.5	gm	7/29/2015
0001350946	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001350945	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001350944	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001350943	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001350942	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001350941	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001350940	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001350939	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001280939		Double Bubble Red Package	3.5	gm	7/29/2015
0001280966		Double Bubble Red Package	3.5	gm	7/29/2015
0001351149		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001280930		Double Bubble Red Package	3.5	gm	7/29/2015
0001280929		Double Bubble Red Package	3.5	gm	7/29/2015
0001280928		Double Bubble Red Package	3.5	gm	7/29/2015
0001280927		Double Bubble Red Package	3.5	gm	7/29/2015
0001280926		Double Bubble Red Package	3.5	gm	7/29/2015
0001280925		Double Bubble Red Package	3.5	gm	7/29/2015
0001280924		Double Bubble Red Package	3.5	gm	7/29/2015
0001280923		Double Bubble Red Package	3.5	gm	7/29/2015
0001280922		Double Bubble Red Package	3.5	gm	7/29/2015
0001351001		Gold nanoparticles	25	ml	7/29/2015
0001350953	540-54-5	1-CHLOROPROPANE	100	ml	7/29/2015
0001351000	9048-46-8	BOVINE SERUM ALBUMIN	10	gm	7/29/2015
0001280895		Double Bubble Red Package	3.5	gm	7/29/2015
0001280896		Double Bubble Red Package	3.5	gm	7/29/2015
0001312058		MARKING PAINT, RED	17	oz	7/29/2015
0001280956		Double Bubble Red Package	3.5	gm	7/29/2015
0001280957		Double Bubble Red Package	3.5	gm	7/29/2015
0001280958		Double Bubble Red Package	3.5	gm	7/29/2015
0001280959		Double Bubble Red Package	3.5	gm	7/29/2015
0001280960		Double Bubble Red Package	3.5	gm	7/29/2015
0001350936	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001350987	506-87-6	AMMONIUM CARBONATE	500	gm	7/29/2015
0001383163	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/29/2015
0001280938		Double Bubble Red Package	3.5	gm	7/29/2015
0001280986		Double Bubble Red Package	3.5	gm	7/29/2015
0001351009	50-99-7	D-[+]-GLUCOSE	100	gm	7/29/2015
0001351010	113-24-6	SODIUM PYRUVATE (PYRUVIC ACID, SODIUM SALT)	100	gm	7/29/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351011	6106-21-4	SODIUM SUCCINATE, HEXAHYDRATE	500	gm	7/29/2015
0001351012	3522-50-7	FERRIC CITRATE	250	gm	7/29/2015
0001351013	26299-14-9	PYRIDINIUM CHLOROCHROMATE	25	gm	7/29/2015
0001351014	9005-66-7	POLYOXYETHYLENE SORBITAN MONOPALMITATE (TWEEN 40)	100	ml	7/29/2015
0001350938	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001351016	1310-73-2	SODIUM HYDROXIDE	4	gm	7/29/2015
0001312043		SPRAY PAINT BLUE	17	oz	7/29/2015
0001383164	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/29/2015
0001383165	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/29/2015
0001383166	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/29/2015
0001383167	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/29/2015
0001312042		SPRAY PAINT BLUE	17	oz	7/29/2015
0001312041		SPRAY PAINT BLUE	17	oz	7/29/2015
0001280940		Double Bubble Red Package	3.5	gm	7/29/2015
0001280941		Double Bubble Red Package	3.5	gm	7/29/2015
0001280942		Double Bubble Red Package	3.5	gm	7/29/2015
0001351015	106627-54-7	SULFO-NHS	500	mg	7/29/2015
0001280935		Double Bubble Red Package	3.5	gm	7/29/2015
0001350935	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001280967		Double Bubble Red Package	3.5	gm	7/29/2015
0001350934	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001280932		Double Bubble Red Package	3.5	gm	7/29/2015
0001280933		Double Bubble Red Package	3.5	gm	7/29/2015
0001280934		Double Bubble Red Package	3.5	gm	7/29/2015
0001312055		MARKING PAINT, RED	17	oz	7/29/2015
0001312054		MARKING PAINT, RED	17	oz	7/29/2015
0001312053		MARKING PAINT, RED	17	oz	7/29/2015
0001312080		MARKING PAINT, RED	17	oz	7/29/2015
0001312051		SPRAY PAINT BLUE	17	oz	7/29/2015
0001280937		Double Bubble Red Package	3.5	gm	7/29/2015
0001312050		SPRAY PAINT BLUE	17	oz	7/29/2015
0001312049		SPRAY PAINT BLUE	17	oz	7/29/2015
0001312048		SPRAY PAINT BLUE	17	oz	7/29/2015
0001280936		Double Bubble Red Package	3.5	gm	7/29/2015
0001312047		SPRAY PAINT BLUE	17	oz	7/29/2015
0001312046		SPRAY PAINT BLUE	17	oz	7/29/2015
0001312045		SPRAY PAINT BLUE	17	oz	7/29/2015
0001312044		SPRAY PAINT BLUE	17	oz	7/29/2015
0001280943		Double Bubble Red Package	3.5	gm	7/29/2015
0001312052		SPRAY PAINT BLUE	17	oz	7/29/2015
0001280987		Double Bubble Red Package	3.5	gm	7/29/2015
0001351005	142-47-2	L-Glutamic acid monosodium salt hydrate	100	gm	7/29/2015
0001280917		Double Bubble Red Package	3.5	gm	7/29/2015
0001280918		Double Bubble Red Package	3.5	gm	7/29/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001280919		Double Bubble Red Package	3.5	gm	7/29/2015
0001280920		Double Bubble Red Package	3.5	gm	7/29/2015
0001280915		Double Bubble Red Package	3.5	gm	7/29/2015
0001280965		Double Bubble Red Package	3.5	gm	7/29/2015
0001280914		Double Bubble Red Package	3.5	gm	7/29/2015
0001280921		Double Bubble Red Package	3.5	gm	7/29/2015
0001312082		MARKING PAINT, RED	17	oz	7/29/2015
0001350967		ULTIMA GOLD	10	l	7/29/2015
0001351002		Gold nanoparticles	25	ml	7/29/2015
0001351003	10035-04-8	CALCIUM CHLORIDE, DIHYDRATE	500	gm	7/29/2015
0001312063		MARKING PAINT, RED	17	oz	7/29/2015
0001280964		Double Bubble Red Package	3.5	gm	7/29/2015
0001350976		ULTIMA GOLD	10	l	7/29/2015
0001312062		MARKING PAINT, RED	17	oz	7/29/2015
0001312060		MARKING PAINT, RED	17	oz	7/29/2015
0001350998		CONDUCTIVITY CALIBRATION	125	ml	7/29/2015
0001383169	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/29/2015
0001280931		Double Bubble Red Package	3.5	gm	7/29/2015
0001280916		Double Bubble Red Package	3.5	gm	7/29/2015
0001350968		ULTIMA GOLD	10	l	7/29/2015
0001351006	56-89-3	L-CYSTINE	100	gm	7/29/2015
0001350975		ULTIMA GOLD	10	l	7/29/2015
0001350974		ULTIMA GOLD	10	l	7/29/2015
0001350973		ULTIMA GOLD	10	l	7/29/2015
0001350972		ULTIMA GOLD	10	l	7/29/2015
0001350971		ULTIMA GOLD	10	l	7/29/2015
0001280913		Double Bubble Red Package	3.5	gm	7/29/2015
0001350969		ULTIMA GOLD	10	l	7/29/2015
0001350962	51142-49-5	FLOURINERT FC-40	250	ml	7/29/2015
0001351004	1119-34-2	L-(+)-ARGININE MONOHYDROCHLORIDE	10	gm	7/29/2015
0001350956	811-97-2	DUSTER ES1017	10	oz	7/29/2015
0001350957	811-97-2	DUSTER ES1017	10	oz	7/29/2015
0001350958	811-97-2	DUSTER ES1017	10	oz	7/29/2015
0001350959	811-97-2	DUSTER ES1017	10	oz	7/29/2015
0001351159		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001350961	811-97-2	DUSTER ES1017	10	oz	7/29/2015
0001351158		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001350963	2041-14-7	2-AMINOETHYLPHOSPHONIC ACID	1	gm	7/29/2015
0001350993		CONDUCTIVITY CALIBRATION	125	ml	7/29/2015
0001350994		CONDUCTIVITY CALIBRATION	125	ml	7/29/2015
0001350995		CONDUCTIVITY CALIBRATION	125	ml	7/29/2015
0001350996		CONDUCTIVITY CALIBRATION	125	ml	7/29/2015
0001350997		CONDUCTIVITY CALIBRATION	125	ml	7/29/2015
0001350960	811-97-2	DUSTER ES1017	10	oz	7/29/2015
0001351153		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351007	3387-36-8	URIDINE 5-MONOPHOSPHATE, DISODIUM SALT	5	gm	7/29/2015
0001351008	9005-65-6	POLYOXYETHYLENE (20) SORBITAN MONOOLEATE (TWEEN 80)	25	ml	7/29/2015
0001280962		Double Bubble Red Package	3.5	gm	7/29/2015
0001280963		Double Bubble Red Package	3.5	gm	7/29/2015
0001351150		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001351160		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001351152		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001312061		MARKING PAINT, RED	17	oz	7/29/2015
0001351154		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001351155		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001351156		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001350970		ULTIMA GOLD	10	l	7/29/2015
0001350966		ULTIMA GOLD	10	l	7/29/2015
0001351157		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001351151		TITRAVER (EDTA) HARDNESS TITRANT	13	ml	7/29/2015
0001280897		Double Bubble Red Package	3.5	gm	7/29/2015
0001312085		MARKING PAINT, RED	17	oz	7/29/2015
0001312084		MARKING PAINT, RED	17	oz	7/29/2015
0001312083		MARKING PAINT, RED	17	oz	7/29/2015
0001312081		MARKING PAINT, RED	17	oz	7/29/2015
0001312079		MARKING PAINT, RED	17	oz	7/29/2015
0001312078		MARKING PAINT, RED	17	oz	7/29/2015
0001280904		Double Bubble Red Package	3.5	gm	7/29/2015
0001312076		MARKING PAINT, RED	17	oz	7/29/2015
0001350964	2041-14-7	2-AMINOETHYLPHOSPHONIC ACID	1	gm	7/29/2015
0001280898		Double Bubble Red Package	3.5	gm	7/29/2015
0001280899		Double Bubble Red Package	3.5	gm	7/29/2015
0001280900		Double Bubble Red Package	3.5	gm	7/29/2015
0001280901		Double Bubble Red Package	3.5	gm	7/29/2015
0001280902		Double Bubble Red Package	3.5	gm	7/29/2015
0001312059		MARKING PAINT, RED	17	oz	7/29/2015
0001312077		MARKING PAINT, RED	17	oz	7/29/2015
0001350927	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001280988		Double Bubble Red Package	3.5	gm	7/29/2015
0001280989		Double Bubble Red Package	3.5	gm	7/29/2015
0001280990		Double Bubble Red Package	3.5	gm	7/29/2015
0001280991		Double Bubble Red Package	3.5	gm	7/29/2015
0001280992		Double Bubble Red Package	3.5	gm	7/29/2015
0001383171	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/29/2015
0001351020	7664-93-9	SULFURIC ACID	100	ml	7/29/2015
0001280994		Double Bubble Red Package	3.5	gm	7/29/2015
0001351018		Simplified TKN (s-TKN) TNTplus	50	ml	7/29/2015
0001350954		ACETONE - CHROMASOLV PLUS FOR HPLC	1	l	7/29/2015
0001350928	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001350929	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001350930	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001350931	1310-73-2	SODIUM HYDROXIDE BEADS	50	lb	7/29/2015
0001363466		Refrigerant R22	30	lb	7/29/2015
0001280905		Double Bubble Red Package	3.5	gm	7/29/2015
0001280993		Double Bubble Red Package	3.5	gm	7/29/2015
0001351025	7697-37-2	NITRIC ACID	100	ml	7/29/2015
0001312065		MARKING PAINT, RED	17	oz	7/29/2015
0001312066		MARKING PAINT, RED	17	oz	7/29/2015
0001312067		MARKING PAINT, RED	17	oz	7/29/2015
0001312068		MARKING PAINT, RED	17	oz	7/29/2015
0001312069		MARKING PAINT, RED	17	oz	7/29/2015
0001312070		MARKING PAINT, RED	17	oz	7/29/2015
0001312071		MARKING PAINT, RED	17	oz	7/29/2015
0001312072		MARKING PAINT, RED	17	oz	7/29/2015
0001312073		MARKING PAINT, RED	17	oz	7/29/2015
0001351027		770-WASTELOCK-ABSORBANT	25	lb	7/29/2015
0001280903		Double Bubble Red Package	3.5	gm	7/29/2015
0001351026		770-WASTELOCK-ABSORBANT	25	lb	7/29/2015
0001312064		MARKING PAINT, RED	17	oz	7/29/2015
0001351024	7697-37-2	NITRIC ACID	100	ml	7/29/2015
0001280911		Double Bubble Red Package	3.5	gm	7/29/2015
0001351021	1310-73-2	SODIUM HYDROXIDE	100	ml	7/29/2015
0001280906		Double Bubble Red Package	3.5	gm	7/29/2015
0001351019	7664-93-9	SULFURIC ACID	100	ml	7/29/2015
0001351023	7697-37-2	NITRIC ACID	100	ml	7/29/2015
0001383170	1310-73-2	Sodium Hydroxide 25%	3400	lb	7/29/2015
0001312074		MARKING PAINT, RED	17	oz	7/29/2015
0001312075		MARKING PAINT, RED	17	oz	7/29/2015
0001280912		Double Bubble Red Package	3.5	gm	7/29/2015
0001280907		Double Bubble Red Package	3.5	gm	7/29/2015
0001351022	7697-37-2	NITRIC ACID	100	ml	7/29/2015
0001280908		Double Bubble Red Package	3.5	gm	7/29/2015
0001280909		Double Bubble Red Package	3.5	gm	7/29/2015
0001280910		Double Bubble Red Package	3.5	gm	7/29/2015
0001363483	74-98-6	PROPANE	11	gal	7/30/2015
0001395703	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/30/2015
0001391368		SPRAY PAINT RED	12.8	oz	7/30/2015
0001395604	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001351049		Claritas Calibration Standard 1A	125	ml	7/30/2015
0001312086		3M SUPER TRIM ADHESIVE	19	oz	7/30/2015
0001395702	124-38-9	CARBON DIOXIDE, GAS	220	cf	7/30/2015
0001351050		Claritas PPT Grade Mercury Standard for ICP/MS	125	ml	7/30/2015
0001395605	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395606	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351048	67-64-1	ACETONE	4	l	7/30/2015
0001395607	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395704	1333-74-0	HYDROGEN	20	cf	7/30/2015
0001363487	74-86-2	ACETYLENE	130	cf	7/30/2015
0001395663	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001363484	74-86-2	ACETYLENE	130	cf	7/30/2015
0001363491		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001363482	74-98-6	PROPANE	11	gal	7/30/2015
0001363481	74-98-6	PROPANE	11	gal	7/30/2015
0001363480	74-98-6	PROPANE	11	gal	7/30/2015
0001363503		AIR, COMPRESSED	220	cf	7/30/2015
0001363485	74-86-2	ACETYLENE	130	cf	7/30/2015
0001395599	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001363500		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001363501		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001363502		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001363504		AIR, COMPRESSED	220	cf	7/30/2015
0001363505		AIR, COMPRESSED	220	cf	7/30/2015
0001363506		AIR, COMPRESSED	220	cf	7/30/2015
0001363507		AIR, COMPRESSED	220	cf	7/30/2015
0001363508		AIR, COMPRESSED	220	cf	7/30/2015
0001363489		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001363510		75% ARGON/25% CARBON DIOXIDE	220	cf	7/30/2015
0001363497		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001395600	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395601	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395603	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395654	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395655	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395656	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395657	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001351034	112-29-8	1-BROMODECANE	100	gm	7/30/2015
0001363509		AIR, COMPRESSED	220	cf	7/30/2015
0001391364		PSX 700 PART A(RESIN)	.8	gal	7/30/2015
0001395661	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395660	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001351061	67-64-1	ACETONE FOR HPLC	4	l	7/30/2015
0001395659	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395658	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001351044		Low Level Total Residual Chlorine	10	ml	7/30/2015
0001351045		TRACE METALS	10	ml	7/30/2015
0001351046	14898-67-0	RUTHENIUM(III) CHLORIDE HYDRATE	5	gm	7/30/2015
0001363499		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001391363		PSX 700 PART A(RESIN)	.8	gal	7/30/2015
0001363498		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351070	110-54-3	HEXANE	4	l	7/30/2015
0001363488		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001363490		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001363492		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001363493		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001363494		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001363495		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001363496		P-10 (90% ARGON 10% METHANE)	220	cf	7/30/2015
0001395662	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001363470	1333-74-0	HYDROGEN	220	cf	7/30/2015
0001363472	1333-74-0	HYDROGEN	220	cf	7/30/2015
0001351076	110-54-3	HEXANE	4	l	7/30/2015
0001351077	110-54-3	HEXANE	4	l	7/30/2015
0001395701	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001351041	6132-05-4	Sodium citrate dibasic sesquihydrate	250	gm	7/30/2015
0001395602	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395664	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001351042	6132-04-3	Sodium citrate tribasic dihydrate	250	gm	7/30/2015
0001351043	7778-77-0	POTASSIUM PHOSPHATE MONOBASIC	25	gm	7/30/2015
0001351072	110-54-3	HEXANE	4	l	7/30/2015
0001363471	1333-74-0	HYDROGEN	220	cf	7/30/2015
0001351073	110-54-3	HEXANE	4	l	7/30/2015
0001363473	1333-74-0	HYDROGEN	220	cf	7/30/2015
0001363474	1333-74-0	HYDROGEN	220	cf	7/30/2015
0001363475	1333-74-0	HYDROGEN	220	cf	7/30/2015
0001363476	1333-74-0	HYDROGEN	220	cf	7/30/2015
0001363477	1333-74-0	HYDROGEN	220	cf	7/30/2015
0001363478	1333-74-0	HYDROGEN	220	cf	7/30/2015
0001363479	1333-74-0	HYDROGEN	220	cf	7/30/2015
0001351060	67-64-1	ACETONE FOR HPLC	4	l	7/30/2015
0001351047		carbon nanotubes	1	gm	7/30/2015
0001351067	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/30/2015
0001395682	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001351133		hemoglobin A, Ferrous	100	ml	7/30/2015
0001351132		hemoglobin A, Ferrous	100	ml	7/30/2015
0001351131		hemoglobin A, Ferrous	100	ml	7/30/2015
0001351130		hemoglobin A, Ferrous	100	ml	7/30/2015
0001351129		hemoglobin A, Ferrous	100	ml	7/30/2015
0001351128		hemoglobin A, Ferrous	100	ml	7/30/2015
0001351127		hemoglobin A, Ferrous	100	ml	7/30/2015
0001351075	110-54-3	HEXANE	4	l	7/30/2015
0001351068	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/30/2015
0001351074	110-54-3	HEXANE	4	l	7/30/2015
0001351066	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/30/2015
0001395645	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395628		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001351065	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/30/2015
0001351063	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/30/2015
0001148966		Immunol Regular	4	l	7/30/2015
0001351062	67-64-1	ACETONE FOR HPLC	4	l	7/30/2015
0001395700	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395626	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001351069	111-78-4	1,5-CYCLOOCTADIENE	100	ml	7/30/2015
0001395640		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001351059	67-64-1	ACETONE FOR HPLC	4	l	7/30/2015
0001351064	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	7/30/2015
0001351135		hemoglobin A, Ferrous	100	ml	7/30/2015
0001395668	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395667	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395666	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395665	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395644	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001351036	25322-68-3	POLYETHYLENE GLYCOL 200	250	gm	7/30/2015
0001395642		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001351035	25322-68-3	POLYETHYLENE GLYCOL 400	250	gm	7/30/2015
0001395639		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001395638		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001395678	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395679	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395680	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395637		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001395636		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001391370		SPRAY PAINT RED	12.8	oz	7/30/2015
0001395681	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395643		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001395685	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395699	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395627	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395629		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001395630		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001395632		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001395633		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001395634		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001395635		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001395669	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001391362		PSX 700 PART A(RESIN)	.8	gal	7/30/2015
0001395625	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395684	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395683	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001351028	5949-29-1	CITIC ACID MONOHYDRATE	100	gm	7/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351029	6674-22-2	1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE, 97%	25	gm	7/30/2015
0001395686	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001351030	20734-58-1	PROTON SPONGE	10	gm	7/30/2015
0001351031	112-52-7	1-Chlorododecane	250	ml	7/30/2015
0001351032	1002-69-3	1-CHLORODECANE	100	gm	7/30/2015
0001351033	143-15-7	1-Bromododecane	100	gm	7/30/2015
0001148965	6654-64-4	Naphthalene-1,3,5-trisulfonic acid	125	ml	7/30/2015
0001395697	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395672	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395619	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395618	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395616	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395615	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395614	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395613	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395621	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395696	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395622	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395698	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395676	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395675	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395674	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395653	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395652	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001351134		hemoglobin A, Ferrous	100	ml	7/30/2015
0001395650	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395612	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001351055	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/30/2015
0001391371		SPRAY PAINT RED	12.8	oz	7/30/2015
0001391372		SPRAY PAINT RED	12.8	oz	7/30/2015
0001395687	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395688	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395689	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395690	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395691	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395620	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001351052	7782-42-5	Single Layer Graphene Oxide	175	ml	7/30/2015
0001395673	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001351056	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/30/2015
0001351057	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/30/2015
0001351058	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	7/30/2015
0001395692	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395693	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395694	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395695	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395623	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001351051		Claritas Instrument Check Standard 3	125	ml	7/30/2015
0001395647	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001383174	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/30/2015
0001383173	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	7/30/2015
0001383176	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/30/2015
0001391373		SPRAY PAINT RED	12.8	oz	7/30/2015
0001395651	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001383172	7705-08-0	FERRIC CHLORIDE	3400	lb	7/30/2015
0001395671	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001383178	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/30/2015
0001383179	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/30/2015
0001395608	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395609	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395649	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001383175	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/30/2015
0001351137		ELECTRODAG 5810A CONDUCTIVE ADHESIVE	4.4	gm	7/30/2015
0001383177	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	7/30/2015
0001395646	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001350981	60-29-7	DIETHYL ETHER ANHYDROUS	1	l	7/30/2015
0001350982	60-29-7	DIETHYL ETHER ANHYDROUS	1	l	7/30/2015
0001351136		hemoglobin A, Ferrous	100	ml	7/30/2015
0001351071	110-54-3	HEXANE	4	l	7/30/2015
0001351037	25322-68-3	POLYETHYLENE GLYCOL 600	250	gm	7/30/2015
0001395617	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395610	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001395611	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001351038	25322-68-3	POLYETHYLENE GLYCOL 1000	250	gm	7/30/2015
0001351039	112-35-6	TRIETHYLENE GLYCOL MONOMETHYL ETHER	500	ml	7/30/2015
0001351040	18996-35-5	CITRIC ACID, MONOSODIUM SALT, ANHYDROUS 99%	250	gm	7/30/2015
0001395670	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395648	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395631		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001395641		94% Argon and 6% Hydrogen	220	cf	7/30/2015
0001363486	74-86-2	ACETYLENE	130	cf	7/30/2015
0001395677	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	7/30/2015
0001395624	7440-37-1	ARGON, COMPRESSED	220	cf	7/30/2015
0001328623		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001317107		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	7/31/2015
0001328617		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328618		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328616		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328619		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328620		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001328627		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328622		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328612		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328615		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328614		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328624		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328625		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328626		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328613		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328621		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001391378		Easysand 45	18	lb	7/31/2015
0001328630		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001328629		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001391365		PSX 700 CURE	.2	gal	7/31/2015
0001391339		JOINT COMPOUND READY-TO-USE	62	lb	7/31/2015
0001391341		JOINT COMPOUND READY-TO-USE	62	lb	7/31/2015
0001391385		NON-SHRINK GROUT	50	lb	7/31/2015
0001391386		NON-SHRINK GROUT	50	lb	7/31/2015
0001391360		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/31/2015
0001391375		Easysand 45	18	lb	7/31/2015
0001328631		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001391377		Easysand 45	18	lb	7/31/2015
0001328628		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001391379		Easysand 45	18	lb	7/31/2015
0001391380		Easysand 45	18	lb	7/31/2015
0001391381		Easysand 45	18	lb	7/31/2015
0001391359		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/31/2015
0001391361		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/31/2015
0001328647		NOKORODE AQUA FLUX	1.7	oz	7/31/2015
0001328569		TRADELINE 1070408 HEAT CONDUCTIVE COMPOUND	4	oz	7/31/2015
0001328570		TRADELINE 1070408 HEAT CONDUCTIVE COMPOUND	4	oz	7/31/2015
0001391338		JOINT COMPOUND READY-TO-USE	62	lb	7/31/2015
0001391376		Easysand 45	18	lb	7/31/2015
0001391383		NON-SHRINK GROUT	50	lb	7/31/2015
0001391358		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/31/2015
0001391366		PSX 700 CURE	.2	gal	7/31/2015
0001391367		PSX 700 CURE	.2	gal	7/31/2015
0001391357		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/31/2015
0001391356		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/31/2015
0001391340		JOINT COMPOUND READY-TO-USE	62	lb	7/31/2015
0001391382		NON-SHRINK GROUT	50	lb	7/31/2015
0001328632		STAY-SILV WHITE BRAZING FLUX	6.5	oz	7/31/2015
0001391354		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/31/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391337		JOINT COMPOUND READY-TO-USE	62	lb	7/31/2015
0001391329		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	7/31/2015
0001391330		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	7/31/2015
0001391331		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	7/31/2015
0001391333		EASYSAND 20	18	lb	7/31/2015
0001391334		EASYSAND 20	18	lb	7/31/2015
0001391335		EASYSAND 20	18	lb	7/31/2015
0001391328		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	7/31/2015
0001391355		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	7/31/2015
0001391384		NON-SHRINK GROUT	50	lb	7/31/2015
0001391336		EASYSAND 20	18	lb	7/31/2015
0001317119		LAMP BLACK PAINT COLORANT	1	gal	7/31/2015
0001328548		kwik seal	5.5	oz	8/3/2015
0001383182	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/3/2015
0001383181	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/3/2015
0001328566		PSX 700 pearl gray resin	1	gal	8/3/2015
0001328542		High Temp Red RTV Silicone	7.25	oz	8/3/2015
0001328568		PSX 700 pearl gray resin	1	gal	8/3/2015
0001328547	Multi	The Right Stuff	7	oz	8/3/2015
0001383183	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/3/2015
0001328567		PSX 700 pearl gray resin	1	gal	8/3/2015
0001328668		PSX 700 pearl gray resin	1	gal	8/3/2015
0001351053	7647-01-0	HYDROGEN CHLORIDE	100	ml	8/3/2015
0001328663		PSX 700 pearl gray resin	1	gal	8/3/2015
0001328558		PSX 700 pearl gray resin	1	gal	8/3/2015
0001328559		AMERLOCK SEALER CLEAR RESIN PART A	1	gal	8/3/2015
0001351085	7447-40-7	POTASSIUM CHLORIDE	100	ml	8/3/2015
0001328560		AMERLOCK SEALER CURE EPOXY	1	gal	8/3/2015
0001328543		High Temp Red RTV Silicone	7.25	oz	8/3/2015
0001328665		PSX 700 pearl gray resin	1	gal	8/3/2015
0001328561		PSX 700 CURE	1	qt	8/3/2015
0001328667		PSX 700 pearl gray resin	1	gal	8/3/2015
0001383184	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/3/2015
0001328669		PSX 700 pearl gray resin	1	gal	8/3/2015
0001328572		PSX 700 CURE	1	qt	8/3/2015
0001328573		PSX 700 CURE	1	qt	8/3/2015
0001328562		PSX 700 CURE	1	qt	8/3/2015
0001328563		PSX 700 CURE	1	qt	8/3/2015
0001328564		PSX 700 CURE	1	qt	8/3/2015
0001328565		PSX 700 pearl gray resin	1	gal	8/3/2015
0001383185	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/3/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001328666		PSX 700 pearl gray resin	1	gal	8/3/2015
0001351143	7778-74-7	POTASSIUM PERCHLORATE	2	lb	8/3/2015
0001328590		PSX 700 pearl gray resin	1	gal	8/3/2015
0001383180	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/3/2015
0001351083		SOLUTION-E6100 / 9000 DUAL DET	1	l	8/3/2015
0001351084	7447-40-7	POTASSIUM CHLORIDE	500	gm	8/3/2015
0001351138		STYCAST 2850FT BLACK	1.36	kg	8/3/2015
0001351139		STYCAST 2850FT BLACK	1.36	kg	8/3/2015
0001351140		CATALYST 9	4	oz	8/3/2015
0001351082	1344-28-1	ALUMINUM OXIDE	1	kg	8/3/2015
0001351142	7778-74-7	POTASSIUM PERCHLORATE	2	lb	8/3/2015
0001351081	1344-28-1	ALUMINUM OXIDE	1	kg	8/3/2015
0001351144	7778-74-7	POTASSIUM PERCHLORATE	2	lb	8/3/2015
0001328664		PSX 700 pearl gray resin	1	gal	8/3/2015
0001328549		kwik seal	5.5	oz	8/3/2015
0001328550		kwik seal	5.5	oz	8/3/2015
0001328551		kwik seal	5.5	oz	8/3/2015
0001328552		kwik seal	5.5	oz	8/3/2015
0001328553		kwik seal	5.5	oz	8/3/2015
0001351145	7778-74-7	POTASSIUM PERCHLORATE	2	lb	8/3/2015
0001351141	7778-74-7	POTASSIUM PERCHLORATE	2	lb	8/3/2015
0001328579		PSX 700 CURE	1	qt	8/3/2015
0001328545		High Temp Red RTV Silicone	7.25	oz	8/3/2015
0001328546		High Temp Red RTV Silicone	7.25	oz	8/3/2015
0001328574		PSX 700 CURE	1	qt	8/3/2015
0001328575		PSX 700 CURE	1	qt	8/3/2015
0001328576		PSX 700 CURE	1	qt	8/3/2015
0001328577		PSX 700 CURE	1	qt	8/3/2015
0001328571		PSX 700 CURE	1	qt	8/3/2015
0001351078	109-97-7	PYRROLE	25	ml	8/3/2015
0001328578		PSX 700 CURE	1	qt	8/3/2015
0001328544		High Temp Red RTV Silicone	7.25	oz	8/3/2015
0001328580		PSX 700 CURE	1	qt	8/3/2015
0001328581		PSX 700 CURE	1	qt	8/3/2015
0001328582		PSX 700 CURE	1	qt	8/3/2015
0001351054	7758-02-3	POTASSIUM BROMIDE	50	gm	8/3/2015
0001328583		PSX 700 CURE	1	qt	8/3/2015
0001328584		PSX 700 CURE	1	qt	8/3/2015
0001351079	7647-14-5	SOLDIUM CHLORIDE	25	gm	8/3/2015
0001351080	14898-67-0	RUTHENIUM(III)CHLORIDE HYDRATE	5	gm	8/3/2015
0001351086	590-29-4	5M Potassium formate	100	ml	8/3/2015
0001351103	25322-68-3	POLY(ETHYLENE GLYCOL)	1	kg	8/4/2015
0001383189	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/4/2015
0001351105	112-80-1	OLEIC ACID TECHNICAL GRADE 90%	1000	ml	8/4/2015
0001351181		ULTRAcheck Minerals Sample	500	ml	8/4/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001146243		LOCTITE RC/680	1.69	oz	8/4/2015
0001146242		LOCTITE RC/680	1.69	oz	8/4/2015
0001146241		LOCTITE RC/680	1.69	oz	8/4/2015
0001146240		LOCTITE RC/680	1.69	oz	8/4/2015
0001351126	2344-80-1	CHLOROMETHYLTRIMETHYLSILANE	100	gm	8/4/2015
0001351125	617-86-7	TRIETHYLSILANE	100	ml	8/4/2015
0001351124	1109-15-5	TRIS(PENTAFLUOROPHENYL)BORANE	1	gm	8/4/2015
0001351122	1314-61-0	TANTALUM(V) OXIDE	50	gm	8/4/2015
0001146232	68037-01-4	MECHANICAL PUMP OIL - 45	1	l	8/4/2015
0001146244		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001383190	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/4/2015
0001351106	112-80-1	OLEIC ACID TECHNICAL GRADE 90%	1000	ml	8/4/2015
0001351167		Diamond compound syringe	18	gm	8/4/2015
0001351165	8002-74-2	PARAFFIN WAX	6	lb	8/4/2015
0001351164	8002-74-2	PARAFFIN WAX	6	lb	8/4/2015
0001351163	8002-74-2	PARAFFIN WAX	6	lb	8/4/2015
0001351162	8002-74-2	PARAFFIN WAX	6	lb	8/4/2015
0001351161	8002-74-2	PARAFFIN WAX	6	lb	8/4/2015
0001383187	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/4/2015
0001351102	7697-37-2	NITRIC ACID	2.5	l	8/4/2015
0001351101	7697-37-2	NITRIC ACID	2.5	l	8/4/2015
0001351100	7697-37-2	NITRIC ACID	2.5	l	8/4/2015
0001351094	155090-83-8	POLY(3,4-ETHYLENEDIOXYTHIOPHENE)-POLY(STYRENESULFONATE), 2.2-2.6% IN H2O	100	gm	8/4/2015
0001146233		SNOOP	8	oz	8/4/2015
0001146253		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001351146	6381-92-6	TITRAVER HARDNESS REAGENT	100	ml	8/4/2015
0001351108	20662-14-0	SCANDIUM CHLORIDE HEXAHYDRATE	5	gm	8/4/2015
0001383188	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/4/2015
0001351104	25322-68-3	POLY(ETHYLENE GLYCOL)	1	kg	8/4/2015
0001351183		ULTRACHECK SOLIDS SAMPLE	500	ml	8/4/2015
0001351195		COPPER STANDARD	125	ml	8/4/2015
0001351194		CHROMIUM STANDARD	125	ml	8/4/2015
0001351193		BARIUM STANDARD	125	ml	8/4/2015
0001351188	7786-30-3	MAGNESIUM CHLORIDE	1	kg	8/4/2015
0001146259		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001351185	13494-80-9	TELLURIUM POWDER	25	gm	8/4/2015
0001351182		ULTRAcheck Minerals Sample	500	ml	8/4/2015
0001146254		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001351166	1513-65-1	2,6-Difluoropyridine	25	gm	8/4/2015
0001146252		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001146251		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001146250		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001146249		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001146248		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001146247		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001146246		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001146245		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001146239		LOCTITE RC/680	1.69	oz	8/4/2015
0001146231	68037-01-4	MECHANICAL PUMP OIL - 45	1	l	8/4/2015
0001351107	112-80-1	OLEIC ACID TECHNICAL GRADE 90%	1000	ml	8/4/2015
0001146255		RTV SILICONE RUBBER SEALANT	300	ml	8/4/2015
0001351172		Diamond compound syringe	18	gm	8/4/2015
0001351116	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001351117	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001351179	12124-97-9	AMMONIUM BROMIDE	25	gm	8/4/2015
0001351099	7697-37-2	NITRIC ACID	2.5	l	8/4/2015
0001351098	7697-37-2	NITRIC ACID	2.5	l	8/4/2015
0001351097	7697-37-2	NITRIC ACID	2.5	l	8/4/2015
0001351096	7697-37-2	NITRIC ACID	2.5	l	8/4/2015
0001351095	7697-37-2	NITRIC ACID	2.5	l	8/4/2015
0001351093		EX-CELL Hybridoma Medium	1	l	8/4/2015
0001351092		EX-CELL Hybridoma Medium	1	l	8/4/2015
0001351091	7758-99-8	COPPER(II) SULFATE PENTAHYDRATE	500	gm	8/4/2015
0001351090	461-58-5	DICYANDIAMIDE	1	kg	8/4/2015
0001351089	4712-51-0	Bis(trimethylsilylmethyl) sulfide	5	ml	8/4/2015
0001351115	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001351178		Diamond compound syringe	18	gm	8/4/2015
0001351123	576-83-0	2-BROMOMESITYLENE	100	ml	8/4/2015
0001351121	7697-37-2	NITRIC ACID	100	ml	8/4/2015
0001351120	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001351119	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001351118	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001351168		Diamond compound syringe	18	gm	8/4/2015
0001351180	7697-37-2	NITRIC ACID	500	ml	8/4/2015
0001351170		Diamond compound syringe	18	gm	8/4/2015
0001351177		Diamond compound syringe	18	gm	8/4/2015
0001351176		Diamond compound syringe	18	gm	8/4/2015
0001351175		Diamond compound syringe	18	gm	8/4/2015
0001351174		Diamond compound syringe	18	gm	8/4/2015
0001351173		Diamond compound syringe	18	gm	8/4/2015
0001351169		Diamond compound syringe	18	gm	8/4/2015
0001146237		SNOOP	8	oz	8/4/2015
0001383192	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/4/2015
0001351189	7786-30-3	MAGNESIUM CHLORIDE	1	kg	8/4/2015
0001351184		ULTRACHECK SOLIDS SAMPLE	500	ml	8/4/2015
0001383186	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/4/2015
0001351186	13494-80-9	TELLURIUM POWDER	25	gm	8/4/2015
0001351196		ZINC STANDARD	125	ml	8/4/2015
0001383196	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/4/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351192	7782-42-5	GRAPHITE	10	gm	8/4/2015
0001383191	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/4/2015
0001146234		SNOOP	8	oz	8/4/2015
0001383193	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/4/2015
0001383194	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/4/2015
0001383195	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/4/2015
0001146235		SNOOP	8	oz	8/4/2015
0001146236		SNOOP	8	oz	8/4/2015
0001351114	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001351171		Diamond compound syringe	18	gm	8/4/2015
0001351198		TUNGSTEN STANDARD	125	ml	8/4/2015
0001146256		LOCTITE 271 ADHESIVE/SEALANT	50	ml	8/4/2015
0001351191	7646-69-7	SODIUM HYDRIDE	100	gm	8/4/2015
0001351113	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001351197		GALLIUM STANDARD	125	ml	8/4/2015
0001351187	7791-25-5	SULFURYL CHLORIDE	250	gm	8/4/2015
0001146258		LOCTITE RC/680	1.69	oz	8/4/2015
0001351111	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001351110	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001351109	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001351112	60177-39-1	RESIN AG 1-X4	500	gm	8/4/2015
0001146238		SNOOP	8	oz	8/4/2015
0001351190	13446-18-9	MAGNESIUM NITRATE, HEXAHYDRATE	2.5	kg	8/4/2015
0001391469		SODA ASH	50	lb	8/5/2015
0001391463		SODA ASH	50	lb	8/5/2015
0001391464		SODA ASH	50	lb	8/5/2015
0001391462		SODA ASH	50	lb	8/5/2015
0001391465		SODA ASH	50	lb	8/5/2015
0001391466		SODA ASH	50	lb	8/5/2015
0001391468		SODA ASH	50	lb	8/5/2015
0001351217	68-12-2	N,N-DIMETHYLFORMAMIDE	1	l	8/5/2015
0001391470		SODA ASH	50	lb	8/5/2015
0001391471		SODA ASH	50	lb	8/5/2015
0001391467		SODA ASH	50	lb	8/5/2015
0001391461		SODA ASH	50	lb	8/5/2015
0001391460		SODA ASH	50	lb	8/5/2015
0001391458		SODA ASH	50	lb	8/5/2015
0001351218	1314-35-8	TUNGSTEN(VI) OXIDE	100	gm	8/5/2015
0001351216	68-12-2	N,N-DIMETHYLFORMAMIDE	1	l	8/5/2015
0001351215		CONDUCTIVE FILLER	2	lb	8/5/2015
0001351214		CONDUCTIVE FILLER	2	lb	8/5/2015
0001351213	75-05-8	ACETONITRILE	1	l	8/5/2015
0001391499		SODA ASH	50	lb	8/5/2015
0001391487		SODA ASH	50	lb	8/5/2015
0001363757	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391457		SODA ASH	50	lb	8/5/2015
0001351306	64-17-5	ALCOHOL (ANHYDROUS)	1	l	8/5/2015
0001351295	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351296	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351297	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351298	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351299	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351300	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351301	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351302	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001390931		SODA ASH	50	lb	8/5/2015
0001351219	12138-09-9	TUNGSTEN SULFIDE	50	gm	8/5/2015
0001351303	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001391485		SODA ASH	50	lb	8/5/2015
0001351305	64-17-5	ALCOHOL (ANHYDROUS)	1	l	8/5/2015
0001391473		SODA ASH	50	lb	8/5/2015
0001391488		SODA ASH	50	lb	8/5/2015
0001391486		SODA ASH	50	lb	8/5/2015
0001391484		SODA ASH	50	lb	8/5/2015
0001391483		SODA ASH	50	lb	8/5/2015
0001391482		SODA ASH	50	lb	8/5/2015
0001391481		SODA ASH	50	lb	8/5/2015
0001391479		SODA ASH	50	lb	8/5/2015
0001391478		SODA ASH	50	lb	8/5/2015
0001391477		SODA ASH	50	lb	8/5/2015
0001391476		SODA ASH	50	lb	8/5/2015
0001383199	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/5/2015
0001351304	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001390952		SODA ASH	50	lb	8/5/2015
0001391454		SODA ASH	50	lb	8/5/2015
0001391453		SODA ASH	50	lb	8/5/2015
0001391452		SODA ASH	50	lb	8/5/2015
0001391451		SODA ASH	50	lb	8/5/2015
0001391450		SODA ASH	50	lb	8/5/2015
0001391449		SODA ASH	50	lb	8/5/2015
0001390945		SODA ASH	50	lb	8/5/2015
0001390953		SODA ASH	50	lb	8/5/2015
0001351203		SPARKLEEN	3.25	lb	8/5/2015
0001390951		SODA ASH	50	lb	8/5/2015
0001390950		SODA ASH	50	lb	8/5/2015
0001390949		SODA ASH	50	lb	8/5/2015
0001390948		SODA ASH	50	lb	8/5/2015
0001390947		SODA ASH	50	lb	8/5/2015
0001390929		SODA ASH	50	lb	8/5/2015
0001391447		SODA ASH	50	lb	8/5/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363739	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/5/2015
0001351088		N,N'-diisopropylphosphorodiamidic fluoride	2	gm	8/5/2015
0001351087		N,N'-diisopropylphosphorodiamidic fluoride	3	gm	8/5/2015
0001351199		SPARKLEEN	3.25	lb	8/5/2015
0001351200		SPARKLEEN	3.25	lb	8/5/2015
0001351201		SPARKLEEN	3.25	lb	8/5/2015
0001363756	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001391456		SODA ASH	50	lb	8/5/2015
0001363754	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001351204		SPARKLEEN	3.25	lb	8/5/2015
0001391455		SODA ASH	50	lb	8/5/2015
0001391459		SODA ASH	50	lb	8/5/2015
0001391474		SODA ASH	50	lb	8/5/2015
0001391480		SODA ASH	50	lb	8/5/2015
0001391491		SODA ASH	50	lb	8/5/2015
0001351202		SPARKLEEN	3.25	lb	8/5/2015
0001390944		SODA ASH	50	lb	8/5/2015
0001363755	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001351208	75-05-8	ACETONITRILE	1	l	8/5/2015
0001390925		SODA ASH	50	lb	8/5/2015
0001390924		SODA ASH	50	lb	8/5/2015
0001390923		SODA ASH	50	lb	8/5/2015
0001390922		SODA ASH	50	lb	8/5/2015
0001390921		SODA ASH	50	lb	8/5/2015
0001351205		ALUMINA SLURRY	6	oz	8/5/2015
0001390946		SODA ASH	50	lb	8/5/2015
0001351207	7440-22-4	FAST DRYING SILVER PAINT	5	oz	8/5/2015
0001390928		SODA ASH	50	lb	8/5/2015
0001351209	75-05-8	ACETONITRILE	1	l	8/5/2015
0001351210	75-05-8	ACETONITRILE	1	l	8/5/2015
0001351278	67-63-0	2-PROPANOL	4	l	8/5/2015
0001351277	67-63-0	2-PROPANOL	4	l	8/5/2015
0001351276	67-63-0	2-PROPANOL	4	l	8/5/2015
0001351275	67-63-0	2-PROPANOL	4	l	8/5/2015
0001351206	10450-60-9	PERIODIC ACID (HYDRATED)	100	gm	8/5/2015
0001390935		SODA ASH	50	lb	8/5/2015
0001390943		SODA ASH	50	lb	8/5/2015
0001390942		SODA ASH	50	lb	8/5/2015
0001390941		SODA ASH	50	lb	8/5/2015
0001390940		SODA ASH	50	lb	8/5/2015
0001390939		SODA ASH	50	lb	8/5/2015
0001390938		SODA ASH	50	lb	8/5/2015
0001390926		SODA ASH	50	lb	8/5/2015
0001390936		SODA ASH	50	lb	8/5/2015
0001390927		SODA ASH	50	lb	8/5/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001390934		SODA ASH	50	lb	8/5/2015
0001390933		SODA ASH	50	lb	8/5/2015
0001390932		SODA ASH	50	lb	8/5/2015
0001391475		SODA ASH	50	lb	8/5/2015
0001390930		SODA ASH	50	lb	8/5/2015
0001363758	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001351223		High Temperature Silicone Based Bath Oil	.5	gal	8/5/2015
0001390937		SODA ASH	50	lb	8/5/2015
0001390906		SODA ASH	50	lb	8/5/2015
0001351212	75-05-8	ACETONITRILE	1	l	8/5/2015
0001390913		SODA ASH	50	lb	8/5/2015
0001391472		SODA ASH	50	lb	8/5/2015
0001390911		SODA ASH	50	lb	8/5/2015
0001390910		SODA ASH	50	lb	8/5/2015
0001390909		SODA ASH	50	lb	8/5/2015
0001390915		SODA ASH	50	lb	8/5/2015
0001390907		SODA ASH	50	lb	8/5/2015
0001390916		SODA ASH	50	lb	8/5/2015
0001390905		SODA ASH	50	lb	8/5/2015
0001390904		SODA ASH	50	lb	8/5/2015
0001390903		SODA ASH	50	lb	8/5/2015
0001390902		SODA ASH	50	lb	8/5/2015
0001390901		SODA ASH	50	lb	8/5/2015
0001390900		SODA ASH	50	lb	8/5/2015
0001390908		SODA ASH	50	lb	8/5/2015
0001391492		SODA ASH	50	lb	8/5/2015
0001351211	75-05-8	ACETONITRILE	1	l	8/5/2015
0001391500		SODA ASH	50	lb	8/5/2015
0001391498		SODA ASH	50	lb	8/5/2015
0001391497		SODA ASH	50	lb	8/5/2015
0001391496		SODA ASH	50	lb	8/5/2015
0001391495		SODA ASH	50	lb	8/5/2015
0001363759	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001391493		SODA ASH	50	lb	8/5/2015
0001351308	75-05-8	ACETONITRILE	1	l	8/5/2015
0001391490		SODA ASH	50	lb	8/5/2015
0001391489		SODA ASH	50	lb	8/5/2015
0001390920		SODA ASH	50	lb	8/5/2015
0001390919		SODA ASH	50	lb	8/5/2015
0001390918		SODA ASH	50	lb	8/5/2015
0001390917		SODA ASH	50	lb	8/5/2015
0001391494		SODA ASH	50	lb	8/5/2015
0001351288	7722-84-1	HYDROGEN PEROXIDE	500	ml	8/5/2015
0001351280	107-21-1	ETHYLENE GLYCOL	4	l	8/5/2015
0001351281	107-21-1	ETHYLENE GLYCOL	4	l	8/5/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351282	107-21-1	ETHYLENE GLYCOL	4	l	8/5/2015
0001351283	107-21-1	ETHYLENE GLYCOL	4	l	8/5/2015
0001351284	107-21-1	ETHYLENE GLYCOL	4	l	8/5/2015
0001351285	107-21-1	ETHYLENE GLYCOL	4	l	8/5/2015
0001351307	75-05-8	ACETONITRILE	1	l	8/5/2015
0001351287	107-21-1	ETHYLENE GLYCOL	4	l	8/5/2015
0001351273	7664-93-9	SULFURIC ACID	2.5	l	8/5/2015
0001351289	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351290	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351291	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351292	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351293	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351294	64742-65-0	FisherBrand 19 Mechanical Pump Oil.	4	l	8/5/2015
0001351286	107-21-1	ETHYLENE GLYCOL	4	l	8/5/2015
0001351221	74-96-4	BROMOETHANE	100	gm	8/5/2015
0001390914		SODA ASH	50	lb	8/5/2015
0001351309	75-05-8	ACETONITRILE	1	l	8/5/2015
0001351310	75-05-8	ACETONITRILE	1	l	8/5/2015
0001351311	621-62-5	CHLOROACETALDEHYDE DIETHYL ACETAL	100	gm	8/5/2015
0001351312	112-90-3	OLEYLAMINE	500	gm	8/5/2015
0001383197	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/5/2015
0001351279	60-29-7	ETHYL ETHER	4	l	8/5/2015
0001351220	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/5/2015
0001351274	7664-93-9	SULFURIC ACID	2.5	l	8/5/2015
0001351222	64742-65-0	PUMP OIL	1	gal	8/5/2015
0001351224		High Temperature Silicone Based Bath Oil	.5	gal	8/5/2015
0001351225		High Temperature Silicone Based Bath Oil	.5	gal	8/5/2015
0001351226		High Temperature Silicone Based Bath Oil	.5	gal	8/5/2015
0001351271	7664-93-9	SULFURIC ACID	2.5	l	8/5/2015
0001351272	7664-93-9	SULFURIC ACID	2.5	l	8/5/2015
0001363760	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001383198	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/5/2015
0001363765	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001363768	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001363766	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001363764	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001363763	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001390912		SODA ASH	50	lb	8/5/2015
0001363762	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001363761	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001363767	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/5/2015
0001391448		SODA ASH	50	lb	8/5/2015
0001351235		FloMag H	5	gal	8/6/2015
0001351250		FloMag H	5	gal	8/6/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351249		FloMag H	5	gal	8/6/2015
0001351248		FloMag H	5	gal	8/6/2015
0001351247		FloMag H	5	gal	8/6/2015
0001351246		FloMag H	5	gal	8/6/2015
0001351245		FloMag H	5	gal	8/6/2015
0001351244		FloMag H	5	gal	8/6/2015
0001351243		FloMag H	5	gal	8/6/2015
0001351242		FloMag H	5	gal	8/6/2015
0001351241		FloMag H	5	gal	8/6/2015
0001351240		FloMag H	5	gal	8/6/2015
0001351239		FloMag H	5	gal	8/6/2015
0001351238		FloMag H	5	gal	8/6/2015
0001351227	108-88-3	TOLUENE	4	l	8/6/2015
0001363777	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	8/6/2015
0001363778	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	8/6/2015
0001395705	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/6/2015
0001395706	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/6/2015
0001395729	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001351237		FloMag H	5	gal	8/6/2015
0001395709	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001351236		FloMag H	5	gal	8/6/2015
0001351228	108-88-3	TOLUENE	4	l	8/6/2015
0001351230		DOW CORNING 3140RTV COATING	90	ml	8/6/2015
0001351231		DOW CORNING 3140RTV COATING	90	ml	8/6/2015
0001351232		DOW CORNING 3140RTV COATING	90	ml	8/6/2015
0001351233		DOW CORNING 3140RTV COATING	90	ml	8/6/2015
0001391442		EASY SAND 20	18	lb	8/6/2015
0001395707	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/6/2015
0001395711	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001351251		FloMag H	5	gal	8/6/2015
0001363753	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001363774		AIR, COMPRESSED	220	cf	8/6/2015
0001363772	811-97-2	AIR	220	cf	8/6/2015
0001363775		2% OXYGEN/BAL. ARGON	220	cf	8/6/2015
0001363751	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395710	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001363750	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395712	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395803	74-86-2	ACETYLENE	40	cf	8/6/2015
0001312088		PYROIL CARB AND CHOKE CLEANER	13	oz	8/6/2015
0001351345		Fluid Coolant	1	l	8/6/2015
0001351348		Fluid Coolant	1	l	8/6/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351347		Fluid Coolant	1	l	8/6/2015
0001363776		2% OXYGEN/BAL. ARGON	220	cf	8/6/2015
0001363743	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001351346		Fluid Coolant	1	l	8/6/2015
0001363741	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001383205	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/6/2015
0001395730	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001312091		CHAIN AND CABLE FLUID	11	oz	8/6/2015
0001363752	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001351269		SYLGARD 184	1.1	lb	8/6/2015
0001351252		FloMag H	5	gal	8/6/2015
0001363744	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001363745	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001363746	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395728	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001363748	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395741	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001351268		SYLGARD 184	1.1	lb	8/6/2015
0001391423		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001312093		DRY FILM MOLY LUBRICANT LU 200	11	oz	8/6/2015
0001312094		DRY FILM MOLY LUBRICANT LU 200	11	oz	8/6/2015
0001351324	2094-98-6	1,1'-AZOBIS(CYCLOHEXANECARBONITRILE)	25	gm	8/6/2015
0001391435		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001391434		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001391433		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001391432		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001391431		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001391430		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001391429		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001391428		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001391427		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001391426		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001312089		CHAIN AND CABLE FLUID	11	oz	8/6/2015
0001391441		EASY SAND 20	18	lb	8/6/2015
0001383213	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/6/2015
0001383212	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/6/2015
0001383211	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/6/2015
0001383210	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/6/2015
0001383209	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/6/2015
0001391425		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001383207		SODIUM HYPOCHLORITE 12.5%	330	gal	8/6/2015
0001391424		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001351234	7631-90-5	SODIUM BISULFITE, POWDER	100	gm	8/6/2015
0001351229	10025-78-2	TRICHLOROSILANE	100	gm	8/6/2015
0001391420		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391421		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001391422		EZ-PRO TEXTURE IN A BAG	20	oz	8/6/2015
0001395750	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001383208	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/6/2015
0001312095		TRIM ADHESIVE	19	oz	8/6/2015
0001395747	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395767		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001395768		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001395769		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001312098		ANTIFREEZE/COOLANT	1	gal	8/6/2015
0001395765		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001312096		ANTIFREEZE/COOLANT	1	gal	8/6/2015
0001395764		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001312092		DRY FILM MOLY LUBRICANT LU 200	11	oz	8/6/2015
0001312087		PYROIL CARB AND CHOKE CLEANER	13	oz	8/6/2015
0001363749	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001312090		CHAIN AND CABLE FLUID	11	oz	8/6/2015
0001363740	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001383206	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/6/2015
0001312097		ANTIFREEZE/COOLANT	1	gal	8/6/2015
0001395757	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395761		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001395751	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395752	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395753	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395754	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395766		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001395756	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395748	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395758	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001351330	4419-11-8	2,2'-Azobis(2,4-dimethylvaleronitrile)	5	gm	8/6/2015
0001395760		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001395762		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001395763		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001351266	501-65-5	DIPHENYLACETYLENE	25	gm	8/6/2015
0001395755	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001351331		n-Butyllithium, 1.6M solution in hexanes	100	ml	8/6/2015
0001395722	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395791	7440-59-7	HELIUM	220	cf	8/6/2015
0001395792	7440-59-7	HELIUM	220	cf	8/6/2015
0001395793	7440-59-7	HELIUM	220	cf	8/6/2015
0001395794	7440-59-7	HELIUM	220	cf	8/6/2015
0001395796	7440-59-7	HELIUM	220	cf	8/6/2015
0001395797	7440-59-7	HELIUM	220	cf	8/6/2015
0001395798	7440-59-7	HELIUM	220	cf	8/6/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395776	811-97-2	AIR	220	cf	8/6/2015
0001395775	811-97-2	AIR	220	cf	8/6/2015
0001395774	811-97-2	AIR	220	cf	8/6/2015
0001395799	7440-59-7	HELIUM	220	cf	8/6/2015
0001395800	7440-59-7	HELIUM	220	cf	8/6/2015
0001395788	7440-59-7	HELIUM	220	cf	8/6/2015
0001391440		Easy Sand 5	4	lb	8/6/2015
0001395723	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395724	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395725	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395726	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395727	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395801	7440-59-7	HELIUM	220	cf	8/6/2015
0001351317		2-IODOBENZOIC ACID	100	gm	8/6/2015
0001395802	7440-59-7	HELIUM	220	cf	8/6/2015
0001391403		Easy Sand 5	4	lb	8/6/2015
0001395770		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001395771		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001395772		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001395773		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001395731	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001391444		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/6/2015
0001395784	811-97-2	AIR	220	cf	8/6/2015
0001351263		FloMag H	5	gal	8/6/2015
0001351262		FloMag H	5	gal	8/6/2015
0001351261		FloMag H	5	gal	8/6/2015
0001351260		FloMag H	5	gal	8/6/2015
0001351259		FloMag H	5	gal	8/6/2015
0001351258		FloMag H	5	gal	8/6/2015
0001363771	811-97-2	AIR	220	cf	8/6/2015
0001395740	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395739	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001351313	69227-93-6	N-DODECYL-B-D-MALTOPYRANOSIDE	25	gm	8/6/2015
0001351314	82494-09-5	n-DECYL-?-D-MALTOPYRANOSIDE	25	gm	8/6/2015
0001351315	82494-09-5	n-DECYL-?-D-MALTOPYRANOSIDE	25	gm	8/6/2015
0001391436		Easy Sand 5	4	lb	8/6/2015
0001395789	7440-59-7	HELIUM	220	cf	8/6/2015
0001395777	811-97-2	AIR	220	cf	8/6/2015
0001395787	811-97-2	AIR	220	cf	8/6/2015
0001395786	811-97-2	AIR	220	cf	8/6/2015
0001351254		FloMag H	5	gal	8/6/2015
0001351255		FloMag H	5	gal	8/6/2015
0001351256		FloMag H	5	gal	8/6/2015
0001391437		Easy Sand 5	4	lb	8/6/2015
0001363747	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395785	811-97-2	AIR	220	cf	8/6/2015
0001395778	811-97-2	AIR	220	cf	8/6/2015
0001395779	811-97-2	AIR	220	cf	8/6/2015
0001395780	811-97-2	AIR	220	cf	8/6/2015
0001395782	811-97-2	AIR	220	cf	8/6/2015
0001395783	811-97-2	AIR	220	cf	8/6/2015
0001351316	628-13-7	PYRIDINE HYDROCHLORIDE	100	gm	8/6/2015
0001351257		FloMag H	5	gal	8/6/2015
0001395732	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001351327	25895-60-7	SODIUM CYANOBOROHYDRIDE	25	gm	8/6/2015
0001383200	7705-08-0	FERRIC CHLORIDE	3400	lb	8/6/2015
0001383201	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	8/6/2015
0001383202	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/6/2015
0001383203	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/6/2015
0001383204	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/6/2015
0001395738	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395737	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001351318	7768-28-7	2-Hydroxyphenethyl alcohol	5	gm	8/6/2015
0001395735	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001391438		Easy Sand 5	4	lb	8/6/2015
0001391446		SHEETROCK LIGHTWEIGHT ALL PURPOSE JOINT COMPOUND	40	lb	8/6/2015
0001395733	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395736	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395781	811-97-2	AIR	220	cf	8/6/2015
0001351329		NBT/BCIP 1-STEP	250	ml	8/6/2015
0001351328		NBT/BCIP 1-STEP	250	ml	8/6/2015
0001351270	557-20-0	DIETHYLZINC, 1.0M SOLUTION IN HEXANES	800	ml	8/6/2015
0001351343		Fluid Coolant	1	l	8/6/2015
0001351344		Fluid Coolant	1	l	8/6/2015
0001351253		FloMag H	5	gal	8/6/2015
0001395746	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395745	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395744	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395743	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395742	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395734	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001351320	1513-65-1	2,6-Difluoropyridine	25	gm	8/6/2015
0001391405		BIG STRETCH CAULK	10.1	oz	8/6/2015
0001391406		BIG STRETCH CAULK	10.1	oz	8/6/2015
0001351332		n-Butyllithium, 1.6M solution in hexanes	100	ml	8/6/2015
0001395713	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001351322	7791-18-6	MAGNESIUM CHLORIDE, HEXAHYDRATE	500	gm	8/6/2015
0001391408		BIG STRETCH CAULK	10.1	oz	8/6/2015
0001391409		BIG STRETCH CAULK	10.1	oz	8/6/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351323	71-43-2	BENZENE	1	l	8/6/2015
0013957803	74-86-2	ACETYLENE	40	cf	8/6/2015
0001351321	25067-59-8	POLY(9-VINYLCARBAZOLE)	5	gm	8/6/2015
0001391407		BIG STRETCH CAULK	10.1	oz	8/6/2015
0001351319	50-81-7	ASCORBIC ACID	100	gm	8/6/2015
0001351325	1310-58-3	POTASSIUM HYDROXIDE	500	ml	8/6/2015
0001395715	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395721	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395720	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395719	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395718	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395717	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001395716	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001351326	106-51-4	1,4-BENZOQUINONE 98%	100	gm	8/6/2015
0001395714	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/6/2015
0001351265	70693-62-8	OXONE, monopersulfate compound	1	kg	8/6/2015
0001351267	63450-15-7	FORMVAR RESIN	100	gm	8/6/2015
0001395790	7440-59-7	HELIUM	220	cf	8/6/2015
0001395795	7440-59-7	HELIUM	220	cf	8/6/2015
0001395749	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/6/2015
0001395759		P-10 (90% ARGON 10% METHANE)	220	cf	8/6/2015
0001395708	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/6/2015
0001391439		Easy Sand 5	4	lb	8/6/2015
0001312102		ULTRA BLACK GASKET MAKER	3.35	oz	8/7/2015
0001312103		BATTERY TERMINAL PROTECTOR	7.5	oz	8/7/2015
0001312104		DI-ELECTRIC GREASE	3.3	oz	8/7/2015
0001312161		15/40 MOTOR OIL	1	qt	8/7/2015
0001312160		15/40 MOTOR OIL	1	qt	8/7/2015
0001312165		MULTI-PURPOSE GREASE	14.1	oz	8/7/2015
0001391594		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391593		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391592		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001312159		15/40 MOTOR OIL	1	qt	8/7/2015
0001391584		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001312137		15/40 MOTOR OIL	1	qt	8/7/2015
0001312138		15/40 MOTOR OIL	1	qt	8/7/2015
0001391590		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391589		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391588		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391587		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001312162		MULTI-PURPOSE GREASE	14.1	oz	8/7/2015
0001391585		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001312101		ULTRA BLACK GASKET MAKER	3.35	oz	8/7/2015
0001391583		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391591		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001312135		15/40 MOTOR OIL	1	qt	8/7/2015
0001312134		15/40 MOTOR OIL	1	qt	8/7/2015
0001312151		15/40 MOTOR OIL	1	qt	8/7/2015
0001312136		15/40 MOTOR OIL	1	qt	8/7/2015
0001391586		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001312196		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312140		15/40 MOTOR OIL	1	qt	8/7/2015
0001312191		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312192		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312184		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312193		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312189		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312195		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312188		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312197		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312198		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312199		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001391615		PERMACRYL INTERIOR FLAT DEEP BASE	1	gal	8/7/2015
0001391616		PERMACRYL INTERIOR FLAT DEEP BASE	1	gal	8/7/2015
0001312153		15/40 MOTOR OIL	1	qt	8/7/2015
0001312194		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001391619		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	8/7/2015
0001391517		COTE ALL RUST INHIBITIVE (OIL BASED) METAL PRIMER WHITE	1	gal	8/7/2015
0001312109		STARTING FLUID	10.7	oz	8/7/2015
0001312108		STARTING FLUID	10.7	oz	8/7/2015
0001312107		STARTING FLUID	10.7	oz	8/7/2015
0001312099		BLUE RTV SILICONE GASKET MAKER	3	oz	8/7/2015
0001312190		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001391618		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	8/7/2015
0001312141		15/40 MOTOR OIL	1	qt	8/7/2015
0001312118		SAE 5W20 MOTOR OIL	1	qt	8/7/2015
0001312185		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312186		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312106		STARTING FLUID	10.7	oz	8/7/2015
0001312105		WD-40 NON-AEROSOL	20	oz	8/7/2015
0001312187		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312100		BLUE RTV SILICONE GASKET MAKER	3	oz	8/7/2015
0001391580		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391617		PERMACRYL INTERIOR FLAT DEEP BASE	1	gal	8/7/2015
0001312129		SAE 5W20 MOTOR OIL	1	qt	8/7/2015
0001312131		15/40 MOTOR OIL	1	qt	8/7/2015
0001312133		15/40 MOTOR OIL	1	qt	8/7/2015
0001312158		15/40 MOTOR OIL	1	qt	8/7/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312119		SAE 5W20 MOTOR OIL	1	qt	8/7/2015
0001391581		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001312157		15/40 MOTOR OIL	1	qt	8/7/2015
0001391579		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391578		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391577		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391576		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391575		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391574		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391582		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001312149		15/40 MOTOR OIL	1	qt	8/7/2015
0001312142		15/40 MOTOR OIL	1	qt	8/7/2015
0001312143		15/40 MOTOR OIL	1	qt	8/7/2015
0001312144		15/40 MOTOR OIL	1	qt	8/7/2015
0001312145		15/40 MOTOR OIL	1	qt	8/7/2015
0001312146		15/40 MOTOR OIL	1	qt	8/7/2015
0001312120		SAE 5W20 MOTOR OIL	1	qt	8/7/2015
0001312148		15/40 MOTOR OIL	1	qt	8/7/2015
0001391573		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001312150		15/40 MOTOR OIL	1	qt	8/7/2015
0001312110	100-41-4	ETHYLBENZENE	32	oz	8/7/2015
0001312152		15/40 MOTOR OIL	1	qt	8/7/2015
0001312154		15/40 MOTOR OIL	1	qt	8/7/2015
0001312155		15/40 MOTOR OIL	1	qt	8/7/2015
0001312156		15/40 MOTOR OIL	1	qt	8/7/2015
0001312147		15/40 MOTOR OIL	1	qt	8/7/2015
0001391637		POLYURETHANE COATING	1	gal	8/7/2015
0001312179		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312180		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312181		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312182		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312183		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001391633		POLYURETHANE COATING	1	gal	8/7/2015
0001391632		POLYURETHANE COATING	1	gal	8/7/2015
0001312121		SAE 30 MOTOR OIL	1	qt	8/7/2015
0001391622		SUPER QUICK STEARATED SANDING SEALER	1	gal	8/7/2015
0001391638		POLYURETHANE COATING	1	gal	8/7/2015
0001312163		MULTI-PURPOSE GREASE	14.1	oz	8/7/2015
0001391636		POLYURETHANE COATING	1	gal	8/7/2015
0001391635		POLYURETHANE COATING	1	gal	8/7/2015
0001391634		POLYURETHANE COATING	1	gal	8/7/2015
0001312117		SAE 5W20 MOTOR OIL	1	qt	8/7/2015
0001391625		SUPER QUICK STEARATED SANDING SEALER	1	gal	8/7/2015
0001312176		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001391624		SUPER QUICK STEARATED SANDING SEALER	1	gal	8/7/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312168		MULTI-PURPOSE GREASE	14.1	oz	8/7/2015
0001391639		POLYURETHANE COATING	1	gal	8/7/2015
0001312171		MULTI-PURPOSE GREASE	14.1	oz	8/7/2015
0001312169		MULTI-PURPOSE GREASE	14.1	oz	8/7/2015
0001312170		MULTI-PURPOSE GREASE	14.1	oz	8/7/2015
0001312122		SAE 30 MOTOR OIL	1	qt	8/7/2015
0001312123		SAE 30 MOTOR OIL	1	qt	8/7/2015
0001312124		SAE 30 MOTOR OIL	1	qt	8/7/2015
0001312125		SAE 30 MOTOR OIL	1	qt	8/7/2015
0001312126		SAE 30 MOTOR OIL	1	qt	8/7/2015
0001312127		SAE 30 MOTOR OIL	1	qt	8/7/2015
0001312178		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312130		15/40 MOTOR OIL	1	qt	8/7/2015
0001312164		MULTI-PURPOSE GREASE	14.1	oz	8/7/2015
0001312172		MULTI-PURPOSE GREASE	14.1	oz	8/7/2015
0001312173		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312174		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312175		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312177		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/7/2015
0001312167		MULTI-PURPOSE GREASE	14.1	oz	8/7/2015
0001312166		MULTI-PURPOSE GREASE	14.1	oz	8/7/2015
0001391627		PERMACRYL INTERIOR FLAT WHITE BASE	1	gal	8/7/2015
0001391621		SUPER QUICK STEARATED SANDING SEALER	1	gal	8/7/2015
0001312128		SAE 30 MOTOR OIL	1	qt	8/7/2015
0001391537		COTE ALL RUST INHIBITIVE (OIL BASED) METAL PRIMER WHITE	1	gal	8/7/2015
0001391623		SUPER QUICK STEARATED SANDING SEALER	1	gal	8/7/2015
0001391538		COTE ALL RUST INHIBITIVE (OIL BASED) METAL PRIMER WHITE	1	gal	8/7/2015
0001391518		PENETRATING STAIN	1	gal	8/7/2015
0001312111		SAE 75W-90 GEAR OIL	1	qt	8/7/2015
0001391520		POLYURETHANE COATING	1	gal	8/7/2015
0001312132		15/40 MOTOR OIL	1	qt	8/7/2015
0001391613		acrylic interior drywall primer	5	gal	8/7/2015
0001391611		acrylic interior drywall primer	5	gal	8/7/2015
0001391610		acrylic interior drywall primer	5	gal	8/7/2015
0001391640		PENETRATING STAIN	1	gal	8/7/2015
0001391631		PERMACRYL INTERIOR FLAT MIDTONE BASE	1	gal	8/7/2015
0001391641		PENETRATING STAIN	1	gal	8/7/2015
0001391602		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391601		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391600		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391599		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391598		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391597		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391596		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391595		EZ-PRO TEXTURE IN A BAG	20	oz	8/7/2015
0001391612		acrylic interior drywall primer	5	gal	8/7/2015
0001391629		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/7/2015
0001391605		POLYURETHANE SPRAY	12.8	oz	8/7/2015
0001312116		DX-111/M ATF	1	qt	8/7/2015
0001391540		COTE ALL RUST INHIBITIVE (OIL BASED) METAL PRIMER WHITE	1	gal	8/7/2015
0001391539		COTE ALL RUST INHIBITIVE (OIL BASED) METAL PRIMER WHITE	1	gal	8/7/2015
0000912999		MULTI-PURPOSE ADHESIVE	30	oz	8/7/2015
0001312115		DX-111/M ATF	1	qt	8/7/2015
0001312114		DX-111/M ATF	1	qt	8/7/2015
0001312113		DX-111/M ATF	1	qt	8/7/2015
0001391608		POLYURETHANE SPRAY	12.8	oz	8/7/2015
0001312139		15/40 MOTOR OIL	1	qt	8/7/2015
0001391606		POLYURETHANE SPRAY	12.8	oz	8/7/2015
0001391620		SUPER QUICK STEARATED SANDING SEALER	1	gal	8/7/2015
0001391604		POLYURETHANE SPRAY	12.8	oz	8/7/2015
0001391603		POLYURETHANE SPRAY	12.8	oz	8/7/2015
0001312112		POWER STEERING FLUID	1	qt	8/7/2015
0001391645		PENETRATING STAIN	1	gal	8/7/2015
0001391644		PENETRATING STAIN	1	gal	8/7/2015
0001391643		PENETRATING STAIN	1	gal	8/7/2015
0001391642		PENETRATING STAIN	1	gal	8/7/2015
0001391607		POLYURETHANE SPRAY	12.8	oz	8/7/2015
0001312235		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312234		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312236		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312241		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351408	43625-06-5	NITRIC-15N ACID	1	gm	8/10/2015
0001312266		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351398		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351399		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351400		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351401		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351402	6381-59-5	POTASSIUM SODIUM TARTRATE TERTAHYDRATE (ROCHELLE SALT)	100	gm	8/10/2015
0001351403	7647-10-1	PALLADIUM(II) CHLORIDE	5	gm	8/10/2015
0001351404	10108-64-2	CADMIUM CHLORIDE	500	gm	8/10/2015
0001351405	43625-06-5	NITRIC-15N ACID	1	gm	8/10/2015
0001312239		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351407	43625-06-5	NITRIC-15N ACID	1	gm	8/10/2015
0001312263		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351409	43625-06-5	NITRIC-15N ACID	1	gm	8/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351410	43625-06-5	NITRIC-15N ACID	1	gm	8/10/2015
0001351411	43625-06-5	NITRIC-15N ACID	1	gm	8/10/2015
0001351412	43625-06-5	NITRIC-15N ACID	1	gm	8/10/2015
0001351413	43625-06-5	NITRIC-15N ACID	1	gm	8/10/2015
0001351414	43625-06-5	NITRIC-15N ACID	1	gm	8/10/2015
0001351436	811-97-2	DUSTER	10	oz	8/10/2015
0001351487		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351488		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351489		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351406	43625-06-5	NITRIC-15N ACID	1	gm	8/10/2015
0001312252		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312238		VELOSSA (HERBICIDE)	12	oz	8/10/2015
0001312240		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312242		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312243		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312244		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312245		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312246		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312247		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312248		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312249		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312265		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312251		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312264		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312253		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312254		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312256		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312257		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312258		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312259		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312260		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312261		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312262		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312237		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312250		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351437	811-97-2	DUSTER	10	oz	8/10/2015
0001312208		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351509		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351510		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351511	7440-42-8	BORON POWDER	50	gm	8/10/2015
0001351512	7440-42-8	BORON POWDER	50	gm	8/10/2015
0001383347	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/10/2015
0001383348	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/10/2015
0001383349	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/10/2015
0001383350	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001383351	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/10/2015
0001395804	630-08-0	CARBON MONOXIDE	220	cf	8/10/2015
0001383214	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/10/2015
0001351397		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351372	107-07-3	2-CHLOROETHANOL (ETHYLENE CHLOROHYDRIN)	50	ml	8/10/2015
0001351371	539-74-2	ETHYL 3-BROMOPROPIONATE, 99%	25	gm	8/10/2015
0001351370	7803-57-8	HYDRAZINE MONOHYDRATE	100	gm	8/10/2015
0001351369	1667-01-2	2',4',6'-Trimethylacetophenone	25	gm	8/10/2015
0001351368	7632-00-0	SODIUM NITRITE	100	gm	8/10/2015
0001351367	7632-00-0	SODIUM NITRITE	100	gm	8/10/2015
0001351366	7632-00-0	SODIUM NITRITE	100	gm	8/10/2015
0001351365	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/10/2015
0001351364	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/10/2015
0001351363	3893-01-4	2,3-Dimethoxybenzyl chloride, 98%	5	gm	8/10/2015
0001395810	7647-01-0	HYDROGEN CHLORIDE, ANHYDROUS	10	cf	8/10/2015
0001383352	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/10/2015
0001351385		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351373		PREMIUM HYDRAULIC OIL	1	gal	8/10/2015
0001351374		ARALDITE RESIN	24	ml	8/10/2015
0001351375		ARALDITE RESIN	24	ml	8/10/2015
0001351376		WD-40	8	oz	8/10/2015
0001351377		WD-40	8	oz	8/10/2015
0001351378		WD-40	8	oz	8/10/2015
0001351379		WD-40	8	oz	8/10/2015
0001351380		WD-40	8	oz	8/10/2015
0001351381		WD-40	8	oz	8/10/2015
0001351382		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351508		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351384		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001395807	7647-01-0	HYDROGEN CHLORIDE, ANHYDROUS	10	cf	8/10/2015
0001351386		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351387		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351388		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351389		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351390		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351391		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351392		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351393		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351394		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351395		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351396		LOCTITE THREADLOCKER	.2	oz	8/10/2015
0001351383		LOCTITE THREADLOCKER	.2	oz	8/10/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351490		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351422	67-63-0	2-PROPANOL	4	l	8/10/2015
0001312220		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312219		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312218		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312217		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312216		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312215		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312214		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312213		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312212		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001395809	7647-01-0	HYDROGEN CHLORIDE, ANHYDROUS	10	cf	8/10/2015
0001312210		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351419	67-63-0	2-PROPANOL	4	l	8/10/2015
0001312207		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312223		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312224		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312225		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312226		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312227		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312228		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312229		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312230		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312231		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312232		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312209		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312273		VELOSSA (HERBICIDE)	1	gal	8/10/2015
0001312233		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001395806	7647-01-0	HYDROGEN CHLORIDE, ANHYDROUS	10	cf	8/10/2015
0001395805	7664-41-7	AMMONIA, ANHYDROUS	20	cf	8/10/2015
0001395817	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	8/10/2015
0001395816	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/10/2015
0001395815	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/10/2015
0001395814	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/10/2015
0001395813	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/10/2015
0001395812	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/10/2015
0001395811	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/10/2015
0001312222		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351421	67-63-0	2-PROPANOL	4	l	8/10/2015
0001351333		VR-12A SUPER CLEAR VINYL SEALANT REPAIR KIT	1.5	oz	8/10/2015
0001351420	67-63-0	2-PROPANOL	4	l	8/10/2015
0001312201		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312202		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312203		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312204		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312205		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312206		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351415	64-17-5	ALCOHOL, REAGENT	4	l	8/10/2015
0001351416	64-17-5	ALCOHOL, REAGENT	4	l	8/10/2015
0001351417	64-17-5	ALCOHOL, REAGENT	4	l	8/10/2015
0001351418	64-17-5	ALCOHOL, REAGENT	4	l	8/10/2015
0001395808	7647-01-0	HYDROGEN CHLORIDE, ANHYDROUS	10	cf	8/10/2015
0001312221		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312271		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351337	67-63-0	2-PROPANOL	1	l	8/10/2015
0001351336	67-63-0	2-PROPANOL	1	l	8/10/2015
0001351335	123-54-6	ACETYLACETONE	1	l	8/10/2015
0001351334	123-54-6	ACETYLACETONE	1	l	8/10/2015
0001351264	70195-25-4	D(+)2-Phosphoglyceric acid sodium salt hydrate	50	mg	8/10/2015
0001383346	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/10/2015
0001383345	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/10/2015
0001383344	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/10/2015
0001383343	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/10/2015
0001351442	811-97-2	DUSTER	10	oz	8/10/2015
0001312272		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351349	8002-74-2	PARAFFIN	6	lb	8/10/2015
0001312270		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351500		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001312269		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312268		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312267		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001312255		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351438	811-97-2	DUSTER	10	oz	8/10/2015
0001351439	811-97-2	DUSTER	10	oz	8/10/2015
0001351440	811-97-2	DUSTER	10	oz	8/10/2015
0001351441	811-97-2	DUSTER	10	oz	8/10/2015
0001351423		ISOPROPANOL	20	l	8/10/2015
0001351503		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351355		DEOXIT	25	ml	8/10/2015
0001351354		DEOXIT	25	ml	8/10/2015
0001351353		DEOXIT	25	ml	8/10/2015
0001351352		DEOXIT	25	ml	8/10/2015
0001351356	14635-75-7	NITROSONIUM TETRAFLUOROBORATE	10	gm	8/10/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351357	67-63-0	2-PROPANOL	4	l	8/10/2015
0001351358	108-88-3	TOLUENE	1	l	8/10/2015
0001351359	108-88-3	TOLUENE	1	l	8/10/2015
0001351360	108-88-3	TOLUENE	1	l	8/10/2015
0001351361	108-88-3	TOLUENE	1	l	8/10/2015
0001351338	67-64-1	ACETONE	2.5	l	8/10/2015
0001351502		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351339	67-64-1	ACETONE	2.5	l	8/10/2015
0001351504		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351505		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001312278		VELOSSA (HERBICIDE)	1	gal	8/10/2015
0001312277		VELOSSA (HERBICIDE)	1	gal	8/10/2015
0001312276		VELOSSA (HERBICIDE)	1	gal	8/10/2015
0001312275		VELOSSA (HERBICIDE)	1	gal	8/10/2015
0001312274		VELOSSA (HERBICIDE)	1	gal	8/10/2015
0001351351	8002-74-2	PARAFFIN	6	lb	8/10/2015
0001351350	8002-74-2	PARAFFIN	6	lb	8/10/2015
0001351499		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351362	7758-11-4	POTASSIUM PHOSPHATE DIBASIC	100	gm	8/10/2015
0001351492		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351496		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351443	811-97-2	DUSTER	10	oz	8/10/2015
0001351444	811-97-2	DUSTER	10	oz	8/10/2015
0001351445	811-97-2	DUSTER	10	oz	8/10/2015
0001351491		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351494		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351498		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351493		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351446	811-97-2	DUSTER	10	oz	8/10/2015
0001351495		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351506		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351448		KOSTCHILL PG HD	55	gm	8/10/2015
0001351447	811-97-2	DUSTER	10	oz	8/10/2015
0001351501		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001351497		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001312211		VELOSSA (HERBICIDE)	2.5	gal	8/10/2015
0001351507		DISTILLED WHITE VINEGAR	1	gal	8/10/2015
0001391747		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391821		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391746		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391795		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391761		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391773		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391860		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351428		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351429		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015
0001351430		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015
0001391861		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391862		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391745		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391789		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391779		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391780		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391781		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391782		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391783		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391784		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391785		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391786		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391797		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391788		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391799		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391790		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391791		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391792		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391793		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391794		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391749		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391796		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391863		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391798		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391787		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391410		EASY SAND 45	18	lb	8/11/2015
0001391866		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391525		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001351435		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015
0001351434		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015
0001351433		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015
0001351432		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015
0001391387	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015
0001391388	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015
0001391413		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/11/2015
0001391411		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/11/2015
0001351431		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015
0001391398	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015
0001391397	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015
0001391396	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015
0001391395	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391394	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015
0001391393	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015
0001391392	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015
0001391391	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015
0001391390	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015
0001391412		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/11/2015
0001391758		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391865		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391867		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391389	65997-15-1	PORTLAND CEMENT	94	lb	8/11/2015
0001391750		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391751		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391753		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391754		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391755		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391778		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391757		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391864		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391759		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391646		LOCTITE RC/680	.34	oz	8/11/2015
0001391536		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	5	gal	8/11/2015
0001391760		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391418		EASY SAND 45	18	lb	8/11/2015
0001391417		EASY SAND 45	18	lb	8/11/2015
0001391416		EASY SAND 45	18	lb	8/11/2015
0001391415		EASY SAND 45	18	lb	8/11/2015
0001391414		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/11/2015
0001391756		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391678		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391523		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001391546		OLD MASTERS POLYURETHANE GLOSS #MP-850-100	1	gal	8/11/2015
0001391545		OLD MASTERS POLYURETHANE GLOSS #MP-850-100	1	gal	8/11/2015
0001391544		OLD MASTERS POLYURETHANE GLOSS #MP-850-100	1	gal	8/11/2015
0001391543		OLD MASTERS POLYURETHANE GLOSS #MP-850-100	1	gal	8/11/2015
0001351533	7697-37-2	NITRIC ACID OPTIMA	2	l	8/11/2015
0001391673		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391674		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391675		VULKEM 116 WHITE	10.1	oz	8/11/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391548		OLD MASTERS POLYURETHANE GLOSS #MP-850-100	1	gal	8/11/2015
0001391677		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001267585	25036-25-3	EPOXY RESIN	3	lb	8/11/2015
0001391679		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391680		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391762		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391763		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391764		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391765		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391766		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391767		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391768		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391676		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351524	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	8/11/2015
0001391669		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391670		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391671		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391672		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351536	7697-37-2	NITRIC ACID OPTIMA	2	l	8/11/2015
0001351518	141-78-6	ETHYL ACETATE	1	l	8/11/2015
0001351519	8032-32-4	PETROLEUM ETHER, ANHYDROUS	1	l	8/11/2015
0001351520		4-METHYL-2-PENTANOL (162)	500	ml	8/11/2015
0001351521	7429-90-5	ALUMINUM PELLETS	50	gm	8/11/2015
0001391547		OLD MASTERS POLYURETHANE GLOSS #MP-850-100	1	gal	8/11/2015
0001351523	25068-38-6	EPON 828	1	gal	8/11/2015
0001391771		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351525	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	8/11/2015
0001351526	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	8/11/2015
0001351532	7697-37-2	NITRIC ACID OPTIMA	2	l	8/11/2015
0001351535	7697-37-2	NITRIC ACID OPTIMA	2	l	8/11/2015
0001351534	7697-37-2	NITRIC ACID OPTIMA	2	l	8/11/2015
0001391667		LOCTITE RC/680	.34	oz	8/11/2015
0001391666		LOCTITE RC/680	.34	oz	8/11/2015
0001391665		LOCTITE RC/680	.34	oz	8/11/2015
0001391664		LOCTITE RC/680	.34	oz	8/11/2015
0001351522		COPPER PELLETS	250	gm	8/11/2015
0001351425		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015
0001391524		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001391822		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391522		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391521		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001391542		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	8/11/2015
0001391714		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391715		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391716		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351340	7697-37-2	NITRIC ACID OPTIMA	500	ml	8/11/2015
0001391769		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351424		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015
0001391527		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001351426		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015
0001351427		FANTASTIKE ALL PURPOSE CLEANER	32	oz	8/11/2015
0001391717		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391718		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391719		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391720		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391721		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391775		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391776		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351342	7664-41-7	AMMONIA	800	ml	8/11/2015
0001351517		QIAQUICK PCR PURIFICATION KIT	100	ml	8/11/2015
0001391777		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391772		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391705		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391706		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391707		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391708		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391709		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391710		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391711		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391748		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391713		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391526		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001351516		QIAQUICK PCR PURIFICATION KIT	100	ml	8/11/2015
0001351515	168982-69-2	N-(3-Oxododecanoyl)-L-homoserine lactone	10	mg	8/11/2015
0001391534		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001391533		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001391532		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001391531		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001391530		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001391529		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001391528		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001391770		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391712		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001383353	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/11/2015
0001351471	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351472	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351473	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001391570		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001351474	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351475	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351476	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351477	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351449		KOSTCHILL PG HD	55	gm	8/11/2015
0001351341	7697-37-2	NITRIC ACID OPTIMA	500	ml	8/11/2015
0001351514		HIGH VACUUM GREASE	5.3	oz	8/11/2015
0001351537	7697-37-2	NITRIC ACID OPTIMA	2	l	8/11/2015
0001391572		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001383354	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/11/2015
0001391569		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391729		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391728		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391727		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391847		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391846		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391845		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391844		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391726		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351538		ALCOTABS	510	gm	8/11/2015
0001391699		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391838		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351479	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001391656		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391657		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391658		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391659		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391660		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391704		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391703		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391702		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351470	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001391700		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391571		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391698		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391697		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391696		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391695		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391694		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391693		VULKEM 116 WHITE	10.1	oz	8/11/2015
0000752150		COPPER-BOND EPOXY	1	oz	8/11/2015
0001391692		VULKEM 116 WHITE	10.1	oz	8/11/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391774		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391691		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391723		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391701		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391661		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391725		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391833		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391834		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391835		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391836		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391837		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001267584		ANTI-SIEZE	1	lb	8/11/2015
0001267593		EPOXY HARDENER	7	oz	8/11/2015
0001267586		EPOXY RESIN	3	lb	8/11/2015
0001391663		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391831		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391662		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391830		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391681		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391682		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391683		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391684		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391685		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391686		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391687		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391688		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391689		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391690		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391839		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391840		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391733		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391541		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	8/11/2015
0001391843		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391842		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391841		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001383355	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/11/2015
0001383356	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/11/2015
0001383357	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/11/2015
0001351478	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001391738		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391737		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391832		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391734		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391724		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391732		VULKEM 116 WHITE	10.1	oz	8/11/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391731		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391730		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391668		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391722		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391824		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391825		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391826		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391827		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391828		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391829		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391735		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391800		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391557		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391808		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391807		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391648		PSX 700 PART A(RESIN)	.8	gal	8/11/2015
0001391649		PSX 700 CURE	.2	gal	8/11/2015
0001391650		PSX 700 CURE	.2	gal	8/11/2015
0001391806		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391805		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391804		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391803		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391810		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391801		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391811		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391877		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391651		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391549		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391550		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391551		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391552		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391553		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391554		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391555		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001351513		HIGH VACUUM GREASE	5.3	oz	8/11/2015
0001391802		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391875		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391823		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391744		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391743		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391742		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391868		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391869		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391870		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391871		VULKEM 116 WHITE	10.1	oz	8/11/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391872		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391647		PSX 700 PART A(RESIN)	.8	gal	8/11/2015
0001391809		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391874		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391558		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391876		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391820		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391819		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391818		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391817		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391816		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391815		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391814		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391813		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391812		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391873		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351460	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001391556		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391853		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391852		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391851		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391850		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391849		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391848		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351455	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351456	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351457	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001391855		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351459	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001391856		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351461	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001391654		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391655		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001351462	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351463	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351464	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351465	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351466	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351467	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351468	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351469	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351458	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001391741		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391653		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391559		BIG STRETCH CAULK	10.1	oz	8/11/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391560		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391561		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391562		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391563		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391564		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391565		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391566		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391854		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391568		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391652		EZ-PRO TEXTURE IN A BAG	20	oz	8/11/2015
0001391740		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391739		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351450		KOSTCHILL PG HD	55	gm	8/11/2015
0001351451		KOSTCHILL PG HD	55	gm	8/11/2015
0001351452	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351453	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001351454	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/11/2015
0001391859		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391858		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391857		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391567		BIG STRETCH CAULK	10.1	oz	8/11/2015
0001391752		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001391736		VULKEM 116 WHITE	10.1	oz	8/11/2015
0001351541	7440-55-3	GALLIUM	5	gm	8/12/2015
0001351540	40244-90-4	CHLORODIISOPROPYLPHOSPHINE	25	gm	8/12/2015
0001351539		ALCOTABS	510	gm	8/12/2015
0001383267	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/12/2015
0001351482	5653-67-8	2,3-Dimethoxybenzyl Alcohol	25	gm	8/12/2015
0001351553		CarbonMide Polyamide Powder	1	kg	8/12/2015
0001351552	7789-45-9	COPPER(II) BROMIDE	5	gm	8/12/2015
0001351551	7787-70-4	COPPER(I) BROMIDE	10	gm	8/12/2015
0001351528	23978-09-8	KRYPTOFIX 222	5	gm	8/12/2015
0001351483	32315-10-9	TRIPHOSGENE, 99	25	gm	8/12/2015
0001351554		CarbonMide Polyamide Powder	1	kg	8/12/2015
0001351549	600-00-0	ETHYL 2-BROMOISOBUTYRATE	5	gm	8/12/2015
0001351529	7727-43-7	BARIUM SULFATE	1	kg	8/12/2015
0001351481	30525-89-4	PARAFORMALDEHYDE	1	gm	8/12/2015
0001351550	366-18-7	2,2'-Bipyridyl	25	gm	8/12/2015
0001381379	7440-59-7	HELIUM	220	cf	8/12/2015
0001351531		LN RESIN	25	gm	8/12/2015
0001351527	25322-68-3	POLYETHYLENE GLYCOLS	200	ml	8/12/2015
0001351484	76-86-8	TRIPHENYLSILYL CHLORIDE	25	gm	8/12/2015
0001351548		CarbonMide Polyamide Powder	1	kg	8/12/2015
0001351544	10294-33-4	BORON TRIBROMIDE	100	ml	8/12/2015
0001391878		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	8/12/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391879		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	8/12/2015
0001391880		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	8/12/2015
0001391881		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	8/12/2015
0001351480	7440-32-6	TITANIUM SLUGS	100	gm	8/12/2015
0001351542	10294-33-4	BORON TRIBROMIDE	100	ml	8/12/2015
0001351547	58-61-7	ADENOSINE	5	gm	8/12/2015
0001351543	10294-33-4	BORON TRIBROMIDE	100	ml	8/12/2015
0001383358	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/12/2015
0001383264		TRIZOL LS REAGENT	200	ml	8/12/2015
0001383265	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/12/2015
0001383268	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/12/2015
0001351546	65-46-3	CYTIDINE	10	gm	8/12/2015
0001351545	10294-33-4	BORON TRIBROMIDE	100	ml	8/12/2015
0001351530		Sodium sulfhydrate	500	gm	8/12/2015
0001383266	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/12/2015
0001395860	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001391892		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001395861	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001395863	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001395864	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001395865	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001395866	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001395867	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001395868	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001395869	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001395862	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001395839	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/13/2015
0001395849		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395848		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395847		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395846		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395845		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395844		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395843	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/13/2015
0001395842	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/13/2015
0001395829	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001395840	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/13/2015
0001395852		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395838	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/13/2015
0001395837	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/13/2015
0001395836	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/13/2015
0001395835	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/13/2015
0001395834	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/13/2015
0001395833	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001395832	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015

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0001395831	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001395874		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395841	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/13/2015
0001351564		770-WASTELOCK-ABSORBANT	25	lb	8/13/2015
0001383273	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/13/2015
0001395876		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001391895		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001395910	7440-59-7	HELIUM	10	cf	8/13/2015
0001395872		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395859	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001395858		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395857		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395819	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001395850		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001351485		bis-(1,3-dibutylbarbituric acid)trimethine oxonol (DiBAC4(3))	25	mg	8/13/2015
0001395851		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001351563	71-36-3	1-BUTANOL	2.5	l	8/13/2015
0001351562	71-36-3	1-BUTANOL	2.5	l	8/13/2015
0001351561	71-36-3	1-BUTANOL	2.5	l	8/13/2015
0001351560	71-36-3	1-BUTANOL	2.5	l	8/13/2015
0001351559		RESIN AG MP-50	500	gm	8/13/2015
0001395855		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395854		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395853		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001395828	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001351556	1306-19-0	CADMIUM OXIDE	100	gm	8/13/2015
0001391918		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001395823	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001395822	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001395821	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001395820	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001351557	540-69-2	AMMONIUM FORMATE	100	ml	8/13/2015
0001351555	7646-85-7	ZINC CHLORIDE	1	kg	8/13/2015
0001391914		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001391915		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001395830	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001391917		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001351566	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/13/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391919		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001391920		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001395818	74-82-8	METHANE	10	lb	8/13/2015
0001351568	7697-37-2	NITRIC ACID	2	l	8/13/2015
0001351632	109-73-9	BUTYLAMINE	250	ml	8/13/2015
0001328682		#5 yellow pipe thread sealant	16	oz	8/13/2015
0001328680		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	16	oz	8/13/2015
0001328679		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	16	oz	8/13/2015
0001351486		AG MP-1M RESIN	500	gm	8/13/2015
0001391916		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001391910		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001395827	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001395826	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001395825	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001328681		#5 yellow pipe thread sealant	16	oz	8/13/2015
0001395871	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001395879		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395878		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001391906		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001391907		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001395824	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/13/2015
0001391909		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001351565		770-WASTELOCK-ABSORBANT	25	lb	8/13/2015
0001391911		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001391912		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001391913		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001395877		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001328672		kwik seal	5.5	oz	8/13/2015
0001328671		kwik seal	5.5	oz	8/13/2015
0001328670		kwik seal	5.5	oz	8/13/2015
0001351636		CUSTOM STANDARD	125	ml	8/13/2015
0001395875		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391908		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001351634		CUSTOM STANDARD	125	ml	8/13/2015
0001395881		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395880		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001328678		HEAVY DUTY PVC CEMENT GRAY 906	16	oz	8/13/2015
0001328677		PURPLE PRIMER 912	16	oz	8/13/2015
0001328676		super lube w/multi purpose synthetic lubricant w/teflon	3	oz	8/13/2015
0001328675		kwik seal	5.5	oz	8/13/2015
0001328674		kwik seal	5.5	oz	8/13/2015
0001383269	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/13/2015
0001395898		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395884		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395911		Gas mixture, 10% hydrogen, helium balance	20	cf	8/13/2015
0001351635		CUSTOM STANDARD	125	ml	8/13/2015
0001395873		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001351637		ANALYTES	125	ml	8/13/2015
0001351638		CUSTOM STANDARD	125	ml	8/13/2015
0001351639		CUSTOM STANDARD	125	ml	8/13/2015
0001351640	7439-91-0	LANTHANUM	125	ml	8/13/2015
0001395897		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001328673		kwik seal	5.5	oz	8/13/2015
0001351573	7697-37-2	NITRIC ACID	2	l	8/13/2015
0001395896		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395895		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395894		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395893		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395892		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395891		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395890		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395889		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395882		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001351631	100-46-9	BENZYLAMINE	100	gm	8/13/2015
0001395883		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001351572	7697-37-2	NITRIC ACID	2	l	8/13/2015
0001351571	7697-37-2	NITRIC ACID	2	l	8/13/2015
0001383274	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/13/2015
0001395888		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395887		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395886		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001395885		P-10 (90% ARGON 10% METHANE)	220	cf	8/13/2015
0001351570	7697-37-2	NITRIC ACID	2	l	8/13/2015
0001351633	1634-04-4	TERT-BUTYL METHYL ETHER	1	l	8/13/2015
0001391889		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391901		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391900		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391899		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391898		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391897		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391896		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391894		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001351641		N,N'-diisopropylphosphorodiamidic fluoride	1	gm	8/13/2015
0001391890		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001383271	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/13/2015
0001391888		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391887		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391886		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391885		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391884		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001281193		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391882		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	8/13/2015
0001395870	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	8/13/2015
0001391891		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001395901	74-98-6	PROPANE	17	gal	8/13/2015
0001351569	7697-37-2	NITRIC ACID	2	l	8/13/2015
0001351567	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/13/2015
0001395909	74-98-6	PROPANE	17	gal	8/13/2015
0001395908	74-98-6	PROPANE	17	gal	8/13/2015
0001395907	74-98-6	PROPANE	17	gal	8/13/2015
0001395906	74-98-6	PROPANE	17	gal	8/13/2015
0001395905	74-98-6	PROPANE	17	gal	8/13/2015
0001395904	74-98-6	PROPANE	17	gal	8/13/2015
0001395902	74-98-6	PROPANE	17	gal	8/13/2015
0001383272	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/13/2015
0001395900	74-98-6	PROPANE	17	gal	8/13/2015
0001395899	74-98-6	PROPANE	17	gal	8/13/2015
0001391905		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391904		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391903		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391902		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001383270	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/13/2015
0001395903	74-98-6	PROPANE	17	gal	8/13/2015
0001395856		6% HYDROGEN BALANCE ARGON	220	cf	8/13/2015
0001391893		AEROKROIL LUBRICANT SPRAY	10	oz	8/13/2015
0001391969		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392153		HENRY-430	4	gal	8/14/2015
0001392157		HENRY-430	4	gal	8/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392156		HENRY-430	4	gal	8/14/2015
0001392154		HENRY-430	4	gal	8/14/2015
0001392200		LIQUID NAILS HEAVY DUTY	10	oz	8/14/2015
0001392199		LIQUID NAILS HEAVY DUTY	10	oz	8/14/2015
0001392198		LIQUID NAILS HEAVY DUTY	10	oz	8/14/2015
0001392197		LIQUID NAILS HEAVY DUTY	10	oz	8/14/2015
0001392196		LIQUID NAILS HEAVY DUTY	10	oz	8/14/2015
0001392195		LIQUID NAILS HEAVY DUTY	10	oz	8/14/2015
0001392193		Chemsafe Clear	5	gal	8/14/2015
0001392192		Chemsafe Clear	5	gal	8/14/2015
0001392191		Chemsafe Clear	5	gal	8/14/2015
0001392190		Chemsafe Clear	5	gal	8/14/2015
0001392155		HENRY-430	4	gal	8/14/2015
0001392141		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392148		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392147		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392146		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392145		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392144		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392170		EASY SAND 45	18	lb	8/14/2015
0001392142		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392151		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392140		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392139		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392138		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392137		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392136		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392004		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392143		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391956		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391964		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391963		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391962		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391961		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391960		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391959		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392149		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391957		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392150		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391955		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391954		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391953		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391952		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392152		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392083		VULKEM 116 BUFF	10.1	oz	8/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391958		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391971		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392049		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392087		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392088		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392089		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392090		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392171		EASY SAND 45	18	lb	8/14/2015
0001392092		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392052		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391996		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391998		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392000		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392001		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392002		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392003		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392091		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392130		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392084		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392085		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392086		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392135		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392134		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392133		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392050		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392131		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392051		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392129		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392128		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392127		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392126		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392125		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392174		EASY SAND 45	18	lb	8/14/2015
0001392132		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391965		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391973		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391972		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391970		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391991		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391968		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392172		EASY SAND 45	18	lb	8/14/2015
0001391966		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391976		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391992		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391993		VULKEM 116 BUFF	10.1	oz	8/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391994		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391995		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392053		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392054		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391967		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391989		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392108		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391982		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391983		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391984		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391985		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391986		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391974		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391988		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391975		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391990		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391980		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391979		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391978		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391977		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392057		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391987		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392081		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392055		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392074		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392075		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392076		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392077		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392078		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392072		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392080		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392071		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392082		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392178		EASY SAND 45	18	lb	8/14/2015
0001392177		EASY SAND 45	18	lb	8/14/2015
0001392176		EASY SAND 45	18	lb	8/14/2015
0001392175		EASY SAND 45	18	lb	8/14/2015
0001391999		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392079		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392065		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392173		EASY SAND 45	18	lb	8/14/2015
0001392058		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392059		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392060		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392061		VULKEM 116 BUFF	10.1	oz	8/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392062		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392073		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392064		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392056		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392066		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392067		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392068		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392069		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391981		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392070		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392063		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392025		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392033		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392032		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392031		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392030		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391939		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001392164		HENRY-430	4	gal	8/14/2015
0001392163		HENRY-430	4	gal	8/14/2015
0001392162		HENRY-430	4	gal	8/14/2015
0001392161		HENRY-430	4	gal	8/14/2015
0001392160		HENRY-430	4	gal	8/14/2015
0001392159		HENRY-430	4	gal	8/14/2015
0001392029		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392028		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392015		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391997		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391933		ARDEX FEATHER FINISH	10	lb	8/14/2015
0001392017		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392018		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392019		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392020		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392027		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392048		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392026		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392189		ARDEX FEATHER FINISH	10	lb	8/14/2015
0001392169		EASY SAND 45	18	lb	8/14/2015
0001392022		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392023		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392024		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392094		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392021		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392110		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392034		VULKEM 116 BUFF	10.1	oz	8/14/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392116		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392115		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392114		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392113		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391942		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001392111		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391941		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001392109		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391938		ARDEX FEATHER FINISH	10	lb	8/14/2015
0001391937		ARDEX FEATHER FINISH	10	lb	8/14/2015
0001391936		ARDEX FEATHER FINISH	10	lb	8/14/2015
0001391935		ARDEX FEATHER FINISH	10	lb	8/14/2015
0001391934		ARDEX FEATHER FINISH	10	lb	8/14/2015
0001392112		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392101		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392014		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392095		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392096		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392097		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392098		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392107		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392100		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392093		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392102		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392103		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392104		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392105		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392106		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391940		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001392099		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392186		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001391948		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391947		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391946		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391945		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391944		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392179		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001392187		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001391951		VULKEM 116 BUFF	10.1	oz	8/14/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392185		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001392184		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001392183		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001392182		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001392181		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001392016		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392188		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001392040		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392047		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392046		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392045		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392044		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392043		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392042		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391949		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392041		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391950		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392039		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392038		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392037		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392036		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392035		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392194		Chemsafe Clear	5	gal	8/14/2015
0001392158		HENRY-430	4	gal	8/14/2015
0001391927		KWIK FOAM	12	oz	8/14/2015
0001391924		KWIK FOAM	12	oz	8/14/2015
0001392013		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392012		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392011		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392010		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392009		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392008		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392007		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392006		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392005		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392180		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/14/2015
0001391926		KWIK FOAM	12	oz	8/14/2015
0001391923		KWIK FOAM	12	oz	8/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001391928		KWIK FOAM	12	oz	8/14/2015
0001392118		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391921		CARPET ADHESIVE	4	gal	8/14/2015
0001392124		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392123		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392122		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001392121		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391925		KWIK FOAM	12	oz	8/14/2015
0001392119		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391929		KWIK FOAM	12	oz	8/14/2015
0001392117		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391943		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001391932		KWIK FOAM	12	oz	8/14/2015
0001391931		KWIK FOAM	12	oz	8/14/2015
0001391930		KWIK FOAM	12	oz	8/14/2015
0001392120		VULKEM 116 BUFF	10.1	oz	8/14/2015
0001351582		CRC 3-36 LUBRICANT SPRAY	11	oz	8/17/2015
0001351581		CRC 3-36 LUBRICANT SPRAY	11	oz	8/17/2015
0001351580		CRC 3-36 LUBRICANT SPRAY	11	oz	8/17/2015
0001351584		CRC 3-36 LUBRICANT SPRAY	11	oz	8/17/2015
0001383281	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/17/2015
0001383338		VARNISH	1	pt	8/17/2015
0001351585		CRC 3-36 LUBRICANT SPRAY	11	oz	8/17/2015
0001351586		HIGH VACUUM GREASE	5.3	oz	8/17/2015
0001383280	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/17/2015
0001383278	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/17/2015
0001383277	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/17/2015
0001383279	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/17/2015
0001383337		VARNISH	1	pt	8/17/2015
0001395921	75-45-6	CHLORODIFLUOROMETHANE	30	lb	8/17/2015
0001383339		VARNISH	1	pt	8/17/2015
0001383340		VARNISH	1	pt	8/17/2015
0001383341		VARNISH	1	pt	8/17/2015
0001383342		VARNISH	1	pt	8/17/2015
0001395919	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/17/2015
0001395922	75-45-6	CHLORODIFLUOROMETHANE	30	lb	8/17/2015
0001383263		SODIUM CHLORIDE 5M SOLUTION	100	ml	8/17/2015
0001351611	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015
0001395920	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/17/2015
0001351619	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015
0001351618	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015
0001351616	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015
0001351614	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351578	118-00-3	GUANOSINE	25	gm	8/17/2015
0001351579		FloMag H	5	gal	8/17/2015
0001351659	13472-45-2	SODIUM POLYTUNGSTATE	25	gm	8/17/2015
0001351612	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015
0001351711		Ethanol	1	l	8/17/2015
0001351610	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015
0001351609	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015
0001351607	1826-67-1	VINYLMAGNESIUM BROMIDE	100	ml	8/17/2015
0001351604		CHEMTRONICS CFC FREE 70 PSI PRECISION DUSTER	10	oz	8/17/2015
0001351662		Decon Gel	1	l	8/17/2015
0001351661	10026-13-8	PHOSPHORUS PENTACHLORIDE	250	gm	8/17/2015
0001351660	7447-40-7	POTASSIUM CHLORIDE	500	gm	8/17/2015
0001351613	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015
0001351663		Decon Gel	1	l	8/17/2015
0001351714		Ethanol	1	l	8/17/2015
0001395918	75-45-6	CHLORODIFLUOROMETHANE	30	lb	8/17/2015
0001395917	75-45-6	CHLORODIFLUOROMETHANE	30	lb	8/17/2015
0001395916	75-45-6	CHLORODIFLUOROMETHANE	30	lb	8/17/2015
0001395915	75-45-6	CHLORODIFLUOROMETHANE	30	lb	8/17/2015
0001395914	75-45-6	CHLORODIFLUOROMETHANE	30	lb	8/17/2015
0001395913	75-45-6	CHLORODIFLUOROMETHANE	30	lb	8/17/2015
0001351709		Ethanol	1	l	8/17/2015
0001351712		Ethanol	1	l	8/17/2015
0001351710		Ethanol	1	l	8/17/2015
0001351664		Decon Gel	1	l	8/17/2015
0001351665		Decon Gel	1	l	8/17/2015
0001351666		Decon Gel	1	l	8/17/2015
0001383275	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	8/17/2015
0001383276	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	8/17/2015
0001395912	75-45-6	CHLORODIFLUOROMETHANE	30	lb	8/17/2015
0001351583		CRC 3-36 LUBRICANT SPRAY	11	oz	8/17/2015
0001351615	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015
0001351713		Ethanol	1	l	8/17/2015
0001351601	4724-47-4	N-OCTADECYLPHOSPHONIC ACID	25	gm	8/17/2015
0001351596	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2	lb	8/17/2015
0001351595		HIGH VACUUM GREASE	5.3	oz	8/17/2015
0001351657	613-93-4	N-Methylbenzamide	5	gm	8/17/2015
0001351617	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015
0001351594		HIGH VACUUM GREASE	5.3	oz	8/17/2015
0001351593		HIGH VACUUM GREASE	5.3	oz	8/17/2015
0001351592		HIGH VACUUM GREASE	5.3	oz	8/17/2015
0001351597	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2	lb	8/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001383262	25322-68-3	POLYETHYLENE GLYCOL 8000	250	gm	8/17/2015
0001351658	1437-10-9	TRANS-CINNAMALDEHYDE	25	gm	8/17/2015
0001351602	13716-12-6	TRI-T-BUTYLPHOSPHINE	2	gm	8/17/2015
0001351606		CONTRAD 70 CLEANER DETERGENT	5	l	8/17/2015
0001351608	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	8/17/2015
0001351591		HIGH VACUUM GREASE	5.3	oz	8/17/2015
0001351590		HIGH VACUUM GREASE	5.3	oz	8/17/2015
0001351589		HIGH VACUUM GREASE	5.3	oz	8/17/2015
0001351588		HIGH VACUUM GREASE	5.3	oz	8/17/2015
0001351587		HIGH VACUUM GREASE	5.3	oz	8/17/2015
0001351603		CHEMTRONICS CFC FREE 70 PSI PRECISION DUSTER	10	oz	8/17/2015
0001351653	52788-53-1	GADOLINIUM NITRATE	1	kg	8/17/2015
0001351645		LITHIUM STANDARD	125	ml	8/17/2015
0001351598	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2	lb	8/17/2015
0001351646		INDIUM STANDARD	125	ml	8/17/2015
0001351647		MANGANESE STANDARD	125	ml	8/17/2015
0001351648		YTTRIUM STANDARD	125	ul	8/17/2015
0001351649		YTTERBIUM STANDARD	125	ml	8/17/2015
0001351650	12067-46-8	TUNGSTEN SELENIDE	10	gm	8/17/2015
0001351644		CHROMIUM STANDARD	125	ml	8/17/2015
0001351652	52788-53-1	GADOLINIUM NITRATE	1	kg	8/17/2015
0001351643		Phosphate test kit Quantofix	100	ml	8/17/2015
0001351642		Phosphate test kit Quantofix	100	ml	8/17/2015
0001351654	52788-53-1	GADOLINIUM NITRATE	1	kg	8/17/2015
0001351655	103-84-4	ACETANILIDE	5	gm	8/17/2015
0001351656	538-51-2	N-BENZYLIDENEANILINE	5	gm	8/17/2015
0001351600	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2	lb	8/17/2015
0001351599	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2	lb	8/17/2015
0001351651		ALUMINA SLURRY	6	oz	8/17/2015
0001351797		EXPULSION SOLUTION AMTAX	237	ml	8/18/2015
0001351766	14965-49-2	Methanamine hydriodide	5	gm	8/18/2015
0001351758		REFRACTION INDEX ND = 1.4	7	ml	8/18/2015
0001351759		REFRACTION INDEX ND = 1.4	7	ml	8/18/2015
0001351794		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	8/18/2015
0001351760		Clear Resin	1	l	8/18/2015
0001351761		Castable Resin	500	ml	8/18/2015
0001351762		Flexible Resin	500	ml	8/18/2015
0001351763		Tough Resin	1	l	8/18/2015
0001351764	108-98-5	THIOPHENOL, 97%	100	ml	8/18/2015
0001351798		EXPULSION SOLUTION AMTAX	237	ml	8/18/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001383286	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/18/2015
0001351767		STARA2155 PH Kit	2	l	8/18/2015
0001351796		EXPULSION SOLUTION AMTAX	237	ml	8/18/2015
0001351795		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	8/18/2015
0001351793		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	8/18/2015
0001351686		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351673		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351792		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	8/18/2015
0001351691		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351690		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351689		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001383284	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/18/2015
0001351687		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351799		EXPULSION SOLUTION AMTAX	237	ml	8/18/2015
0001351685		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351684		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351683		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001383285	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/18/2015
0001383282	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	8/18/2015
0001351692		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351688		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351669		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351675		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351677		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351676		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351693		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351674		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351697		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351672		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351679		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351670		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351680		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351668		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001331805		SILICONE SEALANT	80	ml	8/18/2015
0001351630	7789-67-5	TIN(IV) BROMIDE	50	gm	8/18/2015
0001351626		5 MINUTE EPOXY	25	ml	8/18/2015
0001351625		5 MINUTE EPOXY	25	ml	8/18/2015
0001351624		5 MINUTE EPOXY	25	ml	8/18/2015
0001351620		CL17 DPD Indicator	25	gm	8/18/2015
0001351629	75-56-9	PROPYLENE OXIDE	1	l	8/18/2015
0001351671		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351775	67-68-5	DIMETHYL SULFOXIDE	50	gm	8/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351784	110-54-3	HEXANE	1	l	8/18/2015
0001351783	110-54-3	HEXANE	1	l	8/18/2015
0001351782	110-54-3	HEXANE	1	l	8/18/2015
0001351781	110-54-3	HEXANE	1	l	8/18/2015
0001351780	110-54-3	HEXANE	1	l	8/18/2015
0001351779	110-54-3	HEXANE	1	l	8/18/2015
0001351778	67-68-5	DIMETHYL SULFOXIDE	50	gm	8/18/2015
0001351678		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351776	67-68-5	DIMETHYL SULFOXIDE	50	gm	8/18/2015
0001351785	6303-21-5	HYPOPHOSPHOROUS ACID 50% SOLUTION	500	gm	8/18/2015
0001351757	7664-93-9	SULFURIC ACID	1	l	8/18/2015
0001351756	7664-93-9	SULFURIC ACID	1	l	8/18/2015
0001351755	7664-93-9	SULFURIC ACID	1	l	8/18/2015
0001351754	7664-93-9	SULFURIC ACID	1	l	8/18/2015
0001351753	7664-93-9	SULFURIC ACID	1	l	8/18/2015
0001351752	7664-93-9	SULFURIC ACID	1	l	8/18/2015
0001351682		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351681		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351777	67-68-5	DIMETHYL SULFOXIDE	50	gm	8/18/2015
0001351738		Deuterated Polystyrene (d8)	2	gm	8/18/2015
0001351745		SPARKLEEN 2	3.25	lb	8/18/2015
0001351725		ALUMINUM SILICON POWDER	1	lb	8/18/2015
0001351708		WHITE LITHIUM GREASE SPRAY	10	oz	8/18/2015
0001351707		WHITE LITHIUM GREASE SPRAY	10	oz	8/18/2015
0001351706		WHITE LITHIUM GREASE SPRAY	10	oz	8/18/2015
0001351704		WHITE LITHIUM GREASE SPRAY	10	oz	8/18/2015
0001351727		ALUMINUM SILICON POWDER	1	lb	8/18/2015
0001351737		Deuterated Polystyrene (d8)	2	gm	8/18/2015
0001351728		ALUMINUM SILICON POWDER	1	lb	8/18/2015
0001351739		Deuterated Polystyrene (d8)	2	gm	8/18/2015
0001351740		SPARKLEEN 2	3.25	lb	8/18/2015
0001351741		SPARKLEEN 2	3.25	lb	8/18/2015
0001351742		SPARKLEEN 2	3.25	lb	8/18/2015
0001351743		SPARKLEEN 2	3.25	lb	8/18/2015
0001351744		SPARKLEEN 2	3.25	lb	8/18/2015
0001202392		SNOOP LEAK DETECT	59	ml	8/18/2015
0001351735		PERMATEX ANTI-SEIZE LUBRICANT	1.5	oz	8/18/2015
0001351736		Deuterated Polystyrene (d8)	2	gm	8/18/2015
0001351667		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351628		Precision Plus Kaleidoscope Protein Standards	500	ul	8/18/2015
0001351627		Precision Plus Kaleidoscope Protein Standards	500	ul	8/18/2015
0001351623		CL17 DPD Indicator	25	gm	8/18/2015
0001351622		CL17 DPD Indicator	25	gm	8/18/2015
0001351726		ALUMINUM SILICON POWDER	1	lb	8/18/2015
0001351695		BARCO BOND EPOXY KIT	.25	lb	8/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351703		WHITE LITHIUM GREASE SPRAY	10	oz	8/18/2015
0001351734	870-46-2	TERT-BUTYL CARBAZATE	25	gm	8/18/2015
0001351733		M BOND 200 ADHESIVE	10	gm	8/18/2015
0001351732		M BOND 200 ADHESIVE	10	gm	8/18/2015
0001351731		M BOND 200 ADHESIVE	10	gm	8/18/2015
0001351730		M BOND 200 ADHESIVE	10	gm	8/18/2015
0001351729		M BOND 200 ADHESIVE	10	gm	8/18/2015
0001351621		CL17 DPD Indicator	25	gm	8/18/2015
0001351705		WHITE LITHIUM GREASE SPRAY	10	oz	8/18/2015
0001351765	14965-49-2	Methanamine hydriodide	5	gm	8/18/2015
0001351699		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351696		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351717		SILVERED COBALT (II, III) OXIDE	25	gm	8/18/2015
0001351724	76-60-8	BROMOCRESOL GREEN	500	ml	8/18/2015
0001351723	76-60-8	BROMOCRESOL GREEN	500	ml	8/18/2015
0001383445	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/18/2015
0001351746		SPARKLEEN 2	3.25	lb	8/18/2015
0001351698		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351721	76-60-8	BROMOCRESOL GREEN	500	ml	8/18/2015
0001351720	7447-41-8	LITHIUM CHLORIDE	500	gm	8/18/2015
0001351719		SILVERED COBALT (II, III) OXIDE	25	gm	8/18/2015
0001351718		SILVERED COBALT (II, III) OXIDE	25	gm	8/18/2015
0001351715	67-63-0	2-PROPANOL	4	l	8/18/2015
0001351716		SILVERED COBALT (II, III) OXIDE	25	gm	8/18/2015
0001351722	76-60-8	BROMOCRESOL GREEN	500	ml	8/18/2015
0001351788		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/18/2015
0001351751		SPARKLEEN 2	3.25	lb	8/18/2015
0001351694		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351750		SPARKLEEN 2	3.25	lb	8/18/2015
0001383444	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/18/2015
0001351749		SPARKLEEN 2	3.25	lb	8/18/2015
0001351786		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/18/2015
0001351701		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351787		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/18/2015
0001351700		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001351748		SPARKLEEN 2	3.25	lb	8/18/2015
0001351789		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/18/2015
0001351747		SPARKLEEN 2	3.25	lb	8/18/2015
0001351790		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/18/2015
0001351791		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/18/2015
0001383283	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/18/2015
0001351702		BARCO BOND EPOXY KIT	.25	lb	8/18/2015
0001214188		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214096		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214095		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001214094		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214093		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214091		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214090		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214089		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214180		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214092		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214097		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214098		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214099		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214100		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214101		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214102		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214103		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214104		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214105		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214106		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214108		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214088		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214107		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214182		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214125		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214124		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214123		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214122		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214121		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214120		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214119		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214118		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214135		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214181		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214128		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214183		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214078		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214077		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214076		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214075		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214074		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214073		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214187		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214184		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214117		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214137		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214086		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214085		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001214084		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214083		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214082		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214081		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214080		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214079		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214179		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214126		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214138		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214127		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214136		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214134		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214185		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214133		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214132		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214131		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214130		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214129		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214087		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214178		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214038		AEROKROIL LUBRICANT SPRAY	12	pt	8/19/2015
0001214110		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214033		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214056		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214057		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214058		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214059		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214060		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214055		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214037		AEROKROIL LUBRICANT SPRAY	12	pt	8/19/2015
0001214036		AEROKROIL LUBRICANT SPRAY	12	pt	8/19/2015
0001214035		AEROKROIL LUBRICANT SPRAY	12	pt	8/19/2015
0001214034		AEROKROIL LUBRICANT SPRAY	12	pt	8/19/2015
0001214116		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214113		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214111		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214112		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214109		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214186		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214114		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001214115		AEROKROIL LUBRICANT SPRAY	12	oz	8/19/2015
0001351926	64-17-5	ETHANOL	20	l	8/20/2015
0001395993		Nitrogen UHP	220	cf	8/20/2015
0001351835	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015
0001351834	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351833	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015
0001351832	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015
0001351838	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015
0001351839	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015
0001351840	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015
0001351836	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015
0001351925	64-17-5	ETHANOL	20	l	8/20/2015
0001352069		CLOROX	1	gal	8/20/2015
0001351927	64-17-5	ETHANOL	20	l	8/20/2015
0001351928	64-17-5	ETHANOL	20	l	8/20/2015
0001395992		Nitrogen UHP	220	cf	8/20/2015
0001351930	7697-37-2	NITRIC ACID OPTIMA	1	l	8/20/2015
0001351931	7697-37-2	NITRIC ACID OPTIMA	1	l	8/20/2015
0001351932	7697-37-2	NITRIC ACID OPTIMA	1	l	8/20/2015
0001352112	7697-37-2	NITRIC ACID OPTIMA	2	l	8/20/2015
0001351831	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015
0001351830	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015
0001351841	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015
0001351821	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001352064		CLOROX	1	gal	8/20/2015
0001352070		CLOROX	1	gal	8/20/2015
0001352071		CLOROX	1	gal	8/20/2015
0001352072		CLOROX	1	gal	8/20/2015
0001352073		CLOROX	1	gal	8/20/2015
0001352074		CLOROX	1	gal	8/20/2015
0001352075		CLOROX	1	gal	8/20/2015
0001349454		SHELL TELLUS OIL	5	gal	8/20/2015
0001395994		Nitrogen UHP	220	cf	8/20/2015
0001351847	78-10-4	TETRAETHYL ORTHOSILICATE	1	l	8/20/2015
0001352068		CLOROX	1	gal	8/20/2015
0001352065		CLOROX	1	gal	8/20/2015
0001351829	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351844	7789-23-3	POTASSIUM FLUORIDE, ANHYDROUS	500	gm	8/20/2015
0001351842	30599-15-6	Pentaerythritol ethoxylate	100	ml	8/20/2015
0001352076		CLOROX	1	gal	8/20/2015
0001351837	1310-73-2	SODIUM HYDROXIDE	500	ml	8/20/2015
0001352067		CLOROX	1	gal	8/20/2015
0001352066		CLOROX	1	gal	8/20/2015
0001351845	14808-60-7	SEA SAND, WASHED	500	gm	8/20/2015
0001351848		LIT/LIM-67/33 FLUX ULTRA PURE	1	kg	8/20/2015
0001396036	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001351812	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351811	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001396047	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001396046	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396045	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001396044	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001396042	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001396041	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001396040	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001396039	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001351823	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001396037	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001351815	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001396035	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001396034	74-86-2	ACETYLENE	40	cf	8/20/2015
0001396033	74-86-2	ACETYLENE	40	cf	8/20/2015
0001396032	74-86-2	ACETYLENE	40	cf	8/20/2015
0001396031	74-86-2	ACETYLENE	40	cf	8/20/2015
0001396030	74-86-2	ACETYLENE	40	cf	8/20/2015
0001396029	74-86-2	ACETYLENE	130	cf	8/20/2015
0001351998		CLOROX	1	gal	8/20/2015
0001396017	74-98-6	PROPANE	17	gal	8/20/2015
0001396015		Nitrogen UHP	220	cf	8/20/2015
0001396038	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001396025	74-98-6	PROPANE	17	gal	8/20/2015
0001351827	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351826	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351825	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351824	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001395991		Nitrogen UHP	220	cf	8/20/2015
0001351822	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351820	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351819	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351818	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351817	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351813	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001396026	74-98-6	PROPANE	17	gal	8/20/2015
0001351814	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001396024	74-98-6	PROPANE	17	gal	8/20/2015
0001396023	74-98-6	PROPANE	17	gal	8/20/2015
0001396022	74-98-6	PROPANE	17	gal	8/20/2015
0001396021	74-98-6	PROPANE	17	gal	8/20/2015
0001396020	74-98-6	PROPANE	17	gal	8/20/2015
0001396019	74-98-6	PROPANE	17	gal	8/20/2015
0001396018	74-98-6	PROPANE	17	gal	8/20/2015
0001395972		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001351919	288-32-4	IMIDAZOLE	100	gm	8/20/2015
0001351816	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351828	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396027	74-98-6	PROPANE	17	gal	8/20/2015
0001351994		CLOROX	1	gal	8/20/2015
0001352049		CLOROX	1	gal	8/20/2015
0001351862	18982-54-2	2-Bromobenzyl alcohol	10	gm	8/20/2015
0001351874		BUFFER PH 7 (YELLOW BUFFER)	500	ml	8/20/2015
0001351876		CLOROX	1	gal	8/20/2015
0001351877		CLOROX	1	gal	8/20/2015
0001351878		CLOROX	1	gal	8/20/2015
0001351879		CLOROX	1	gal	8/20/2015
0001351880		CLOROX	1	gal	8/20/2015
0001351924	64-17-5	ETHANOL	20	l	8/20/2015
0001352012		CLOROX	1	gal	8/20/2015
0001351997		CLOROX	1	gal	8/20/2015
0001351860	18163-47-8	1-Iodo-2-(trimethylsilyl)acetylene	1	gm	8/20/2015
0001351995		CLOROX	1	gal	8/20/2015
0001351859	7782-42-5	MULTI-WALLED CARBON NANOTUBES	100	gm	8/20/2015
0001351993		CLOROX	1	gal	8/20/2015
0001351992		CLOROX	1	gal	8/20/2015
0001351991		CLOROX	1	gal	8/20/2015
0001351929	7697-37-2	NITRIC ACID OPTIMA	1	l	8/20/2015
0001352056		CLOROX	1	gal	8/20/2015
0001352055		CLOROX	1	gal	8/20/2015
0001352054		CLOROX	1	gal	8/20/2015
0001352053		CLOROX	1	gal	8/20/2015
0001352052		CLOROX	1	gal	8/20/2015
0001352051		CLOROX	1	gal	8/20/2015
0001395988		Nitrogen UHP	220	cf	8/20/2015
0001351996		CLOROX	1	gal	8/20/2015
0001396048	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001351999		CLOROX	1	gal	8/20/2015
0001352000		CLOROX	1	gal	8/20/2015
0001352001		CLOROX	1	gal	8/20/2015
0001352002		CLOROX	1	gal	8/20/2015
0001352003		CLOROX	1	gal	8/20/2015
0001352004		CLOROX	1	gal	8/20/2015
0001352005		CLOROX	1	gal	8/20/2015
0001352006		CLOROX	1	gal	8/20/2015
0001352007		CLOROX	1	gal	8/20/2015
0001352008		CLOROX	1	gal	8/20/2015
0001352009		CLOROX	1	gal	8/20/2015
0001351861	873-75-6	4-BROMOBENZYL ALCOHOL	10	gm	8/20/2015
0001352011		CLOROX	1	gal	8/20/2015
0001352048		CLOROX	1	gal	8/20/2015
0001396049	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001396050	74-98-6	PROPANE	57	gal	8/20/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351849		DOW CORNING 340 SILICONE HEAT SINK COMPOUND	5	oz	8/20/2015
0001351850		DOW CORNING 340 SILICONE HEAT SINK COMPOUND	5	oz	8/20/2015
0001351851		DOW CORNING 340 SILICONE HEAT SINK COMPOUND	5	oz	8/20/2015
0001351852		DOW CORNING 340 SILICONE HEAT SINK COMPOUND	5	oz	8/20/2015
0001351854		GELCODE BLUE STAIN REAGENT	500	ml	8/20/2015
0001351855		GELCODE BLUE STAIN REAGENT	500	ml	8/20/2015
0001351856		GELCODE BLUE STAIN REAGENT	500	ml	8/20/2015
0001351857	288-13-1	PYRAZOLE, 98%	100	gm	8/20/2015
0001351858	7782-42-5	MULTI-WALLED CARBON NANOTUBES	100	gm	8/20/2015
0001352010		CLOROX	1	gal	8/20/2015
0001351921	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	1	l	8/20/2015
0001352050		CLOROX	1	gal	8/20/2015
0001352060		CLOROX	1	gal	8/20/2015
0001352061		CLOROX	1	gal	8/20/2015
0001352062		CLOROX	1	gal	8/20/2015
0001352063		CLOROX	1	gal	8/20/2015
0001383447	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	8/20/2015
0001383446	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	8/20/2015
0001351922	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	1	l	8/20/2015
0001351853	1303-86-2	BORON OXIDE	500	gm	8/20/2015
0001349458		SHELL TELLUS OIL	5	gal	8/20/2015
0001349457		SHELL TELLUS OIL	5	gal	8/20/2015
0001352058		CLOROX	1	gal	8/20/2015
0001349455		SHELL TELLUS OIL	5	gal	8/20/2015
0001352057		CLOROX	1	gal	8/20/2015
0001351920	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	1	l	8/20/2015
0001351875		CLOROX	1	gal	8/20/2015
0001351873	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	8/20/2015
0001351872	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	8/20/2015
0001351871		BUFFER PH 2	500	ml	8/20/2015
0001351870		BUFFER PH 2	500	ml	8/20/2015
0001351869	67-68-5	DIMETHYL SULFOXIDE	50	ml	8/20/2015
0001396016		Nitrogen UHP	220	cf	8/20/2015
0001395942		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001396014		Nitrogen UHP	220	cf	8/20/2015
0001395989		Nitrogen UHP	220	cf	8/20/2015
0001349456		SHELL TELLUS OIL	5	gal	8/20/2015
0001352034		CLOROX	1	gal	8/20/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352047		CLOROX	1	gal	8/20/2015
0001352046		CLOROX	1	gal	8/20/2015
0001352045		CLOROX	1	gal	8/20/2015
0001352044		CLOROX	1	gal	8/20/2015
0001352043		CLOROX	1	gal	8/20/2015
0001352042		CLOROX	1	gal	8/20/2015
0001352041		CLOROX	1	gal	8/20/2015
0001352040		CLOROX	1	gal	8/20/2015
0001352039		CLOROX	1	gal	8/20/2015
0001352038		CLOROX	1	gal	8/20/2015
0001352037		CLOROX	1	gal	8/20/2015
0001352059		CLOROX	1	gal	8/20/2015
0001352035		CLOROX	1	gal	8/20/2015
0001395990		Nitrogen UHP	220	cf	8/20/2015
0001352033		CLOROX	1	gal	8/20/2015
0001352032		CLOROX	1	gal	8/20/2015
0001352031		CLOROX	1	gal	8/20/2015
0001352030		CLOROX	1	gal	8/20/2015
0001352029		CLOROX	1	gal	8/20/2015
0001352028		CLOROX	1	gal	8/20/2015
0001352027		CLOROX	1	gal	8/20/2015
0001352026		CLOROX	1	gal	8/20/2015
0001352025		CLOROX	1	gal	8/20/2015
0001352024		CLOROX	1	gal	8/20/2015
0001351923	64-17-5	ETHANOL	20	l	8/20/2015
0001352036		CLOROX	1	gal	8/20/2015
0001351768	56-81-5	MARK 12 UNSTAINED STANDARD	1	ml	8/20/2015
0001395925		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001396028	74-86-2	ACETYLENE	130	cf	8/20/2015
0001395926		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395927		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395928		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395929		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395930		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001352014		CLOROX	1	gal	8/20/2015
0001395969	7440-59-7	HELIUM	220	cf	8/20/2015
0001351800	67-56-1	METHANOL	4	l	8/20/2015
0001395923		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001383080	67-68-5	Agilent DNA 12000 Kit	5	ml	8/20/2015
0001383079	67-68-5	Agilent DNA 12000 Kit	5	ml	8/20/2015
0001383078	67-68-5	Agilent DNA 12000 Kit	5	ml	8/20/2015
0001383077	67-68-5	Agilent DNA 12000 Kit	5	ml	8/20/2015
0001383076	67-68-5	Agilent DNA 12000 Kit	5	ml	8/20/2015
0001383075	67-68-5	Agilent DNA 12000 Kit	5	ml	8/20/2015
0001383074	67-68-5	Agilent DNA 12000 Kit	5	ml	8/20/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001383073	67-68-5	Agilent DNA 12000 Kit	5	ml	8/20/2015
0001352102		CLOROX	1	gal	8/20/2015
0001352013		CLOROX	1	gal	8/20/2015
0001351774	77-92-9	Citrajet Liquid Detergent	1	gal	8/20/2015
0001352023		CLOROX	1	gal	8/20/2015
0001352022		CLOROX	1	gal	8/20/2015
0001352021		CLOROX	1	gal	8/20/2015
0001351801	67-56-1	METHANOL	4	l	8/20/2015
0001352078		CLOROX	1	gal	8/20/2015
0001351843	259-79-0	Biphenylene	250	mg	8/20/2015
0001352019		CLOROX	1	gal	8/20/2015
0001352018		CLOROX	1	gal	8/20/2015
0001352017		CLOROX	1	gal	8/20/2015
0001396013		Nitrogen UHP	220	cf	8/20/2015
0001352015		CLOROX	1	gal	8/20/2015
0001395924		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001351773	110-18-9	N,N,N',N'-TETRAMETHYLETHYLENEDIAMINE	100	ml	8/20/2015
0001351772	429-41-4	TETRABUTYLAMMONIUM FLUORIDE	100	ml	8/20/2015
0001351771		DMSO DIMETHYL SULFOXIDE	1	l	8/20/2015
0001351805	67-63-0	2-PROPANOL	4	l	8/20/2015
0001351804	67-63-0	2-PROPANOL	4	l	8/20/2015
0001351803	67-63-0	2-PROPANOL	4	l	8/20/2015
0001351802	67-63-0	2-PROPANOL	4	l	8/20/2015
0001352077		CLOROX	1	gal	8/20/2015
0001395968	7440-59-7	HELIUM	220	cf	8/20/2015
0001352016		CLOROX	1	gal	8/20/2015
0001395987		Nitrogen UHP	220	cf	8/20/2015
0001395945		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395943		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395941		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395940		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395981		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001395982		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001395983		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001395984		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001383072	67-68-5	Agilent DNA 12000 Kit	5	ml	8/20/2015
0001395986		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001351846	7775-14-6	SODIUM DITHIONITE (SODIUM HYDROSULFITE)	250	gm	8/20/2015
0001395939		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395938		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395937		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395936		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395935		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395934		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395933		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395932		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395931		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395985		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001396000		Nitrogen UHP	220	cf	8/20/2015
0001395967	7440-59-7	HELIUM	220	cf	8/20/2015
0001395966	7440-59-7	HELIUM	220	cf	8/20/2015
0001395965	1333-74-0	HYDROGEN	220	cf	8/20/2015
0001395963	1333-74-0	HYDROGEN	220	cf	8/20/2015
0001395962	1333-74-0	HYDROGEN	220	cf	8/20/2015
0001395961	1333-74-0	HYDROGEN	220	cf	8/20/2015
0001395960	1333-74-0	HYDROGEN	220	cf	8/20/2015
0001395959	1333-74-0	HYDROGEN	220	cf	8/20/2015
0001395958		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395946		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001383071	67-68-5	Agilent DNA 12000 Kit	5	ml	8/20/2015
0001395948		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395999		Nitrogen UHP	220	cf	8/20/2015
0001395956		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395955		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395954		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395953		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395952		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395951		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395950		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001352079		CLOROX	1	gal	8/20/2015
0001395957		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395998		Nitrogen UHP	220	cf	8/20/2015
0001352096		CLOROX	1	gal	8/20/2015
0001351770	56-81-5	MARK 12 UNSTAINED STANDARD	1	ml	8/20/2015
0001352101		CLOROX	1	gal	8/20/2015
0001352100		CLOROX	1	gal	8/20/2015
0001352099		CLOROX	1	gal	8/20/2015
0001352098		CLOROX	1	gal	8/20/2015
0001352020		CLOROX	1	gal	8/20/2015
0001396006		Nitrogen UHP	220	cf	8/20/2015
0001352103		CLOROX	1	gal	8/20/2015
0001396005		Nitrogen UHP	220	cf	8/20/2015
0001395997		Nitrogen UHP	220	cf	8/20/2015
0001395996		Nitrogen UHP	220	cf	8/20/2015
0001395995		Nitrogen UHP	220	cf	8/20/2015
0001396009		Nitrogen UHP	220	cf	8/20/2015
0001396010		Nitrogen UHP	220	cf	8/20/2015
0001396011		Nitrogen UHP	220	cf	8/20/2015
0001351769	56-81-5	MARK 12 UNSTAINED STANDARD	1	ml	8/20/2015
0001395975		OXYGEN COMPRESSED GAS	220	cf	8/20/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396008		Nitrogen UHP	220	cf	8/20/2015
0001351867	67-68-5	DIMETHYL SULFOXIDE	50	ml	8/20/2015
0001395974		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001395973		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001395971	7440-59-7	HELIUM	220	cf	8/20/2015
0001395970	7440-59-7	HELIUM	220	cf	8/20/2015
0001351863	1074-16-4	2-Bromophenethyl alcohol	5	gm	8/20/2015
0001351864	93-03-8	3,4-DIMETHOXYBENZYL ALCOHOL	25	gm	8/20/2015
0001395976		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001396007		Nitrogen UHP	220	cf	8/20/2015
0001351866	67-68-5	DIMETHYL SULFOXIDE	50	ml	8/20/2015
0001383453	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/20/2015
0001351868	67-68-5	DIMETHYL SULFOXIDE	50	ml	8/20/2015
0001395977		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001395979		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001395980		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001396001		Nitrogen UHP	220	cf	8/20/2015
0001396002		Nitrogen UHP	220	cf	8/20/2015
0001396003		Nitrogen UHP	220	cf	8/20/2015
0001396004		Nitrogen UHP	220	cf	8/20/2015
0001351865	67-68-5	DIMETHYL SULFOXIDE	50	ml	8/20/2015
0001352113	7697-37-2	NITRIC ACID OPTIMA	2	l	8/20/2015
0001396012		Nitrogen UHP	220	cf	8/20/2015
0001352084		CLOROX	1	gal	8/20/2015
0001352083		CLOROX	1	gal	8/20/2015
0001352082		CLOROX	1	gal	8/20/2015
0001352081		CLOROX	1	gal	8/20/2015
0001352080		CLOROX	1	gal	8/20/2015
0001352116	7697-37-2	NITRIC ACID OPTIMA	2	l	8/20/2015
0001352086		CLOROX	1	gal	8/20/2015
0001352114	7697-37-2	NITRIC ACID OPTIMA	2	l	8/20/2015
0001352087		CLOROX	1	gal	8/20/2015
0001351810	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351809	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351808	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351807	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001351806	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	8/20/2015
0001352106		CLOROX	1	gal	8/20/2015
0001352105		CLOROX	1	gal	8/20/2015
0001352104		CLOROX	1	gal	8/20/2015
0001352115	7697-37-2	NITRIC ACID OPTIMA	2	l	8/20/2015
0001352107		CLOROX	1	gal	8/20/2015
0001383452	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/20/2015
0001383451	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/20/2015
0001383450	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/20/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001383449	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/20/2015
0001383448	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/20/2015
0001352111	7697-37-2	NITRIC ACID OPTIMA	2	l	8/20/2015
0001352110		CLOROX	1	gal	8/20/2015
0001352085		CLOROX	1	gal	8/20/2015
0001352108		CLOROX	1	gal	8/20/2015
0001352097		CLOROX	1	gal	8/20/2015
0001352095		CLOROX	1	gal	8/20/2015
0001352094		CLOROX	1	gal	8/20/2015
0001352093		CLOROX	1	gal	8/20/2015
0001352092		CLOROX	1	gal	8/20/2015
0001352091		CLOROX	1	gal	8/20/2015
0001352090		CLOROX	1	gal	8/20/2015
0001352089		CLOROX	1	gal	8/20/2015
0001352088		CLOROX	1	gal	8/20/2015
0001352109		CLOROX	1	gal	8/20/2015
0001396043	7440-37-1	ARGON, COMPRESSED	220	cf	8/20/2015
0001395944		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395949		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395947		P-10 (90% ARGON 10% METHANE)	220	cf	8/20/2015
0001395978		OXYGEN COMPRESSED GAS	220	cf	8/20/2015
0001395964	1333-74-0	HYDROGEN	220	cf	8/20/2015
0001396051	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	8/21/2015
0001351889		STANDARD SOLUTION AMTAX	237	ml	8/21/2015
0001351890		STANDARD SOLUTION AMTAX	237	ml	8/21/2015
0001351891		STANDARD SOLUTION AMTAX	237	ml	8/21/2015
0001351892		STANDARD SOLUTION AMTAX	237	ml	8/21/2015
0001351893		STANDARD SOLUTION AMTAX	237	ml	8/21/2015
0001351894		STANDARD SOLUTION AMTAX	237	ml	8/21/2015
0001396053	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/21/2015
0001396054	811-97-2	AIR	220	cf	8/21/2015
0001396056	74-86-2	ACETYLENE	10	cf	8/21/2015
0001351896	110-82-7	CYCLOHEXANE	1	l	8/21/2015
0001396055	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	8/21/2015
0001396052	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	8/21/2015
0001351881		Barium Titanate Nano Powder	10	kg	8/21/2015
0001351882	67-66-3	CHLOROFORM	1	l	8/21/2015
0001351883	67-66-3	CHLOROFORM	1	l	8/21/2015
0001351884	67-66-3	CHLOROFORM	1	l	8/21/2015
0001351885	67-66-3	CHLOROFORM	1	l	8/21/2015
0001351886	67-66-3	CHLOROFORM	1	l	8/21/2015
0001351887	67-66-3	CHLOROFORM	1	l	8/21/2015
0001351888	10294-33-4	BORON TRIBROMIDE	100	gm	8/21/2015
0001351895	60177-39-1	AG1-8-X RESIN	500	ml	8/21/2015
0001392216		WHITE TRAFFIC PAINT	5	gal	8/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392437		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392224		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392223		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392222		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392221		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392220		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392219		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392226		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392217		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392227		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392215		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392213		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392212		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392211		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392210		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392209		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392357		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392218		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392262		DENATURED ALCOHOL	5	gal	8/24/2015
0001392431		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392432		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392433		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392434		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392435		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392436		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392208		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392225		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392261		DENATURED ALCOHOL	5	gal	8/24/2015
0001392430		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001144846		N910 PETRO-BOND	5	gal	8/24/2015
0001144847		N910 PETRO-BOND	5	gal	8/24/2015
0001392232		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392231		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392230		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392229		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392228		WHITE TRAFFIC PAINT	5	gal	8/24/2015
0001392260		DENATURED ALCOHOL	5	gal	8/24/2015
0001392235		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392328		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392329		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392330		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392331		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392333		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392335		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392336		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392337		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392338		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392339		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392244		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392234		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392325		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392236		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392237		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392238		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392239		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392340		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392341		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392240		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392241		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392242		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392243		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392233		YELLOW TRAFFIC PAINT	5	gal	8/24/2015
0001392314		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001144854		N910 PETRO-BOND	5	gal	8/24/2015
0001144853		N910 PETRO-BOND	5	gal	8/24/2015
0001144852		N910 PETRO-BOND	5	gal	8/24/2015
0001144851		N910 PETRO-BOND	5	gal	8/24/2015
0001144850		N910 PETRO-BOND	5	gal	8/24/2015
0001144849		N910 PETRO-BOND	5	gal	8/24/2015
0001144848		N910 PETRO-BOND	5	gal	8/24/2015
0001392429		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392214		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392311		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392327		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392313		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392326		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392315		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392316		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392317		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392318		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392319		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392320		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392321		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392322		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392323		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392324		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392334		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392312		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392415		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392352		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392353		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392354		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392355		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392356		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392245		LACQUER THINNER	5	gal	8/24/2015
0001392257		LACQUER THINNER	5	gal	8/24/2015
0001392332		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392259		LACQUER THINNER	5	gal	8/24/2015
0001392413		DENATURED ALCOHOL	5	gal	8/24/2015
0001391502		UPSIDE DOWN STRIPING PAINT	17	oz	8/24/2015
0001391503		UPSIDE DOWN STRIPING PAINT	17	oz	8/24/2015
0001392351		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392414		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392358		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392416		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392417		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392418		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392419		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392420		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392421		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392422		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392423		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392424		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392425		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392426		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392427		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392428		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001144845		N910 PETRO-BOND	5	gal	8/24/2015
0001392346		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392253		LACQUER THINNER	5	gal	8/24/2015
0001392258		LACQUER THINNER	5	gal	8/24/2015
0001392350		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392254		LACQUER THINNER	5	gal	8/24/2015
0001392255		LACQUER THINNER	5	gal	8/24/2015
0001392256		LACQUER THINNER	5	gal	8/24/2015
0001392342		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392343		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392345		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392347		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392247		LACQUER THINNER	5	gal	8/24/2015
0001392250		LACQUER THINNER	5	gal	8/24/2015
0001392249		LACQUER THINNER	5	gal	8/24/2015
0001392251		LACQUER THINNER	5	gal	8/24/2015
0001392248		LACQUER THINNER	5	gal	8/24/2015
0001392344		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392348		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392246		LACQUER THINNER	5	gal	8/24/2015
0001392349		FANTASTIK ALL PURPOSE CLEANER	1	qt	8/24/2015
0001392252		LACQUER THINNER	5	gal	8/24/2015
0001392278		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	8/25/2015
0001392272		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	8/25/2015
0001396061	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/25/2015
0001392263	68551-17-7	MINERAL SPIRITS	5	gal	8/25/2015
0001392264	68551-17-7	MINERAL SPIRITS	5	gal	8/25/2015
0001392265	68551-17-7	MINERAL SPIRITS	5	gal	8/25/2015
0001392273		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	8/25/2015
0001392274		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	8/25/2015
0001392275		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	8/25/2015
0001396070	75-45-6	CHLORODIFLUOROMETHANE (FREON-22)	30	lb	8/25/2015
0001396063	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/25/2015
0001396064	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/25/2015
0001396065	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/25/2015
0001396066	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/25/2015
0001396067	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	8/25/2015
0001392276		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	8/25/2015
0001396069	75-45-6	CHLORODIFLUOROMETHANE (FREON-22)	30	lb	8/25/2015
0001392277		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	8/25/2015
0001396071	75-45-6	CHLORODIFLUOROMETHANE (FREON-22)	30	lb	8/25/2015
0001312284		DIESEL EXHAUST FLUID	2.5	gal	8/25/2015
0001392266	68551-17-7	MINERAL SPIRITS	2.5	gal	8/25/2015
0001312282		DIESEL EXHAUST FLUID	2.5	gal	8/25/2015
0001392279		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	8/25/2015
0001396062	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/25/2015
0001396068	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	8/25/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392300		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001351898		PB PENETRATING CATALYST	16	oz	8/25/2015
0001392306		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392305		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392304		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392303		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392308		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392301		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392309		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392299		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392298		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392297		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392296		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001351948	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015
0001396060	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/25/2015
0001392302		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392291		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392268	68551-17-7	MINERAL SPIRITS	1	gal	8/25/2015
0001392269	68551-17-7	MINERAL SPIRITS	1	gal	8/25/2015
0001351899		PB PENETRATING CATALYST	16	oz	8/25/2015
0001351897		PB PENETRATING CATALYST	16	oz	8/25/2015
0001392271		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	8/25/2015
0001392307		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392289		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/25/2015
0001392267	68551-17-7	MINERAL SPIRITS	2.5	gal	8/25/2015
0001392292		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392293		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392294		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392295		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001312283		DIESEL EXHAUST FLUID	2.5	gal	8/25/2015
0001392310		EZ-PRO TEXTURE IN A BAG	20	oz	8/25/2015
0001392270		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	8/25/2015
0001351953	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015
0001312289	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/25/2015
0001351958	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015
0001320390		TORR SEAL EPOXY	36	gm	8/25/2015
0001320389		HIGH TEMP GREASE	25	gm	8/25/2015
0001320388		HIGH VACUUM GREASE	25	gm	8/25/2015
0001351946	141-78-6	ETHYL ACETATE	4	l	8/25/2015
0001351957	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015
0001351956	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352150	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001351954	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015
0001352149	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001351952	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015
0001392283		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/25/2015
0001392282		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/25/2015
0001392281		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/25/2015
0001392280		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/25/2015
0001312294	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/25/2015
0001312292	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/25/2015
0001312291	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/25/2015
0001351945	67-64-1	ACETONE FOR HPLC	4	l	8/25/2015
0001351955	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015
0001352139	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001312281		EPOXIDE RESIN AND HARDENER	1	oz	8/25/2015
0001312280		EPOXIDE RESIN AND HARDENER	1	oz	8/25/2015
0001392288		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/25/2015
0001392287		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/25/2015
0001392286		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/25/2015
0001392285		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/25/2015
0001352135	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352136	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352151	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352138	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001312288	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/25/2015
0001352140	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352141	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352142	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352143	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352144	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352145	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352146	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352147	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352148	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352137	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001383457	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/25/2015
0001312290	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/25/2015
0001351936		WATER LC-MS	4	l	8/25/2015
0001351933	10361-37-2	BARIUM CHLORIDE	500	gm	8/25/2015
0001351902	73513-42-5	HEXANES, NORMAL	4	l	8/25/2015
0001352152	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352153	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001352154	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	8/25/2015
0001383454	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	8/25/2015
0001351938		BUFFER PH 10 (BLUE BUFFER)	500	ml	8/25/2015
0001383456	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/25/2015
0001351939		BUFFER PH 10 (BLUE BUFFER)	500	ml	8/25/2015
0001383458	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/25/2015
0001383459	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/25/2015
0001351910		APIEZON GREASE TYPE M	25	gm	8/25/2015
0001351911		APIEZON GREASE TYPE M	25	gm	8/25/2015
0001351912		APIEZON GREASE TYPE M	25	gm	8/25/2015
0001351901	7440-25-7	TANTALUM FOIL	10	gm	8/25/2015
0001351909		APIEZON GREASE TYPE M	25	gm	8/25/2015
0001396057	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/25/2015
0001396058	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/25/2015
0001383455	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	8/25/2015
0001351951	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015
0001312287	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/25/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001351900		PB PENETRATING CATALYST	16	oz	8/25/2015
0001351903	73513-42-5	HEXANES, NORMAL	4	l	8/25/2015
0001351904	73513-42-5	HEXANES, NORMAL	4	l	8/25/2015
0001351905	73513-42-5	HEXANES, NORMAL	4	l	8/25/2015
0001351934	10361-37-2	BARIUM CHLORIDE	500	gm	8/25/2015
0001351935	10361-37-2	BARIUM CHLORIDE	500	gm	8/25/2015
0001312286	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/25/2015
0001351937		PH BUFFER PH 1.00	500	ml	8/25/2015
0001392290	68551-17-7	MINERAL SPIRITS	5	gal	8/25/2015
0001396059	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	8/25/2015
0001351950	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015
0001351949	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015
0001351947	1310-73-2	SODIUM HYDROXIDE	500	ml	8/25/2015
0001392284		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	8/25/2015
0001351944	69227-93-6	N-DODECYL-B-D-MALTOPYRANOSIDE	25	gm	8/25/2015
0001351943		AMMONIA pH ADJUST. ISA	425	ml	8/25/2015
0001351942		AMMONIA pH ADJUST. ISA	425	ml	8/25/2015
0001351941		AMMONIA pH ADJUST. ISA	425	ml	8/25/2015
0001351940		AMMONIA pH ADJUST. ISA	425	ml	8/25/2015
0001312285	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/25/2015
0001351906		Permatex Ultra Blue	.75	oz	8/25/2015
0001312293	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/25/2015
0001351908		Permatex Ultra Blue	.75	oz	8/25/2015
0001351907		Permatex Ultra Blue	.75	oz	8/25/2015
0001392531		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392532		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392533		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392530		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392535		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392527		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392536		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392537		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392538		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001312295		METACAULK 1000 FIRESTOPPER SEALANT	10.3	oz	8/26/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312296		METACAULK 1000 FIRESTOPPER SEALANT	10.3	oz	8/26/2015
0001312297		METACAULK 1000 FIRESTOPPER SEALANT	10.3	oz	8/26/2015
0001392534		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001312298		DAP '33' GLAZING	32	oz	8/26/2015
0001392528		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392480		JOINT COMPOUND	5	gal	8/26/2015
0001392526		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392525		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392524		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392523		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392522		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392521		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392519		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392518		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392517		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392529		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392471		JOINT COMPOUND	5	gal	8/26/2015
0001392410		fast setting cement	60	lb	8/26/2015
0001392409		fast setting cement	60	lb	8/26/2015
0001392408		fast setting cement	60	lb	8/26/2015
0001392407		fast setting cement	60	lb	8/26/2015
0001392406		fast setting cement	60	lb	8/26/2015
0001352156		INCUWATER-CLEAN	100	ml	8/26/2015
0001352157		INCUWATER-CLEAN	100	ml	8/26/2015
0001383943		ZIP-STRIP PAINT-VARNISH AND STAIN REMOVER	16	oz	8/26/2015
0001352155		INCUWATER-CLEAN	100	ml	8/26/2015
0001392467		fast setting cement	60	lb	8/26/2015
0001392468		JOINT COMPOUND	5	gal	8/26/2015
0001383935		FANTASTIKE ALL PURPOSE CLEANER	1	gal	8/26/2015
0001392470		JOINT COMPOUND	5	gal	8/26/2015
0001312299		DAP '33' GLAZING	32	oz	8/26/2015
0001392472		JOINT COMPOUND	5	gal	8/26/2015
0001392473		JOINT COMPOUND	5	gal	8/26/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392474		JOINT COMPOUND	5	gal	8/26/2015
0001392475		JOINT COMPOUND	5	gal	8/26/2015
0001392476		JOINT COMPOUND	5	gal	8/26/2015
0001392477		JOINT COMPOUND	5	gal	8/26/2015
0001392478		JOINT COMPOUND	5	gal	8/26/2015
0001392479		JOINT COMPOUND	5	gal	8/26/2015
0001392514		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392481		JOINT COMPOUND	5	gal	8/26/2015
0001392510		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392469		JOINT COMPOUND	5	gal	8/26/2015
0001312311		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001312316		KILZ ORIGINAL AEROSOL	13	oz	8/26/2015
0001352267	7732-18-5	WATER	20	l	8/26/2015
0001352266	7732-18-5	WATER	20	l	8/26/2015
0001352265	7732-18-5	WATER	20	l	8/26/2015
0001352264	7732-18-5	WATER	20	l	8/26/2015
0001312321		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001312320		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001312319		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001312318		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001312315		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001312314		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001392516		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001312312		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001392484		Digital Image Screen Paint	1	gal	8/26/2015
0001312310		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001312309		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001312308		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001312307		DAP '33' GLAZING	32	oz	8/26/2015
0001312306		DAP '33' GLAZING	32	oz	8/26/2015
0001312305		DAP '33' GLAZING	32	oz	8/26/2015
0001312304		DAP '33' GLAZING	32	oz	8/26/2015
0001312303		DAP '33' GLAZING	32	oz	8/26/2015
0001312302		DAP '33' GLAZING	32	oz	8/26/2015
0001312301		DAP '33' GLAZING	32	oz	8/26/2015
0001312300		DAP '33' GLAZING	32	oz	8/26/2015
0001383936		FANTASTIKE ALL PURPOSE CLEANER	1	gal	8/26/2015
0001312313		100% SILICONE SEALANT	9.8	oz	8/26/2015
0001392395		fast setting cement	60	lb	8/26/2015
0001392546		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392513		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392512		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392511		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392405		fast setting cement	60	lb	8/26/2015
0001392404		fast setting cement	60	lb	8/26/2015
0001392403		fast setting cement	60	lb	8/26/2015
0001392402		fast setting cement	60	lb	8/26/2015
0001392401		fast setting cement	60	lb	8/26/2015
0001392400		fast setting cement	60	lb	8/26/2015
0001392399		fast setting cement	60	lb	8/26/2015
0001392398		fast setting cement	60	lb	8/26/2015
0001312317		KILZ ORIGINAL AEROSOL	13	oz	8/26/2015
0001392396		fast setting cement	60	lb	8/26/2015
0001392483		Digital Image Screen Paint	1	gal	8/26/2015
0001392394		fast setting cement	60	lb	8/26/2015
0001392393		fast setting cement	60	lb	8/26/2015
0001392392		fast setting cement	60	lb	8/26/2015
0001392391		fast setting cement	60	lb	8/26/2015
0001392390		fast setting cement	60	lb	8/26/2015
0001392389		fast setting cement	60	lb	8/26/2015
0001392388		fast setting cement	60	lb	8/26/2015
0001392387		fast setting cement	60	lb	8/26/2015
0001392386		fast setting cement	60	lb	8/26/2015
0001392385		fast setting cement	60	lb	8/26/2015
0001392384		fast setting cement	60	lb	8/26/2015
0001392515		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392397		fast setting cement	60	lb	8/26/2015
0001392462		KWIK FOAM	12	oz	8/26/2015
0001392411		fast setting cement	60	lb	8/26/2015
0001392366		fast setting cement	60	lb	8/26/2015
0001392365		fast setting cement	60	lb	8/26/2015
0001392364		fast setting cement	60	lb	8/26/2015
0001392363		fast setting cement	60	lb	8/26/2015
0001392362		fast setting cement	60	lb	8/26/2015
0001392361		fast setting cement	60	lb	8/26/2015
0001392360		fast setting cement	60	lb	8/26/2015
0001392359		fast setting cement	60	lb	8/26/2015
0001392466		KWIK FOAM	12	oz	8/26/2015
0001392465		KWIK FOAM	12	oz	8/26/2015
0001392380		fast setting cement	60	lb	8/26/2015
0001392463		KWIK FOAM	12	oz	8/26/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392381		fast setting cement	60	lb	8/26/2015
0001392461		KWIK FOAM	12	oz	8/26/2015
0001392460		KWIK FOAM	12	oz	8/26/2015
0001392459		KWIK FOAM	12	oz	8/26/2015
0001392458		KWIK FOAM	12	oz	8/26/2015
0001392457		KWIK FOAM	12	oz	8/26/2015
0001392456		KWIK FOAM	12	oz	8/26/2015
0001392455		KWIK FOAM	12	oz	8/26/2015
0001392454		KWIK FOAM	12	oz	8/26/2015
0001392453		KWIK FOAM	12	oz	8/26/2015
0001392452		KWIK FOAM	12	oz	8/26/2015
0001392451		KWIK FOAM	12	oz	8/26/2015
0001392450		KWIK FOAM	12	oz	8/26/2015
0001392464		KWIK FOAM	12	oz	8/26/2015
0001392377		fast setting cement	60	lb	8/26/2015
0001392203		PLUMBERS GREASE	10	lb	8/26/2015
0001317340		HIGH VACUUM GREASE	150	gm	8/26/2015
0001317349		HIGH VACUUM GREASE	150	gm	8/26/2015
0001317348		HIGH VACUUM GREASE	150	gm	8/26/2015
0001317339		HIGH VACUUM GREASE	150	gm	8/26/2015
0001351962	9-88-7	A,A-DICHLOROTOLUENE	25	gm	8/26/2015
0001351961	9-88-7	A,A-DICHLOROTOLUENE	25	gm	8/26/2015
0001312279	75-83-2	NEOHEXANE	5	oz	8/26/2015
0001351960	1306-19-0	CADMIUM OXIDE	25	gm	8/26/2015
0001351959	1306-19-0	CADMIUM OXIDE	25	gm	8/26/2015
0001317418	1071-46-1	Ethyl Hydrogen Malonate	10	gm	8/26/2015
0001392379		fast setting cement	60	lb	8/26/2015
0001392378		fast setting cement	60	lb	8/26/2015
0001392447		KWIK FOAM	12	oz	8/26/2015
0001392376		fast setting cement	60	lb	8/26/2015
0001392375		fast setting cement	60	lb	8/26/2015
0001392374		fast setting cement	60	lb	8/26/2015
0001392373		fast setting cement	60	lb	8/26/2015
0001392372		fast setting cement	60	lb	8/26/2015
0001392371		fast setting cement	60	lb	8/26/2015
0001392370		fast setting cement	60	lb	8/26/2015
0001392369		fast setting cement	60	lb	8/26/2015
0001392368		fast setting cement	60	lb	8/26/2015
0001392367		fast setting cement	60	lb	8/26/2015
0001392383		fast setting cement	60	lb	8/26/2015
0001392382		fast setting cement	60	lb	8/26/2015
0001317427	1122-58-3	4-DIMETHYLAMINOPYRIDINE	100	gm	8/26/2015
0001392500		PSX 700 PART A(RESIN)	1	gal	8/26/2015
0001392554		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392553		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392552		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392551		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392550		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392549		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392548		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392547		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392545		PSX 700 CURE	.2	gal	8/26/2015
0001392544		PSX 700 CURE	.2	gal	8/26/2015
0001392543		PSX 700 CURE	.2	gal	8/26/2015
0001392449		KWIK FOAM	12	oz	8/26/2015
0001392501		PSX 700 PART A(RESIN)	1	gal	8/26/2015
0001392541		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392499		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	8/26/2015
0001392498		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	8/26/2015
0001392497		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	8/26/2015
0001392496		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	8/26/2015
0001392495		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	8/26/2015
0001392494		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	8/26/2015
0001392493		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	8/26/2015
0001392492		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	8/26/2015
0001392491		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	8/26/2015
0001392490		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	8/26/2015
0001392489		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	8/26/2015
0001392442		KWIK FOAM	12	oz	8/26/2015
0001392502		PSX 700 PART A(RESIN)	1	gal	8/26/2015
0001392561		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392412		fast setting cement	60	lb	8/26/2015
0001392446		KWIK FOAM	12	oz	8/26/2015
0001392445		KWIK FOAM	12	oz	8/26/2015
0001392443		KWIK FOAM	12	oz	8/26/2015
0001392441		KWIK FOAM	12	oz	8/26/2015
0001392440		KWIK FOAM	12	oz	8/26/2015
0001392439		KWIK FOAM	12	oz	8/26/2015
0001392438		KWIK FOAM	12	oz	8/26/2015
0001383942		FANTASTIKE ALL PURPOSE CLEANER	1	gal	8/26/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001383941		FANTASTIKE ALL PURPOSE CLEANER	1	gal	8/26/2015
0001392565		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392564		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392539		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392562		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392540		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392560		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392559		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392558		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392557		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392556		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392555		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001383940		FANTASTIKE ALL PURPOSE CLEANER	1	gal	8/26/2015
0001383939		FANTASTIKE ALL PURPOSE CLEANER	1	gal	8/26/2015
0001383938		FANTASTIKE ALL PURPOSE CLEANER	1	gal	8/26/2015
0001383937		FANTASTIKE ALL PURPOSE CLEANER	1	gal	8/26/2015
0001392542		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392448		KWIK FOAM	12	oz	8/26/2015
0001392563		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392444		KWIK FOAM	12	oz	8/26/2015
0001392487		Top Reflective Coat	1	gal	8/26/2015
0001392486		Top Reflective Coat	1	gal	8/26/2015
0001392485		Top Reflective Coat	1	gal	8/26/2015
0001317357		HIGH VACUUM GREASE	150	gm	8/26/2015
0001392566		OATEY CLEAR ALL-PURPOSE CEMENT FOR ABS, PVC, & CPVC	8	oz	8/26/2015
0001392509		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392503		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392504		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392505		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392506		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392507		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392508		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001392520		VALVOLINE PREMIUM BLUE HD DIESEL OIL 15W-40 SAE	1	gal	8/26/2015
0001352231		C-100 MOLYBDENUM DISULFIDE ANTI-SEIZE LUBRICANT	8	oz	8/27/2015
0001392712		EPOXY RESIN	234	ml	8/27/2015
0001392711		EPOXY RESIN	234	ml	8/27/2015
0001392710		EPOXY RESIN	234	ml	8/27/2015
0001392709		EPOXY RESIN	234	ml	8/27/2015
0001392708		EPOXY RESIN	234	ml	8/27/2015
0001352279	694-53-1	PHENYLSILANE	25	ml	8/27/2015
0001392707		EPOXY RESIN	234	ml	8/27/2015
0001352236		C-100 MOLYBDENUM DISULFIDE ANTI-SEIZE LUBRICANT	8	oz	8/27/2015
0001352235		C-100 MOLYBDENUM DISULFIDE ANTI-SEIZE LUBRICANT	8	oz	8/27/2015
0001352234		C-100 MOLYBDENUM DISULFIDE ANTI-SEIZE LUBRICANT	8	oz	8/27/2015
0001392620		ALEX PLUS	10.1	oz	8/27/2015
0001352232		C-100 MOLYBDENUM DISULFIDE ANTI-SEIZE LUBRICANT	8	oz	8/27/2015
0001392715		EPOXY RESIN	234	ml	8/27/2015
0001352230		C-100 MOLYBDENUM DISULFIDE ANTI-SEIZE LUBRICANT	8	oz	8/27/2015
0001352117	67-56-1	METHANOL	4	l	8/27/2015
0001351989	7697-37-2	NITRIC ACID OPTIMA	500	ml	8/27/2015
0001351988	7697-37-2	NITRIC ACID OPTIMA	500	ml	8/27/2015
0001351987	67-63-0	2-PROPANOL	4	l	8/27/2015
0001351986	67-63-0	2-PROPANOL	4	l	8/27/2015
0001351985	67-63-0	2-PROPANOL	4	l	8/27/2015
0001351984	67-63-0	2-PROPANOL	4	l	8/27/2015
0001351983	67-64-1	ACETONE	4	l	8/27/2015
0001351982	67-64-1	ACETONE	4	l	8/27/2015
0001352233		C-100 MOLYBDENUM DISULFIDE ANTI-SEIZE LUBRICANT	8	oz	8/27/2015
0001391504		ALEX PLUS	10.1	oz	8/27/2015
0001392724		ALEX PLUS	10.1	oz	8/27/2015
0001392723		ALEX PLUS	10.1	oz	8/27/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392722		ALEX PLUS	10.1	oz	8/27/2015
0001392721		ALEX PLUS	10.1	oz	8/27/2015
0001392720		ALEX PLUS	10.1	oz	8/27/2015
0001392719		ALEX PLUS	10.1	oz	8/27/2015
0001351967	9005-64-5	TWEEN 20	20	ml	8/27/2015
0001351963		IF-0a GN/GP Base	125	ml	8/27/2015
0001391505		ALEX PLUS	10.1	oz	8/27/2015
0001392607		ALEX PLUS	10.1	oz	8/27/2015
0001392713		EPOXY RESIN	234	ml	8/27/2015
0001392597		5100C TREAD NOSE COMPOUND	13.53	oz	8/27/2015
0001392714		EPOXY RESIN	234	ml	8/27/2015
0001352189		NITRAVER REAGENT	50	ml	8/27/2015
0001396082	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/27/2015
0001383466	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	8/27/2015
0001352283	530-50-7	1,1-Diphenylhydrazine	5	ml	8/27/2015
0001352282	530-47-2	1,21-DIPHENYLHYDRAINE	25	gm	8/27/2015
0001352281	4097-88-5	2,2'-Diamino-N-methyldiethylamine	25	ml	8/27/2015
0001352280	1310-73-2	SODIUM HYDROXIDE	1	l	8/27/2015
0001392718		EPOXY RESIN	234	ml	8/27/2015
0001392717		EPOXY RESIN	234	ml	8/27/2015
0001392716		EPOXY RESIN	234	ml	8/27/2015
0001351979	7705-08-0	IRON(III) CHLORIDE	5	gm	8/27/2015
0001392598		5100C TREAD NOSE COMPOUND	13.53	oz	8/27/2015
0001392656		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001351981	67-64-1	ACETONE	4	l	8/27/2015
0001392667		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392666		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392665		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392664		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392663		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392662		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392661		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392660		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392659		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392698		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392657		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392699		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392655		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392654		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392653		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392697		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392652		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392651		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392650		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392649		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392648		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392647		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001306025		LOCTITE 404 INSTANT ADHESIVE	.33	oz	8/27/2015
0001392658		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392626		ALEX PLUS	10.1	oz	8/27/2015
0001392696		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001351977	15170-57-7	PLATINUM(II) ACETYLACETONATE	2	gm	8/27/2015
0001351976	78-50-2	TRIOCTYLPHOSPHINE OXIDE	100	gm	8/27/2015
0001351975	78-50-2	TRIOCTYLPHOSPHINE OXIDE	100	gm	8/27/2015
0001392725		ALEX PLUS	10.1	oz	8/27/2015
0001392703		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001396101	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001392621		ALEX PLUS	10.1	oz	8/27/2015
0001392622		ALEX PLUS	10.1	oz	8/27/2015
0001392623		ALEX PLUS	10.1	oz	8/27/2015
0001392668		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392625		ALEX PLUS	10.1	oz	8/27/2015
0001351980	67-64-1	ACETONE	4	l	8/27/2015
0001392627		ALEX PLUS	10.1	oz	8/27/2015
0001392628		ALEX PLUS	10.1	oz	8/27/2015
0001392694		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392695		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392693		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392692		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392670		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392669		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392702		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392701		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392700		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392624		ALEX PLUS	10.1	oz	8/27/2015
0001352227		C-100 MOLYBDENUM DISULFIDE ANTI-SEIZE LUBRICANT	8	oz	8/27/2015
0001392606		ALEX PLUS	10.1	oz	8/27/2015
0001352181		NITRAVER REAGENT	50	ml	8/27/2015
0001392590		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001392591		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001352238	60-29-7	DIETHYL ETHER ANHYDROUS	1	l	8/27/2015
0001352237	301-10-0	TIN (II) 2-ETHYLHEXANOATE	100	gm	8/27/2015
0001352225	67-64-1	ACETONE	1	l	8/27/2015
0001352224	67-64-1	ACETONE	1	l	8/27/2015
0001352223	67-64-1	ACETONE	1	l	8/27/2015
0001392592		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001392595		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001352228		C-100 MOLYBDENUM DISULFIDE ANTI-SEIZE LUBRICANT	8	oz	8/27/2015

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0001351972	25114-58-3	INDIUM (III) ACETATE	10	gm	8/27/2015
0001352221	67-64-1	ACETONE	1	l	8/27/2015
0001352217		BUFFER PH 7 (YELLOW BUFFER)	500	ml	8/27/2015
0001352216	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	8/27/2015
0001352215	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	8/27/2015
0001352214	7664-93-9	SULFURIC ACID	1	l	8/27/2015
0001352213	7664-93-9	SULFURIC ACID	1	l	8/27/2015
0001352212	7664-93-9	SULFURIC ACID	1	l	8/27/2015
0001352211	7664-93-9	SULFURIC ACID	1	l	8/27/2015
0001352210	7664-93-9	SULFURIC ACID	1	l	8/27/2015
0001352209	7664-93-9	SULFURIC ACID	1	l	8/27/2015
0001396103	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001352229		C-100 MOLYBDENUM DISULFIDE ANTI-SEIZE LUBRICANT	8	oz	8/27/2015
0001351966		IF-0a GN/GP Base	125	ml	8/27/2015
0001352222	67-64-1	ACETONE	1	l	8/27/2015
0001352220		BUFFER PH 7 (YELLOW BUFFER)	500	ml	8/27/2015
0001392704		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392705		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392706		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392596		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	8/27/2015
0001392584		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001352219		BUFFER PH 7 (YELLOW BUFFER)	500	ml	8/27/2015
0001352218		BUFFER PH 7 (YELLOW BUFFER)	500	ml	8/27/2015
0001351990	302-01-2	HYDRAZINE, ANHYDROUS	50	gm	8/27/2015
0001352196		RNEASY MINI KIT	50	ml	8/27/2015
0001392608		ALEX PLUS	10.1	oz	8/27/2015
0001351973	1513-65-1	2,6-Difluoropyridine	25	gm	8/27/2015
0001351974	1513-65-1	2,6-Difluoropyridine	25	gm	8/27/2015
0001351965		IF-0a GN/GP Base	125	ml	8/27/2015
0001351964		IF-0a GN/GP Base	125	ml	8/27/2015
0001392585		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001392586		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001392587		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001392588		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001392589		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001351969	7365-45-9	HEPES	1	kg	8/27/2015
0001351970	1310-73-2	SODIUM HYDROXIDE	500	ml	8/27/2015
0001351971	557-34-6	ZINC ACETATE	25	gm	8/27/2015
0001392599		PermAcryl Exterior Latex Enamel 1533	5	gal	8/27/2015
0001351978	15170-57-7	PLATINUM(II) ACETYLACETONATE	2	gm	8/27/2015
0001352118	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352130	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352129	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352128	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352127	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352126	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352125	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352124	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352123	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352122	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352121	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001392594		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001352119	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352133	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001392630		ALEX PLUS	10.1	oz	8/27/2015
0001392631		ALEX PLUS	10.1	oz	8/27/2015
0001392632		ALEX PLUS	10.1	oz	8/27/2015
0001392593		CHERRY RED DIAMOND SPRAY PAINT#DS550-013	12.8	oz	8/27/2015
0001352158		MICROPOLISH II 1.0	1	lb	8/27/2015
0001392633		ALEX PLUS	10.1	oz	8/27/2015
0001396102	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001351968	10025-99-7	POTASSIUM TETRACHLOROPLATINATE(II)	5	gm	8/27/2015
0001396104	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001396105	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001396106	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001352120	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352202	1310-73-2	SODIUM HYDROXIDE	500	ml	8/27/2015
0001392600		PermAcryl Exterior Latex Enamel 1533	5	gal	8/27/2015
0001392601		PermAcryl Exterior Latex Enamel 1533	5	gal	8/27/2015
0001392602		PermAcryl Exterior Latex Enamel 1533	5	gal	8/27/2015
0001392603		PermAcryl Exterior Latex Enamel 1533	5	gal	8/27/2015
0001392604		PERMACRYL INTERIOR FLAT MIDTONE BASE	5	gal	8/27/2015
0001392605		PERMACRYL INTERIOR FLAT MIDTONE BASE	5	gal	8/27/2015
0001352192	676-58-4	METHYLMAGNESIUM CHLORIDE (3M SOLN IN THF)	100	ml	8/27/2015
0001392629		ALEX PLUS	10.1	oz	8/27/2015
0001352206	7646-69-7	SODIUM HYDRIDE	100	gm	8/27/2015
0001352205	7087-68-5	N,N-DIISOPROPYLETHYLAMINE	100	ml	8/27/2015
0001352204	12138-09-9	TUNGSTEN DISULFIDE	13	oz	8/27/2015
0001352131	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352207	7697-37-2	NITRIC ACID	500	ml	8/27/2015
0001352132	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001352201	1310-73-2	SODIUM HYDROXIDE	500	ml	8/27/2015
0001352200	1310-73-2	SODIUM HYDROXIDE	500	ml	8/27/2015
0001352199	1310-73-2	SODIUM HYDROXIDE	500	ml	8/27/2015
0001352198	1310-73-2	SODIUM HYDROXIDE	500	ml	8/27/2015
0001352197	1310-73-2	SODIUM HYDROXIDE	500	ml	8/27/2015
0001352195		RNEASY MINI KIT	50	ml	8/27/2015
0001352194		RNASE-FREE DNASE SET	1500	ml	8/27/2015

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0001352193		RNASE-FREE DNASE SET	1500	ml	8/27/2015
0001352191	12037-01-3	TERBIUM(III,IV) OXIDE	5	gm	8/27/2015
0001352134	7697-37-2	NITRIC ACID OPTIMA	2	l	8/27/2015
0001396107	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001352208	7697-37-2	NITRIC ACID	500	ml	8/27/2015
0001396150		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001396141		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001392642		ALEX PLUS	10.1	oz	8/27/2015
0001396142		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001392643		ALEX PLUS	10.1	oz	8/27/2015
0001396143		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001396144		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001396145		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001396146		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001396147		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001392683		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001396149		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001396138		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001392644		ALEX PLUS	10.1	oz	8/27/2015
0001392645		ALEX PLUS	10.1	oz	8/27/2015
0001392646		ALEX PLUS	10.1	oz	8/27/2015
0001392671		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001383465	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/27/2015
0001396072	74-98-6	PROPANE	11	gal	8/27/2015
0001396073	74-98-6	PROPANE	11	gal	8/27/2015
0001396074	74-98-6	PROPANE	11	gal	8/27/2015
0001396108	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001396148		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001396127		P-10 (90% ARGON 10% METHANE)	220	cf	8/27/2015
0001392682		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392681		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392680		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392679		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392678		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392677		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392676		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392675		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392674		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001396140		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001392672		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001396139		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001396128		P-10 (90% ARGON 10% METHANE)	220	cf	8/27/2015
0001396129		P-10 (90% ARGON 10% METHANE)	220	cf	8/27/2015
0001396130		P-10 (90% ARGON 10% METHANE)	220	cf	8/27/2015
0001396131		P-10 (90% ARGON 10% METHANE)	220	cf	8/27/2015

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0001396132		P-10 (90% ARGON 10% METHANE)	220	cf	8/27/2015
0001396133		P-10 (90% ARGON 10% METHANE)	220	cf	8/27/2015
0001396134		P-10 (90% ARGON 10% METHANE)	220	cf	8/27/2015
0001396135		P-10 (90% ARGON 10% METHANE)	220	cf	8/27/2015
0001396136		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001396111	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001392673		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001396091	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001396109	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001396080	74-98-6	PROPANE	11	gal	8/27/2015
0001396081	74-98-6	PROPANE	11	gal	8/27/2015
0001396083	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/27/2015
0001396084	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/27/2015
0001396085	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/27/2015
0001396086	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/27/2015
0001396087	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/27/2015
0001396088	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/27/2015
0001396078	74-98-6	PROPANE	11	gal	8/27/2015
0001396090	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/27/2015
0001396077	74-98-6	PROPANE	11	gal	8/27/2015
0001396092	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001396093	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001396094	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001396095	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001396096	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001396097	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001396098	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001396099	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001396100	7440-37-1	ARGON, COMPRESSED	220	cf	8/27/2015
0001352159		MICROPOLISH II 1.0	1	lb	8/27/2015
0001396089	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	8/27/2015
0001396123		5% HYDROGEN/BAL. NITROGEN	220	cf	8/27/2015
0001396126		5% HYDROGEN/BAL. NITROGEN	220	cf	8/27/2015
0001396112	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001396113	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001396114	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001396115	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001396116	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001396117	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001396118	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001396120	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001396079	74-98-6	PROPANE	11	gal	8/27/2015
0001396122		5% HYDROGEN/BAL. NITROGEN	220	cf	8/27/2015
0001396110	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001396124		5% HYDROGEN/BAL. NITROGEN	220	cf	8/27/2015

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0001396125		5% HYDROGEN/BAL. NITROGEN	220	cf	8/27/2015
0001352184		NITRAVER REAGENT	50	ml	8/27/2015
0001392634		ALEX PLUS	10.1	oz	8/27/2015
0001392636		ALEX PLUS	10.1	oz	8/27/2015
0001392637		ALEX PLUS	10.1	oz	8/27/2015
0001392638		ALEX PLUS	10.1	oz	8/27/2015
0001392639		ALEX PLUS	10.1	oz	8/27/2015
0001396075	74-98-6	PROPANE	11	gal	8/27/2015
0001396076	74-98-6	PROPANE	11	gal	8/27/2015
0001396121		5% HYDROGEN/BAL. NITROGEN	220	cf	8/27/2015
0001352171	1826-67-1	VINYLMAGNESIUM BROMIDE	100	ml	8/27/2015
0001352182		NITRAVER REAGENT	50	ml	8/27/2015
0001392582		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	8/27/2015
0001392583		rust reformer	1	gal	8/27/2015
0001391501		ALEX PLUS	10.1	oz	8/27/2015
0001352165		HYSOL 9394 EPOXY PART B	50	ml	8/27/2015
0001352166		HYSOL 9394 EPOXY PART B	50	ml	8/27/2015
0001392684		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001352168		HYSOL 9394 EPOXY PART B	50	ml	8/27/2015
0001392616		ALEX PLUS	10.1	oz	8/27/2015
0001352173	79-06-1	NuPAGE Novex 4-12% Bis-Tris Protein Gels	12	gm	8/27/2015
0001352176	109-99-9	TETRAHYDROFURAN	1	l	8/27/2015
0001352177	109-66-0	PENTANE, ANHYDROUS	1	l	8/27/2015
0001352178	121-44-8	TRIETHYLAMINE	100	ml	8/27/2015
0001352179	121-44-8	TRIETHYLAMINE	100	ml	8/27/2015
0001352180	110-86-1	PYRIDINE (PYRIDINE, ANHYDROUS)	100	ml	8/27/2015
0001352167		HYSOL 9394 EPOXY PART B	50	ml	8/27/2015
0001352163		HYSOL 9394 EPOXY PART B	50	ml	8/27/2015
0001392615		ALEX PLUS	10.1	oz	8/27/2015
0001392614		ALEX PLUS	10.1	oz	8/27/2015
0001392613		ALEX PLUS	10.1	oz	8/27/2015
0001392612		ALEX PLUS	10.1	oz	8/27/2015
0001392611		ALEX PLUS	10.1	oz	8/27/2015
0001392610		ALEX PLUS	10.1	oz	8/27/2015
0001392581		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	8/27/2015
0001352162		HYSOL 9394 EPOXY PART B	50	ml	8/27/2015
0001352172	79-06-1	NuPAGE Novex 4-12% Bis-Tris Protein Gels	12	gm	8/27/2015
0001352164		HYSOL 9394 EPOXY PART B	50	ml	8/27/2015
0001352160		HYSOL 9394 EPOXY PART B	50	ml	8/27/2015
0001352161		HYSOL 9394 EPOXY PART B	50	ml	8/27/2015
0001392619		ALEX PLUS	10.1	oz	8/27/2015
0001392618		ALEX PLUS	10.1	oz	8/27/2015
0001392617		ALEX PLUS	10.1	oz	8/27/2015
0001392609		ALEX PLUS	10.1	oz	8/27/2015
0001392641		ALEX PLUS	10.1	oz	8/27/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001383463	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/27/2015
0001352169		HYSOL 9394 EPOXY PART B	50	ml	8/27/2015
0001352183		NITRAVER REAGENT	50	ml	8/27/2015
0001392635		ALEX PLUS	10.1	oz	8/27/2015
0001392691		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392690		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392640		ALEX PLUS	10.1	oz	8/27/2015
0001383464	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/27/2015
0001392689		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001383462	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/27/2015
0001392688		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001352190		NITRAVER REAGENT	50	ml	8/27/2015
0001352185		NITRAVER REAGENT	50	ml	8/27/2015
0001352186		NITRAVER REAGENT	50	ml	8/27/2015
0001352187		NITRAVER REAGENT	50	ml	8/27/2015
0001352188		NITRAVER REAGENT	50	ml	8/27/2015
0001392687		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001383460	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/27/2015
0001383461	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/27/2015
0001392685		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001392686		VULKEM 116 POLYURETHANE SEALANT	10.1	oz	8/27/2015
0001396137		6% HYDROGEN BALANCE ARGON	220	cf	8/27/2015
0001396119	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	8/27/2015
0001312433		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312437		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312436		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312434		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312392		15w40 motor oil	1	qt	8/28/2015
0001312395		15w40 motor oil	1	qt	8/28/2015
0001312402		ANTIFREEZE/COOLANT	1	gal	8/28/2015
0001312401		ANTIFREEZE/COOLANT	1	gal	8/28/2015
0001312400		ANTIFREEZE/COOLANT	1	gal	8/28/2015
0001312399		ANTIFREEZE/COOLANT	1	gal	8/28/2015
0001312393		15w40 motor oil	1	qt	8/28/2015
0001312426	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312372		LACQUER PAINT HOT ROD BLACK	12	oz	8/28/2015
0001312424	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312386		15w40 motor oil	1	qt	8/28/2015
0001312423	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312422	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312421	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312425	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312387		15w40 motor oil	1	qt	8/28/2015
0001312419	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312398		15w40 motor oil	1	qt	8/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312427	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312397		15w40 motor oil	1	qt	8/28/2015
0001312428	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312396		15w40 motor oil	1	qt	8/28/2015
0001312388		15w40 motor oil	1	qt	8/28/2015
0001312430		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312431		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312432		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312420	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312355		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312364		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312363		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312362		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312361		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312360		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312359		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312358		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312374		ULTRA GREY SILICONE GASKET MAKER	3.5	oz	8/28/2015
0001312356		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312367		ULTRA-LOW VOC BRAKLEEN	14	oz	8/28/2015
0001312354		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312391		15w40 motor oil	1	qt	8/28/2015
0001312390		15w40 motor oil	1	qt	8/28/2015
0001312389		15w40 motor oil	1	qt	8/28/2015
0001312353		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312352		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312351		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312357		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312378		POWER STEERING FLUID	12	oz	8/28/2015
0001312384		15w40 motor oil	1	qt	8/28/2015
0001312438		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312383		15w40 motor oil	1	qt	8/28/2015
0001312376		SAE 30 MOTOR OIL	1	qt	8/28/2015
0001312382		POWER STEERING FLUID	12	oz	8/28/2015
0001312381		POWER STEERING FLUID	12	oz	8/28/2015
0001312380		POWER STEERING FLUID	12	oz	8/28/2015
0001312365		BRAKE FLUID DOT 3	12	oz	8/28/2015
0001312439		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312366		BRAKE FLUID DOT 3	12	oz	8/28/2015
0001312375		POWER STEERING FLUID	12	oz	8/28/2015
0001312373		LACQUER PAINT HOT ROD BLACK	12	oz	8/28/2015
0001312465		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312371		STARTING FLUID	10.7	oz	8/28/2015
0001312370		ULTRA-LOW VOC BRAKLEEN	14	oz	8/28/2015
0001312369		ULTRA-LOW VOC BRAKLEEN	14	oz	8/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312368		ULTRA-LOW VOC BRAKLEEN	14	oz	8/28/2015
0001312385		15w40 motor oil	1	qt	8/28/2015
0001312379		POWER STEERING FLUID	12	oz	8/28/2015
0001312326		DRY FILM MOLY LUBRICANT LU 200	11	oz	8/28/2015
0001312406		PYROIL CARB AND CHOKE CLEANER	13	oz	8/28/2015
0001312407		TRIM ADHESIVE	19	oz	8/28/2015
0001312408		TRIM ADHESIVE	19	oz	8/28/2015
0001312409		732 MULTI-PURPOSE SEALANT CLEAR	10.1	oz	8/28/2015
0001312410		732 MULTI-PURPOSE SEALANT CLEAR	10.1	oz	8/28/2015
0001312329		DRY FILM MOLY LUBRICANT LU 200	11	oz	8/28/2015
0001312328		DRY FILM MOLY LUBRICANT LU 200	11	oz	8/28/2015
0001312467		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312327		DRY FILM MOLY LUBRICANT LU 200	11	oz	8/28/2015
0001312377		ATF	1	qt	8/28/2015
0001312325		LUBRIPLATE CHAIN AND CABLE FLUID	11	oz	8/28/2015
0001312324		LUBRIPLATE CHAIN AND CABLE FLUID	11	oz	8/28/2015
0001312323		LUBRIPLATE CHAIN AND CABLE FLUID	11	oz	8/28/2015
0001312322		LUBRIPLATE CHAIN AND CABLE FLUID	11	oz	8/28/2015
0001312346		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312345		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312412	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312411		732 MULTI-PURPOSE SEALANT CLEAR	10.1	oz	8/28/2015
0001312440		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312450		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312449		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312448		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312447		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312446		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312445		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312443		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312405		PYROIL CARB AND CHOKE CLEANER	13	oz	8/28/2015
0001312441		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312404		PYROIL CARB AND CHOKE CLEANER	13	oz	8/28/2015
0001312347		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312451		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312452		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312453		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312454		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312330		DRY FILM MOLY LUBRICANT LU 200	11	oz	8/28/2015
0001312334		LOCTITE THREADLOCKER	.34	oz	8/28/2015
0001312415	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312442		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312337		E6000 MUTLI-PURPOSE ADHESIVE	3.7	oz	8/28/2015
0001312413	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312344		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312343		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312342		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312341		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312348		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312340		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001392727		SBS FLASHING CEMENT MATRIX 202	5	gal	8/28/2015
0001312338		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001392726		SBS FLASHING CEMENT MATRIX 202	5	gal	8/28/2015
0001312435		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312336		E6000 MUTLI-PURPOSE ADHESIVE	3.7	oz	8/28/2015
0001312335		E6000 MUTLI-PURPOSE ADHESIVE	3.7	oz	8/28/2015
0001312333		LOCTITE THREADLOCKER	.34	oz	8/28/2015
0001312332		GASOILA THREAD SEALANT WITH PTFE	.5	pt	8/28/2015
0001312349		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312403		PYROIL CARB AND CHOKE CLEANER	13	oz	8/28/2015
0001312429		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001312339		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001312460		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312394		15w40 motor oil	1	qt	8/28/2015
0001312416	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312417	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312418	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312455		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312456		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312457		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312331		DRY FILM MOLY LUBRICANT LU 200	11	oz	8/28/2015
0001312459		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312414	Multi	Purus Diesel Exhaust Fluid	2.5	gal	8/28/2015
0001312461		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312462		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312463		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312464		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312466		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312350		MULTI-PURPOSE GREASE	14.1	oz	8/28/2015
0001392728		SBS FLASHING CEMENT MATRIX 202	5	gal	8/28/2015
0001312458		DIESEL ENGINE OIL SAE 15W-40	1	gal	8/28/2015
0001312444		SPLASH WINDSHIELD WASHER FLUID	1	gal	8/28/2015
0001352308	7732-18-5	Amtax Expulsion Solution 237 mL	237	ml	8/31/2015
0001352312	7732-18-5	Amtax Expulsion Solution 237 mL	237	ml	8/31/2015
0001352303		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/31/2015
0001352304		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/31/2015
0001352305		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/31/2015
0001352306	7732-18-5	Amtax Expulsion Solution 237 mL	237	ml	8/31/2015
0001352307	7732-18-5	Amtax Expulsion Solution 237 mL	237	ml	8/31/2015
0001352333	95-54-5	O-PHENYLENEDIAMINE	50	gm	8/31/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352310	7732-18-5	Amtax Expulsion Solution 237 mL	237	ml	8/31/2015
0001352311	7732-18-5	Amtax Expulsion Solution 237 mL	237	ml	8/31/2015
0001352319		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	8/31/2015
0001352313	7732-18-5	Amtax Expulsion Solution 237 mL	237	ml	8/31/2015
0001352314		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	8/31/2015
0001352315		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	8/31/2015
0001352316		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	8/31/2015
0001352317		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	8/31/2015
0001352318		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	8/31/2015
0001352309	7732-18-5	Amtax Expulsion Solution 237 mL	237	ml	8/31/2015
0001352360	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352239	67-64-1	ACETONE	4	l	8/31/2015
0001334166	1079-66-9	CHLORODIPHENYLPHOSPHINE	25	ml	8/31/2015
0001352302		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/31/2015
0001383467	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/31/2015
0001352246	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	8/31/2015
0001352247	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	8/31/2015
0001352248	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	8/31/2015
0001352249	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	8/31/2015
0001352274		FORMULA 2011	55	gal	8/31/2015
0001352275		FORMULA 2011	55	gal	8/31/2015
0001352276		FORMULA 2011	55	gal	8/31/2015
0001352277		FORMULA 2011	55	gal	8/31/2015
0001352350		URANIUM STANDARD	125	ml	8/31/2015
0001352361	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352320		JEFFAMINE T-403	1	gal	8/31/2015
0001352359	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352358	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352357	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352273		FORMULA 2011	55	gal	8/31/2015
0001352356	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352355	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352354	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352353	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352352	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352351	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352332	7778-77-0	POTASSIUM PHOSPHATE MONOBASIC, ANHYDROUS	2.5	kg	8/31/2015
0001352322	13400-13-0	CESIUM FLUORIDE	25	gm	8/31/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352321	10025-99-7	POTASSIUM TETRACHLOROPLATINATE(II)	5	gm	8/31/2015
0001352362	1310-73-2	SODIUM HYDROXIDE	1	l	8/31/2015
0001352253	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001383290		ScriptSeq Complete Kit (Bacteria)	2	ml	8/31/2015
0001352252	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001381410		SIGHT SAVERS ANTI-FOGGING	16	oz	8/31/2015
0001352301		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/31/2015
0001381408		ENERPAC HYDRAULIC OIL	1	gal	8/31/2015
0001381407		SNOOP LEAK DETECT	8	oz	8/31/2015
0001381405		Emerel Multi-Surface Creme Cleanser	32	oz	8/31/2015
0001352261	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001352240	67-64-1	ACETONE	4	l	8/31/2015
0001383288		ScriptSeq Complete Kit (Bacteria)	2	ml	8/31/2015
0001352254	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001352255	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001352256	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001352257	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001352258	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001352259	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001352260	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001381406		Emerel Multi-Surface Creme Cleanser	32	oz	8/31/2015
0001352245		BeFinder CH-2 Detection Solution	220	ml	8/31/2015
0001352426		BUFFER PH 10 (BLUE BUFFER)	500	ml	8/31/2015
0001352425		BUFFER PH 10 (BLUE BUFFER)	500	ml	8/31/2015
0001352424		BUFFER PH 10 (BLUE BUFFER)	500	ml	8/31/2015
0001352423		BUFFER PH 10 (BLUE BUFFER)	500	ml	8/31/2015
0001352365	108-88-3	TOLUENE, ANHYDROUS	1	l	8/31/2015
0001352278	142-82-5	HEPTANE	1	l	8/31/2015
0001334168	18497-13-7	CHLOROPLATINIC ACID, HEXAHYDRATE	1	gm	8/31/2015
0001381404		AMMONIA (WINDOW CLEANER)	1	qt	8/31/2015
0001334165	75-77-4	CHLOROTRIMETHYLSILANE (TRIMETHYLCHLOROSILANE)	500	gm	8/31/2015
0001383289		ScriptSeq Complete Kit (Bacteria)	2	ml	8/31/2015
0001381402		GOO GONE	12	oz	8/31/2015
0001352244		500ML OF CH-1, DISSOLUTION	500	ml	8/31/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352243		500ML OF CH-1, DISSOLUTION	500	ml	8/31/2015
0001352242	7783-90-6	ION CHROMATOGRAPHY ICP MS	500	ml	8/31/2015
0001352241	1309-42-8	MAGNESIUM HYDROXIDE	2	kg	8/31/2015
0001381403		AMMONIA (WINDOW CLEANER)	1	qt	8/31/2015
0001383287		ScriptSeq Complete Kit (Bacteria)	2	ml	8/31/2015
0001381409		DE-SOLV-IT MULTI PURPOSE SOLVENT	12.6	oz	8/31/2015
0001334167	1934-75-4	SODIUM DICYANAMIDE	500	gm	8/31/2015
0001383470	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/31/2015
0001382857		LOCTITE ABLESTIK 2902	2.65	gm	8/31/2015
0001352262	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001382862		LOCTITE ABLESTIK 2902	2.65	gm	8/31/2015
0001382863		LOCTITE ABLESTIK 2902	2.65	gm	8/31/2015
0001382865		LOCTITE ABLESTIK 2902	2.65	gm	8/31/2015
0001382864		LOCTITE ABLESTIK 2902	2.65	gm	8/31/2015
0001383291		ScriptSeq Complete Kit (Bacteria)	2	ml	8/31/2015
0001383469	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/31/2015
0001382860		LOCTITE ABLESTIK 2902	2.65	gm	8/31/2015
0001383471	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/31/2015
0001383472	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/31/2015
0001382856		LOCTITE ABLESTIK 2902	2.65	gm	8/31/2015
0001352300		TOTAL CHLORIEN BUFFER SOLUTION	473	ml	8/31/2015
0001352299		AMTAX STANDARD SOLUTION	237	ml	8/31/2015
0001352298		AMTAX STANDARD SOLUTION	237	ml	8/31/2015
0001382858		LOCTITE ABLESTIK 2902	2.65	gm	8/31/2015
0001383468	1310-73-2	Sodium Hydroxide 25%	3400	lb	8/31/2015
0001352291		NITROGEN AMMONIA STANDARD	500	ml	8/31/2015
0001352263	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	8/31/2015
0001352284		NITROGEN AMMONIA STANDARD	500	ml	8/31/2015
0001352285		NITROGEN AMMONIA STANDARD	500	ml	8/31/2015
0001352286		NITROGEN AMMONIA STANDARD	500	ml	8/31/2015
0001352287		NITROGEN AMMONIA STANDARD	500	ml	8/31/2015
0001352288		NITROGEN AMMONIA STANDARD	500	ml	8/31/2015
0001382861		LOCTITE ABLESTIK 2902	2.65	gm	8/31/2015
0001352289		NITROGEN AMMONIA STANDARD	500	ml	8/31/2015
0001352292		AMTAX STANDARD SOLUTION	237	ml	8/31/2015
0001352293		AMTAX STANDARD SOLUTION	237	ml	8/31/2015
0001382859		LOCTITE ABLESTIK 2902	2.65	gm	8/31/2015
0001352294		AMTAX STANDARD SOLUTION	237	ml	8/31/2015
0001352295		AMTAX STANDARD SOLUTION	237	ml	8/31/2015
0001352296		AMTAX STANDARD SOLUTION	237	ml	8/31/2015
0001352297		AMTAX STANDARD SOLUTION	237	ml	8/31/2015
0001352290		NITROGEN AMMONIA STANDARD	500	ml	8/31/2015
0001281376		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281462	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281370		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281371		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281372		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281373		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281461	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281375		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281453	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281377		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281422		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281421		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281420		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281419		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281418		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281417		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281374		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281369		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001352430	108-88-3	TOLUENE	4	l	9/1/2015
0001352431	108-88-3	TOLUENE	4	l	9/1/2015
0001352432	108-88-3	TOLUENE	4	l	9/1/2015
0001281364		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281365		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281366		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281455	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281368		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281256		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281448	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281447	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281446	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281445	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281444	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281443	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281442	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281367		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281450	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281459	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281458	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281457	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281456	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281416		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281454	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281383		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281258		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281451	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281257		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281449	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001312468		NITRAVER REAGENT	50	ml	9/1/2015
0001312469		NITRAVER REAGENT	50	ml	9/1/2015
0001312470		NITRAVER REAGENT	50	ml	9/1/2015
0001281423		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281255		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281460	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281452	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281354		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281331		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281348		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281349		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281350		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281351		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281381		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281353		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281330		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281355		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001312471		NITRAVER REAGENT	50	ml	9/1/2015
0001312472		NITRAVER REAGENT	50	ml	9/1/2015
0001312473		NITRAVER REAGENT	50	ml	9/1/2015
0001312474		NITRAVER REAGENT	50	ml	9/1/2015
0001312475		NITRAVER REAGENT	50	ml	9/1/2015
0001281352		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281469	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281409		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001352427	814-68-6	ACRYLOYL CHLORIDE	5	gm	9/1/2015
0001281463	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281464	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281465	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281466	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281394		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281468	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281395		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281470	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281471	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281327		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281328		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281329		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281358		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281467	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281378		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281356		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281387		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281386		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281385		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281384		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281382		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281389		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281379		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281390		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281441	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281410		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281411		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281412		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281413		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281414		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281380		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281407		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281415		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281359		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281360		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281361		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281362		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001312476		NITRAVER REAGENT	50	ml	9/1/2015
0001281388		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281406		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281357		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281408		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281259		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281260		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281393		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281392		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281391		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281363		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281000		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015
0001281228		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001280676		ALUMICUT	16	oz	9/1/2015
0001280677		ALUMICUT	16	oz	9/1/2015
0001280678		ALUMICUT	16	oz	9/1/2015
0001280995		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015
0001280996		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015
0001280997		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015
0001280674		ALUMICUT	16	oz	9/1/2015
0001280999		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015
0001280673		ALUMICUT	16	oz	9/1/2015
0001281001		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015
0001281002		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015
0001281003		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015
0001281004		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281005		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015
0001281006		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015
0001281230		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001392166		100% SILICONE SEALANT	10.1	oz	9/1/2015
0001280998		LPS 1 GREASELESS LUBRICANT	11	oz	9/1/2015
0001352452	57-55-6	PROPYLENE GLYCOL	4	l	9/1/2015
0001352429	108-88-3	TOLUENE	4	l	9/1/2015
0001352428		BIOCIDE	43	lb	9/1/2015
0001352462	6080-56-4	LEAD ACETATE TRIHYDRATE	100	gm	9/1/2015
0001352460	77-86-1	TRIS(HYDROXYMETHYL)AMINOMETHANE	100	gm	9/1/2015
0001352458	155090-83-8	POLY(3,4-ETHYLENEDIOXYTHIOPHENE)-POLY(STYRENESULFONATE), 2.2-2.6% IN H2O	25	gm	9/1/2015
0001352457	7790-80-9	CADMIUM IODIDE	100	gm	9/1/2015
0001352455	2206-27-1	DIMETHYL SULFOXIDE-D6	50	gm	9/1/2015
0001280675		ALUMICUT	16	oz	9/1/2015
0001352453	7782-42-5	GRAPHITE POWDER	250	gm	9/1/2015
0001281227		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001352451	67-63-0	2-PROPANOL OPTIMA	4	l	9/1/2015
0001352450	67-63-0	2-PROPANOL OPTIMA	4	l	9/1/2015
0001352449	67-63-0	2-PROPANOL OPTIMA	4	l	9/1/2015
0001352448	67-63-0	2-PROPANOL OPTIMA	4	l	9/1/2015
0001312477		NITRAVER REAGENT	50	ml	9/1/2015
0001281024		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001280671		ALUMICUT	16	oz	9/1/2015
0001280672		ALUMICUT	16	oz	9/1/2015
0001352454	7782-49-2	SELENIUM POWDER	50	gm	9/1/2015
0001281215		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281229		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281178		MOBIL DTE OIL LIGHT	5	gal	9/1/2015
0001281222		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281221		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281220		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281219		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281218		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281176		MOBIL VACTRA OIL NO. 2	55	gal	9/1/2015
0001281216		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281175		MOBIL VACTRA OIL NO. 2	55	gal	9/1/2015
0001281214		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281213		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281212		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281211		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281210		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281209		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281208		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281231		Loctite 598 Silicone	2.36	oz	9/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281217		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281012		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001281226		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281225		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281224		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281223		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281007		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001281008		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001281009		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001281177		MOBIL DTE OIL LIGHT	5	gal	9/1/2015
0001281011		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001352435	67-66-3	CHLOROFORM	4	l	9/1/2015
0001281013		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001281014		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001281015		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001281016		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001281017		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001281018		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001280602		MOBIL DTE 24 HYDRAULIC OIL	55	gal	9/1/2015
0001280603		MOBIL DTE 24 HYDRAULIC OIL	55	gal	9/1/2015
0001281010		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/1/2015
0001281262		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001352433	67-66-3	CHLOROFORM	4	l	9/1/2015
0001281270		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281269		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281268		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281267		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281266		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281265		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281272		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281263		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281273		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281261		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281432	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281431	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281430	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281429	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281428	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281427	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281426	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281264		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281032		WD-40	16	oz	9/1/2015
0001281439	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281438	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281437	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281436	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281435	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281434	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281433	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281271		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281033		WD-40	16	oz	9/1/2015
0001281101		3M SCOTCH-WELD 2216 B/A EPOXY ADHESIVE KIT PART B	43	ml	9/1/2015
0001281031		WD-40	16	oz	9/1/2015
0001281030		WD-40	16	oz	9/1/2015
0001281029		WD-40	16	oz	9/1/2015
0001281278		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281277		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281276		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281275		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281274		AEROKROIL LUBRICANT SPRAY	10	oz	9/1/2015
0001281034		WD-40	16	oz	9/1/2015
0001281235		Loctite 598 Silicone	2.36	oz	9/1/2015
0001392167		100% SILICONE SEALANT	10.1	oz	9/1/2015
0001392165		102 SBS MEMBRANE ADHESIVE	5	gal	9/1/2015
0001281242		Loctite 598 Silicone	2.36	oz	9/1/2015
0001281241		Loctite 598 Silicone	2.36	oz	9/1/2015
0001281240		Loctite 598 Silicone	2.36	oz	9/1/2015
0001281239		Loctite 598 Silicone	2.36	oz	9/1/2015
0001281238		Loctite 598 Silicone	2.36	oz	9/1/2015
0001280604		5 MINUTE EPOXY	25	ml	9/1/2015
0001281236		Loctite 598 Silicone	2.36	oz	9/1/2015
0001392202		102 SBS MEMBRANE ADHESIVE	5	gal	9/1/2015
0001281234		Loctite 598 Silicone	2.36	oz	9/1/2015
0001281233		Loctite 598 Silicone	2.36	oz	9/1/2015
0001281232		Loctite 598 Silicone	2.36	oz	9/1/2015
0001352496	108-90-7	CHLOROBENZENE	1	l	9/1/2015
0001352495	124-41-4	SODIUM METHOXIDE (SODIUM METHYLATE)	1	l	9/1/2015
0001352437	553-24-2	NEUTRAL RED	25	gm	9/1/2015
0001352436	67-66-3	CHLOROFORM	4	l	9/1/2015
0001281440	Multi	STIHL PLATINUM BAR & CHAIN LUBRICANT	1	qt	9/1/2015
0001281237		Loctite 598 Silicone	2.36	oz	9/1/2015
0001281028		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001352434	67-66-3	CHLOROFORM	4	l	9/1/2015
0001281100		3M SCOTCH-WELD 2216 B/A EPOXY ADHESIVE KIT PART B	43	ml	9/1/2015
0001281099		3M SCOTCH-WELD 2216 B/A EPOXY ADHESIVE KIT PART B	43	ml	9/1/2015
0001281098		3M SCOTCH-WELD 2216 B/A EPOXY ADHESIVE KIT PART B	43	ml	9/1/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281097		3M SCOTCH-WELD 2216 B/A EPOXY ADHESIVE KIT PART B	43	ml	9/1/2015
0001352440	67-63-0	ISOPROPYL ALCOHOL	4	l	9/1/2015
0001352439		IMMERSION OIL TYPE FF	16	oz	9/1/2015
0001352438	10519-97-8	N-Trimethylsilylallylamine 95%	1	gm	9/1/2015
0001392168		100% SILICONE SEALANT	10.1	oz	9/1/2015
0001281019		MOBIL VACTRA OIL NO. 2	5	gal	9/1/2015
0001392201		102 SBS MEMBRANE ADHESIVE	5	gal	9/1/2015
0001281027		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281026		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281025		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281023		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281021		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281183		KROIL	10	oz	9/1/2015
0001281207		TAPMATIC NATURAL CUTTING FLUID	16	oz	9/1/2015
0001281102		3M SCOTCH-WELD 2216 B/A EPOXY ADHESIVE KIT PART B	43	ml	9/1/2015
0001281020		MOBIL VACTRA OIL NO. 2	5	gal	9/1/2015
0001281335		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281345		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281344		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281343		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281342		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281341		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281340		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281339		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281338		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001352446		STOCKOPTIONS TRIS	10	ml	9/1/2015
0001281336		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281396		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281334		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281333		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281332		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001352498	108-65-6	PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	1	l	9/1/2015
0001352497	67-63-0	2-PROPANOL	1	l	9/1/2015
0001352461	70560-51-9	KANAMYCIN SULFATE	5	gm	9/1/2015
0001352459	155090-83-8	POLY(3,4-ETHYLENEDIOXYTHIOPHENE)-POLY(STYRENESULFONATE), 2.2-2.6% IN H2O	25	gm	9/1/2015
0001352456	3425-46-5	POTASSIUM SELENOCYANATE	50	gm	9/1/2015
0001352447		GLYCINE BUFFER	10	ml	9/1/2015
0001281337		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281405		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001352444		HEPES	10	ml	9/1/2015
0001352443		URETHANE SEALANT	10.2	oz	9/1/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352442		URETHANE SEALANT	10.2	oz	9/1/2015
0001352441		DP-270 Epoxy Potting Compound	200	ml	9/1/2015
0001352373	12056-07-4	INDIUM(III) SELENIDE	25	gm	9/1/2015
0001281022		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001352371	7782-49-2	SELENIUM PELLETS, 2MM	50	gm	9/1/2015
0001352369	67-56-1	METHANOL	4	l	9/1/2015
0001352368	67-56-1	METHANOL	4	l	9/1/2015
0001281346		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001352366	111-40-0	DIETHYLENETRIAMINE	500	ml	9/1/2015
0001281347		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281404		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281403		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281402		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281401		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281400		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281399		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281398		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001281397		Stihl HP 2-Cycle Engine Oil	6.4	oz	9/1/2015
0001352370	7782-49-2	SELENIUM PELLETS, 2MM	50	gm	9/1/2015
0001352367	111-40-0	DIETHYLENETRIAMINE	500	ml	9/1/2015
0001352372	333-20-0	POTASSIUM THIOCYANATE	100	gm	9/1/2015
0001392805		PIPE THREAD SEALANT	8	oz	9/2/2015
0001392820		KWIK FOAM	12	oz	9/2/2015
0001392802		PIPE THREAD SEALANT	8	oz	9/2/2015
0001392803		PIPE THREAD SEALANT	8	oz	9/2/2015
0001392804		PIPE THREAD SEALANT	8	oz	9/2/2015
0001396162	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/2/2015
0001392801		PIPE THREAD SEALANT	8	oz	9/2/2015
0001392760		POLYOL	1	gal	9/2/2015
0001396152	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/2/2015
0001392817		KWIK FOAM	12	oz	9/2/2015
0001392806		PIPE THREAD SEALANT	8	oz	9/2/2015
0001392807		PIPE THREAD SEALANT	8	oz	9/2/2015
0001392808		PIPE THREAD SEALANT	8	oz	9/2/2015
0001392809		PIPE THREAD SEALANT	8	oz	9/2/2015
0001392810		PIPE THREAD SEALANT	8	oz	9/2/2015
0001396161	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/2/2015
0001392834		CHOKE & CARBURETOR CLEANER	14	oz	9/2/2015
0001392761		POLYOL	1	gal	9/2/2015
0001392762		POLYOL	1	gal	9/2/2015
0001392763		POLYOL	1	gal	9/2/2015
0001392764		POLYOL	1	gal	9/2/2015
0001392765		POLYOL	1	gal	9/2/2015
0001392766		POLYOL	1	gal	9/2/2015
0001392819		KWIK FOAM	12	oz	9/2/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392833		CHOKE & CARBURETOR CLEANER	14	oz	9/2/2015
0001392818		KWIK FOAM	12	oz	9/2/2015
0001392835		CHOKE & CARBURETOR CLEANER	14	oz	9/2/2015
0001392812		KWIK FOAM	12	oz	9/2/2015
0001392813		KWIK FOAM	12	oz	9/2/2015
0001392814		KWIK FOAM	12	oz	9/2/2015
0001392815		KWIK FOAM	12	oz	9/2/2015
0001392816		KWIK FOAM	12	oz	9/2/2015
0001392772		POLYOL	1	gal	9/2/2015
0001392767		POLYOL	1	gal	9/2/2015
0001392755		MATRIX SELECT SBS ADHESIVE	5	gal	9/2/2015
0001392774		POLYOL	1	gal	9/2/2015
0001396163		HELIUM-3	15	l	9/2/2015
0001312478		Zynolyte Multi-Purpose Primer	11	oz	9/2/2015
0001392749		SBS MEMBRANE ADHESIVE MATRIX 102	5	gal	9/2/2015
0001392748		SBS MEMBRANE ADHESIVE MATRIX 102	5	gal	9/2/2015
0001392751		MATRIX SELECT SBS ADHESIVE	5	gal	9/2/2015
0001312480		Zynolyte Multi-Purpose Primer	11	oz	9/2/2015
0001392757		MATRIX SELECT SBS ADHESIVE	5	gal	9/2/2015
0001392734		matrix 202 sbs flshing 5gal	5	gal	9/2/2015
0001392753		SBS FLASHING CEMENT MATRIX 202	5	gal	9/2/2015
0001392752		SBS FLASHING CEMENT MATRIX 202	5	gal	9/2/2015
0001392769		POLYOL	1	gal	9/2/2015
0001392768		POLYOL	1	gal	9/2/2015
0001392740		matrix 202 sbs flshing 5gal	5	gal	9/2/2015
0001392737		matrix 202 sbs flshing 5gal	5	gal	9/2/2015
0001392822		CHOKE & CARBURETOR CLEANER	14	oz	9/2/2015
0001392750		MATRIX SELECT SBS ADHESIVE	5	gal	9/2/2015
0001392781		POLYOL	1	gal	9/2/2015
0001392758		MATRIX SELECT SBS ADHESIVE	5	gal	9/2/2015
0001392771		POLYOL	1	gal	9/2/2015
0001392770		POLYOL	1	gal	9/2/2015
0001392744		PERMACRYL EXTERIOR FLAT NEUTRAL BASE	5	gal	9/2/2015
0001392743		PERMACRYL EXTERIOR FLAT NEUTRAL BASE	5	gal	9/2/2015
0001392742		PERMACRYL EXTERIOR FLAT NEUTRAL BASE	5	gal	9/2/2015
0001312479		Zynolyte Multi-Purpose Primer	11	oz	9/2/2015
0001392782		POLYOL	1	gal	9/2/2015
0001392773		POLYOL	1	gal	9/2/2015
0001392780		POLYOL	1	gal	9/2/2015
0001392779		POLYOL	1	gal	9/2/2015
0001392778		POLYOL	1	gal	9/2/2015
0001392777		POLYOL	1	gal	9/2/2015
0001392776		POLYOL	1	gal	9/2/2015
0001392775		POLYOL	1	gal	9/2/2015
0001392739		matrix 202 sbs flshing 5gal	5	gal	9/2/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392783		RUST COAT ENAMEL	12	oz	9/2/2015
0001392792		RUST COAT ENAMEL	12	oz	9/2/2015
0001392831		CHOKE & CARBURETOR CLEANER	14	oz	9/2/2015
0001392784		RUST COAT ENAMEL	12	oz	9/2/2015
0001392785		RUST COAT ENAMEL	12	oz	9/2/2015
0001392786		RUST COAT ENAMEL	12	oz	9/2/2015
0001392787		RUST COAT ENAMEL	12	oz	9/2/2015
0001392788		RUST COAT ENAMEL	12	oz	9/2/2015
0001392789		RUST COAT ENAMEL	12	oz	9/2/2015
0001392832		CHOKE & CARBURETOR CLEANER	14	oz	9/2/2015
0001392791		RUST COAT ENAMEL	12	oz	9/2/2015
0001392794		RUST COAT ENAMEL	12	oz	9/2/2015
0001392793		RUST COAT ENAMEL	12	oz	9/2/2015
0001392795		RUST COAT ENAMEL	12	oz	9/2/2015
0001392797		RUST COAT ENAMEL	12	oz	9/2/2015
0001392798		RUST COAT ENAMEL	12	oz	9/2/2015
0001392799		RUST COAT ENAMEL	12	oz	9/2/2015
0001392800		RUST COAT ENAMEL	12	oz	9/2/2015
0001392759		POLYOL	1	gal	9/2/2015
0001392756		MATRIX SELECT SBS ADHESIVE	5	gal	9/2/2015
0001392790		RUST COAT ENAMEL	12	oz	9/2/2015
0001392823		CHOKE & CARBURETOR CLEANER	14	oz	9/2/2015
0001392830		CHOKE & CARBURETOR CLEANER	14	oz	9/2/2015
0001392826		CHOKE & CARBURETOR CLEANER	14	oz	9/2/2015
0001392745		PERMACRYL EXTERIOR FLAT NEUTRAL BASE	5	gal	9/2/2015
0001392824		CHOKE & CARBURETOR CLEANER	14	oz	9/2/2015
0001392746		PERMACRYL EXTERIOR FLAT NEUTRAL BASE	5	gal	9/2/2015
0001392796		RUST COAT ENAMEL	12	oz	9/2/2015
0001392825		CHOKE & CARBURETOR CLEANER	14	oz	9/2/2015
0001352602		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352601		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352612		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352600		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352607		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352637		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352598		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352603		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352604		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352605		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352606		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352608		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352609		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352636		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352611		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352402	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352613		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352614		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352615		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352616		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352617		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352618		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352610		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352662		FORMULA 314-T	50	lb	9/3/2015
0001352408	75-69-4	TRICHLOROFLUOROMETHANE	800	ml	9/3/2015
0001352407	75-69-4	TRICHLOROFLUOROMETHANE	800	ml	9/3/2015
0001352406	75-69-4	TRICHLOROFLUOROMETHANE	800	ml	9/3/2015
0001148948	877-24-7	BUFFER PH 4 (RED BUFFER)	375	ml	9/3/2015
0001148947	877-24-7	BUFFER PH 4 (RED BUFFER)	375	ml	9/3/2015
0001352485		SULFURIC ACID SOLUTION	1	l	9/3/2015
0001352713		MASTERMET 2 COLLOIDAL SILICON POLISH	64	oz	9/3/2015
0001352712		MASTERMET 2 COLLOIDAL SILICON POLISH	64	oz	9/3/2015
0001352630		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352400	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352619		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352596		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352661		FORMULA 314-T	50	lb	9/3/2015
0001352634		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352635		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352405	75-69-4	TRICHLOROFLUOROMETHANE	800	ml	9/3/2015
0001352404	811-97-2	DUSTER ES1017	10	oz	9/3/2015
0001352403	811-97-2	DUSTER ES1017	10	oz	9/3/2015
0001352409	75-69-4	TRICHLOROFLUOROMETHANE	800	ml	9/3/2015
0001352401	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352399	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352595		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352711		MASTERMET 2 COLLOIDAL SILICON POLISH	64	oz	9/3/2015
0001352421		SCOTCH WELD EPOXY DP-110	1.7	oz	9/3/2015
0001352379	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001312482		TIRE AND TUBE MOUNTING COMPOUND	25	lb	9/3/2015
0001312481		TIRE AND TUBE MOUNTING COMPOUND	25	lb	9/3/2015
0001352714		MASTERMET 2 COLLOIDAL SILICON POLISH	64	oz	9/3/2015
0001148950		PH 10.01 BUFFER	375	ml	9/3/2015
0001148949	877-24-7	BUFFER PH 4 (RED BUFFER)	375	ml	9/3/2015
0001352487	14024-61-4	PALLADIUM(II) ACETYLACETONATE	5	gm	9/3/2015
0001352486	14024-61-4	PALLADIUM(II) ACETYLACETONATE	5	gm	9/3/2015
0001352476	1923-70-2	TETRABUTYLAMMONIUM PERCHLORATE	10	gm	9/3/2015
0001352475	108-32-7	CYCLIC PROPYLENE CARBONATE	1	l	9/3/2015
0001352474		NIST TRACEABLE TDS/ CONDUCTVITY STANDARD SOLUTION	15	ml	9/3/2015
0001352628		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352422		SCOTCH WELD EPOXY DP-110	1.7	oz	9/3/2015
0001352382	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352420		Neurobasal Medium	500	ml	9/3/2015
0001352419		Neurobasal Medium	500	ml	9/3/2015
0001352418		Neurobasal Medium	500	ml	9/3/2015
0001352417	7732-18-5	WATER	20	l	9/3/2015
0001352416	7732-18-5	WATER	20	l	9/3/2015
0001352415		FANTASTIK SPRAY CLEAN	32	oz	9/3/2015
0001352414		FANTASTIK SPRAY CLEAN	32	oz	9/3/2015
0001352413		FANTASTIK SPRAY CLEAN	32	oz	9/3/2015
0001352412		FANTASTIK SPRAY CLEAN	32	oz	9/3/2015
0001352631		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352632		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352633		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352473		NIST TRACEABLE TDS/ CONDUCTVITY STANDARD SOLUTION	15	ml	9/3/2015
0001352394	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352621		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352622		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352623		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352624		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352625		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352626		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352627		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352638		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352629		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352597		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352398	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352397	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352380	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352395	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352381	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352393	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352392	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352391	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352390	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352389	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352388	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352387	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352386	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352385	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352384	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352383	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015
0001352620		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352396	64-17-5	ETHANOL, 200 PROOF	1	pt	9/3/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352580	6018-89-9	NICKEL(II) ACETATE TETRAHYDRATE	10	gm	9/3/2015
0001352410	302-01-2	HYDRAZINE, ANHYDROUS	100	gm	9/3/2015
0001352526	7732-18-5	Distilled Water	500	ml	9/3/2015
0001383474	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/3/2015
0001383475	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/3/2015
0001383476	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/3/2015
0001383477	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/3/2015
0001383478		NALCO 7408 CHLORINE SCAVENGER SOLUTION	2209	lb	9/3/2015
0001352488	17877-23-5	Triisopropylsilanol	10	gm	9/3/2015
0001352552		TORR SEAL	135	gm	9/3/2015
0001352562		TORR SEAL	135	gm	9/3/2015
0001352599		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352582	7791-13-1	COBALT(II) CHLORIDE HEXAHYDRATE	100	gm	9/3/2015
0001352583	7647-14-5	SODIUM CHLORIDE CERTIFIED ACS	25	gm	9/3/2015
0001352584	62-31-7	DOPAMINE HYDROCHLORIDE	25	gm	9/3/2015
0001352585	77-86-1	TRIS(HYDROXYMETHYL)AMINOMETHANE	100	gm	9/3/2015
0001352586	62-56-6	THIOUREA	50	gm	9/3/2015
0001352587	62-55-5	THIOACETAMIDE	25	gm	9/3/2015
0001352588	367-93-1	ISOPROPYL-B-D-THIOGALACTOPYRANOSIDE	100	gm	9/3/2015
0001352659	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/3/2015
0001352660	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/3/2015
0001352489	18173-64-3	TERT-BUTYLDIMETHYLSILANOL	25	gm	9/3/2015
0001352590		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352561		TORR SEAL	135	gm	9/3/2015
0001352560		TORR SEAL	135	gm	9/3/2015
0001352559		TORR SEAL	135	gm	9/3/2015
0001352558		TORR SEAL	135	gm	9/3/2015
0001352557		TORR SEAL	135	gm	9/3/2015
0001352556		TORR SEAL	135	gm	9/3/2015
0001352564	112-88-9	1-OCTADECENE	2.5	l	9/3/2015
0001352565		COPPER CHLORIDE SOLUTION	100	gm	9/3/2015
0001352527	7732-18-5	Distilled Water	500	ml	9/3/2015
0001352589		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352581	6147-53-1	COBALT(II) ACETATE TETRAHYDRATE	100	gm	9/3/2015
0001352591		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352592		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352593		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352594		TRA-CON BLUE DYE EPOXY	2	gm	9/3/2015
0001352555		TORR SEAL	135	gm	9/3/2015
0001352554		TORR SEAL	135	gm	9/3/2015
0001352411		FANTASTIK SPRAY CLEAN	32	oz	9/3/2015
0001352553		TORR SEAL	135	gm	9/3/2015
0001352563	112-88-9	1-OCTADECENE	2.5	l	9/3/2015
0001352566	100-97-0	HEXAMETHYLENETETRAMINE	250	gm	9/3/2015
0001352579	4671-75-4	1-TETRADECANEPHOSPHONIC ACID	5	gm	9/3/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352484		SULFURIC ACID SOLUTION	1	l	9/3/2015
0001352724		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352833	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	4	l	9/4/2015
0001352739	76-05-1	TRIFLUOROACETIC ACID	500	ml	9/4/2015
0001352740		AMMONIA pH ADJUST. ISA	425	ml	9/4/2015
0001352741		AMMONIA pH ADJUST. ISA	425	ml	9/4/2015
0001352742		AMMONIA pH ADJUST. ISA	425	ml	9/4/2015
0001352743		AMMONIA pH ADJUST. ISA	425	ml	9/4/2015
0001312493		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001352832	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	4	l	9/4/2015
0001352831		Nexguard 22350	55	gal	9/4/2015
0001352830		Nexguard 22350	55	gal	9/4/2015
0001352737	7647-01-0	HYDROGEN CHLORIDE (HYDROCHLORIC ACID, ANHYDROUS)	2	l	9/4/2015
0001343780	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	9/4/2015
0001352736	7647-01-0	HYDROGEN CHLORIDE (HYDROCHLORIC ACID, ANHYDROUS)	2	l	9/4/2015
0001352723		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352722		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352721		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352720		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352719		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352750		DNA Elution Buffer	4	ml	9/4/2015
0001312495		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001312496		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001312497		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001312498		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001312499		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001312500		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001352829		Nexguard 22350	55	gal	9/4/2015
0001352848	7732-18-5	WATER	1	l	9/4/2015
0001352834	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	4	l	9/4/2015
0001352835	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	4	l	9/4/2015
0001352836	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	4	l	9/4/2015
0001352837	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	4	l	9/4/2015
0001352838	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	4	l	9/4/2015
0001352839		Mechanical Pump Oil, Ultragrade 20	4	l	9/4/2015
0001352840		Mechanical Pump Oil, Ultragrade 20	4	l	9/4/2015
0001352841	75-05-8	ACETONITRILE	1	l	9/4/2015
0001352842	75-05-8	ACETONITRILE	1	l	9/4/2015
0001352843	75-05-8	ACETONITRILE	1	l	9/4/2015
0001352844	75-05-8	ACETONITRILE	1	l	9/4/2015
0001352845	75-05-8	ACETONITRILE	1	l	9/4/2015
0001352738	67-68-5	DIMETHYL SULFOXIDE	1	l	9/4/2015
0001352847	7732-18-5	WATER	1	l	9/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352670	71989-14-5	Fmoc-Asp(OBut)-OH	100	gm	9/4/2015
0001352849	7732-18-5	WATER	1	l	9/4/2015
0001352850	7732-18-5	WATER	1	l	9/4/2015
0001352726		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352727		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352728		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352729		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352730		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352731		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352732		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352733		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352734	10099-74-8	LEAD(II) NITRATE	50	gm	9/4/2015
0001352735	7647-01-0	HYDROGEN CHLORIDE (HYDROCHLORIC ACID, ANHYDROUS)	2	l	9/4/2015
0001352846	75-05-8	ACETONITRILE	1	l	9/4/2015
0001352755		DNA Elution Buffer	4	ml	9/4/2015
0001312490		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001312489		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001312488		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001312487		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001352749		DNA Elution Buffer	4	ml	9/4/2015
0001312486		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001312485		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001312484		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001352748		DNA Elution Buffer	4	ml	9/4/2015
0001352747		DNA Elution Buffer	4	ml	9/4/2015
0001352746		DNA Elution Buffer	4	ml	9/4/2015
0001352745		AMMONIA pH ADJUST. ISA	425	ml	9/4/2015
0001352668	71989-14-5	Fmoc-Asp(OBut)-OH	100	gm	9/4/2015
0001312483		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001352491		Lucas Red N Tacky #2 Grease	14	oz	9/4/2015
0001352756	110-05-4	DI-TERT-BUTYL PEROXIDE	250	gm	9/4/2015
0001352757	110-05-4	DI-TERT-BUTYL PEROXIDE	250	gm	9/4/2015
0001352758	97-00-7	1-CHLORO-2,4-DINITROBENZENE	100	gm	9/4/2015
0001383485	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/4/2015
0001383484	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/4/2015
0001383483	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/4/2015
0001383482	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/4/2015
0001383481	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/4/2015
0001352851	7732-18-5	WATER	1	l	9/4/2015
0001352751		DNA Elution Buffer	4	ml	9/4/2015
0001383479	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	9/4/2015
0001352672	24424-99-5	DI-TERT-BUTYL DICARBONATE	100	gm	9/4/2015
0001352744		AMMONIA pH ADJUST. ISA	425	ml	9/4/2015
0001352665		Rink Resin HS, 100-200 mesh	25	gm	9/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312494		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001352671		BIO-GEL P-6 200-400 MESH	100	gm	9/4/2015
0001352828		Nexguard 22350	55	gal	9/4/2015
0001352717	1344-28-1	ALUMINUM OXIDE .05 GAMMA MICROPOLISH II	1	lb	9/4/2015
0001352725		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352716		ALUMINA POLISHING SUSPENSION TYPE 0.1CR ALPHA	64	oz	9/4/2015
0001352673	24424-99-5	DI-TERT-BUTYL DICARBONATE	100	gm	9/4/2015
0001352675	7647-14-5	Water Softener Salt Hardi-Cube Series	50	lb	9/4/2015
0001352676	7647-14-5	Water Softener Salt Hardi-Cube Series	50	lb	9/4/2015
0001352677	7647-14-5	Water Softener Salt Hardi-Cube Series	50	lb	9/4/2015
0001352678	7647-14-5	Water Softener Salt Hardi-Cube Series	50	lb	9/4/2015
0001352679	7647-14-5	Water Softener Salt Hardi-Cube Series	50	lb	9/4/2015
0001352664	12054-85-2	AMMONIUM MOLYBDATE(VI) TETRAHYDRATE	100	gm	9/4/2015
0001352753		DNA Elution Buffer	4	ml	9/4/2015
0001352669	71989-14-5	Fmoc-Asp(OBut)-OH	100	gm	9/4/2015
0001352492	36016-38-3	N-Boc-hydroxylamine	25	gm	9/4/2015
0001312491		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001312492		VELOSSA (HERBICIDE)	2.5	gal	9/4/2015
0001352663	51805-45-9	TRIS(2-CARBOXYETHYL)PHOSPHINE, HYDROCHLORIDE	10	gm	9/4/2015
0001352754		DNA Elution Buffer	4	ml	9/4/2015
0001352490		Lucas Red N Tacky #2 Grease	14	oz	9/4/2015
0001352752		DNA Elution Buffer	4	ml	9/4/2015
0001352718		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/4/2015
0001352680	7647-14-5	Water Softener Salt Hardi-Cube Series	50	lb	9/4/2015
0001352667	71989-14-5	Fmoc-Asp(OBut)-OH	100	gm	9/4/2015
0001352666		Rink Resin HS, 100-200 mesh	25	gm	9/4/2015
0001352715		ALUMINA POLISHING SUSPENSION TYPE 0.1CR ALPHA	64	oz	9/4/2015
0001312519		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001320818		METADI DIAMOND SUSPENSION	8	oz	9/8/2015
0001312509		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312501		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312502		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312503		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312504		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312505		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312506		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001392873		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001312508		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001392735		Flashing Cement SBS 202	5	gal	9/8/2015
0001312510		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312511		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312512		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312513		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312514		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312515		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312507		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0000973040		METADI DIAMOND POLISHING COMPOUND (1 MICRON, HEAVY)	1	pt	9/8/2015
0001392872		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392874		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392875		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001312518		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312517		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312516		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001392738		Flashing Cement SBS 202	5	gal	9/8/2015
0001109732		SPECIFIX 40 CURING AGENT	500	ml	9/8/2015
0001392736		Flashing Cement SBS 202	5	gal	9/8/2015
0001352268		OP-S SUSPENSION	5	l	9/8/2015
0001392729		Flashing Cement SBS 202	5	gal	9/8/2015
0001392730		Flashing Cement SBS 202	5	gal	9/8/2015
0001392731		Flashing Cement SBS 202	5	gal	9/8/2015
0001392732		Flashing Cement SBS 202	5	gal	9/8/2015
0001392733		Flashing Cement SBS 202	5	gal	9/8/2015
0001392871		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392879		EASY SAND 45	18	lb	9/8/2015
0001392862		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/8/2015
0001312530		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312529		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312528		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312527		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312526		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312525		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001392869		LACQUER THINNER	1	gal	9/8/2015
0001392852		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392861		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/8/2015
0001312533		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001392863		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/8/2015
0001392985		FORMULA 314-T	50	lb	9/8/2015
0001392864		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/8/2015
0001320817		METADI DIAMOND SUSPENSION	8	oz	9/8/2015
0001320815		METADI DIAMOND SUSPENSION	8	oz	9/8/2015
0001392865		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/8/2015
0001320819		METADI DIAMOND SUSPENSION	8	oz	9/8/2015
0001392939		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	9/8/2015
0001392860		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/8/2015
0001392976		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	9/8/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392856		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392855		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392854		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392853		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392851		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392981		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	9/8/2015
0001392980		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	9/8/2015
0001392979		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	9/8/2015
0001312531		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001392977		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	9/8/2015
0001312532		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001392975		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	9/8/2015
0001392974		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	9/8/2015
0001392973		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	9/8/2015
0001392984		FORMULA 314-T	50	lb	9/8/2015
0001312536		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312535		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312534		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001392870		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392978		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	9/8/2015
0001392967		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	9/8/2015
0001392883		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392882		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392881		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392943		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	9/8/2015
0001392942		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	9/8/2015
0001392941		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	9/8/2015
0001312522		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312523		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312524		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001392983		SUPER QUICK STEARATED SANDING SEALER	1	gal	9/8/2015
0001392971		PERMACRYL DS-1539 PURE WHITE	1	gal	9/8/2015
0001392933		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	9/8/2015
0001392968		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	9/8/2015
0001392886		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392966		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	9/8/2015
0001392965		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	9/8/2015
0001392964		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	9/8/2015
0001392963		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	9/8/2015
0001392962		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	9/8/2015
0001392889		BIG STRETCH CAULK	10.1	oz	9/8/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312521		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001312520		WASP-FREEZE FORMULA 1	17.5	oz	9/8/2015
0001392940		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	9/8/2015
0001392938		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	9/8/2015
0001392935		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	9/8/2015
0001392934		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	9/8/2015
0001392970		PERMACRYL DS-1539 PURE WHITE	1	gal	9/8/2015
0001392897		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392912		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392911		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392910		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392909		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392908		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392907		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392905		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392904		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392903		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392902		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392901		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392900		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392884		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392898		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392885		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392896		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392895		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392894		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392893		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392892		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392891		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392890		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392937		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	9/8/2015
0001392857		Permacryl DS-1579 PURE WHITE, SEMI GLOSS BASE	1	gal	9/8/2015
0001392888		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392887		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392961		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	9/8/2015
0001392899		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392849		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392948		PEEL STOP	1	gal	9/8/2015
0001392876		PermAcryl Interior Latex Satin Enamel, DS-1531	1	gal	9/8/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392877		PermAcryl Interior Latex Satin Enamel, DS-1531	1	gal	9/8/2015
0001320822		BUEHLER KONDUCTOMET I	1	lb	9/8/2015
0001392846		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001331629	1344-28-1	ALPHA ALUMINUM OXIDE	1	lb	9/8/2015
0001392848		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392956		ACRYLIC LATEX EGGSHELL	1	gal	9/8/2015
0001392957		ACRYLIC LATEX EGGSHELL	1	gal	9/8/2015
0001392932		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	9/8/2015
0001392959		ACRYLIC LATEX EGGSHELL	1	gal	9/8/2015
0001392945		PEEL STOP	1	gal	9/8/2015
0001392946		PEEL STOP	1	gal	9/8/2015
0001392947		PEEL STOP	1	gal	9/8/2015
0001392847		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392921		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392858		Permacryl DS-1579 PURE WHITE, SEMI GLOSS BASE	1	gal	9/8/2015
0001392927		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392926		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392925		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392924		BIG STRETCH CAULK	10.1	oz	9/8/2015
0000952819		CONDUCTIVE EPOXY	2	lb	9/8/2015
0001392922		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392958		ACRYLIC LATEX EGGSHELL	1	gal	9/8/2015
0001392920		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392919		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392918		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392917		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392916		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392880		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392923		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392929		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	9/8/2015
0001392931		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	9/8/2015
0001392930		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	9/8/2015
0001392949		PEEL STOP	1	gal	9/8/2015
0001392850		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392913		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392914		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392915		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001392954		COLORANTS	1	qt	9/8/2015
0001392953		COLORANTS	1	qt	9/8/2015
0001392951		PEEL STOP	1	gal	9/8/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001392950		PEEL STOP	1	gal	9/8/2015
0001392906		BIG STRETCH CAULK	10.1	oz	9/8/2015
0001352674	1665-00-5	DICHLOROMETHANE-D2	10	ml	9/9/2015
0001352494	7440-25-7	TANTALUM POWDER	100	gm	9/9/2015
0001352639	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352797	1310-58-3	POTASSIUM HYDROXIDE	3	kg	9/10/2015
0001352808	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/10/2015
0001352798	1310-58-3	POTASSIUM HYDROXIDE	3	kg	9/10/2015
0001352640	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352796	1310-58-3	POTASSIUM HYDROXIDE	3	kg	9/10/2015
0001352642	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352792	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001352643	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352644	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352645	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352646	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352647	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352641	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352788	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001352800		DIFCO BACTO YEAST EXTRACT	500	gm	9/10/2015
0001352787	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001352806	67-56-1	METHANOL HPLC	4	l	9/10/2015
0001352804	67-56-1	METHANOL HPLC	4	l	9/10/2015
0001352807	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/10/2015
0001352803	67-56-1	METHANOL HPLC	4	l	9/10/2015
0001352648	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352801		DIFCO BACTO YEAST EXTRACT	500	gm	9/10/2015
0001352777	7440-03-1	NIOBIUM WIRE	10	gm	9/10/2015
0001352789	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001352790	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001352791	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001352793	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001352794	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001352773		M-PER MAMMALIAN PROTEIN E	250	ml	9/10/2015
0001352775		TRIS(TRIMETHYLSILYL)SILANE	5	gm	9/10/2015
0001352802		DIFCO BACTO YEAST EXTRACT	500	gm	9/10/2015
0001352547		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001396250	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396251	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396252	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396254	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396255	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396256	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396257	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396258	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396259	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396260	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396261	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396262	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396263	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001352770	54458-61-6	2,3,4,5-TETRAMETHYL-2-CYCLOPENTENONE(CIS+TRAN)	25	gm	9/10/2015
0001396219		HELIUM 2% IN ARGON	220	cf	9/10/2015
0001396376		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396377		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396378		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396379		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396191		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396264	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396193		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396375		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396316	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	9/10/2015
0001352551		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352550		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352549		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352548		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001396247	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396192		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001352656	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001396249	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001352771	54458-61-6	2,3,4,5-TETRAMETHYL-2-CYCLOPENTENONE(CIS+TRAN)	25	gm	9/10/2015
0001352768		CHLOR-N-OIL 50 PCB SCREEN	20	ml	9/10/2015
0001352767		CHLOR-N-OIL 50 PCB SCREEN	20	ml	9/10/2015
0001352708	25322-68-3	POLYETHYLENE GLYCOL	100	ml	9/10/2015
0001352776	55700-14-6	CADMIUM CYCLOHEXANEBUTYRATE	1	gm	9/10/2015
0001352657	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352778	7790-69-4	LITHIUM NITRATE	50	gm	9/10/2015
0001352655	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352654	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352653	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352652	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352651	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352650	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001352658	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001396240	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001352649	64-17-5	ETHYL ALCOHOL, 95%	1	gal	9/10/2015
0001396246	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396245	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396244	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396243	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001352774		GELCODE BLUE SAFE PROTEIN STAIN	1	l	9/10/2015
0001396241	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396248	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396239	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396238	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001352786	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001396158	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396237	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001352546		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001396242	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001352764		SYLGARD 186 KIT	.5	kg	9/10/2015
0001396160	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396159	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001352694	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001396156	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396155	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001312547		ANTI-FREEZE COOLANT	1	gal	9/10/2015
0001312546		ANTI-FREEZE COOLANT	1	gal	9/10/2015
0001312545		ANTI-FREEZE COOLANT	1	gal	9/10/2015
0001312544		ANTI-FREEZE COOLANT	1	gal	9/10/2015
0001312543		ANTI-FREEZE COOLANT	1	gal	9/10/2015
0001396322	74-98-6	PROPANE	33	lb	9/10/2015
0001352765		SYLGARD 186 KIT	.5	kg	9/10/2015
0001396323	74-98-6	PROPANE	33	lb	9/10/2015
0001352709	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	1	l	9/10/2015
0001396154	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/10/2015
0001383487	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001383486	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	9/10/2015
0001352810	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2	l	9/10/2015
0001352799		DIFCO BACTO YEAST EXTRACT	500	gm	9/10/2015
0001281203		AEROKROIL LUBRICANT SPRAY	10	oz	9/10/2015
0001281198		AEROKROIL LUBRICANT SPRAY	10	oz	9/10/2015
0001352795	1310-58-3	POTASSIUM HYDROXIDE	3	kg	9/10/2015
0001396374		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001352766		SYLGARD 186 KIT	.5	kg	9/10/2015
0001396273	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396287	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396286	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396285	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396282	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396281	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396280	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396279	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396278	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396277	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396276	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396321	74-98-6	PROPANE	33	lb	9/10/2015
0001396274	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396372		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396272	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396270	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396269	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396268	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396267	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396266	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396327	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396265	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396325	74-98-6	PROPANE	33	lb	9/10/2015
0001396324	74-98-6	PROPANE	33	lb	9/10/2015
0001396275	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396288		AIR, COMPRESSED	220	cf	9/10/2015
0001396300		AIR, COMPRESSED	220	cf	9/10/2015
0001396299		AIR, COMPRESSED	220	cf	9/10/2015
0001396298		AIR, COMPRESSED	220	cf	9/10/2015
0001396297		AIR, COMPRESSED	220	cf	9/10/2015
0001396296		AIR, COMPRESSED	220	cf	9/10/2015
0001396295		AIR, COMPRESSED	220	cf	9/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396294		AIR, COMPRESSED	220	cf	9/10/2015
0001396293		AIR, COMPRESSED	220	cf	9/10/2015
0001396292		AIR, COMPRESSED	220	cf	9/10/2015
0001396291		AIR, COMPRESSED	220	cf	9/10/2015
0001396373		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396289		AIR, COMPRESSED	220	cf	9/10/2015
0001396357	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396356	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396355	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396354	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396353	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396352	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396351	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0013936400	74-86-2	ACETYLENE	130	cf	9/10/2015
0001396399	74-98-6	PROPANE	100	lb	9/10/2015
0001396398	74-98-6	PROPANE	100	lb	9/10/2015
0001396397	74-98-6	PROPANE	100	lb	9/10/2015
0001396290		AIR, COMPRESSED	220	cf	9/10/2015
0001396359	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396330	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396371	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396370	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396369	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396368	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396366	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396365	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396364	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396363	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396362	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396301		AIR, COMPRESSED	220	cf	9/10/2015
0001396360	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396302		AIR, COMPRESSED	220	cf	9/10/2015
0001396358	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396320	74-98-6	PROPANE	33	lb	9/10/2015
0001396319	74-98-6	PROPANE	33	lb	9/10/2015
0001396318	74-98-6	PROPANE	33	lb	9/10/2015
0001396220	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396317	811-97-2	TETRAFLUOROETHANE	220	cf	9/10/2015
0001396383		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396382		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396381		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396380		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396303	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396361	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001352540		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001396342	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396341	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396340	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396339	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396338	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396337	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396336	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001352545		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352544		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352543		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352529		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352541		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001396345	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001352539		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352538		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352537		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352536		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352535		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352534		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352533		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352532		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352531		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001396328	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001352542		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001396309	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001352784	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001352783	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001352762	4006-38-6	DI-I-BUTYLPHOSPHINE	25	gm	9/10/2015
0001352761	4006-38-6	DI-I-BUTYLPHOSPHINE	25	gm	9/10/2015
0001352493	7440-38-2	ARSENIC STANDARD SOLUTION	125	ml	9/10/2015
0001396396	74-98-6	PROPANE	100	lb	9/10/2015
0001396315	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396314	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396313	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396312	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396343	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396310	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396344	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396308	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396307	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396306	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396305	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396304	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396350	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396349	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396348	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396347	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396346	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001352528		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001396311	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001352684	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001352698	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001352697	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001352696	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001352695	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001352693	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001352691	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001352690	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001352689	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001352688	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001352687	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001352530		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/10/2015
0001352685	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001352701	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001352683	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001352682	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001352681	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001396221	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396326	74-98-6	PROPANE	33	lb	9/10/2015
0001396335	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396333	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396332	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396331	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001352785	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/10/2015
0001352686	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001396165	74-98-6	PROPANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	11	gal	9/10/2015
0001396218	7782-44-7	OXYGEN, COMPRESSED GAS	60	cf	9/10/2015
0001396217	7782-44-7	OXYGEN, COMPRESSED GAS	60	cf	9/10/2015
0001396175		25% CARBON DIOXIDE/75% AR	220	cf	9/10/2015
0001396174		25% CARBON DIOXIDE/75% AR	220	cf	9/10/2015
0001396173		25% CARBON DIOXIDE/75% AR	220	cf	9/10/2015
0001396172	74-98-6	PROPANE	5	gal	9/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396171	74-98-6	PROPANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	11	gal	9/10/2015
0001396170	74-98-6	PROPANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	11	gal	9/10/2015
0001396169	74-98-6	PROPANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	11	gal	9/10/2015
0001396168	74-98-6	PROPANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	11	gal	9/10/2015
0001352699	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001396166	74-98-6	PROPANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	11	gal	9/10/2015
0001352700	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001396164	74-98-6	PROPANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	11	gal	9/10/2015
0001352772	1025-15-6	NOA 88	1	oz	9/10/2015
0001352760		weld-on 3	1	pt	9/10/2015
0001352759		weld-on 3	1	pt	9/10/2015
0001352707	5137-55-3	Methyltrioctylammonium chloride	50	gm	9/10/2015
0001352706	7440-55-3	GALLIUM METAL	50	gm	9/10/2015
0001352705	1070-89-9	SODIUM BIS(TRIMETHYLSILYL)AMIDE, 1.0M	100	gm	9/10/2015
0001352704	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001352703	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001352702	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/10/2015
0001396329	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396167	74-98-6	PROPANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	11	gal	9/10/2015
0001352781		AREMCO-BOND 525	1	pt	9/10/2015
0001312548		CHAIN AND CABLE FLUID	13	oz	9/10/2015
0001396230	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396229	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396226	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396225	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396224	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396223	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396222	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001312540		METALLIC COLORED PAINTS	12	oz	9/10/2015
0001312539		METALLIC COLORED PAINTS	12	oz	9/10/2015
0001312538		T+1 SPR NEW CAT YELLOW PAINT	1	gal	9/10/2015
0001312537		T+1 SPR NEW CAT YELLOW PAINT	1	gal	9/10/2015
0001396232	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001352782	7697-37-2	NITRIC ACID OPTIMA	500	ml	9/10/2015
0001396211		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001352780	330645-87-9	HCTU	500	gm	9/10/2015
0001352779	108-88-3	TOLUENE	4	l	9/10/2015
0001352763		SYLGARD 186 KIT	.5	kg	9/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352710	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	1	l	9/10/2015
0001396212		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396213	7782-44-7	OXYGEN, COMPRESSED GAS	60	cf	9/10/2015
0001396214	7782-44-7	OXYGEN, COMPRESSED GAS	60	cf	9/10/2015
0001396233	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396234	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396235	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396236	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396151	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/10/2015
0001396153	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/10/2015
0001352815	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	100	ml	9/10/2015
0001396197		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001352809	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/10/2015
0001352811	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2	l	9/10/2015
0001352812	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2	l	9/10/2015
0001352813	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	100	ml	9/10/2015
0001383488	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/10/2015
0001383489	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/10/2015
0001383490	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/10/2015
0001383491	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/10/2015
0001383492	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/10/2015
0001281206		AEROKROIL LUBRICANT SPRAY	12	oz	9/10/2015
0001312541		ANTI-FREEZE COOLANT	1	gal	9/10/2015
0001396194		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396231	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396196		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001352814	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	100	ml	9/10/2015
0001396198		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396199		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396200		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396201		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396202		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396203		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396204		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396205		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396206		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396207		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396208		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396209		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396210		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396195		P-10 (90% ARGON 10% METHANE)	220	cf	9/10/2015
0001396185	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396179	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396178	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396177	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396180	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396176	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396181	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001312553		CHAIN AND CABLE FLUID	13	oz	9/10/2015
0001396182	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396184	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396186	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396187	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396188	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396216	7782-44-7	OXYGEN, COMPRESSED GAS	60	cf	9/10/2015
0001396190	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396215	7782-44-7	OXYGEN, COMPRESSED GAS	60	cf	9/10/2015
0001312552		CHAIN AND CABLE FLUID	13	oz	9/10/2015
0001312551		CHAIN AND CABLE FLUID	13	oz	9/10/2015
0001312550		CHAIN AND CABLE FLUID	13	oz	9/10/2015
0001312554		DRY FILM MOLY LUBRICANT LU 200	11	oz	9/10/2015
0001312549		CHAIN AND CABLE FLUID	13	oz	9/10/2015
0001352692	1341-49-7	ROClean A Acid Cleaning Pouch	12	gm	9/10/2015
0001396189	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396183	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	9/10/2015
0001312542		ANTI-FREEZE COOLANT	1	gal	9/10/2015
0001352950	1310-73-2	SODIUM HYDROXIDE (50% W/W SOLUTION)	500	l	9/10/2015
0001396271	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396157	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/10/2015
0001396367	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/10/2015
0001396393		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396227	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396228	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396253	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396384		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396395		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396394		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001352805	67-56-1	METHANOL HPLC	4	l	9/10/2015
0001396283	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396334	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	9/10/2015
0001396387		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396284	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/10/2015
0001396389		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396388		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396386		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396390		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396391		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396385		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001396392		P-10 (90% ARGON 10% METHANE)	220	Cubic Centimeter (CC)	9/10/2015
0001392994		PERMACRYL EXTERIOR FLAT WHITE BASE	1	gal	9/11/2015
0001392995		PERMACRYL EXTERIOR FLAT WHITE BASE	1	gal	9/11/2015
0001393045		PEEL STOP	1	gal	9/11/2015
0001393029		PSX 700 CURE	.2	gal	9/11/2015
0001393030		PSX 700 CURE	.2	gal	9/11/2015
0001393032		PSX 700 CURE	.2	gal	9/11/2015
0001396408		LIQUID NITROGEN	3600	l	9/11/2015
0001312560	Multi	The Right Stuff	7	oz	9/11/2015
0001312559	Multi	The Right Stuff	7	oz	9/11/2015
0001312558	Multi	The Right Stuff	7	oz	9/11/2015
0001392993		PERMACRYL EXTERIOR FLAT WHITE BASE	1	gal	9/11/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393031		PSX 700 CURE	.2	gal	9/11/2015
0001393035		PERMACRYL INTERIOR FLAT WHITE BASE	5	gal	9/11/2015
0001393040		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	9/11/2015
0001393048		PEEL STOP	1	gal	9/11/2015
0001392992		PERMACRYL EXTERIOR FLAT WHITE BASE	1	gal	9/11/2015
0001392991		PERMACRYL EXTERIOR FLAT WHITE BASE	1	gal	9/11/2015
0001392989		PSX 700 CURE	.2	gal	9/11/2015
0001392987		PSX 700 PART A(RESIN)	.8	cf	9/11/2015
0001312557		TRANSHYDRAULIC FLUID	5	gal	9/11/2015
0001312556		TRANSHYDRAULIC FLUID	5	gal	9/11/2015
0001393047		PEEL STOP	1	gal	9/11/2015
0001312555		TRANSHYDRAULIC FLUID	5	gal	9/11/2015
0001393033		PSX 700 CURE	.2	gal	9/11/2015
0001393049		PEEL STOP	1	gal	9/11/2015
0001393044		COTE ALL MULTI-PURPOSE ENAMEL	1	gal	9/11/2015
0001393042		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	9/11/2015
0001393041		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	9/11/2015
0001393046		PEEL STOP	1	gal	9/11/2015
0001393026		PSX 700 PART A(RESIN)	.8	gal	9/11/2015
0001393072		SODA ASH	50	lb	9/11/2015
0001393090		SODA ASH	50	lb	9/11/2015
0001393091		SODA ASH	50	lb	9/11/2015
0001393092		SODA ASH	50	lb	9/11/2015
0001393071		SODA ASH	50	lb	9/11/2015
0001393051		SODA ASH	50	lb	9/11/2015
0001393024		PSX 700 PART A(RESIN)	.8	gal	9/11/2015
0001393027		PSX 700 PART A(RESIN)	.8	gal	9/11/2015
0001396407		LIQUID NITROGEN	800	l	9/11/2015
0001393025		PSX 700 PART A(RESIN)	.8	gal	9/11/2015
0001396405		LIQUID NITROGEN	6000	l	9/11/2015
0001393055		SODA ASH	50	lb	9/11/2015
0001396406	7440-37-1	ARGON	200	gal	9/11/2015
0001393023		PSX 700 PART A(RESIN)	.8	gal	9/11/2015
0001393037		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/11/2015
0001393073		SODA ASH	50	lb	9/11/2015
0001393066		SODA ASH	50	lb	9/11/2015
0001393068		SODA ASH	50	lb	9/11/2015
0001393065		SODA ASH	50	lb	9/11/2015
0001393064		SODA ASH	50	lb	9/11/2015
0001393063		SODA ASH	50	lb	9/11/2015
0001393062		SODA ASH	50	lb	9/11/2015
0001393069		SODA ASH	50	lb	9/11/2015
0001393053		SODA ASH	50	lb	9/11/2015
0001393079		SODA ASH	50	lb	9/11/2015
0001393052		SODA ASH	50	lb	9/11/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393070		SODA ASH	50	lb	9/11/2015
0001393059		SODA ASH	50	lb	9/11/2015
0001393058		SODA ASH	50	lb	9/11/2015
0001393057		SODA ASH	50	lb	9/11/2015
0001393056		SODA ASH	50	lb	9/11/2015
0001393067		SODA ASH	50	lb	9/11/2015
0001393054		SODA ASH	50	lb	9/11/2015
0001393060		SODA ASH	50	lb	9/11/2015
0001393061		SODA ASH	50	lb	9/11/2015
0001393097		SODA ASH	50	lb	9/11/2015
0001392990		PERMACRYL EXTERIOR FLAT WHITE BASE	1	gal	9/11/2015
0001393077		SODA ASH	50	lb	9/11/2015
0001393074		SODA ASH	50	lb	9/11/2015
0001393050		SODA ASH	50	lb	9/11/2015
0001393087		SODA ASH	50	lb	9/11/2015
0001393086		SODA ASH	50	lb	9/11/2015
0001393096		SODA ASH	50	lb	9/11/2015
0001393088		SODA ASH	50	lb	9/11/2015
0001393098		SODA ASH	50	lb	9/11/2015
0001393099		SODA ASH	50	lb	9/11/2015
0001393100		SODA ASH	50	lb	9/11/2015
0001393101		SODA ASH	50	lb	9/11/2015
0001393095		SODA ASH	50	lb	9/11/2015
0001393089		SODA ASH	50	lb	9/11/2015
0001393075		SODA ASH	50	lb	9/11/2015
0001393085		SODA ASH	50	lb	9/11/2015
0001393076		SODA ASH	50	lb	9/11/2015
0001393102		SODA ASH	50	lb	9/11/2015
0001393078		SODA ASH	50	lb	9/11/2015
0001393080		SODA ASH	50	lb	9/11/2015
0001393081		SODA ASH	50	lb	9/11/2015
0001393082		SODA ASH	50	lb	9/11/2015
0001393093		SODA ASH	50	lb	9/11/2015
0001393094		SODA ASH	50	lb	9/11/2015
0001393083		SODA ASH	50	lb	9/11/2015
0001393084		SODA ASH	50	lb	9/11/2015
0001393103		SODA ASH	50	lb	9/11/2015
0001352936		FULLCURE 705	1	kg	9/14/2015
0001393145		Sure-Seal EP-95	1	gal	9/14/2015
0001352937		FULLCURE 705	1	kg	9/14/2015
0001352940		FULLCURE 705	1	kg	9/14/2015
0001393160		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001393157		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001352935	7697-37-2	NITRIC ACID	2.5	l	9/14/2015
0001352934		FULLCURE 705	1	kg	9/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393184		ready mix concrete	60	lb	9/14/2015
0001393192		ready mix concrete	60	lb	9/14/2015
0001393191		ready mix concrete	60	lb	9/14/2015
0001393190		ready mix concrete	60	lb	9/14/2015
0001393189		ready mix concrete	60	lb	9/14/2015
0001393188		ready mix concrete	60	lb	9/14/2015
0001393187		ready mix concrete	60	lb	9/14/2015
0001393158		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001393159		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001393185		ready mix concrete	60	lb	9/14/2015
0001352939		FULLCURE 705	1	kg	9/14/2015
0001393183		ready mix concrete	60	lb	9/14/2015
0001393182		ready mix concrete	60	lb	9/14/2015
0001352941		FULLCURE 705	1	kg	9/14/2015
0001393181		ready mix concrete	60	lb	9/14/2015
0001393136		Sure-Seal EP-95	1	gal	9/14/2015
0001352942		FULLCURE 705	1	kg	9/14/2015
0001393173		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001393135		Sure-Seal EP-95	1	gal	9/14/2015
0001393186		ready mix concrete	60	lb	9/14/2015
0001393193		ready mix concrete	60	lb	9/14/2015
0001352943		FULLCURE 705	1	kg	9/14/2015
0001393161		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001393162		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001393163		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001393164		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001393165		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001393168		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001393169		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001393170		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001393144		Sure-Seal EP-95	1	gal	9/14/2015
0001393143		Sure-Seal EP-95	1	gal	9/14/2015
0001393175		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001393142		Sure-Seal EP-95	1	gal	9/14/2015
0001352938		FULLCURE 705	1	kg	9/14/2015
0001393141		Sure-Seal EP-95	1	gal	9/14/2015
0001393140		Sure-Seal EP-95	1	gal	9/14/2015
0001393139		Sure-Seal EP-95	1	gal	9/14/2015
0001393138		Sure-Seal EP-95	1	gal	9/14/2015
0001393137		Sure-Seal EP-95	1	gal	9/14/2015
0001393171		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001393172		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001393174		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001393176		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001393177		YELLOW TRAFFIC PAINT	5	gal	9/14/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393178		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001393179		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001393152		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001352862		CL17 DPD Indicator	473	ml	9/14/2015
0001393204		ready mix concrete	60	lb	9/14/2015
0001352856		CL17 DPD Indicator	473	ml	9/14/2015
0001352857		CL17 DPD Indicator	473	ml	9/14/2015
0001352858		CL17 DPD Indicator	473	ml	9/14/2015
0001352859		CL17 DPD Indicator	473	ml	9/14/2015
0001352854	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	9/14/2015
0001352861		CL17 DPD Indicator	473	ml	9/14/2015
0001352853	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	9/14/2015
0001352863	60-29-7	DIETHYL ETHER	1	l	9/14/2015
0001393154		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001352865	60-29-7	DIETHYL ETHER	1	l	9/14/2015
0001393194		ready mix concrete	60	lb	9/14/2015
0001393206		ready mix concrete	60	lb	9/14/2015
0001393205		ready mix concrete	60	lb	9/14/2015
0001352860		CL17 DPD Indicator	473	ml	9/14/2015
0001309144		DISINFECTANT SPRAY	12.5	oz	9/14/2015
0001352951	144-55-8	SODIUM BICARBONATE	500	gm	9/14/2015
0001352949	67-56-1	METHANOL	1	l	9/14/2015
0001352948	67-56-1	METHANOL	1	l	9/14/2015
0001352947	67-56-1	METHANOL	1	l	9/14/2015
0001352946	67-56-1	METHANOL	1	l	9/14/2015
0001352855		CL17 DPD Indicator	473	ml	9/14/2015
0001352944	67-56-1	METHANOL	1	l	9/14/2015
0001352866	60-29-7	DIETHYL ETHER	1	l	9/14/2015
0001309148		DISINFECTANT SPRAY	12.5	oz	9/14/2015
0001309149		DISINFECTANT SPRAY	12.5	oz	9/14/2015
0001393207		ready mix concrete	60	lb	9/14/2015
0001393208		ready mix concrete	60	lb	9/14/2015
0001393209		ready mix concrete	60	lb	9/14/2015
0001393007		LACQUER THINNER	5	gal	9/14/2015
0001352945	67-56-1	METHANOL	1	l	9/14/2015
0001352932		FULLCURE 705	1	kg	9/14/2015
0001352928		FULLCURE 705	1	kg	9/14/2015
0001393203		ready mix concrete	60	lb	9/14/2015
0001393201		ready mix concrete	60	lb	9/14/2015
0001352864	60-29-7	DIETHYL ETHER	1	l	9/14/2015
0001393151		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001393153		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001393155		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001352927		FULLCURE 705	1	kg	9/14/2015
0001352931		FULLCURE 705	1	kg	9/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352929		FULLCURE 705	1	kg	9/14/2015
0001352933		FULLCURE 705	1	kg	9/14/2015
0001393156		WHITE TRAFFIC PAINT	5	gal	9/14/2015
0001393200		ready mix concrete	60	lb	9/14/2015
0001393199		ready mix concrete	60	lb	9/14/2015
0001393198		ready mix concrete	60	lb	9/14/2015
0001393197		ready mix concrete	60	lb	9/14/2015
0001393196		ready mix concrete	60	lb	9/14/2015
0001393195		ready mix concrete	60	lb	9/14/2015
0001352930		FULLCURE 705	1	kg	9/14/2015
0001352869	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	qt	9/14/2015
0001396421	1333-74-0	HYDROGEN	60	cf	9/14/2015
0001396420	1333-74-0	HYDROGEN	20	cf	9/14/2015
0001396419	1333-74-0	HYDROGEN	20	cf	9/14/2015
0001396402		4500PPM OXYGEN/BAL. ARGON	220	cf	9/14/2015
0001396416	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/14/2015
0001393202		ready mix concrete	60	lb	9/14/2015
0001352867	7631-86-9	SILICA GEL 80-100 MESH	1	kg	9/14/2015
0001393167		YELLOW TRAFFIC PAINT	5	gal	9/14/2015
0001352868	68410-23-1	VERSAMID 140 POLYAMIDE RESIN	1	qt	9/14/2015
0001352871	14283-07-9	LITHIUM TETRAFLUOROBORATE, ANHYDROUS, 98%	50	gm	9/14/2015
0001352870	4559-70-0	DIPHENYLPHOSPHINE OXIDE	5	gm	9/14/2015
0001352852	7732-18-5	WATER	1	l	9/14/2015
0001393011		LACQUER THINNER	5	gal	9/14/2015
0001396413	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/14/2015
0001396411	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/14/2015
0001396414	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/14/2015
0001396412	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/14/2015
0001394618	1333-74-0	HYDROGEN	20	cf	9/14/2015
0001393013		LACQUER THINNER	5	gal	9/14/2015
0001396417	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/14/2015
0001396401		4500PPM OXYGEN/BAL. ARGON	220	cf	9/14/2015
0001396422	1333-74-0	HYDROGEN	60	cf	9/14/2015
0001396415	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/14/2015
0001396410	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/14/2015
0001352953	144-55-8	SODIUM BICARBONATE	500	gm	9/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352952	144-55-8	SODIUM BICARBONATE	500	gm	9/14/2015
0001352873	9012-36-6	AGAROSE	500	gm	9/14/2015
0001352872		SOLID POWER DETERGENT	1.8	kg	9/14/2015
0001312561		ATF	1	gal	9/14/2015
0001312562		ATF	1	gal	9/14/2015
0001312563		ATF	1	gal	9/14/2015
0001312564		ATF	1	gal	9/14/2015
0001312565		ATF	1	gal	9/14/2015
0001312566		ATF	1	gal	9/14/2015
0001396423	1333-74-0	HYDROGEN	60	cf	9/14/2015
0001393012		LACQUER THINNER	5	gal	9/14/2015
0001393123		LAP SEALANT BLACK	11	oz	9/14/2015
0001393241		GAS TREATMENT	12	oz	9/14/2015
0001393132		LAP SEALANT BLACK	11	oz	9/14/2015
0001393130		LAP SEALANT BLACK	11	oz	9/14/2015
0001393019		LACQUER THINNER	5	gal	9/14/2015
0001393128		LAP SEALANT BLACK	11	oz	9/14/2015
0001393127		LAP SEALANT BLACK	11	oz	9/14/2015
0001396424	1333-74-0	HYDROGEN	60	cf	9/14/2015
0001393121		LAP SEALANT BLACK	11	oz	9/14/2015
0001393245		GAS TREATMENT	12	oz	9/14/2015
0001393244		GAS TREATMENT	12	oz	9/14/2015
0001393243		GAS TREATMENT	12	oz	9/14/2015
0001393021		LACQUER THINNER	5	gal	9/14/2015
0001393008		LACQUER THINNER	5	gal	9/14/2015
0001393242		GAS TREATMENT	12	oz	9/14/2015
0001393131		LAP SEALANT BLACK	11	oz	9/14/2015
0001393240		GAS TREATMENT	12	oz	9/14/2015
0001393239		GAS TREATMENT	12	oz	9/14/2015
0001393238		GAS TREATMENT	12	oz	9/14/2015
0001393237		GAS TREATMENT	12	oz	9/14/2015
0001393236		GAS TREATMENT	12	oz	9/14/2015
0001393235		GAS TREATMENT	12	oz	9/14/2015
0001393014		LACQUER THINNER	5	gal	9/14/2015
0001393015		LACQUER THINNER	5	gal	9/14/2015
0001393016		LACQUER THINNER	5	gal	9/14/2015
0001393017		LACQUER THINNER	5	gal	9/14/2015
0001393018		LACQUER THINNER	5	gal	9/14/2015
0001393020		LACQUER THINNER	5	gal	9/14/2015
0001393106		BONDING ADHESIVE	5	gal	9/14/2015
0001393115		LAP SEALANT BLACK	11	oz	9/14/2015
0001393114		LAP SEALANT BLACK	11	oz	9/14/2015
0001393113		LAP SEALANT BLACK	11	oz	9/14/2015
0001393112		LAP SEALANT BLACK	11	oz	9/14/2015
0001393111		LAP SEALANT BLACK	11	oz	9/14/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393110		LAP SEALANT BLACK	11	oz	9/14/2015
0001393129		LAP SEALANT BLACK	11	oz	9/14/2015
0001393107		BONDING ADHESIVE	5	gal	9/14/2015
0001393118		LAP SEALANT BLACK	11	oz	9/14/2015
0001393105		BONDING ADHESIVE	5	gal	9/14/2015
0001393134		Sure-Seal EP-95	1	gal	9/14/2015
0001393234		GAS TREATMENT	12	oz	9/14/2015
0001396427	1333-74-0	HYDROGEN	60	cf	9/14/2015
0001396426	1333-74-0	HYDROGEN	60	cf	9/14/2015
0001396425	1333-74-0	HYDROGEN	60	cf	9/14/2015
0001393109		LAP SEALANT BLACK	11	oz	9/14/2015
0001393120		LAP SEALANT BLACK	11	oz	9/14/2015
0001393010		LACQUER THINNER	5	gal	9/14/2015
0001393126		LAP SEALANT BLACK	11	oz	9/14/2015
0001393125		LAP SEALANT BLACK	11	oz	9/14/2015
0001393124		LAP SEALANT BLACK	11	oz	9/14/2015
0001393180		ready mix concrete	60	lb	9/14/2015
0001393116		LAP SEALANT BLACK	11	oz	9/14/2015
0001393122		LAP SEALANT BLACK	11	oz	9/14/2015
0001393117		LAP SEALANT BLACK	11	oz	9/14/2015
0001393119		LAP SEALANT BLACK	11	oz	9/14/2015
0001393009		LACQUER THINNER	5	gal	9/14/2015
0001353019		MOLD RELEASE	12	oz	9/15/2015
0001353015		MOLD RELEASE	12	oz	9/15/2015
0001353016		MOLD RELEASE	12	oz	9/15/2015
0001353017		MOLD RELEASE	12	oz	9/15/2015
0001353018		MOLD RELEASE	12	oz	9/15/2015
0001353014		MOLD RELEASE	12	oz	9/15/2015
0001353020		MOLD RELEASE	12	oz	9/15/2015
0001353021		MOLD RELEASE	12	oz	9/15/2015
0001353027		MOLD RELEASE	12	oz	9/15/2015
0001353022		MOLD RELEASE	12	oz	9/15/2015
0001353023		MOLD RELEASE	12	oz	9/15/2015
0001353024		MOLD RELEASE	12	oz	9/15/2015
0001353025		MOLD RELEASE	12	oz	9/15/2015
0001353026		MOLD RELEASE	12	oz	9/15/2015
0001353055		MOLD RELEASE	12	oz	9/15/2015
0001331233		BORE CLEANER	1	gal	9/15/2015
0000904254	124-38-9	CARBON DIOXIDE, GAS	220	cf	9/15/2015
0000904253	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/15/2015
0000904252	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/15/2015
0000904240	124-38-9	CARBON DIOXIDE, GAS	220	cf	9/15/2015
0000904241	124-38-9	CARBON DIOXIDE, GAS	220	cf	9/15/2015
0000904243		PROPYLENE CARBONATE 5% IN CARBON DIOXIDE	220	cf	9/15/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001331239		BORE CLEANER	1	gal	9/15/2015
0001331238		BORE CLEANER	1	gal	9/15/2015
0001331237		BORE CLEANER	1	gal	9/15/2015
0001331236		BORE CLEANER	1	gal	9/15/2015
0001353053		MOLD RELEASE	12	oz	9/15/2015
0001331234		BORE CLEANER	1	gal	9/15/2015
0000904257	124-38-9	CARBON DIOXIDE, GAS	220	cf	9/15/2015
0001269815		INK, OPAQUE CLEAR PRINT STAMP YELLOW	2	oz	9/15/2015
0001331232		BORE CLEANER	1	gal	9/15/2015
0001352909	68083-19-2	SYLGUARD 184 KIT	3.9	kg	9/15/2015
0001352908	68083-19-2	SYLGUARD 184 KIT	3.9	kg	9/15/2015
0001352907	7440-21-3	SILICON STANDARD	125	ml	9/15/2015
0001352906	7440-21-3	SILICON STANDARD	125	ml	9/15/2015
0001352905		IRON STANDARD	125	ml	9/15/2015
0001352904		IRON STANDARD	125	ml	9/15/2015
0000904245		5% HYDROGEN/BAL. NITROGEN	220	cf	9/15/2015
0001352972		Basic Application Kit 200	1.81	kg	9/15/2015
0001331235		BORE CLEANER	1	gal	9/15/2015
0001352985	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0000904246		5% HYDROGEN/BAL. NITROGEN	220	cf	9/15/2015
0000904244		1% HYDROGEN/BAL. NITROGEN	220	cf	9/15/2015
0001352878		MassPREP Digestion Standard Kit	25	ml	9/15/2015
0001352975		CF350 Amine	1	mg	9/15/2015
0001352976	41492-05-1	4-BROMO-N-BUTYLBENZENE	25	gm	9/15/2015
0001352977	107-21-1	ETHYLENE GLYCOL	1	l	9/15/2015
0001352978	139-85-5	3,4-Dihydroxybenzaldehyde	5	gm	9/15/2015
0001352979	24677-78-9	2,3-DIHYDROXYBENZALDEHYDE	5	gm	9/15/2015
0001352980	20344-49-4	IRON(III) OXIDE, HYDRATED	250	gm	9/15/2015
0001352981	20344-49-4	IRON(III) OXIDE, HYDRATED	250	gm	9/15/2015
0000904255	124-38-9	CARBON DIOXIDE, GAS	220	cf	9/15/2015
0001352984	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0000904256	124-38-9	CARBON DIOXIDE, GAS	220	cf	9/15/2015
0001352986	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0001352987	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0001352988	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0001352989	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0001352990	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0001352991	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0001352992	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0001352993	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0001352994	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0001352995	64-17-5	ETHYL ALCOHOL, 95%	4	gal	9/15/2015
0001353068		MOLD RELEASE	12	oz	9/15/2015
0001352983	2432-11-3	2,6-DIPHENYLPHENOL	25	gm	9/15/2015
0001353037		MOLD RELEASE	12	oz	9/15/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353070		MOLD RELEASE	12	oz	9/15/2015
0001353048		MOLD RELEASE	12	oz	9/15/2015
0001353047		MOLD RELEASE	12	oz	9/15/2015
0001353046		MOLD RELEASE	12	oz	9/15/2015
0001353045		MOLD RELEASE	12	oz	9/15/2015
0001353044		MOLD RELEASE	12	oz	9/15/2015
0001353043		MOLD RELEASE	12	oz	9/15/2015
0001353042		MOLD RELEASE	12	oz	9/15/2015
0001353041		MOLD RELEASE	12	oz	9/15/2015
0001353040		MOLD RELEASE	12	oz	9/15/2015
0001353050		MOLD RELEASE	12	oz	9/15/2015
0001353038		MOLD RELEASE	12	oz	9/15/2015
0001353051		MOLD RELEASE	12	oz	9/15/2015
0001353036		MOLD RELEASE	12	oz	9/15/2015
0001353035		MOLD RELEASE	12	oz	9/15/2015
0001353003		MOLD RELEASE	12	oz	9/15/2015
0001353004		MOLD RELEASE	12	oz	9/15/2015
0001353005		MOLD RELEASE	12	oz	9/15/2015
0001353006		MOLD RELEASE	12	oz	9/15/2015
0001353007		MOLD RELEASE	12	oz	9/15/2015
0001353009		MOLD RELEASE	12	oz	9/15/2015
0001353010		MOLD RELEASE	12	oz	9/15/2015
0001353011		MOLD RELEASE	12	oz	9/15/2015
0001353012		MOLD RELEASE	12	oz	9/15/2015
0001353039		MOLD RELEASE	12	oz	9/15/2015
0001353065		MOLD RELEASE	12	oz	9/15/2015
0001353013		MOLD RELEASE	12	oz	9/15/2015
0001352898		LOCTITE 326	50	ml	9/15/2015
0001352897		LOCTITE 326	50	ml	9/15/2015
0001352896		LOCTITE 326	50	ml	9/15/2015
0001352895		LOCTITE 326	50	ml	9/15/2015
0001352894		ELUTION BUFFER	3.75	l	9/15/2015
0001352893		PROTEIN A	3.75	l	9/15/2015
0000904249		2.9% Hydrogen/Bal. Argon	220	cf	9/15/2015
0000904258	124-38-9	CARBON DIOXIDE, GAS	220	cf	9/15/2015
0000904259	124-38-9	CARBON DIOXIDE, GAS	220	cf	9/15/2015
0001353049		MOLD RELEASE	12	oz	9/15/2015
0001353066		MOLD RELEASE	12	oz	9/15/2015
0001353069		MOLD RELEASE	12	oz	9/15/2015
0001353064		MOLD RELEASE	12	oz	9/15/2015
0001353063		MOLD RELEASE	12	oz	9/15/2015
0001353062		MOLD RELEASE	12	oz	9/15/2015
0001353061		MOLD RELEASE	12	oz	9/15/2015
0001353060		MOLD RELEASE	12	oz	9/15/2015
0001353058		MOLD RELEASE	12	oz	9/15/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353057		MOLD RELEASE	12	oz	9/15/2015
0001353056		MOLD RELEASE	12	oz	9/15/2015
0001353008		MOLD RELEASE	12	oz	9/15/2015
0001353054		MOLD RELEASE	12	oz	9/15/2015
0001353052		MOLD RELEASE	12	oz	9/15/2015
0001353067		MOLD RELEASE	12	oz	9/15/2015
0001352877		MassPREP Digestion Standard Kit	25	ml	9/15/2015
0001353030		MOLD RELEASE	12	oz	9/15/2015
0001353032		MOLD RELEASE	12	oz	9/15/2015
0001353033		MOLD RELEASE	12	oz	9/15/2015
0001353034		MOLD RELEASE	12	oz	9/15/2015
0001353029		MOLD RELEASE	12	oz	9/15/2015
0001352982	2432-11-3	2,6-DIPHENYLPHENOL	25	gm	9/15/2015
0001381214		PVC CEMENT CLEAR	8	oz	9/15/2015
0001353031		MOLD RELEASE	12	oz	9/15/2015
0001352876		MassPREP Digestion Standard Kit	25	ml	9/15/2015
0001381216		PVC PRIMER CLEAR	8	oz	9/15/2015
0001352996	13709-36-9	XENON DIFLUORIDE	5	gm	9/15/2015
0001352999		MOLD RELEASE	12	oz	9/15/2015
0001353000		MOLD RELEASE	12	oz	9/15/2015
0001353001		MOLD RELEASE	12	oz	9/15/2015
0001353002		MOLD RELEASE	12	oz	9/15/2015
0001353059		MOLD RELEASE	12	oz	9/15/2015
0001353028		MOLD RELEASE	12	oz	9/15/2015
0001352875		MassPREP Digestion Standard Kit	25	ml	9/15/2015
0001352819		Nexguard 22350	55	gal	9/15/2015
0001352818		Nexguard 22350	55	gal	9/15/2015
0001352817		Nexguard 22350	55	gal	9/15/2015
0001352816		Nexguard 22350	55	gal	9/15/2015
0001383493	7681-52-9	SODIUM HYPOCHLORITE	330	gal	9/15/2015
0001383500	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/15/2015
0001352820		Nexguard 22350	55	gal	9/15/2015
0001384125	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/15/2015
0001384124	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/15/2015
0001383293		SODIUM HYPOCHLORITE SOLUT	3.4	l	9/15/2015
0001383499	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/15/2015
0001383498	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/15/2015
0001383497	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/15/2015
0001383496	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/15/2015
0001383494	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	9/15/2015
0001331241		CLEANER LUBRICANT PRESERVATIVE	1	gal	9/15/2015
0001383495	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	9/15/2015
0001352889		SAF-T-LOK SILICONE 732 SEALANT	3	oz	9/15/2015
0001352965	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/15/2015
0001352964	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/15/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352963	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/15/2015
0001352961	109-97-7	PYRROLE	500	ml	9/15/2015
0001312568	Multi	Purus Diesel Exhaust Fluid	2.5	gal	9/15/2015
0001352960	7439-95-4	MAGNESIUM METAL PIECES	100	gm	9/15/2015
0001352880	74056-94-3	Poly(carbodihydridosilane)	5	gm	9/15/2015
0001352959	110-82-7	CYCLOHEXANE, ANHYDROUS, 99.5%	1	l	9/15/2015
0001383501	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/15/2015
0001352957	9004-74-4	POLYETHYLENE GLYCOL METHYL ETHER	100	ml	9/15/2015
0001352956	9004-74-4	POLYETHYLENE GLYCOL METHYL ETHER	100	ml	9/15/2015
0001352955	9004-74-4	POLYETHYLENE GLYCOL METHYL ETHER	100	ml	9/15/2015
0001352884	104-81-4	4-Methylbenzyl bromide	25	gm	9/15/2015
0001352883	104-81-4	4-Methylbenzyl bromide	25	gm	9/15/2015
0001352882	104-81-4	4-Methylbenzyl bromide	25	gm	9/15/2015
0001352881	74056-94-3	Poly(carbodihydridosilane)	5	gm	9/15/2015
0001331243		CLEANER LUBRICANT PRESERVATIVE	1	gal	9/15/2015
0001381209		FLUORESCENT DYE SOLUTION	32	qt	9/15/2015
0001383292		SODIUM HYPOCHLORITE SOLUT	3.4	l	9/15/2015
0001352962	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/15/2015
0001384117	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/15/2015
0001384118	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/15/2015
0001384119	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/15/2015
0001384120	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/15/2015
0001396403		Fluorine (.09%), Helium (1.68%), Krypton (3.82%) Balance Neon	220	cf	9/15/2015
0001352966	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/15/2015
0001381211		FLUORESCENT DYE SOLUTION	32	qt	9/15/2015
0001352967	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/15/2015
0001381210		FLUORESCENT DYE SOLUTION	32	qt	9/15/2015
0001393291		MOLYBDOVANADATE REAGENT	1000	ml	9/15/2015
0001393292		MOLYBDOVANADATE REAGENT	1000	ml	9/15/2015
0001384122	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/15/2015
0001384121	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/15/2015
0001383502	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/15/2015
0001352958	10026-12-7	NIOBIUM(V) CHLORIDE	50	gm	9/15/2015
0001396404		Fluorine (.09%), Helium (1.68%), Krypton (3.82%) Balance Neon	220	cf	9/15/2015
0001384123	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/15/2015
0000904247		Ammonia 10%/Bal. Nitrogen	220	cf	9/15/2015
0001393293		MOLYBDOVANADATE REAGENT	1000	ml	9/15/2015
0001352974	67-63-0	ISOPROPYL ALCOHOL	5	gal	9/15/2015
0001352973	67-63-0	ISOPROPYL ALCOHOL	5	gal	9/15/2015
0001352971		M-BOND 200 KIT	1	oz	9/15/2015
0001352970		M-BOND 200 KIT	1	oz	9/15/2015
0001331247		CLEANER LUBRICANT PRESERVATIVE	1	gal	9/15/2015
0001352879	74056-94-3	Poly(carbodihydridosilane)	5	gm	9/15/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001352968		M-BOND 200 KIT	1	oz	9/15/2015
0001312567	Multi	Purus Diesel Exhaust Fluid	2.5	gal	9/15/2015
0001331249		FLAT BLACK SPRAY PAINT	12	oz	9/15/2015
0000904250		5% HYDROGEN/BAL. NITROGEN	220	cf	9/15/2015
0001352885		SAF-T-LOK SILICONE 732 SEALANT	3	oz	9/15/2015
0001352886		SAF-T-LOK SILICONE 732 SEALANT	3	oz	9/15/2015
0001352887		SAF-T-LOK SILICONE 732 SEALANT	3	oz	9/15/2015
0001352888		SAF-T-LOK SILICONE 732 SEALANT	3	oz	9/15/2015
0001352969		M-BOND 200 KIT	1	oz	9/15/2015
0001352823		Nexguard 22350	55	gal	9/15/2015
0001352874	7757-82-6	SODIUM SULFATE ANHYDROUS	2.5	kg	9/15/2015
0001331248		FLAT BLACK SPRAY PAINT	12	oz	9/15/2015
0001331246		CLEANER LUBRICANT PRESERVATIVE	1	gal	9/15/2015
0001352827		Nexguard 22350	55	gal	9/15/2015
0001352826		Nexguard 22350	55	gal	9/15/2015
0001352824		Nexguard 22350	55	gal	9/15/2015
0001352822		Nexguard 22350	55	gal	9/15/2015
0001352821		Nexguard 22350	55	gal	9/15/2015
0001331242		CLEANER LUBRICANT PRESERVATIVE	1	gal	9/15/2015
0001352891		SAF-T-LOK SILICONE 732 SEALANT	3	oz	9/15/2015
0001352892		SAF-T-LOK SILICONE 732 SEALANT	3	oz	9/15/2015
0000904248	124-38-9	CARBON DIOXIDE, GAS	220	cf	9/15/2015
0001331245		CLEANER LUBRICANT PRESERVATIVE	1	gal	9/15/2015
0001331240		CLEANER LUBRICANT PRESERVATIVE	1	gal	9/15/2015
0001352890		SAF-T-LOK SILICONE 732 SEALANT	3	oz	9/15/2015
0001352825		Nexguard 22350	55	gal	9/15/2015
0001331244		CLEANER LUBRICANT PRESERVATIVE	1	gal	9/15/2015
0001280605		FS-One Max	10.1	oz	9/16/2015
0001281486		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015
0001281487		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015
0001281488		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015
0001281479		HIT-HY 70	11.2	oz	9/16/2015
0001281500		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281490		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015
0001281481		HIT-HY 70	11.2	oz	9/16/2015
0001352910		CarbonMide Polyamide Powder	1	kg	9/16/2015
0001281493		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015
0001281489		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001280606		FS-One Max	10.1	oz	9/16/2015
0001281478		HIT-HY 70	11.2	oz	9/16/2015
0001281477		HIT-HY 70	11.2	oz	9/16/2015
0001281476		HIT-HY 70	11.2	oz	9/16/2015
0001281482		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015
0001281472		HIT-HY 70	11.2	oz	9/16/2015
0001281473		HIT-HY 70	11.2	oz	9/16/2015
0001281475		HIT-HY 70	11.2	oz	9/16/2015
0001281492		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015
0001281496		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281499		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281491		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015
0001281497		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281485		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015
0001281495		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281501		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281502		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281474		HIT-HY 70	11.2	oz	9/16/2015
0001281504		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281505		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281483		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015
0001281494		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281484		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	10.1	oz	9/16/2015
0001281480		HIT-HY 70	11.2	oz	9/16/2015
0001281503		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281498		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	9/16/2015
0001281687		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281686		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281685		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281684		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281682		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281681		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281688		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281698		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281683		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281689		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281690		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281691		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281692		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281693		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281694		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281695		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281697		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281699		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281662		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281696		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281774		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281660		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281707		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281708		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281709		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281710		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281711		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281712		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281713		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281714		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281715		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281716		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281717		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281718		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281706		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281720		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001396435		LIQUID NITROGEN	500	gal	9/16/2015
0001281726		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281725		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281724		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281723		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281719		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281721		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281775		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281769		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281770		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281771		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281772		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281773		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281777		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281722		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281791		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281700		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281701		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281702		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281703		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281704		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281705		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281800		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281799		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281798		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281797		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281796		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281795		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281794		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281776		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281785		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281778		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281779		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281780		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281781		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281782		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281793		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281784		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281792		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281786		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281787		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281788		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281789		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281790		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281659		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281783		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281824		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281809		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281810		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281811		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281812		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281813		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281814		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281815		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281816		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281817		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281818		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281819		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281820		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281821		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281661		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281830		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281731		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281730		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281729		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281728		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281727		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281822		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281831		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281823		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281829		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281828		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281827		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281826		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281825		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281806		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281832		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281653		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281808		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281647		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281648		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281649		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281650		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281645		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281652		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281644		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281654		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281655		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281656		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281657		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281658		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281732		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281651		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281637		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281680		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281805		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281804		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281803		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281802		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281646		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281636		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281807		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281638		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281639		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281640		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281641		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281642		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281643		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281635		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281569		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281561		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281562		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281563		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281564		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281565		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281667		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281666		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281665		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281664		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281663		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281566		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281310		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281568		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281105		SIMPLE GREEN	24	oz	9/16/2015
0001281570		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281571		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281679		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281572		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281627		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281573		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281801		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281602		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281601		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281600		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281109		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281567		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281281		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281311		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281312		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281313		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281314		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281315		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281316		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281318		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281593		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281320		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281321		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281322		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281103		SIMPLE GREEN	24	oz	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281280		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281104		SIMPLE GREEN	24	oz	9/16/2015
0001281282		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281283		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281548		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281547		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281546		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281545		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281544		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281110		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281108		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281107		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281106		SIMPLE GREEN	24	oz	9/16/2015
0001281286		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281279		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281586		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281284		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281574		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281575		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281576		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281577		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281578		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281579		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281580		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281581		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281582		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281583		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281253		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281585		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281252		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281587		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281588		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281589		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281590		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281591		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281592		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281599		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281598		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281597		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281596		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281595		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281594		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281584		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281299		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281317		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281287		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281288		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281289		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281290		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281291		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281292		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281293		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281294		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281295		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281296		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281254		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281298		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281285		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281300		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281301		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281302		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281243		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281244		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281245		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281246		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281247		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281248		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281249		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281250		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281251		DIRECTORR VACUUM PUMP OIL	1	l	9/16/2015
0001281297		LPS TAPMATIC NATURAL DUAL ACTION CUTTING FLUID	16	oz	9/16/2015
0001281625		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281629		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281628		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281676		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281675		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281674		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281673		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281672		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281671		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281670		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281669		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281668		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281759		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281549		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281632		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281624		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281623		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281768		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281319		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281766		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281309		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281764		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281763		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281762		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281761		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281760		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281626		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281837		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281678		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281677		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281560		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281559		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281558		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281557		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281556		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281555		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281554		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281833		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281834		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281630		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281836		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281631		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281838		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281839		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281840		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281841		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281553		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281552		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281551		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281550		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281842		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281634		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281633		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281765		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281835		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281740		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281608		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281607		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281606		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281605		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281604		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281603		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281758		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281734		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281767		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281736		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281737		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281609		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281739		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281733		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281741		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281744		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281743		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281543		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281742		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281303		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281304		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281305		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281306		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281307		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281308		5-MINUTE EPOXY RESIN	1	oz	9/16/2015
0001281738		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281746		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281753		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281754		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281755		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281756		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281735		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281757		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281610		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281751		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281750		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281749		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281747		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281752		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281745		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281616		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281611		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281612		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281613		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281748		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281615		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001396436	7647-01-0	HYDROGEN CHLORIDE, ANHYDROUS	.5	lb	9/16/2015
0001281617		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281618		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281619		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281620		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281621		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281622		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001281614		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	9/16/2015
0001312569		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312580		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312579		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312578		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312577		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312576		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312575		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312574		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312573		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312572		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312570		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312581		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001312597		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001312596		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001312571		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001353168		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/17/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001384127	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/17/2015
0001353170	2857-97-8	BROMOTRIMETHYLSILANE	100	gm	9/17/2015
0001353171	110-86-1	PYRIDINE (PYRIDINE, ANHYDROUS)	100	ml	9/17/2015
0001353172	110-86-1	PYRIDINE (PYRIDINE, ANHYDROUS)	100	ml	9/17/2015
0001353173	110-86-1	PYRIDINE (PYRIDINE, ANHYDROUS)	100	ml	9/17/2015
0001352911	64-17-5	ETHYL ALCOHOL	100	gm	9/17/2015
0001384126	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/17/2015
0001353113	1693-74-9	TETRAHYDROFURAN-D8	5	gm	9/17/2015
0001353167		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/17/2015
0001353166		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/17/2015
0001353165		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/17/2015
0001353164		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/17/2015
0001353163		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/17/2015
0001353269		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353174	110-86-1	PYRIDINE (PYRIDINE, ANHYDROUS)	100	ml	9/17/2015
0001353074	108-88-3	TOLUENE, ANHYDROUS	1	l	9/17/2015
0001312583		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001312584		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001312586		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001353155	6074-84-6	Tantalum (V) Ethoxide	50	gm	9/17/2015
0001312588		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001312589		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001353216		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353075	108-88-3	TOLUENE, ANHYDROUS	1	l	9/17/2015
0001382824		WHITE LITHIUM GREASE	1.5	oz	9/17/2015
0001353073	108-88-3	TOLUENE, ANHYDROUS	1	l	9/17/2015
0001353072	108-88-3	TOLUENE, ANHYDROUS	1	l	9/17/2015
0001352926	7440-56-4	GERMANIUM CHIPS	25	gm	9/17/2015
0001352925	7440-56-4	GERMANIUM CHIPS	25	gm	9/17/2015
0001352924	7440-56-4	GERMANIUM CHIPS	25	gm	9/17/2015
0001312582		RUBBERIZED UNDERCOATING	19.7	oz	9/17/2015
0001353076	108-88-3	TOLUENE, ANHYDROUS	1	l	9/17/2015
0001353083		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353180		ENSOLV CLEANING SOLVENT	1	gal	9/17/2015
0001353091		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353090		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353089		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353088		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353087		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353093		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353084		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353094		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353082		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353081		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353080		SUPERBONDER (R) 495	3	gm	9/17/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353079		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353077		SYBR GOLD NUCLEIC ACID GEL STAIN	500	ul	9/17/2015
0001353071	108-88-3	TOLUENE, ANHYDROUS	1	l	9/17/2015
0001352998		CLARIFLOC C-6266	450	lb	9/17/2015
0001353086		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353102		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353149		RING VERSAMID 140 POLYAMIDE RESIN	1	qt	9/17/2015
0001353148		RING VERSAMID 140 POLYAMIDE RESIN	1	qt	9/17/2015
0001353147		RING VERSAMID 140 POLYAMIDE RESIN	1	qt	9/17/2015
0001353146		RING VERSAMID 140 POLYAMIDE RESIN	1	qt	9/17/2015
0001353145		RING VERSAMID 140 POLYAMIDE RESIN	1	qt	9/17/2015
0001353144		RING VERSAMID 140 POLYAMIDE RESIN	1	qt	9/17/2015
0001353092		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353103		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353239		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353101		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353100		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353099		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353098		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353097		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353096		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353095		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353143		RING VERSAMID 140 POLYAMIDE RESIN	1	qt	9/17/2015
0001353178		ENSOLV CLEANING SOLVENT	1	gal	9/17/2015
0001353220		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353219		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353218		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353217		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001312587		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001353215		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353241		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353179		ENSOLV CLEANING SOLVENT	1	gal	9/17/2015
0001353223		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353177		ENSOLV CLEANING SOLVENT	1	gal	9/17/2015
0001353176	110-86-1	PYRIDINE (PYRIDINE, ANHYDROUS)	100	ml	9/17/2015
0001353175	110-86-1	PYRIDINE (PYRIDINE, ANHYDROUS)	100	ml	9/17/2015
0001353154	6074-84-6	Tantalum (V) Ethoxide	50	gm	9/17/2015
0001353085		SUPERBONDER (R) 495	3	gm	9/17/2015
0001353119	3228-27-1	formaldehyde-13C	1	ml	9/17/2015
0001353118	3228-27-1	formaldehyde-13C	1	ml	9/17/2015
0001353270		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353230		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353117	3228-27-1	formaldehyde-13C	1	ml	9/17/2015
0001353238		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353237		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353236		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353235		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353234		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353233		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353221		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353231		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353222		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353229		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353228		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353227		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353226		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353225		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353224		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353240		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353232		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353252		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001384130	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/17/2015
0001353286		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001352922		DOW CORNING 184 SILICONE	3.9	kg	9/17/2015
0001352923		DOW CORNING 184 SILICONE	3.9	kg	9/17/2015
0001352997		CLARIFLOC C-6266	450	lb	9/17/2015
0001353266		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353245		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353244		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353243		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353242		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001312594		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001353284		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353251		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353283		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353253		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353254		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353255		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353256		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353279		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353278		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353277		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353276		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353257		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353152		RING VERSAMID 140 POLYAMIDE RESIN	1	qt	9/17/2015
0001384128	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	9/17/2015
0001384129		NALCO 7408 CHLORINE SCAVENGER SOLUTION	2209	lb	9/17/2015
0001353160		SYLTHERM XLT HEAT TRANSFER FLUID	55	gal	9/17/2015
0001352912		ICP-MS-68B	250	ml	9/17/2015
0001312593		LOCTITE THREADLOCKER	.34	oz	9/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353247		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001312592		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001312591		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001312590		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001353282		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353281		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353280		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353246		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353268		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353265		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353285		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353162		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/17/2015
0001353250		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001352913		DOW CORNING SYLGARD 184 CURING AGENT	1.1	lb	9/17/2015
0001353248		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353249		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001352915	1306-24-7	CADMIUM SELENIDE	25	gm	9/17/2015
0001352918		DOW CORNING 184 SILICONE	3.9	kg	9/17/2015
0001353156	6074-84-6	Tantalum (V) Ethoxide	50	gm	9/17/2015
0001353150		RING VERSAMID 140 POLYAMIDE RESIN	1	qt	9/17/2015
0001352919		DOW CORNING 184 SILICONE	3.9	kg	9/17/2015
0001353151		RING VERSAMID 140 POLYAMIDE RESIN	1	qt	9/17/2015
0001352920		DOW CORNING 184 SILICONE	3.9	kg	9/17/2015
0001352921		DOW CORNING 184 SILICONE	3.9	kg	9/17/2015
0001312595		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001353267		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353273		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001312585		LOCTITE THREADLOCKER	.34	oz	9/17/2015
0001353274		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353260		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353159		SYLTHERM XLT HEAT TRANSFER FLUID	55	gal	9/17/2015
0001353275		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353157	6074-84-6	Tantalum (V) Ethoxide	50	gm	9/17/2015
0001353263		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353271		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353158	6074-84-6	Tantalum (V) Ethoxide	50	gm	9/17/2015
0001396437	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001353258		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001396441	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396438	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001353259		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353262		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353161		FANTASTIKE ALL PURPOSE CLEANER	1	gal	9/17/2015
0001353264		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001353261		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353272		FANTASTIKE ALL PURPOSE CLEANER	32	oz	9/17/2015
0001396439	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001353153	6074-84-6	Tantalum (V) Ethoxide	1	kg	9/17/2015
0001396440	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396459	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396518	7727-37-9	NITROGEN, COMPRESSED GAS	40	cf	9/17/2015
0001396515	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396516	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396517	7727-37-9	NITROGEN, COMPRESSED GAS	40	cf	9/17/2015
0001396519	7727-37-9	NITROGEN, COMPRESSED GAS	40	cf	9/17/2015
0001396520	7727-37-9	NITROGEN, COMPRESSED GAS	40	cf	9/17/2015
0001396527		25% CARBON DIOXIDE/75% ARGON	220	cf	9/17/2015
0001396528		25% CARBON DIOXIDE/75% ARGON	220	cf	9/17/2015
0001396529		25% CARBON DIOXIDE/75% ARGON	220	cf	9/17/2015
0001396530		25% CARBON DIOXIDE/75% ARGON	220	cf	9/17/2015
0001396531		25% CARBON DIOXIDE/75% ARGON	220	cf	9/17/2015
0001396532		25% CARBON DIOXIDE/75% ARGON	220	cf	9/17/2015
0001396533		25% CARBON DIOXIDE/75% ARGON	220	cf	9/17/2015
0001396534		25% CARBON DIOXIDE/75% ARGON	220	cf	9/17/2015
0001396478	7440-59-7	HELIUM	220	cf	9/17/2015
0001352914	63393-96-4	Aliquat 336	500	ml	9/17/2015
0001396465	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001269813		INK, OPAQUE CLEAR PRINT STAMP BLACK	2	oz	9/17/2015
0001269814		INK, OPAQUE CLEAR PRINT STAMP BLACK	2	oz	9/17/2015
0001396455	7782-44-7	OXYGEN, COMPRESSED GAS	425	l	9/17/2015
0001396456	7782-44-7	OXYGEN, COMPRESSED GAS	425	l	9/17/2015
0001396458	7782-44-7	OXYGEN, COMPRESSED GAS	425	l	9/17/2015
0001396461	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396462	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396480	7440-59-7	HELIUM	220	cf	9/17/2015
0001396464	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001269819		INK, OPAQUE CLEAR PRINT STAMP YELLOW	2	oz	9/17/2015
0001396466	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396467	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396468	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396469	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396470	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396471	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396472	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396463	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396444	74-98-6	PROPANE	33	lb	9/17/2015
0001396446	74-98-6	PROPANE	33	lb	9/17/2015
0001396447	74-98-6	PROPANE	33	lb	9/17/2015
0001396448	74-98-6	PROPANE	33	lb	9/17/2015
0001396449	74-98-6	PROPANE	33	lb	9/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396450	74-98-6	PROPANE	33	lb	9/17/2015
0001396451	74-98-6	PROPANE	33	lb	9/17/2015
0001396452	74-98-6	PROPANE	33	lb	9/17/2015
0001269811		INK, OPAQUE CLEAR PRINT STAMP BLACK	2	oz	9/17/2015
0001396445	74-98-6	PROPANE	33	lb	9/17/2015
0001269810		INK, OPAQUE CLEAR PRINT STAMP BLACK	2	oz	9/17/2015
0001396443	74-98-6	PROPANE	33	lb	9/17/2015
0001396442	74-98-6	PROPANE	33	lb	9/17/2015
0001396457	7782-44-7	OXYGEN, COMPRESSED GAS	425	l	9/17/2015
0001396454	74-98-6	PROPANE	33	lb	9/17/2015
0001269816		INK, OPAQUE CLEAR PRINT STAMP YELLOW	2	oz	9/17/2015
0001269817		INK, OPAQUE CLEAR PRINT STAMP YELLOW	2	oz	9/17/2015
0001269818		INK, OPAQUE CLEAR PRINT STAMP YELLOW	2	oz	9/17/2015
0001396475	7440-59-7	HELIUM	220	cf	9/17/2015
0001396453	74-98-6	PROPANE	33	lb	9/17/2015
0001396506	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396473	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001396498	7440-59-7	HELIUM	220	cf	9/17/2015
0001396499	7440-59-7	HELIUM	220	cf	9/17/2015
0001396500	7440-59-7	HELIUM	220	cf	9/17/2015
0001396501	7440-59-7	HELIUM	220	cf	9/17/2015
0001396502	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396503	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396496	7440-59-7	HELIUM	220	cf	9/17/2015
0001396505	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396495	7440-59-7	HELIUM	220	cf	9/17/2015
0001396507	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396508	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396509	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396510	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396511	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396512	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396513	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396477	7440-59-7	HELIUM	220	cf	9/17/2015
0001396504	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396486	7440-59-7	HELIUM	220	cf	9/17/2015
0001396514	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/17/2015
0001396476	7440-59-7	HELIUM	220	cf	9/17/2015
0001396479	7440-59-7	HELIUM	220	cf	9/17/2015
0001269812		INK, OPAQUE CLEAR PRINT STAMP BLACK	2	oz	9/17/2015
0001396481	7440-59-7	HELIUM	220	cf	9/17/2015
0001396482	7440-59-7	HELIUM	220	cf	9/17/2015
0001396483	7440-59-7	HELIUM	220	cf	9/17/2015
0001396497	7440-59-7	HELIUM	220	cf	9/17/2015
0001396485	7440-59-7	HELIUM	220	cf	9/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396474	7440-59-7	HELIUM	220	cf	9/17/2015
0001396487	7440-59-7	HELIUM	220	cf	9/17/2015
0001396488	7440-59-7	HELIUM	220	cf	9/17/2015
0001396489	7440-59-7	HELIUM	220	cf	9/17/2015
0001396490	7440-59-7	HELIUM	220	cf	9/17/2015
0001396491	7440-59-7	HELIUM	220	cf	9/17/2015
0001396492	7440-59-7	HELIUM	220	cf	9/17/2015
0001396493	7440-59-7	HELIUM	220	cf	9/17/2015
0001396494	7440-59-7	HELIUM	220	cf	9/17/2015
0001396484	7440-59-7	HELIUM	220	cf	9/17/2015
0001353169	6074-84-6	Tantalum (V) Ethoxide	50	gm	9/17/2015
0001353105	108-88-3	TOLUENE	4	l	9/17/2015
0001353104	1066-35-9	DIMETHYLCHLOROSILANE	50	ml	9/17/2015
0001352917	13455-01-1	PHOSPHORUS (III) IODIDE	5	gm	9/17/2015
0001352916	1135-99-5	DIPHENYL DICHLORIDE	10	gm	9/17/2015
0001353116	1693-74-9	TETRAHYDROFURAN-D8	5	gm	9/17/2015
0001384135	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/17/2015
0001384134	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/17/2015
0001384133	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/17/2015
0001384132	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/17/2015
0001396460	7440-37-1	ARGON, COMPRESSED	220	cf	9/17/2015
0001384131	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/17/2015
0001353108	108-88-3	TOLUENE	4	l	9/17/2015
0001353107	108-88-3	TOLUENE	4	l	9/17/2015
0001353120	71-43-2	BENZENE	.8	ml	9/17/2015
0001353109	1076-43-3	BENZENE-D6	100	gm	9/17/2015
0001353110	1076-43-3	BENZENE-D6	100	gm	9/17/2015
0001353112	1076-43-3	BENZENE-D6	100	gm	9/17/2015
0001353114	1693-74-9	TETRAHYDROFURAN-D8	5	gm	9/17/2015
0001353115	1693-74-9	TETRAHYDROFURAN-D8	5	gm	9/17/2015
0001353121	1529-48-2	Dimethylgermanium dichloride	1	gm	9/17/2015
0001353111	1076-43-3	BENZENE-D6	100	gm	9/17/2015
0001353106	108-88-3	TOLUENE	4	l	9/17/2015
0001353371		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353140	7439-96-5	MANGANESE PIECES	25	gm	9/18/2015
0001353390	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353391	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353392	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353186	67-63-0	2-PROPANOL	4	lb	9/18/2015
0001353137	67-63-0	2-PROPANOL	1	l	9/18/2015
0001353314		POLYCRYSTALLINE	480	ml	9/18/2015
0001353313		POLYCRYSTALLINE	480	ml	9/18/2015
0001353188		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353370		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353307		POLYCRYSTALLINE	16	oz	9/18/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353183	67-56-1	METHANOL	4	lb	9/18/2015
0001353182	67-64-1	ACETONE	4	lb	9/18/2015
0001353181	67-64-1	ACETONE	4	lb	9/18/2015
0001353142	7439-96-5	MANGANESE PIECES	25	gm	9/18/2015
0001353141	7439-96-5	MANGANESE PIECES	25	gm	9/18/2015
0001353185	67-63-0	2-PROPANOL	4	lb	9/18/2015
0001353374		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353373		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353321		POLYCRYSTALLINE	16	oz	9/18/2015
0001353129	56-81-5	GLYCEROL	100	ml	9/18/2015
0001353383	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353387	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353388	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353308		POLYCRYSTALLINE	16	oz	9/18/2015
0001353205		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353309		POLYCRYSTALLINE	16	oz	9/18/2015
0001353184	67-56-1	METHANOL	4	lb	9/18/2015
0001353372		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353389	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353130		MemGold2 Membrane	100	ml	9/18/2015
0001353202		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353192		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353363		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353125	63148-62-9	Vinyl Endblocked High Phenyl Copolymer	455	gm	9/18/2015
0001353124	63148-62-9	Vinyl Endblocked High Phenyl Copolymer	455	gm	9/18/2015
0001353382		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353123	4045-44-7	PENTAMETHYLCYCLOPENTADIENE	25	gm	9/18/2015
0001353122	4045-44-7	PENTAMETHYLCYCLOPENTADIENE	25	gm	9/18/2015
0001353320		POLYCRYSTALLINE	16	oz	9/18/2015
0001353365		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353208		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353126	63148-62-9	Vinyl Endblocked High Phenyl Copolymer	455	gm	9/18/2015
0001353193		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353194		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353195		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353196		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353197		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353198		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353199		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353201		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353200		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353078	19955-99-8	3-Vinylbenzaldehyde	1	gm	9/18/2015
0001353325		POLYCRYSTALLINE	16	oz	9/18/2015
0001353190		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353191		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353207		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353206		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353204		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353203		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353322		POLYCRYSTALLINE	16	oz	9/18/2015
0001353369		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353364		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353324		POLYCRYSTALLINE	16	oz	9/18/2015
0001353189		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353326		POLYCRYSTALLINE	16	oz	9/18/2015
0001353327		POLYCRYSTALLINE	16	oz	9/18/2015
0001353362		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353361		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353368		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353128	1066-45-1	TRIMETHYLTIN CHLORIDE	50	gm	9/18/2015
0001353367		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353366		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353127	7439-95-4	MAGNESIUM, RIBBON	25	gm	9/18/2015
0001353323		POLYCRYSTALLINE	16	oz	9/18/2015
0001353315		POLYCRYSTALLINE	480	ml	9/18/2015
0001353379		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353214	124-40-3	Dimethylamine	100	ml	9/18/2015
0001353297		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353298		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353299		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353288		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353376		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353377		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353311		POLYCRYSTALLINE	480	ml	9/18/2015
0001353312		POLYCRYSTALLINE	480	ml	9/18/2015
0001353375		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353301		POLYCRYSTALLINE	16	oz	9/18/2015
0001353302		POLYCRYSTALLINE	16	oz	9/18/2015
0001353303		POLYCRYSTALLINE	16	oz	9/18/2015
0001353300		POLYCRYSTALLINE	16	oz	9/18/2015
0001353318		POLYCRYSTALLINE	480	ml	9/18/2015
0001353289		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353290		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353291		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353360		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353359		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353292		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353187	67-63-0	ISOPROPYL ALCOHOL	5	gal	9/18/2015
0001353319		POLYCRYSTALLINE	480	ml	9/18/2015
0001353378		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353317		POLYCRYSTALLINE	480	ml	9/18/2015
0001353316		POLYCRYSTALLINE	480	ml	9/18/2015
0001353287		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353294		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353295		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353380		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353293		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353210		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353304		POLYCRYSTALLINE	16	oz	9/18/2015
0001353131	10361-37-2	BARIUM CHLORIDE	100	ml	9/18/2015
0001353132	7681-49-4	SODIUM FLUORIDE	100	ml	9/18/2015
0001353133	7447-39-4	COPPER(II) CHLORIDE	50	ml	9/18/2015
0001353134	13598-36-2	PHOSPHOROUS ACID	100	gm	9/18/2015
0001353306		POLYCRYSTALLINE	16	oz	9/18/2015
0001353211		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353212		VICTREX PEEK 450G903 BLACK	55.1	lb	9/18/2015
0001353209		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	9/18/2015
0001353136	67-63-0	2-PROPANOL	1	l	9/18/2015
0001353386	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353385	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353384	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353138	1066-44-0	Trimethyltin bromide	5	gm	9/18/2015
0001353135	13598-36-2	PHOSPHOROUS ACID	100	gm	9/18/2015
0001353393	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353296		DIAMOND SUSPENSION	16	oz	9/18/2015
0001353213	75-64-9	TERT-BUTYLAMINE	100	ml	9/18/2015
0001384137	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	9/18/2015
0001384136	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	9/18/2015
0001353394	1455-13-6	METHYL ALCOHOL-d	100	ml	9/18/2015
0001353305		POLYCRYSTALLINE	16	oz	9/18/2015
0001353381		RELEASE AGENT DRY LUBRICA	14	oz	9/18/2015
0001353310		POLYCRYSTALLINE	480	ml	9/18/2015
0001353357	105-53-3	DIETHYL MALONATE	10	gm	9/18/2015
0001353340	7440-74-6	INDIUM POWDER	250	gm	9/18/2015
0001353341	7440-74-6	INDIUM POWDER	250	gm	9/18/2015
0001353342	7440-74-6	INDIUM POWDER	250	gm	9/18/2015
0001353343	7440-74-6	INDIUM POWDER	250	gm	9/18/2015
0001353344	7440-74-6	INDIUM POWDER	250	gm	9/18/2015
0001312603		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001353345	7440-46-2	CESIUM	25	gm	9/18/2015
0001353346	7440-46-2	CESIUM	25	gm	9/18/2015
0001353347	7440-46-2	CESIUM	25	gm	9/18/2015
0001353348	7440-46-2	CESIUM	25	gm	9/18/2015
0001312604		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001353354	105-53-3	DIETHYL MALONATE	10	gm	9/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353355	105-53-3	DIETHYL MALONATE	10	gm	9/18/2015
0001353339	67-68-5	DIMETHYL SULFOXIDE	1	l	9/18/2015
0001312615		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001353396	1344-28-1	ALUMINUM OXIDE	3	kg	9/18/2015
0001353397	7722-64-7	POTASSIUM PERMANGANATE	500	gm	9/18/2015
0001353349	14187-32-7	DIBENZO-18-CROWN-6	10	gm	9/18/2015
0001312614		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001396535	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/18/2015
0001396536	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/18/2015
0001396537	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/18/2015
0001396538	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/18/2015
0001396539	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/18/2015
0001396540	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/18/2015
0001396541	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/18/2015
0001396542	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/18/2015
0001396543	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/18/2015
0001396544	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/18/2015
0001312617		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001396546	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	Cubic Centimeter (CC)	9/18/2015
0001353338		EGC III MSA EluGen Methanesulfonic Acid Cartridge	1	l	9/18/2015
0001312631		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312616		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353398	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	100	ml	9/18/2015
0001312618		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312619		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312620		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312621		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312622		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312601		GREASE	14.1	oz	9/18/2015
0001312602		GREASE	14.1	oz	9/18/2015
0001396545		oxygen, nitrogen	58	l	9/18/2015
0001312605		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001384145	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/18/2015
0001384144	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/18/2015
0001384143	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/18/2015
0001353429	67-68-5	DIMETHYL SULFOXIDE	1	l	9/18/2015
0001353428	67-68-5	DIMETHYL SULFOXIDE	1	l	9/18/2015
0001353427	67-68-5	DIMETHYL SULFOXIDE	1	l	9/18/2015
0001353426	67-68-5	DIMETHYL SULFOXIDE	1	l	9/18/2015
0001353425	67-68-5	DIMETHYL SULFOXIDE	1	l	9/18/2015
0001353424	67-68-5	DIMETHYL SULFOXIDE	1	l	9/18/2015
0001353423	25389-94-0	KANAMYCIN SULFATE	5	gm	9/18/2015
0001353422	62758-13-8	RESAZURIN (7-HYDROXY-3H-PHENOXAZIN-3-ONE 10-OXIDE, SODIUM S	1	gm	9/18/2015
0001396418	1333-74-0	HYDROGEN	40	cf	9/18/2015
0001353420	53-84-9	B-Nicotinamide adenine dinucleotide	15	ml	9/18/2015
0001384148	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/18/2015
0001353413	75-09-2	DICHLOROMETHANE	100	ml	9/18/2015
0001353412	75-09-2	DICHLOROMETHANE	100	ml	9/18/2015
0001353411	75-09-2	DICHLOROMETHANE	100	ml	9/18/2015
0001353410	7647-15-6	SODIUM BROMIDE	55	lb	9/18/2015
0001353409	7647-15-6	SODIUM BROMIDE	55	lb	9/18/2015
0001353408	7647-15-6	SODIUM BROMIDE	55	lb	9/18/2015
0001353407	7647-15-6	SODIUM BROMIDE	55	lb	9/18/2015
0001353406	7647-15-6	SODIUM BROMIDE	55	lb	9/18/2015
0001353405	7647-15-6	SODIUM BROMIDE	55	lb	9/18/2015
0001353404		DOW CORNING 7 RELEASE COMPOUND	3.6	kg	9/18/2015
0001353403	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	100	ml	9/18/2015
0001353402	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	100	ml	9/18/2015
0001353421	7220-79-3	METHYLENE BLUE USP	25	gm	9/18/2015
0001312611		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001353400	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	100	ml	9/18/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353401	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	100	ml	9/18/2015
0001396434		P-10 (90% ARGON 10% METHANE)	220	cf	9/18/2015
0001312632		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001353356	105-53-3	DIETHYL MALONATE	10	gm	9/18/2015
0001312630		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312629		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312628		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312627		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312626		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312625		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312624		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001384146	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/18/2015
0001312612		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001384147	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/18/2015
0001312609		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312608		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312607		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312606		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001312610		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001384154	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/18/2015
0001384153	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/18/2015
0001384152	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/18/2015
0001384151	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/18/2015
0001384150	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/18/2015
0001384149	7681-38-1	SODIUM BISULFATE	55	gal	9/18/2015
0001353399	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	100	ml	9/18/2015
0001312623		MULTI-PURPOSE GREASE	14.1	oz	9/18/2015
0001353330		VISCOSITY STANDARD	125	ml	9/18/2015
0001384142	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/18/2015
0001384138	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/18/2015
0001312600		GREASE	14.1	oz	9/18/2015
0001312599		GREASE	14.1	oz	9/18/2015
0001312598		GREASE	14.1	oz	9/18/2015
0001353337	1336-21-6	AMMONIUM HYDROXIDE	500	ml	9/18/2015
0001353358		BORANE,D3	.25	ml	9/18/2015
0001353331		VISCOSITY STANDARD	125	ml	9/18/2015
0001353414	75-09-2	DICHLOROMETHANE	100	ml	9/18/2015
0001353329		VHT Flat White Aerosol Spray Flameproof Very High Temp Coat	12	oz	9/18/2015
0001353417	247940-06-3	2-(DICYCLOHEXYLPHOSPHINO)BIPHENYL	5	gm	9/18/2015
0001353139	7601-90-3	PERCHLORIC ACID, 70%	1	lb	9/18/2015
0001353419		PHOSPHATE BUFFERED SALINE TABLETS	50	gm	9/18/2015
0001353418	22385-77-9	1-BROMO-3,5-DI-TERT-BUTYLBENZENE	10	gm	9/18/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001384139	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/18/2015
0001384140	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/18/2015
0001384141	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/18/2015
0001353328		VHT Flat White Aerosol Spray Flameproof Very High Temp Coat	12	oz	9/18/2015
0001353336	1336-21-6	AMMONIUM HYDROXIDE	500	ml	9/18/2015
0001353415	75-09-2	DICHLOROMETHANE	100	ml	9/18/2015
0001353416	75-09-2	DICHLOROMETHANE	100	ml	9/18/2015
0001393281		fast setting cement	60	lb	9/21/2015
0001393282		fast setting cement	60	lb	9/21/2015
0001393286		fast setting cement	60	lb	9/21/2015
0001393280		fast setting cement	60	lb	9/21/2015
0001393279		fast setting cement	60	lb	9/21/2015
0001393283		fast setting cement	60	lb	9/21/2015
0001393284		fast setting cement	60	lb	9/21/2015
0001393285		fast setting cement	60	lb	9/21/2015
0001393445		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393450		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393270		HH-66 VINYL CEMENT	1	gal	9/21/2015
0001393214		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393215		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393216		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393217		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393451		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393218		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393219		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393220		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393221		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393222		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393230		JOINT COMPOUND FOR SHEETROCK	62	lb	9/21/2015
0001393446		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393232		JOINT COMPOUND FOR SHEETROCK	62	lb	9/21/2015
0001393490		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393449		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393233		JOINT COMPOUND FOR SHEETROCK	62	lb	9/21/2015
0001393448		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393444		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393447		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393498		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393497		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393496		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393495		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393494		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393493		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393492		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393491		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393231		JOINT COMPOUND FOR SHEETROCK	62	lb	9/21/2015
0001393476		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393265		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393275		fast setting cement	60	lb	9/21/2015
0001393455		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393454		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393453		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393452		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393475		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393274		fast setting cement	60	lb	9/21/2015
0001393277		fast setting cement	60	lb	9/21/2015
0001393272		fast setting cement	60	lb	9/21/2015
0001393474		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393477		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393478		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393479		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393480		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393481		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393268		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393267		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393487		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393273		fast setting cement	60	lb	9/21/2015
0001393466		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393458		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393459		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393460		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393461		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393462		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393463		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393464		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393457		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393276		fast setting cement	60	lb	9/21/2015
0001393465		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393264		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393467		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393468		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393469		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393470		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393471		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393278		fast setting cement	60	lb	9/21/2015
0001393472		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393473		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393456		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393213		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393485		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393266		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393290		fast setting cement	60	lb	9/21/2015
0001393289		fast setting cement	60	lb	9/21/2015
0001393288		fast setting cement	60	lb	9/21/2015
0001393287		fast setting cement	60	lb	9/21/2015
0001393269		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393210		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393489		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393212		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393484		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393439		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393440		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393441		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393442		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393443		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001382867	Multi	EPO-TEK H2OE Part A	1	oz	9/21/2015
0001393486		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393488		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393211		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393254		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393263		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393262		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393261		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393260		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393259		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393258		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393257		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393256		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393374		TREMSEAL D	10.1	oz	9/21/2015
0001393255		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393483		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393253		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393252		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393251		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393250		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393249		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393248		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393247		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393482		PREMIUM BLUE 15W40 DIESEL OIL	1	gal	9/21/2015
0001393430		TREMSEAL D	10.1	oz	9/21/2015
0001393431		TREMSEAL D	10.1	oz	9/21/2015
0001393432		TREMSEAL D	10.1	oz	9/21/2015
0001393396		TREMSEAL D	10.1	oz	9/21/2015
0001393433		TREMSEAL D	10.1	oz	9/21/2015
0001393329		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393409		TREMSEAL D	10.1	oz	9/21/2015
0001393410		TREMSEAL D	10.1	oz	9/21/2015
0001393411		TREMSEAL D	10.1	oz	9/21/2015
0001393412		TREMSEAL D	10.1	oz	9/21/2015
0001393413		TREMSEAL D	10.1	oz	9/21/2015
0001393414		TREMSEAL D	10.1	oz	9/21/2015
0001393422		TREMSEAL D	10.1	oz	9/21/2015
0001393333		Easy Sand 5	4	lb	9/21/2015
0001393423		TREMSEAL D	10.1	oz	9/21/2015
0001393429		TREMSEAL D	10.1	oz	9/21/2015
0001393424		TREMSEAL D	10.1	oz	9/21/2015
0001393425		TREMSEAL D	10.1	oz	9/21/2015
0001393426		TREMSEAL D	10.1	oz	9/21/2015
0001393427		TREMSEAL D	10.1	oz	9/21/2015
0001393406		TREMSEAL D	10.1	oz	9/21/2015
0001393428		TREMSEAL D	10.1	oz	9/21/2015
0001393415		TREMSEAL D	10.1	oz	9/21/2015
0001393337		Easy Sand 5	4	lb	9/21/2015
0001393346		ASPHALT BINDER	55	gal	9/21/2015
0001393404		TREMSEAL D	10.1	oz	9/21/2015
0001393372		fast setting cement	60	lb	9/21/2015
0001393371		fast setting cement	60	lb	9/21/2015
0001393370		fast setting cement	60	lb	9/21/2015
0001393369		fast setting cement	60	lb	9/21/2015
0001393368		fast setting cement	60	lb	9/21/2015
0001393397		TREMSEAL D	10.1	oz	9/21/2015
0001393227		fast setting cement	60	lb	9/21/2015
0001393149		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	9/21/2015
0001393226		fast setting cement	60	lb	9/21/2015
0001393225		fast setting cement	60	lb	9/21/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393224		fast setting cement	60	lb	9/21/2015
0001393223		fast setting cement	60	lb	9/21/2015
0001393330		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393331		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393367		fast setting cement	60	lb	9/21/2015
0001393403		TREMSEAL D	10.1	oz	9/21/2015
0001393405		TREMSEAL D	10.1	oz	9/21/2015
0001393335		Easy Sand 5	4	lb	9/21/2015
0001393398		TREMSEAL D	10.1	oz	9/21/2015
0001393399		TREMSEAL D	10.1	oz	9/21/2015
0001393400		TREMSEAL D	10.1	oz	9/21/2015
0001393401		TREMSEAL D	10.1	oz	9/21/2015
0001393345		ASPHALT BINDER	55	gal	9/21/2015
0001393319		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015
0001393228		fast setting cement	60	lb	9/21/2015
0001393332		Easy Sand 5	4	lb	9/21/2015
0001393347		ASPHALT BINDER	55	gal	9/21/2015
0001393229		JOINT COMPOUND FOR SHEETROCK	62	lb	9/21/2015
0001393146		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	9/21/2015
0001393147		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	9/21/2015
0001393148		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 90	18	lb	9/21/2015
0001393408		TREMSEAL D	10.1	oz	9/21/2015
0001393402		TREMSEAL D	10.1	oz	9/21/2015
0001393380		TREMSEAL D	10.1	oz	9/21/2015
0001393394		TREMSEAL D	10.1	oz	9/21/2015
0001393417		TREMSEAL D	10.1	oz	9/21/2015
0001393392		TREMSEAL D	10.1	oz	9/21/2015
0001393391		TREMSEAL D	10.1	oz	9/21/2015
0001393390		TREMSEAL D	10.1	oz	9/21/2015
0001393389		TREMSEAL D	10.1	oz	9/21/2015
0001393388		TREMSEAL D	10.1	oz	9/21/2015
0001393387		TREMSEAL D	10.1	oz	9/21/2015
0001393386		TREMSEAL D	10.1	oz	9/21/2015
0001393385		TREMSEAL D	10.1	oz	9/21/2015
0001393375		TREMSEAL D	10.1	oz	9/21/2015
0001393376		TREMSEAL D	10.1	oz	9/21/2015
0001393377		TREMSEAL D	10.1	oz	9/21/2015
0001393407		TREMSEAL D	10.1	oz	9/21/2015
0001393322		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393150		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	9/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393328		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393327		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393326		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393325		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393378		TREMSEAL D	10.1	oz	9/21/2015
0001393323		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393379		TREMSEAL D	10.1	oz	9/21/2015
0001393321		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393383		TREMSEAL D	10.1	oz	9/21/2015
0001393384		TREMSEAL D	10.1	oz	9/21/2015
0001393382		TREMSEAL D	10.1	oz	9/21/2015
0001393381		TREMSEAL D	10.1	oz	9/21/2015
0001393395		TREMSEAL D	10.1	oz	9/21/2015
0001393324		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393338		Easy Sand 5	4	lb	9/21/2015
0001393393		TREMSEAL D	10.1	oz	9/21/2015
0001393416		TREMSEAL D	10.1	oz	9/21/2015
0001393320		BIG STRETCH CAULK	10.5	oz	9/21/2015
0001393246		LUBRICANT SPRAY (AEROKROIL)	16.5	oz	9/21/2015
0001393343		Easy Sand 5	4	lb	9/21/2015
0001393342		Easy Sand 5	4	lb	9/21/2015
0001393341		Easy Sand 5	4	lb	9/21/2015
0001393339		Easy Sand 5	4	lb	9/21/2015
0001393334		Easy Sand 5	4	lb	9/21/2015
0001393336		Easy Sand 5	4	lb	9/21/2015
0001393344		ASPHALT BINDER	55	gal	9/21/2015
0001393418		TREMSEAL D	10.1	oz	9/21/2015
0001393419		TREMSEAL D	10.1	oz	9/21/2015
0001393420		TREMSEAL D	10.1	oz	9/21/2015
0001393373		fast setting cement	60	lb	9/21/2015
0001393271		fast setting cement	60	lb	9/21/2015
0001393421		TREMSEAL D	10.1	oz	9/21/2015
0001393340		Easy Sand 5	4	lb	9/21/2015
0001396573		LIQUID NITROGEN	1500	gal	9/22/2015
0001353551	7440-25-7	TANTALUM POWDER	100	lb	9/22/2015
0001353528	12057-24-8	LITHIUM OXIDE, POWDER	100	gm	9/22/2015
0001353554		HIGH VACUUM GREASE	5.3	oz	9/22/2015
0001396570		LIQUID NITROGEN	1500	gal	9/22/2015
0001396553		oxygen, nitrogen	58	l	9/22/2015
0001353586		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353585		HIGH VACUUM GREASE	150	gm	9/22/2015
0001396564	7440-37-1	Argon	6000	gal	9/22/2015
0001396565		LIQUID NITROGEN	3000	gal	9/22/2015
0001353584		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353583		HIGH VACUUM GREASE	150	gm	9/22/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353580		HIGH VACUUM GREASE	150	gm	9/22/2015
0001396551		oxygen, nitrogen	58	l	9/22/2015
0001384155	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	9/22/2015
0001396549		oxygen, nitrogen	58	l	9/22/2015
0001396547		oxygen, nitrogen	58	l	9/22/2015
0001353582		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353577		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353576		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353575		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353581		HIGH VACUUM GREASE	150	gm	9/22/2015
0001396552		oxygen, nitrogen	58	l	9/22/2015
0001384160	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/22/2015
0001396569		LIQUID NITROGEN	3000	gal	9/22/2015
0001396568		LIQUID NITROGEN	480	l	9/22/2015
0001396571		LIQUID NITROGEN	300	gal	9/22/2015
0001384161	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/22/2015
0001353594		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353595		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353596		HIGH VACUUM GREASE	150	gm	9/22/2015
0001396554		oxygen, nitrogen	58	l	9/22/2015
0001353598		HIGH VACUUM GREASE	150	gm	9/22/2015
0001396566		LIQUID NITROGEN	500	gal	9/22/2015
0001353593		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353592		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353591		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353590		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353589		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353588		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353587		HIGH VACUUM GREASE	150	gm	9/22/2015
0001396548		oxygen, nitrogen	58	l	9/22/2015
0001353597		HIGH VACUUM GREASE	150	gm	9/22/2015
0001353579		HIGH VACUUM GREASE	150	gm	9/22/2015
0001396558	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/22/2015
0001396555		oxygen, nitrogen	58	l	9/22/2015
0001396572		LIQUID NITROGEN	600	gal	9/22/2015
0001353452	1336-21-6	AMMONIUM HYDROXIDE	500	ml	9/22/2015
0001353451	1336-21-6	AMMONIUM HYDROXIDE	500	ml	9/22/2015
0001353450	1336-21-6	AMMONIUM HYDROXIDE	500	ml	9/22/2015
0001396557	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/22/2015
0001353548		HIHEAT FLAT BLACK	12	oz	9/22/2015
0001353520		TORR SEAL [PARTS A AND B]	.14	lb	9/22/2015
0001396550		oxygen, nitrogen	58	l	9/22/2015
0001353550	10326-27-9	BARIUM CHLORIDE DIHYDRATE (Barium CMPDS)	500	gm	9/22/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001384158	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/22/2015
0001384157	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/22/2015
0001396567		LIQUID NITROGEN	6000	gal	9/22/2015
0001353578		HIGH VACUUM GREASE	150	gm	9/22/2015
0001384156	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	9/22/2015
0001353549		HIHEAT FLAT BLACK	12	oz	9/22/2015
0001353454		SILVER CONDUCTIVE EPOXY	15	gm	9/22/2015
0001353525	1305-78-8	CALCIUM OXIDE	500	gm	9/22/2015
0001353527	1305-78-8	CALCIUM OXIDE	500	gm	9/22/2015
0001353524	1305-78-8	CALCIUM OXIDE	500	gm	9/22/2015
0001353526	1305-78-8	CALCIUM OXIDE	500	gm	9/22/2015
0001384159	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/22/2015
0001353556		HIGH VACUUM GREASE	5.3	oz	9/22/2015
0001353521	1942-52-5	2-Diethylaminoethanethiol hydrochloride	25	gm	9/22/2015
0001353555		HIGH VACUUM GREASE	5.3	oz	9/22/2015
0001396559	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/22/2015
0001353553	7631-90-5	SODIUM BISULFITE, POWDER	55	gm	9/22/2015
0001396560	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/22/2015
0001396556	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/22/2015
0001396562	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	9/22/2015
0001353453	1336-21-6	AMMONIUM HYDROXIDE	500	ml	9/22/2015
0001353523		QIAPREP SPIN MINIPREP KIT	250	ml	9/22/2015
0001353522		QIAPREP SPIN MINIPREP KIT	250	ml	9/22/2015
0001396561	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/22/2015
0001353552	7631-90-5	SODIUM BISULFITE, POWDER	55	gm	9/22/2015
0001312665		BROMICIDE TABLETS	50	lb	9/22/2015
0001312659		BROMICIDE TABLETS	50	lb	9/22/2015
0001312669		BROMICIDE TABLETS	50	lb	9/22/2015
0001312668		BROMICIDE TABLETS	50	lb	9/22/2015
0001312658		BROMICIDE TABLETS	50	lb	9/22/2015
0001312660		BROMICIDE TABLETS	50	lb	9/22/2015
0001312661		BROMICIDE TABLETS	50	lb	9/22/2015
0001312662		BROMICIDE TABLETS	50	lb	9/22/2015
0001312664		BROMICIDE TABLETS	50	lb	9/22/2015
0001312666		BROMICIDE TABLETS	50	lb	9/22/2015
0001312667		BROMICIDE TABLETS	50	lb	9/22/2015
0001312657		BROMICIDE TABLETS	50	lb	9/22/2015
0001312653		BROMICIDE TABLETS	50	lb	9/22/2015
0001312654		BROMICIDE TABLETS	50	lb	9/22/2015
0001312656		BROMICIDE TABLETS	50	lb	9/22/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312655		BROMICIDE TABLETS	50	lb	9/22/2015
0001312663		BROMICIDE TABLETS	50	lb	9/22/2015
0001396521		Nitrogen 2%, Bal. Helium	220	cf	9/22/2015
0001312642		BROMICIDE TABLETS	50	lb	9/22/2015
0001312641		BROMICIDE TABLETS	50	lb	9/22/2015
0001312640		BROMICIDE TABLETS	50	lb	9/22/2015
0001353459		SILVER CONDUCTIVE EPOXY	15	gm	9/22/2015
0001312639		BROMICIDE TABLETS	50	lb	9/22/2015
0001312703		WEST R-630 SULFITE	573	lb	9/22/2015
0001312704		WEST R-630 SULFITE	573	lb	9/22/2015
0001312635		BROMICIDE TABLETS	50	lb	9/22/2015
0001312634		BROMICIDE TABLETS	50	lb	9/22/2015
0001312646		BROMICIDE TABLETS	50	lb	9/22/2015
0001312705		WEST R-630 SULFITE	573	lb	9/22/2015
0001393525		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001396430	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/22/2015
0001396431	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/22/2015
0001396432	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/22/2015
0001396433	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/22/2015
0001353447		CC FIX	5	gal	9/22/2015
0001353449	1336-21-6	AMMONIUM HYDROXIDE	500	ml	9/22/2015
0001353455		SILVER CONDUCTIVE EPOXY	15	gm	9/22/2015
0001353456		SILVER CONDUCTIVE EPOXY	15	gm	9/22/2015
0001353457		SILVER CONDUCTIVE EPOXY	15	gm	9/22/2015
0001353458		SILVER CONDUCTIVE EPOXY	15	gm	9/22/2015
0001312633		BROMICIDE TABLETS	50	lb	9/22/2015
0001312676		WEST R-630 SULFITE	573	lb	9/22/2015
0001312688		WEST R-630 SULFITE	573	lb	9/22/2015
0001312687		WEST R-630 SULFITE	573	lb	9/22/2015
0001312686		WEST R-630 SULFITE	573	lb	9/22/2015
0001312685		WEST R-630 SULFITE	573	lb	9/22/2015
0001312684		WEST R-630 SULFITE	573	lb	9/22/2015
0001312683		WEST R-630 SULFITE	573	lb	9/22/2015
0001312682		WEST R-630 SULFITE	573	lb	9/22/2015
0001312681		WEST R-630 SULFITE	573	lb	9/22/2015
0001312680		WEST R-630 SULFITE	573	lb	9/22/2015
0001312679		WEST R-630 SULFITE	573	lb	9/22/2015
0001312643		BROMICIDE TABLETS	50	lb	9/22/2015
0001312677		WEST R-630 SULFITE	573	lb	9/22/2015
0001312644		BROMICIDE TABLETS	50	lb	9/22/2015
0001312675		WEST R-630 SULFITE	573	lb	9/22/2015
0001312674		WEST R-630 SULFITE	573	lb	9/22/2015
0001312652		BROMICIDE TABLETS	50	lb	9/22/2015
0001312651		BROMICIDE TABLETS	50	lb	9/22/2015
0001312650		BROMICIDE TABLETS	50	lb	9/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312649		BROMICIDE TABLETS	50	lb	9/22/2015
0001312648		BROMICIDE TABLETS	50	lb	9/22/2015
0001312647		BROMICIDE TABLETS	50	lb	9/22/2015
0001312645		BROMICIDE TABLETS	50	lb	9/22/2015
0001312689		WEST R-630 SULFITE	573	lb	9/22/2015
0001312678		WEST R-630 SULFITE	573	lb	9/22/2015
0001353543	109-66-0	PENTANE, ANHYDROUS	1	l	9/22/2015
0001353439		MECHANICAL PUMP OIL	1	gal	9/22/2015
0001353440		MECHANICAL PUMP OIL	1	gal	9/22/2015
0001393348		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001353512	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015
0001393349		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001353513	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015
0001353514	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015
0001393499		MASTIC REMOVER	5	gal	9/22/2015
0001393350		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001393351		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001396409		LIQUID NITROGEN	13000	gal	9/22/2015
0001312702		WEST R-630 SULFITE	573	lb	9/22/2015
0001353547	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	9/22/2015
0001353436		MECHANICAL PUMP OIL	1	gal	9/22/2015
0001353542	109-66-0	PENTANE, ANHYDROUS	1	l	9/22/2015
0001353541	109-66-0	PENTANE, ANHYDROUS	1	l	9/22/2015
0001353540	109-66-0	PENTANE, ANHYDROUS	1	l	9/22/2015
0001353539	109-66-0	PENTANE, ANHYDROUS	1	l	9/22/2015
0001393501		MASTIC REMOVER	5	gal	9/22/2015
0001393352		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001393353		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001353538	109-66-0	PENTANE, ANHYDROUS	1	l	9/22/2015
0001312699		WEST R-630 SULFITE	573	lb	9/22/2015
0001312700		WEST R-630 SULFITE	573	lb	9/22/2015
0001353535	1486-28-8	METHYLDIPHENYLPHOSPHINE	25	gm	9/22/2015
0001353532	12057-24-8	LITHIUM OXIDE, POWDER	100	gm	9/22/2015
0001393360		POLYURETHANE SATIN	1	gal	9/22/2015
0001393502		MASTIC REMOVER	5	gal	9/22/2015
0001393503		MASTIC REMOVER	5	gal	9/22/2015
0001312636		BROMICIDE TABLETS	50	lb	9/22/2015
0001312637		BROMICIDE TABLETS	50	lb	9/22/2015
0001312638		BROMICIDE TABLETS	50	lb	9/22/2015
0001353504	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015
0001353505	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015
0001353506	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015
0001353507	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015
0001353508	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015
0001353509	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353438		MECHANICAL PUMP OIL	1	gal	9/22/2015
0001353511	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015
0001353437		MECHANICAL PUMP OIL	1	gal	9/22/2015
0001393361		POLYURETHANE SATIN	1	gal	9/22/2015
0001393362		FLAME STOP III	16	oz	9/22/2015
0001393363		FLAME STOP III	16	oz	9/22/2015
0001353430	30670-30-5	1H,1H,2H,2H-HEPTADECAFLUORODECYLAMINE	5	gm	9/22/2015
0001353431	64-19-7	Acetic Acid, Glacial (Certified ACS Plus)	2.5	l	9/22/2015
0001353432	64-19-7	Acetic Acid, Glacial (Certified ACS Plus)	2.5	l	9/22/2015
0001393364		PERMACRYL INTERIOR FLAT WHITE BASE	1	gal	9/22/2015
0001393365		PERMACRYL INTERIOR FLAT WHITE BASE	1	gal	9/22/2015
0001353433		MECHANICAL PUMP OIL	1	gal	9/22/2015
0001353434		MECHANICAL PUMP OIL	1	gal	9/22/2015
0001353435		MECHANICAL PUMP OIL	1	gal	9/22/2015
0001393500		MASTIC REMOVER	5	gal	9/22/2015
0001353510	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015
0001312698		WEST R-630 SULFITE	573	lb	9/22/2015
0001393522		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001393523		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001393524		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001393526		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001353536	68-12-2	N,N-DIMETHYLFORMAMIDE	1	l	9/22/2015
0001353537	68-12-2	N,N-DIMETHYLFORMAMIDE	1	l	9/22/2015
0001353544	7439-95-4	MAGNESIUM	20	gm	9/22/2015
0001353545	7439-95-4	MAGNESIUM	20	gm	9/22/2015
0001353546	15746-57-3	cis-Bis(2,2'-bipyridine)dichlororuthenium(II) dihydrate	1	gm	9/22/2015
0001353441	10034-85-2	HYDRIODIC ACID	50	ml	9/22/2015
0001353448		CC FIX	5	gal	9/22/2015
0001312701		WEST R-630 SULFITE	573	lb	9/22/2015
0001353442	96-48-0	gamma-butyrolactone	500	gm	9/22/2015
0001393519		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001312697		WEST R-630 SULFITE	573	lb	9/22/2015
0001312696		WEST R-630 SULFITE	573	lb	9/22/2015
0001312695		WEST R-630 SULFITE	573	lb	9/22/2015
0001312694		WEST R-630 SULFITE	573	lb	9/22/2015
0001312693		WEST R-630 SULFITE	573	lb	9/22/2015
0001312692		WEST R-630 SULFITE	573	lb	9/22/2015
0001312691		WEST R-630 SULFITE	573	lb	9/22/2015
0001312690		WEST R-630 SULFITE	573	lb	9/22/2015
0001312673		BROMICIDE TABLETS	50	lb	9/22/2015
0001312672		BROMICIDE TABLETS	50	lb	9/22/2015
0001312671		BROMICIDE TABLETS	50	lb	9/22/2015
0001396563	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	9/22/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353503	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	9/22/2015
0001353515	27757-85-3	2-Thiophenemethylamine	5	gm	9/22/2015
0001353517	354-58-5	1,1,1-TRICHLOROTRIFLUOROETHANE	1	kg	9/22/2015
0001353518	354-58-5	1,1,1-TRICHLOROTRIFLUOROETHANE	1	kg	9/22/2015
0001353519	354-58-5	1,1,1-TRICHLOROTRIFLUOROETHANE	1	kg	9/22/2015
0001393354		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001393355		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001393356		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001393357		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001393358		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001393359		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001353444	7697-37-2	NITRIC ACID OPTIMA	500	ml	9/22/2015
0001393521		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001353446	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/22/2015
0001393520		ARDEX FEATHER FINISH	10	lb	9/22/2015
0001393504		MASTIC REMOVER	5	gal	9/22/2015
0001393505		MASTIC REMOVER	5	gal	9/22/2015
0001393506		MASTIC REMOVER	5	gal	9/22/2015
0001393507		MASTIC REMOVER	5	gal	9/22/2015
0001393508		MASTIC REMOVER	5	gal	9/22/2015
0001393509		MASTIC REMOVER	5	gal	9/22/2015
0001393510		MASTIC REMOVER	5	gal	9/22/2015
0001393511		MASTIC REMOVER	5	gal	9/22/2015
0001393512		MASTIC REMOVER	5	gal	9/22/2015
0001353533	12057-24-8	LITHIUM OXIDE, POWDER	100	gm	9/22/2015
0001353534	12057-24-8	LITHIUM OXIDE, POWDER	100	gm	9/22/2015
0001312670		BROMICIDE TABLETS	50	lb	9/22/2015
0001353445	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/22/2015
0001396575		LIQUID NITROGEN	800	l	9/22/2015
0001396429	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/22/2015
0001396526		Nitrogen 2%, Bal. Helium	220	cf	9/22/2015
0001396525		Nitrogen 2%, Bal. Helium	220	cf	9/22/2015
0001396579		LIQUID NITROGEN	300	gal	9/22/2015
0001396577		LIQUID NITROGEN	13000	gal	9/22/2015
0001353530	12057-24-8	LITHIUM OXIDE, POWDER	100	gm	9/22/2015
0001353334		LANL-QC-5 CUSTOM STANDARD	500	ml	9/22/2015
0001396576		LIQUID NITROGEN	600	gal	9/22/2015
0001396578		LIQUID NITROGEN	1500	gal	9/22/2015
0001396574		LIQUID NITROGEN	525	gal	9/22/2015
0001396524		Nitrogen 2%, Bal. Helium	220	cf	9/22/2015
0001393516		MASTIC REMOVER	5	gal	9/22/2015
0001393515		MASTIC REMOVER	5	gal	9/22/2015
0001353516		LAM-MS	500	ugm	9/22/2015
0001393513		MASTIC REMOVER	5	gal	9/22/2015
0001393514		MASTIC REMOVER	5	gal	9/22/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353531	12057-24-8	LITHIUM OXIDE, POWDER	100	gm	9/22/2015
0001396580		LIQUID NITROGEN	1500	l	9/22/2015
0001393518		MASTIC REMOVER	5	gal	9/22/2015
0001353529	12057-24-8	LITHIUM OXIDE, POWDER	100	gm	9/22/2015
0001393438		OLD MASTERS PENETRATING STAIN	1	gal	9/22/2015
0001396523		Nitrogen 2%, Bal. Helium	220	cf	9/22/2015
0001393517		MASTIC REMOVER	5	gal	9/22/2015
0001396522		Nitrogen 2%, Bal. Helium	220	cf	9/22/2015
0001353335		LANL-QC-5 CUSTOM STANDARD	500	ml	9/22/2015
0001353332		CUSTOM STANDARD #4	500	ml	9/22/2015
0001353333		CUSTOM STANDARD #4	500	ml	9/22/2015
0001393436		OLD MASTERS PENETRATING STAIN	1	gal	9/22/2015
0001393437		OLD MASTERS PENETRATING STAIN	1	gal	9/22/2015
0001396588	7440-59-7	HELIUM	220	cf	9/23/2015
0001353474		BUFFER PH 10 (BLUE BUFFER)	500	ml	9/23/2015
0001353468	67-68-5	DIMETHYL SULFOXIDE	4	l	9/23/2015
0001353477	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001353479	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001396583	7440-59-7	HELIUM	220	cf	9/23/2015
0001353478	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001396584	7440-59-7	HELIUM	220	cf	9/23/2015
0001353469	67-68-5	DIMETHYL SULFOXIDE	4	l	9/23/2015
0001353470	10450-60-9	PERIODIC ACID (HYDRATED)	100	gm	9/23/2015
0001353490	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/23/2015
0001353472	75-09-2	METHYLENE CHLORIDE (648)	4	l	9/23/2015
0001396586	7440-59-7	HELIUM	220	cf	9/23/2015
0001312895		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001396581	7440-59-7	HELIUM	220	cf	9/23/2015
0001396585	7440-59-7	HELIUM	220	cf	9/23/2015
0001396587	7440-59-7	HELIUM	220	cf	9/23/2015
0001396582	7440-59-7	HELIUM	220	cf	9/23/2015
0001313018		DIESEL EXHAUST FLUID	2.5	gal	9/23/2015
0001313019		DIESEL EXHAUST FLUID	2.5	gal	9/23/2015
0001313020		DIESEL EXHAUST FLUID	2.5	gal	9/23/2015
0001353471	75-09-2	METHYLENE CHLORIDE (648)	4	l	9/23/2015
0001353476	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001312894		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312899		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001353612		EPIKURE WARMING AGENT	1	gal	9/23/2015
0001312815		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312814		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312813		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001396636	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/23/2015
0001312968		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312969		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312902		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312970		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312901		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312817		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312900		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001396635	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/23/2015
0001312972		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312973		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312974		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312975		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312898		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001353497	67-64-1	ACETONE OPTIMA	1	l	9/23/2015
0001353498	67-64-1	ACETONE OPTIMA	1	l	9/23/2015
0001312945		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001353467	67-68-5	DIMETHYL SULFOXIDE	4	l	9/23/2015
0001312896		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312897		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312971		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001353487	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001353481	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001312893		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001353488	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/23/2015
0001353494	67-64-1	ACETONE OPTIMA	1	l	9/23/2015
0001353482	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001353483	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001353484	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001353609		EPIKURE WARMING AGENT	1	gal	9/23/2015
0001353610		EPIKURE WARMING AGENT	1	gal	9/23/2015
0001353485	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001312816		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001353486	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001353480	7647-01-0	HYDROCHLORIC ACID TRACE METAL-35%	500	ml	9/23/2015
0001353489	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/23/2015
0001353648		BUFFER PH 7 (YELLOW BUFFER)	500	ml	9/23/2015
0001353491	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/23/2015
0001353492	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/23/2015
0001353493	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	9/23/2015
0001353495	67-64-1	ACETONE OPTIMA	1	l	9/23/2015
0001353496	67-64-1	ACETONE OPTIMA	1	l	9/23/2015
0001312818		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001396428	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/23/2015
0001396633	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/23/2015
0001396634	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/23/2015
0001353611		EPIKURE WARMING AGENT	1	gal	9/23/2015
0001313000		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312954		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312953		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312952		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312951		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312950		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001313003		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001313002		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001313001		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312947		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312989		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312949		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312957		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312999		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312998		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312997		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312996		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312995		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312994		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312993		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312992		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312991		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312844		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312948		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312831		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312942		SANDABLE PRIMER	12	oz	9/23/2015
0001312842		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312841		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312840		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312839		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312838		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312837		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312836		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312835		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312834		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312955		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312832		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312956		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312830		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312829		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312963		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312962		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312961		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312960		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312828		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312959		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312958		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312988		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312833		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312923		SANDABLE PRIMER	12	oz	9/23/2015
0001313005		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001313004		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312944		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312931		SANDABLE PRIMER	12	oz	9/23/2015
0001312930		SANDABLE PRIMER	12	oz	9/23/2015
0001312929		SANDABLE PRIMER	12	oz	9/23/2015
0001312928		SANDABLE PRIMER	12	oz	9/23/2015
0001312927		SANDABLE PRIMER	12	oz	9/23/2015
0001312926		SANDABLE PRIMER	12	oz	9/23/2015
0001312990		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312924		SANDABLE PRIMER	12	oz	9/23/2015
0001313008		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312922		SANDABLE PRIMER	12	oz	9/23/2015
0001312921		SANDABLE PRIMER	12	oz	9/23/2015
0001312920		SANDABLE PRIMER	12	oz	9/23/2015
0001312907		CHAIN AND CABLE FLUID	11	oz	9/23/2015
0001312964		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312965		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312966		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312967		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001396628	7440-37-1	ARGON	1200	gal	9/23/2015
0001396629	7440-37-1	ARGON	6000	gal	9/23/2015
0001312925		SANDABLE PRIMER	12	oz	9/23/2015
0001312825		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312987		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312986		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312904		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312905		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312906		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001353473		BUFFER PH 10 (BLUE BUFFER)	500	ml	9/23/2015
0001353601		CABOT CAB-O-SIL TS-720	4	oz	9/23/2015
0001353602		CABOT CAB-O-SIL TS-720	4	oz	9/23/2015
0001353603		CABOT CAB-O-SIL TS-720	4	oz	9/23/2015
0001353604		CABOT CAB-O-SIL TS-720	4	oz	9/23/2015
0001313006		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312826		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001313007		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312824		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312823		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312822		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312821		WD-40 NON-AEROSOL	20	oz	9/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312820		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312819		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001396593	7440-59-7	HELIUM	220	cf	9/23/2015
0001313010		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001313009		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312845		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312827		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312937		SANDABLE PRIMER	12	oz	9/23/2015
0001312755		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312754		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312753		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312752		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312706		ULTRA GREY SILICONE GASKET MAKER	3.5	oz	9/23/2015
0001312860		DRY LUBRICANT	11	oz	9/23/2015
0001312932		SANDABLE PRIMER	12	oz	9/23/2015
0001312933		SANDABLE PRIMER	12	oz	9/23/2015
0001312934		SANDABLE PRIMER	12	oz	9/23/2015
0001312870		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312936		SANDABLE PRIMER	12	oz	9/23/2015
0001312758		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312880		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312879		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312878		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312877		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312876		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312875		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312874		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312873		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312872		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312843		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312935		SANDABLE PRIMER	12	oz	9/23/2015
0001312885		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001353465	1336-21-6	AMMONIA (DUETERATED N-15)	500	ml	9/23/2015
0001313015		DIESEL EXHAUST FLUID	2.5	gal	9/23/2015
0001312985		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001353647		BUFFER PH 7 (YELLOW BUFFER)	500	ml	9/23/2015
0001353557	1048-08-4	Tetraphenylsilane	5	gm	9/23/2015
0001312892		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312891		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312890		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312889		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312888		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312756		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312886		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312757		MOTOR OIL 5W-30	1	qt	9/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312884		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312883		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312882		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312881		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312763		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312762		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312761		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312760		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312759		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312869		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312887		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001396626		LIQUID NITROGEN	600	gal	9/23/2015
0001353564	13473-90-0	ALUMINUM NITRATE	500	gm	9/23/2015
0001353565	13473-90-0	ALUMINUM NITRATE	500	gm	9/23/2015
0001353566	13473-90-0	ALUMINUM NITRATE	500	gm	9/23/2015
0001396623	7440-37-1	ARGON	900	gal	9/23/2015
0001353567		EGC III MSA EluGen Methanesulfonic Acid Cartridge	1	l	9/23/2015
0001353568		EGC III MSA EluGen Methanesulfonic Acid Cartridge	1	l	9/23/2015
0001353464		EGC III MSA EluGen Methanesulfonic Acid Cartridge	1	l	9/23/2015
0001396624		LIQUID NITROGEN	1500	gal	9/23/2015
0001396625		LIQUID NITROGEN	9000	gal	9/23/2015
0001312871		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001313011		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001353561	13473-90-0	ALUMINUM NITRATE	500	gm	9/23/2015
0001396627		LIQUID NITROGEN	500	gal	9/23/2015
0001313012		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001313013		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001313014		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001312984		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001148954		ELECTRODE FILLING SOLUTION	60	ml	9/23/2015
0001148953		ELECTRODE FILLING SOLUTION	60	ml	9/23/2015
0001148952		ELECTRODE FILLING SOLUTION	60	ml	9/23/2015
0001312847		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312846		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312903		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312848		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312868		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312867		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312866		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312865		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312864		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312863		WD-40 NON-AEROSOL	20	oz	9/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312862		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312861		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312859		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312858		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001353563	13473-90-0	ALUMINUM NITRATE	500	gm	9/23/2015
0001312849		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001353562	13473-90-0	ALUMINUM NITRATE	500	gm	9/23/2015
0001148955		ELECTRODE FILLING SOLUTION	60	ml	9/23/2015
0001312938		SANDABLE PRIMER	12	oz	9/23/2015
0001312939		SANDABLE PRIMER	12	oz	9/23/2015
0001312940		SANDABLE PRIMER	12	oz	9/23/2015
0001312941		SANDABLE PRIMER	12	oz	9/23/2015
0001312943		SANDABLE PRIMER	12	oz	9/23/2015
0001312946		LACQUER PAINT HOT ROD BLACK	12	oz	9/23/2015
0001396622		LIQUID NITROGEN	2400	l	9/23/2015
0001353559	1332-58-7	KAOLIN	1	kg	9/23/2015
0001353466	67-68-5	DIMETHYL SULFOXIDE	4	l	9/23/2015
0001312857		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312803		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312810		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312809		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312808		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312807		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312806		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001396609	7440-59-7	HELIUM	220	cf	9/23/2015
0001312804		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312850		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312802		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312801		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312800		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312799		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001396611	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/23/2015
0001312856		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312805		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312980		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312855		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312854		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312853		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312852		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312851		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001396619		LIQUID NITROGEN	1000	gal	9/23/2015
0001312811		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001313016		DIESEL EXHAUST FLUID	2.5	gal	9/23/2015
0001312812		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312979		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312978		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312977		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001353460	69227-93-6	N-DODECYL-B-D-MALTOPYRANOSIDE	25	gm	9/23/2015
0001353461	583-93-7	2,6-DIAMINOPIMELIC ACID	10	gm	9/23/2015
0001396608	7440-59-7	HELIUM	220	cf	9/23/2015
0001313017		DIESEL EXHAUST FLUID	2.5	gal	9/23/2015
0001396599	7440-59-7	HELIUM	220	cf	9/23/2015
0001396590	7440-59-7	HELIUM	220	cf	9/23/2015
0001396592	7440-59-7	HELIUM	220	cf	9/23/2015
0001396594	7440-59-7	HELIUM	220	cf	9/23/2015
0001396595	7440-59-7	HELIUM	220	cf	9/23/2015
0001396596	7440-59-7	HELIUM	220	cf	9/23/2015
0001396610	75-45-6	CHLORODIFLUOROMETHANE	30	lb	9/23/2015
0001396598	7440-59-7	HELIUM	220	cf	9/23/2015
0001312909		SANDABLE PRIMER	12	oz	9/23/2015
0001396600	7440-59-7	HELIUM	220	cf	9/23/2015
0001396601	7440-59-7	HELIUM	220	cf	9/23/2015
0001396602	7440-59-7	HELIUM	220	cf	9/23/2015
0001396603	7440-59-7	HELIUM	220	cf	9/23/2015
0001396604	7440-59-7	HELIUM	220	cf	9/23/2015
0001396621		LIQUID NITROGEN	1200	l	9/23/2015
0001396597	7440-59-7	HELIUM	220	cf	9/23/2015
0001312915		SANDABLE PRIMER	12	oz	9/23/2015
0001396607	7440-59-7	HELIUM	220	cf	9/23/2015
0001396606	7440-59-7	HELIUM	220	cf	9/23/2015
0001396605	7440-59-7	HELIUM	220	cf	9/23/2015
0001396591	7440-59-7	HELIUM	220	cf	9/23/2015
0001312919		SANDABLE PRIMER	12	oz	9/23/2015
0001312918		SANDABLE PRIMER	12	oz	9/23/2015
0001396589	7440-59-7	HELIUM	220	cf	9/23/2015
0001312916		SANDABLE PRIMER	12	oz	9/23/2015
0001312908		SANDABLE PRIMER	12	oz	9/23/2015
0001312914		SANDABLE PRIMER	12	oz	9/23/2015
0001312913		SANDABLE PRIMER	12	oz	9/23/2015
0001312912		SANDABLE PRIMER	12	oz	9/23/2015
0001312911		SANDABLE PRIMER	12	oz	9/23/2015
0001312910		SANDABLE PRIMER	12	oz	9/23/2015
0001312976		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312917		SANDABLE PRIMER	12	oz	9/23/2015
0001353600	9006-59-1	ALBUMIN, EGG	25	gm	9/23/2015
0001353569		Molykote BR 2 Plus High Performance Grease	400	gm	9/23/2015
0001353570		Molykote BR 2 Plus High Performance Grease	400	gm	9/23/2015
0001353571		Molykote BR 2 Plus High Performance Grease	400	gm	9/23/2015
0001353572		Molykote BR 2 Plus High Performance Grease	400	gm	9/23/2015
0001353573		Molykote BR 2 Plus High Performance Grease	400	gm	9/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353608	Multi	Sylguard DC 186	19.9	kg	9/23/2015
0001353599	56-81-5	GLYCEROL [GLYCERIN]	500	ml	9/23/2015
0001353499	67-64-1	ACETONE OPTIMA	1	l	9/23/2015
0001312772		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312773		MOTOR OIL 5W-30	1	qt	9/23/2015
0001396620	7440-37-1	ARGON	500	gal	9/23/2015
0001312775		MOTOR OIL 5W-30	1	qt	9/23/2015
0001353606		DOW CORNING 3-6559 CURE ACCELERATOR	.45	kg	9/23/2015
0001353607	Multi	Sylguard DC 186	19.9	kg	9/23/2015
0001353574		Molykote BR 2 Plus High Performance Grease	400	gm	9/23/2015
0001312766		MOTOR OIL 5W-30	1	qt	9/23/2015
0001396612	811-97-2	TETRAFLUOROETHANE	60	lb	9/23/2015
0001396613	811-97-2	TETRAFLUOROETHANE	60	lb	9/23/2015
0001396614	811-97-2	TETRAFLUOROETHANE	60	lb	9/23/2015
0001396615	811-97-2	TETRAFLUOROETHANE	60	lb	9/23/2015
0001396616	811-97-2	TETRAFLUOROETHANE	60	lb	9/23/2015
0001396617	811-97-2	TETRAFLUOROETHANE	60	lb	9/23/2015
0001353501		BUFFER PH 8	50	ml	9/23/2015
0001312765		MOTOR OIL 5W-30	1	qt	9/23/2015
0001353500		BUFFER PH 8	50	ml	9/23/2015
0001312767		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312768		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312769		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312770		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312771		MOTOR OIL 5W-30	1	qt	9/23/2015
0001353605		DOW CORNING 3-6559 CURE ACCELERATOR	.45	kg	9/23/2015
0001312764		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312983		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312787		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312794		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312793		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312792		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312791		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312790		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312796		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312788		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312782		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312981		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312774		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312783		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312982		PREMIUM ENAMEL FLAT BLACK	12	oz	9/23/2015
0001312784		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312785		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312786		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312789		WD-40 NON-AEROSOL	20	oz	9/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312798		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312780		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312779		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312797		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001312778		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312777		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312776		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312781		MOTOR OIL 5W-30	1	qt	9/23/2015
0001312795		WD-40 NON-AEROSOL	20	oz	9/23/2015
0001353462		PROTEASE INHIBITOR COCKTAIL	25	ml	9/23/2015
0001312723		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393530		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001312724		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312721		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312720		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001353463		PROTEASE INHIBITOR COCKTAIL	25	ml	9/23/2015
0001353558	107-06-2	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	1	l	9/23/2015
0001312725		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312722		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312750		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312751		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393527		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001393529		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001312745		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393533		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001312726		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393532		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001312717		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393531		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001393528		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001312718		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312715		ULTRA GREY SILICONE GASKET MAKER	3.5	oz	9/23/2015
0001312714		ULTRA GREY SILICONE GASKET MAKER	3.5	oz	9/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312713		ULTRA GREY SILICONE GASKET MAKER	3.5	oz	9/23/2015
0001312712		ULTRA GREY SILICONE GASKET MAKER	3.5	oz	9/23/2015
0001312711		ULTRA GREY SILICONE GASKET MAKER	3.5	oz	9/23/2015
0001312710		ULTRA GREY SILICONE GASKET MAKER	3.5	oz	9/23/2015
0001312709		ULTRA GREY SILICONE GASKET MAKER	3.5	oz	9/23/2015
0001312708		ULTRA GREY SILICONE GASKET MAKER	3.5	oz	9/23/2015
0001312707		ULTRA GREY SILICONE GASKET MAKER	3.5	oz	9/23/2015
0001312747		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312746		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001396618	7440-37-1	ARGON	1500	l	9/23/2015
0001312716		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312737		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312727		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001353560	101-68-8	METHYLENE BISPHENYL ISOCYANATE	500	gm	9/23/2015
0001396630		LIQUID NITROGEN	6000	gal	9/23/2015
0001396631		LIQUID NITROGEN	6000	gal	9/23/2015
0001396632	7440-37-1	ARGON	1500	gal	9/23/2015
0001148951		ELECTRODE FILLING SOLUTION	60	ml	9/23/2015
0001312734		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312733		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312732		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312731		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312730		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312729		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312728		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312738		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393542		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001312741		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393544		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001393537		QUIKCRETE CONCRETE	50	lb	9/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001312719		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393536		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001312735		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312743		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393541		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001312740		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312749		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312748		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001312736		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393543		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001312742		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393540		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001393545		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001393546		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001393538		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001312744		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393539		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001393535		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001312739		ATF DEX/MERC AUTOMATIC TRANSMISSION FLUID	1	qt	9/23/2015
0001393534		QUIKCRETE CONCRETE	50	lb	9/23/2015
0001270529		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270528		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270527		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393728		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393726		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393725		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393724		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393723		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393615		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393722		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393616		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393661		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001270530		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396644	74-98-6	PROPANE	33	lb	9/24/2015
0001393760		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393761		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393762		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393763		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393716		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001396637	74-98-6	PROPANE	33	lb	9/24/2015
0001396638	74-98-6	PROPANE	33	lb	9/24/2015
0001396639	74-98-6	PROPANE	33	lb	9/24/2015
0001396640	74-98-6	PROPANE	33	lb	9/24/2015
0001393756		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393659		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	9/24/2015
0001393727		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393660		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001396645	74-98-6	PROPANE	33	lb	9/24/2015
0001396646	74-98-6	PROPANE	33	lb	9/24/2015
0001396647	74-98-6	PROPANE	33	lb	9/24/2015
0001396648	74-98-6	PROPANE	33	lb	9/24/2015
0001396649	74-98-6	PROPANE	33	lb	9/24/2015
0001396650	74-98-6	PROPANE	33	lb	9/24/2015
0001396651	74-98-6	PROPANE	33	lb	9/24/2015
0001396652	74-98-6	PROPANE	33	lb	9/24/2015
0001396653	74-98-6	PROPANE	33	lb	9/24/2015
0001393662		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001396642	74-98-6	PROPANE	33	lb	9/24/2015
0001393652		Easy Sand 5	31	lb	9/24/2015
0001393621		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393622		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393734		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393735		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393736		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393737		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393738		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393739		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393646		Easy Sand 5	31	lb	9/24/2015
0001393647		Easy Sand 5	31	lb	9/24/2015
0001393648		Easy Sand 5	31	lb	9/24/2015
0001393649		Easy Sand 5	31	lb	9/24/2015
0001393630		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393651		Easy Sand 5	31	lb	9/24/2015
0001393731		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393653		Easy Sand 5	31	lb	9/24/2015
0001393654		Easy Sand 5	31	lb	9/24/2015
0001393655		Easy Sand 5	31	lb	9/24/2015
0001393656		Easy Sand 5	31	lb	9/24/2015
0001393547		100% SILICONE SEALANT	10.1	oz	9/24/2015
0001393548		100% SILICONE SEALANT	10.1	oz	9/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393623		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393624		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393625		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393626		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393627		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393628		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393691		Easy Sand 5	4	lb	9/24/2015
0001393650		Easy Sand 5	31	lb	9/24/2015
0001393881		WEST C-358	55	gal	9/24/2015
0001393620		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393619		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393618		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393617		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001270537		PRIMER PART B	2	lb	9/24/2015
0001270538		PRIMER PART B	2	lb	9/24/2015
0001270539		PRIMER PART B	2	lb	9/24/2015
0001270545		MBRACE SATURANT PART B	2	lb	9/24/2015
0001270546		MBRACE SATURANT PART B	2	lb	9/24/2015
0001270547		MBRACE SATURANT PART B	1	lb	9/24/2015
0001393583		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001384164	7631-90-5	SODIUM BISULFITE, POWDER	2464	lb	9/24/2015
0001384163	7705-08-0	FERRIC CHLORIDE	3400	lb	9/24/2015
0001393733		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001270517		INSTA COTE CCP5413 RESIN PART B	5	gal	9/24/2015
0001270536		PRIMER PART B	2	lb	9/24/2015
0001393730		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393729		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001270548		MBRACE SATURANT PART B	1	lb	9/24/2015
0001270514		INSTA COTE CCP5413 RESIN PART B	5	gal	9/24/2015
0001384162	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	9/24/2015
0001270516		INSTA COTE CCP5413 RESIN PART B	5	gal	9/24/2015
0001270311		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270523		MBRACE SATURANT PART B	2	lb	9/24/2015
0001270524		MBRACE SATURANT PART B	2	lb	9/24/2015
0001270525		MBRACE SATURANT PART B	2	lb	9/24/2015
0001270526		MBRACE SATURANT PART B	2	lb	9/24/2015
0001393871		WEST R-630	55	gal	9/24/2015
0001393732		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001270515		INSTA COTE CCP5413 RESIN PART B	5	gal	9/24/2015
0001396669		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396655		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396656		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396657		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396658		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396659		94% Argon and 6% Hydrogen	220	cf	9/24/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396660		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396661		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396662		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396663		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396664		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396665		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396666		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001393629		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001396668		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001396654	74-98-6	PROPANE	33	lb	9/24/2015
0001393717		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393718		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393719		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393720		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393721		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001396641	74-98-6	PROPANE	33	lb	9/24/2015
0001393690		Easy Sand 5	4	lb	9/24/2015
0001393614		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393692		Easy Sand 5	4	lb	9/24/2015
0001393693		Easy Sand 5	4	lb	9/24/2015
0001393694		Easy Sand 5	4	lb	9/24/2015
0001393695		Easy Sand 5	4	lb	9/24/2015
0001393657		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	9/24/2015
0001396667		94% Argon and 6% Hydrogen	220	cf	9/24/2015
0001393689		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001270533		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270532		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393579		PSX 700 CURE	1	qt	9/24/2015
0001270531		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270508		INSTA COTE CCP5413 ISOCYANATE PART A	3	gal	9/24/2015
0001270507		INSTA COTE CCP5413 ISOCYANATE PART A	3	gal	9/24/2015
0001270506		INSTA COTE CCP5413 ISOCYANATE PART A	3	gal	9/24/2015
0001270505		INSTA COTE CCP5413 ISOCYANATE PART A	3	gal	9/24/2015
0001393704		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393679		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393678		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393677		ALL-PURPOSE GLOSS ENAMEL	1	gal	9/24/2015
0001393676		ALL-PURPOSE GLOSS ENAMEL	1	gal	9/24/2015
0001393603		acrylic interior drywall primer	5	gal	9/24/2015
0001393683		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393658		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	9/24/2015
0001393606		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001393674		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001393675		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001393680		BIG STRETCH CAULK	10.5	oz	9/24/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393605		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001393682		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393604		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001393684		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393685		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393686		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393687		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393688		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393599		acrylic interior drywall primer	5	gal	9/24/2015
0001393681		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393752		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393702		#44 ACRI-FLAT MED TINT BA	5	gal	9/24/2015
0001393701		#44 ACRI-FLAT MED TINT BA	5	gal	9/24/2015
0001393669		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393670		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393700		#44 ACRI-FLAT MED TINT BA	5	gal	9/24/2015
0001393671		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393672		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393699		#44 ACRI-FLAT MED TINT BA	5	gal	9/24/2015
0001393668		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393749		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393632		Easy Sand 5	4	lb	9/24/2015
0001393751		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393745		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393753		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393754		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393755		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393759		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393758		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393757		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393673		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393645		Easy Sand 5	31	lb	9/24/2015
0001393643		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	3	lb	9/24/2015
0001393644		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	3	lb	9/24/2015
0001393631		Easy Sand 5	4	lb	9/24/2015
0001393750		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393741		SEMI GLOSS	1	gal	9/24/2015
0001393706		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393705		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393707		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393708		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393709		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393710		BIG STRETCH CAULK	10.5	oz	9/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393711		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393712		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393713		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393714		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393715		BIG STRETCH CAULK	10.5	oz	9/24/2015
0001393703		#44 ACRI-FLAT MED TINT BA	5	gal	9/24/2015
0001393740		SEMI GLOSS	1	gal	9/24/2015
0001393744		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393742		SEMI GLOSS	1	gal	9/24/2015
0001393663		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393664		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393665		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393666		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393667		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393743		SEMI GLOSS	1	gal	9/24/2015
0001393748		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393747		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393746		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393698		#44 ACRI-FLAT MED TINT BA	5	gal	9/24/2015
0001383087		SJ-27 COMPRESSOR OIL	16	oz	9/24/2015
0001393607		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393608		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393609		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393633		Easy Sand 5	4	lb	9/24/2015
0001396643	74-98-6	PROPANE	33	lb	9/24/2015
0001393610		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393611		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393612		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393642		Easy Sand 5	4	lb	9/24/2015
0001393641		Easy Sand 5	4	lb	9/24/2015
0001393640		Easy Sand 5	4	lb	9/24/2015
0001393637		Easy Sand 5	4	lb	9/24/2015
0001393638		Easy Sand 5	4	lb	9/24/2015
0001393613		SASHCO BIG STRETCH SEALER	10.5	oz	9/24/2015
0001393639		Easy Sand 5	4	lb	9/24/2015
0001393636		Easy Sand 5	4	lb	9/24/2015
0001393635		Easy Sand 5	4	lb	9/24/2015
0001393634		Easy Sand 5	4	lb	9/24/2015
0001270319		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270352		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393776		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393779		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393777		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001270377		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270376		MBRACE SATURANT PART A	6.6	lb	9/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001270320		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270350		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393572		PSX 700 CURE	1	qt	9/24/2015
0001393780		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393778		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393788		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001270315		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270318		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270317		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270316		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270351		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393877		WEST R-630	55	gal	9/24/2015
0001270462		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001393809		PLUMBER GREASE	1	oz	9/24/2015
0001396718	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001396744	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001396745	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001270382		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393566		PSX 700 CURE	1	qt	9/24/2015
0001393565		PSX 700 CURE	1	qt	9/24/2015
0001393810		PLUMBER GREASE	1	oz	9/24/2015
0001393811		PLUMBER GREASE	1	oz	9/24/2015
0001393549		PSX 700 CURE	1	qt	9/24/2015
0001393785		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001270381		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393783		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393781		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393876		WEST R-630	55	gal	9/24/2015
0001393782		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393875		WEST R-630	55	gal	9/24/2015
0001393874		WEST R-630	55	gal	9/24/2015
0001393873		WEST R-630	55	gal	9/24/2015
0001393872		WEST R-630	55	gal	9/24/2015
0001393789		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001270326		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393787		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001270380		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270379		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270378		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393786		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393784		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393568		PSX 700 CURE	1	qt	9/24/2015
0001270324		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396753	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001393805		fast setting cement	60	lb	9/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393804		fast setting cement	60	lb	9/24/2015
0001393803		fast setting cement	60	lb	9/24/2015
0001393802		fast setting cement	60	lb	9/24/2015
0001393801		fast setting cement	60	lb	9/24/2015
0001393595		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393799		fast setting cement	60	lb	9/24/2015
0001393769		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001396752	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001396698		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396755	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001396700		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001393792		fast setting cement	60	lb	9/24/2015
0001270375		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270374		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396712		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001270373		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270372		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393589		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393590		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393591		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393592		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393593		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001393594		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001270371		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396699		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001393569		PSX 700 CURE	1	qt	9/24/2015
0001270322		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270323		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393808		PLUMBER GREASE	1	oz	9/24/2015
0001270325		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270565		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270327		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270328		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270329		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270330		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270331		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270332		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270349		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396754	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001270347		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270321		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270460		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270459		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270458		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270457		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001270456		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001393570		PSX 700 CURE	1	qt	9/24/2015
0001393571		PSX 700 CURE	1	qt	9/24/2015
0001393798		fast setting cement	60	lb	9/24/2015
0001393797		fast setting cement	60	lb	9/24/2015
0001393796		fast setting cement	60	lb	9/24/2015
0001393794		fast setting cement	60	lb	9/24/2015
0001393793		fast setting cement	60	lb	9/24/2015
0001270348		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270366		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270360		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270361		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270362		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270363		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270364		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270589		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270590		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270591		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270592		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270593		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270594		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270595		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270334		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270365		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270587		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270541		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270542		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270549		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001393806		fast setting cement	60	lb	9/24/2015
0001396694		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396695		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001270550		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270551		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270558		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270498		TURBOKRETE PATCHING COMPOUND	3.5	gal	9/24/2015
0001270499		TURBOKRETE PATCHING COMPOUND	3.5	gal	9/24/2015
0001270572		MASTER BRACE P 3500 PART A	7.5	lb	9/24/2015
0001270540		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001393812		PLUMBER GREASE	1	oz	9/24/2015
0001270353		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396696		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396697		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396738		AIR, COMPRESSED	220	cf	9/24/2015
0001396739		AIR, COMPRESSED	220	cf	9/24/2015
0001396740		AIR, COMPRESSED	220	cf	9/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396741	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001396742	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001396743	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001270355		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396726	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001396672		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001270359		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270477		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270588		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001393813		PLUMBER GREASE	1	oz	9/24/2015
0001393814		PLUMBER GREASE	1	oz	9/24/2015
0001393815		PLUMBER GREASE	1	oz	9/24/2015
0001393816		PLUMBER GREASE	1	oz	9/24/2015
0001270581		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270357		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270582		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270583		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270584		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270585		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270586		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270358		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270335		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270356		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393888		WEST C-358	55	gal	9/24/2015
0001270470		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270469		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270468		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270467		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270466		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270465		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270464		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270463		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001393882		WEST C-358	55	gal	9/24/2015
0001393883		WEST C-358	55	gal	9/24/2015
0001393884		WEST C-358	55	gal	9/24/2015
0001393885		WEST C-358	55	gal	9/24/2015
0001270333		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393887		WEST C-358	55	gal	9/24/2015
0001270472		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001393889		WEST C-358	55	gal	9/24/2015
0001393890		WEST C-358	55	gal	9/24/2015
0001270312		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270313		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270314		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270354		MBRACE SATURANT PART A	6.6	lb	9/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001270566		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396692		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001270573		MASTER BRACE P 3500 PART A	7.5	lb	9/24/2015
0001270574		MASTER BRACE P 3500 PART A	7.5	lb	9/24/2015
0001270575		MASTER BRACE P 3500 PART A	7.5	lb	9/24/2015
0001393807		PLUMBER GREASE	1	oz	9/24/2015
0001393886		WEST C-358	55	gal	9/24/2015
0001270370		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270336		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270337		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270338		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393767		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393766		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393764		COTE ALL ALKYD OIL BASED GLOSS INDUSTRIAL ENAMEL SAFETY YELLOW	1	gal	9/24/2015
0001393598		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001313021		GREASE	30	gal	9/24/2015
0001270554		MASTER BRACE P 3500 PART A	7.5	lb	9/24/2015
0001270555		MASTER BRACE P 3500 PART A	7.5	lb	9/24/2015
0001270556		MASTER BRACE P 3500 PART A	7.5	lb	9/24/2015
0001393597		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001270471		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001393768		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393567		PSX 700 CURE	1	qt	9/24/2015
0001270476		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270475		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270474		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270557		MASTER BRACE P 3500 PART A	7.5	lb	9/24/2015
0001393558		PSX 700 CURE	1	qt	9/24/2015
0001393557		PSX 700 CURE	1	qt	9/24/2015
0001270563		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270564		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393878		WEST R-630	55	gal	9/24/2015
0001393879		WEST R-630	55	gal	9/24/2015
0001393880		WEST R-630	55	gal	9/24/2015
0001270473		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270455		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001393596		PEEL STOP CLEAR BINDING PRIMER	1	gal	9/24/2015
0001270340		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270501		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270502		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270503		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270504		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270510		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270511		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001270512		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270513		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270519		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001393770		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001270461		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270493		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001396693		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396691		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396690		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396689		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396688		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396687		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396686		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396685		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396684		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001270520		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270483		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001393771		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393772		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393773		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393774		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393775		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001396720	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001270478		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270479		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270480		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270495		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270482		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270494		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270484		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270485		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270486		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270487		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270488		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270489		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270490		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270491		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270492		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001396681		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001270481		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001396722	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001396683		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001270569		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270576		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270577		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393817		PLUMBER GREASE	1	oz	9/24/2015
0001396737		AIR, COMPRESSED	220	cf	9/24/2015
0001396736		AIR, COMPRESSED	220	cf	9/24/2015
0001393696		ALL-PURPOSE GLOSS ENAMEL	1	gal	9/24/2015
0001393697		ALL-PURPOSE GLOSS ENAMEL	1	gal	9/24/2015
0001270567		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001396721	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001270560		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001396735		AIR, COMPRESSED	220	cf	9/24/2015
0001396733		AIR, COMPRESSED	220	cf	9/24/2015
0001396732		AIR, COMPRESSED	220	cf	9/24/2015
0001396731		AIR, COMPRESSED	220	cf	9/24/2015
0001396730		AIR, COMPRESSED	220	cf	9/24/2015
0001396729	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001396727	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001396725	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001396724	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001396723	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001270497		TURBOKRETE PATCHING COMPOUND	3.5	gal	9/24/2015
0001396671		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396679		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396680		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001270339		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270369		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396678		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001393800		fast setting cement	60	lb	9/24/2015
0001396677		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396676		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396675		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001270568		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001396673		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396682		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396670		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001393564		PSX 700 CURE	1	qt	9/24/2015
0001393563		PSX 700 CURE	1	qt	9/24/2015
0001393562		PSX 700 CURE	1	qt	9/24/2015
0001393561		PSX 700 CURE	1	qt	9/24/2015
0001393560		PSX 700 CURE	1	qt	9/24/2015
0001393559		PSX 700 CURE	1	qt	9/24/2015
0001270521		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270522		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001270559		MASTER BRACE SAT 4500 PART B	2	lb	9/24/2015
0001396674		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001393586		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001396728	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001270346		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393790		PSX 700 CURE	1	qt	9/24/2015
0001393582		PSX 700 CURE	1	qt	9/24/2015
0001393581		PSX 700 CURE	1	qt	9/24/2015
0001393580		PSX 700 CURE	1	qt	9/24/2015
0001393578		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393577		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393576		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393575		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393574		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001393573		PSX 700 PART A(RESIN)	1	gal	9/24/2015
0001396750	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001393587		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001396749	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001393585		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001393584		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001384169	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/24/2015
0001384168	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/24/2015
0001384167	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/24/2015
0001384166	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/24/2015
0001384165	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	9/24/2015
0001270345		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396716	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001396717	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001396719	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015
0001393795		fast setting cement	60	lb	9/24/2015
0001393588		PermAcryl Interior Latex Satin Enamel, DS-1531	5	gal	9/24/2015
0001396714		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001270368		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270367		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396701		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396702		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396703		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396704		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396705		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396706		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396707		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396708		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396709		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396710		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001396751	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001396713		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001393765		COTE ALL ALKYD OIL BASED GLOSS INDUSTRIAL ENAMEL SAFETY YELLOW	1	gal	9/24/2015
0001396715	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	9/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393556		PSX 700 CURE	1	qt	9/24/2015
0001393555		PSX 700 CURE	1	qt	9/24/2015
0001393554		PSX 700 CURE	1	qt	9/24/2015
0001393553		PSX 700 CURE	1	qt	9/24/2015
0001393552		PSX 700 CURE	1	qt	9/24/2015
0001393550		PSX 700 CURE	1	qt	9/24/2015
0001393791		PSX 700 CURE	1	qt	9/24/2015
0001396734		AIR, COMPRESSED	220	cf	9/24/2015
0001396746	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001396747	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001396748	7440-37-1	ARGON, COMPRESSED	220	cf	9/24/2015
0001396711		P-10 (90% ARGON 10% METHANE)	220	cf	9/24/2015
0001270342		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001393551		PSX 700 CURE	1	qt	9/24/2015
0001270344		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270343		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001270341		MBRACE SATURANT PART A	6.6	lb	9/24/2015
0001396756	74-98-6	PROPANE	560	lb	9/25/2015
0001393912		SIKAFLEX IA	10.1	oz	9/28/2015
0001393925		SIKAFLEX IA	10.1	oz	9/28/2015
0001393901		SIKAFLEX IA	10.1	oz	9/28/2015
0001393900		SIKAFLEX IA	10.1	oz	9/28/2015
0001393930		SIKAFLEX IA	10.1	oz	9/28/2015
0001393929		SIKAFLEX IA	10.1	oz	9/28/2015
0001393928		SIKAFLEX IA	10.1	oz	9/28/2015
0001393911		SIKAFLEX IA	10.1	oz	9/28/2015
0001393923		SIKAFLEX IA	10.1	oz	9/28/2015
0001393926		SIKAFLEX IA	10.1	oz	9/28/2015
0001393910		SIKAFLEX IA	10.1	oz	9/28/2015
0001393924		SIKAFLEX IA	10.1	oz	9/28/2015
0001393902		SIKAFLEX IA	10.1	oz	9/28/2015
0001393913		SIKAFLEX IA	10.1	oz	9/28/2015
0001313098		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393908		SIKAFLEX IA	10.1	oz	9/28/2015
0001393909		SIKAFLEX IA	10.1	oz	9/28/2015
0001393922		SIKAFLEX IA	10.1	oz	9/28/2015
0001393921		SIKAFLEX IA	10.1	oz	9/28/2015
0001393920		SIKAFLEX IA	10.1	oz	9/28/2015
0001393919		SIKAFLEX IA	10.1	oz	9/28/2015
0001393927		SIKAFLEX IA	10.1	oz	9/28/2015
0001393865		SIKAFLEX IA	10.1	oz	9/28/2015
0001313103		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313102		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313101		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313100		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001313099		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393894		SIKAFLEX IA	10.1	oz	9/28/2015
0001393893		SIKAFLEX IA	10.1	oz	9/28/2015
0001393892		SIKAFLEX IA	10.1	oz	9/28/2015
0001393891		SIKAFLEX IA	10.1	oz	9/28/2015
0001393870		SIKAFLEX IA	10.1	oz	9/28/2015
0001393869		SIKAFLEX IA	10.1	oz	9/28/2015
0001393868		SIKAFLEX IA	10.1	oz	9/28/2015
0001313105		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393866		SIKAFLEX IA	10.1	oz	9/28/2015
0001393899		SIKAFLEX IA	10.1	oz	9/28/2015
0001393864		SIKAFLEX IA	10.1	oz	9/28/2015
0001393863		SIKAFLEX IA	10.1	oz	9/28/2015
0001393861		SIKAFLEX IA	10.1	oz	9/28/2015
0001393860		SIKAFLEX IA	10.1	oz	9/28/2015
0001393859		SIKAFLEX IA	10.1	oz	9/28/2015
0001393895		SIKAFLEX IA	10.1	oz	9/28/2015
0001393896		SIKAFLEX IA	10.1	oz	9/28/2015
0001393897		SIKAFLEX IA	10.1	oz	9/28/2015
0001313106		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313097		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313104		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393898		SIKAFLEX IA	10.1	oz	9/28/2015
0001393867		SIKAFLEX IA	10.1	oz	9/28/2015
0001393862		SIKAFLEX IA	10.1	oz	9/28/2015
0001396757	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/28/2015
0001393917		SIKAFLEX IA	10.1	oz	9/28/2015
0001393916		SIKAFLEX IA	10.1	oz	9/28/2015
0001393915		SIKAFLEX IA	10.1	oz	9/28/2015
0001393903		SIKAFLEX IA	10.1	oz	9/28/2015
0001313022		SUPER GLUE	2	gm	9/28/2015
0001393914		SIKAFLEX IA	10.1	oz	9/28/2015
0001313023		SUPER GLUE	2	gm	9/28/2015
0001313029		SUPER GLUE	2	gm	9/28/2015
0001393907		SIKAFLEX IA	10.1	oz	9/28/2015
0001313030		SUPER GLUE	2	gm	9/28/2015
0001313025		SUPER GLUE	2	gm	9/28/2015
0001313026		SUPER GLUE	2	gm	9/28/2015
0001313027		SUPER GLUE	2	gm	9/28/2015
0001393906		SIKAFLEX IA	10.1	oz	9/28/2015
0001393905		SIKAFLEX IA	10.1	oz	9/28/2015
0001393904		SIKAFLEX IA	10.1	oz	9/28/2015
0001396760	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396759	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/28/2015
0001313024		SUPER GLUE	2	gm	9/28/2015
0001393853		SIKAFLEX IA	10.1	oz	9/28/2015
0001393847		SIKAFLEX IA	10.1	oz	9/28/2015
0001393848		SIKAFLEX IA	10.1	oz	9/28/2015
0001396758	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	9/28/2015
0001393858		SIKAFLEX IA	10.1	oz	9/28/2015
0001393857		SIKAFLEX IA	10.1	oz	9/28/2015
0001393856		SIKAFLEX IA	10.1	oz	9/28/2015
0001313028		SUPER GLUE	2	gm	9/28/2015
0001393854		SIKAFLEX IA	10.1	oz	9/28/2015
0001393918		SIKAFLEX IA	10.1	oz	9/28/2015
0001393852		SIKAFLEX IA	10.1	oz	9/28/2015
0001393851		SIKAFLEX IA	10.1	oz	9/28/2015
0001393850		SIKAFLEX IA	10.1	oz	9/28/2015
0001393849		SIKAFLEX IA	10.1	oz	9/28/2015
0001313031		SUPER GLUE	2	gm	9/28/2015
0001393855		SIKAFLEX IA	10.1	oz	9/28/2015
0001313144		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313058		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313057		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313145		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313146		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313143		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313148		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313139		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313149		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313150		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313151		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313147		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313142		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313152		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313140		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313156		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313059		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313060		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313061		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313062		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313063		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313064		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313065		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313141		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313174		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001332694		T PLUS 2 PTFE ENRICHED PIPE THREAD SEALANT	8	oz	9/28/2015
0001393839		T PLUS 2 PTFE ENRICHED PIPE THREAD SEALANT	8	oz	9/28/2015
0001393840		T PLUS 2 PTFE ENRICHED PIPE THREAD SEALANT	8	oz	9/28/2015
0001393841		T PLUS 2 PTFE ENRICHED PIPE THREAD SEALANT	8	oz	9/28/2015
0001393842		T PLUS 2 PTFE ENRICHED PIPE THREAD SEALANT	8	oz	9/28/2015
0001313180		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313179		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313178		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313177		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313154		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313175		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313153		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313173		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313172		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313171		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313170		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313169		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313168		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313167		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393843		T PLUS 2 PTFE ENRICHED PIPE THREAD SEALANT	8	oz	9/28/2015
0001313155		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313066		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313176		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313160		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001409999		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313074		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313073		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313072		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313071		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313070		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313069		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313068		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313067		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313138		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313159		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001410002		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313161		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313162		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393837		fast setting cement	52	lb	9/28/2015
0001393836		fast setting cement	52	lb	9/28/2015
0001393835		fast setting cement	52	lb	9/28/2015
0001393834		fast setting cement	52	lb	9/28/2015
0001393833		fast setting cement	52	lb	9/28/2015
0001313163		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313164		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001313165		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313158		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393826		fast setting cement	52	lb	9/28/2015
0001313137		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313122		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393844		T PLUS 2 PTFE ENRICHED PIPE THREAD SEALANT	8	oz	9/28/2015
0001393845		T PLUS 2 PTFE ENRICHED PIPE THREAD SEALANT	8	oz	9/28/2015
0001393846		T PLUS 2 PTFE ENRICHED PIPE THREAD SEALANT	8	oz	9/28/2015
0001393819		fast setting cement	52	lb	9/28/2015
0001393820		fast setting cement	52	lb	9/28/2015
0001393821		fast setting cement	52	lb	9/28/2015
0001393822		fast setting cement	52	lb	9/28/2015
0001393823		fast setting cement	52	lb	9/28/2015
0001410000		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393825		fast setting cement	52	lb	9/28/2015
0001410001		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393827		fast setting cement	52	lb	9/28/2015
0001393828		fast setting cement	52	lb	9/28/2015
0001393829		fast setting cement	52	lb	9/28/2015
0001393830		fast setting cement	52	lb	9/28/2015
0001393831		fast setting cement	52	lb	9/28/2015
0001393832		fast setting cement	52	lb	9/28/2015
0001313123		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313124		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313125		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393838		ALL-PURPOSE JOINT COMPOUND	4.5	gal	9/28/2015
0001393824		fast setting cement	52	lb	9/28/2015
0001313095		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313093		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001410008		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001410007		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001410006		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001410005		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001410004		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001410003		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313182		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313181		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313113		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001410010		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313044		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001410011		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313043		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313094		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313090		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313089		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001313088		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313087		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313086		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313085		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001332693		T PLUS 2 PTFE ENRICHED PIPE THREAD SEALANT	8	oz	9/28/2015
0001313083		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313114		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313046		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313047		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313092		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313091		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313166		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313048		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313049		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313050		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313096		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313051		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313052		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001410009		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313054		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313082		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313045		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313107		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313108		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313136		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313157		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313109		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313110		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313111		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313112		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313032		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313053		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313129		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313081		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313135		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313084		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313134		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313133		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313120		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313132		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313131		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313118		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313130		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313119		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313128		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001313127		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313079		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313078		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001393818		fast setting cement	52	lb	9/28/2015
0001313077		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313076		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313075		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313121		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313080		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313035		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313039		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313038		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313037		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313041		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313042		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313117		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313040		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313036		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313034		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313126		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313033		THREAD SEALANT W/PTFE	28	gm	9/28/2015
0001313055		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313115		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313116		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001313056		MULTI-PURPOSE GREASE	14.1	oz	9/28/2015
0001410013		DIESEL EXHAUST FLUID	2.5	gal	9/29/2015
0001353624		PMX 200 FLUID 1,000 CS GAL B	1	gal	9/29/2015
0001202223		EPOXY HARDENER	1	pt	9/29/2015
0001353619	1344-28-1	ALUMINUM OXIDE	100	gm	9/29/2015
0001353623		PMX 200 FLUID 1,000 CS GAL B	1	gal	9/29/2015
0001353616	21908-53-2	MERCURY(II) OXIDE	100	gm	9/29/2015
0001353617	7429-90-5	ALUMINUM METAL POWDER	100	gm	9/29/2015
0001353618	1313-27-5	MOLYBDENUM(VI)OXIDE	100	gm	9/29/2015
0001202224		EPOXY HARDENER	1	pt	9/29/2015
0001410016		DIESEL EXHAUST FLUID	2.5	gal	9/29/2015
0001353615		XIAMETER RTV-3110 BASE	453	gm	9/29/2015
0001353614		XIAMETER RTV-3110 BASE	453	gm	9/29/2015
0001353613	15980-15-1	1,4-OXATHIANE	5	gm	9/29/2015
0001353502		STYCAST 2762 BLACK	3	lb	9/29/2015
0001353475	1309-37-1	IRON(III) OXIDE	250	gm	9/29/2015
0001410015		DIESEL EXHAUST FLUID	2.5	gal	9/29/2015
0001410014		DIESEL EXHAUST FLUID	2.5	gal	9/29/2015
0001410018		DIESEL EXHAUST FLUID	2.5	gal	9/29/2015
0001410019		DIESEL EXHAUST FLUID	2.5	gal	9/29/2015
0001202229	25036-25-3	EPOXY RESIN	1	gal	9/29/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353691		AS23 Eluent Reagent	250	ml	9/29/2015
0001384173	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/29/2015
0001202222		EPOXY HARDENER	1	pt	9/29/2015
0001410017		DIESEL EXHAUST FLUID	2.5	gal	9/29/2015
0001353692		AS23 Eluent Reagent	250	ml	9/29/2015
0001202228	25036-25-3	EPOXY RESIN	1	gal	9/29/2015
0001202227	25036-25-3	EPOXY RESIN	1	gal	9/29/2015
0001202226	25036-25-3	EPOXY RESIN	1	gal	9/29/2015
0001384175	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/29/2015
0001384170	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/29/2015
0001384171	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/29/2015
0001384172	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/29/2015
0001202225		EPOXY HARDENER	1	pt	9/29/2015
0001281527		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001353621	594-27-4	TETRAMETHYLTIN	50	ml	9/29/2015
0001353650	1655-43-2	Sodium 1,6-naphthalene Disulfonate	25	kg	9/29/2015
0001202233		STANDBY V-100 EPOXY GROUT X22	2	gal	9/29/2015
0001353690		AS23 Eluent Reagent	250	ml	9/29/2015
0001353649	1655-43-2	Sodium 1,6-naphthalene Disulfonate	25	kg	9/29/2015
0001281530		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281519		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281528		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001202231		STANDBY V-100 EPOXY GROUT X22	2	gal	9/29/2015
0001281526		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281525		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281524		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281523		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281522		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281521		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281520		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281529		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001353660		SciGrip Adhesive #16	5	oz	9/29/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353651	1655-29-4	1,5-NAPHTHALENEDISULFONIC ACID, DISODIUM SALT	25	kg	9/29/2015
0001353652	1655-29-4	1,5-NAPHTHALENEDISULFONIC ACID, DISODIUM SALT	25	kg	9/29/2015
0001353653	1655-35-2	Na 2,7-Naphthalene	25	kg	9/29/2015
0001353654	1655-35-2	Na 2,7-Naphthalene	25	kg	9/29/2015
0001353655		SciGrip Adhesive #16	5	oz	9/29/2015
0001353656		SciGrip Adhesive #16	5	oz	9/29/2015
0001353657		SciGrip Adhesive #16	5	oz	9/29/2015
0001393943		FIREFIGHTER GL48	5	gal	9/29/2015
0001353659		SciGrip Adhesive #16	5	oz	9/29/2015
0001202232		STANDBY V-100 EPOXY GROUT X22	2	gal	9/29/2015
0001353661		SciGrip Adhesive #16	5	oz	9/29/2015
0001353662		SciGrip Adhesive #16	5	oz	9/29/2015
0001353663		PLATINUM CARBONYL COMPLEX	25	gm	9/29/2015
0001353664	115487-49-5	(45-50% METHYLHYDROSILOXANE)-(50-55% PHENYLMETHYLSILOXANE)	25	gm	9/29/2015
0001410012		DIESEL EXHAUST FLUID	2.5	gal	9/29/2015
0001202230		STANDBY V-100 EPOXY GROUT X22	2	gal	9/29/2015
0001353620		URANIUM STANDARD	125	ml	9/29/2015
0001353658		SciGrip Adhesive #16	5	oz	9/29/2015
0001281508		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001353669		INDALLOY 46L	2500	gm	9/29/2015
0001353668		INDALLOY 46L	2500	gm	9/29/2015
0001353671		INDALLOY 46L	2500	gm	9/29/2015
0001384174	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/29/2015
0001353667		INDALLOY 46L	2500	gm	9/29/2015
0001353665		INDALLOY 46L	2500	gm	9/29/2015
0001353666		INDALLOY 46L	2500	gm	9/29/2015
0001353670		INDALLOY 46L	2500	gm	9/29/2015
0001281518		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281507		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281323		FANTASTIKE ALL PURPOSE CLEANER	1	qt	9/29/2015
0001281509		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281510		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281511		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281512		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281513		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281514		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281515		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281516		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281517		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001281506		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	20	oz	9/29/2015
0001353679		INDALLOY 46L	2500	gm	9/29/2015
0001353685		INDALLOY 46L	2500	gm	9/29/2015
0001353678		INDALLOY 46L	2500	gm	9/29/2015
0001353676		INDALLOY 46L	2500	gm	9/29/2015
0001353675		INDALLOY 46L	2500	gm	9/29/2015
0001353677		INDALLOY 46L	2500	gm	9/29/2015
0001353688		INDALLOY 46L	2500	gm	9/29/2015
0001353683		INDALLOY 46L	2500	gm	9/29/2015
0001353686		INDALLOY 46L	2500	gm	9/29/2015
0001353684		INDALLOY 46L	2500	gm	9/29/2015
0001353682		INDALLOY 46L	2500	gm	9/29/2015
0001353689		INDALLOY 46L	2500	gm	9/29/2015
0001353681		INDALLOY 46L	2500	gm	9/29/2015
0001353680		INDALLOY 46L	2500	gm	9/29/2015
0001353687		INDALLOY 46L	2500	gm	9/29/2015
0001393950		FIREFIGHTER GL48	5	gal	9/29/2015
0001393989		FIREFIGHTER GL48	5	gal	9/29/2015
0001394095		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393931		CONTACT CLEANER 2000	13	oz	9/29/2015
0001394093		CONTACT CLEANER 2000	13	oz	9/29/2015
0001394092		CONTACT CLEANER 2000	13	oz	9/29/2015
0001394091		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393958		FIREFIGHTER GL48	5	gal	9/29/2015
0001393949		FIREFIGHTER GL48	5	gal	9/29/2015
0001393937		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393951		FIREFIGHTER GL48	5	gal	9/29/2015
0001393952		FIREFIGHTER GL48	5	gal	9/29/2015
0001393953		FIREFIGHTER GL48	5	gal	9/29/2015
0001393954		FIREFIGHTER GL48	5	gal	9/29/2015
0001393955		FIREFIGHTER GL48	5	gal	9/29/2015
0001393956		FIREFIGHTER GL48	5	gal	9/29/2015
0001393957		FIREFIGHTER GL48	5	gal	9/29/2015
0001394090		CONTACT CLEANER 2000	13	oz	9/29/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393988		FIREFIGHTER GL48	5	gal	9/29/2015
0001353673		INDALLOY 46L	2500	gm	9/29/2015
0001353622		SODIUM BISULFITE 38-42%	55	gal	9/29/2015
0001393944		FIREFIGHTER GL48	5	gal	9/29/2015
0001393945		FIREFIGHTER GL48	5	gal	9/29/2015
0001393946		FIREFIGHTER GL48	5	gal	9/29/2015
0001393947		FIREFIGHTER GL48	5	gal	9/29/2015
0001393948		FIREFIGHTER GL48	5	gal	9/29/2015
0001394097		CONTACT CLEANER 2000	13	oz	9/29/2015
0001353672		INDALLOY 46L	2500	gm	9/29/2015
0001394098		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393990		FIREFIGHTER GL48	5	gal	9/29/2015
0001393942		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393941		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393940		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393939		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393938		CONTACT CLEANER 2000	13	oz	9/29/2015
0001394094		CONTACT CLEANER 2000	13	oz	9/29/2015
0001353674		INDALLOY 46L	2500	gm	9/29/2015
0001393935		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393980		FIREFIGHTER GL48	5	gal	9/29/2015
0001393981		FIREFIGHTER GL48	5	gal	9/29/2015
0001393982		FIREFIGHTER GL48	5	gal	9/29/2015
0001393983		FIREFIGHTER GL48	5	gal	9/29/2015
0001393984		FIREFIGHTER GL48	5	gal	9/29/2015
0001393933		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393959		FIREFIGHTER GL48	5	gal	9/29/2015
0001393932		CONTACT CLEANER 2000	13	oz	9/29/2015
0001394096		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393979		FIREFIGHTER GL48	5	gal	9/29/2015
0001393936		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393985		FIREFIGHTER GL48	5	gal	9/29/2015
0001393986		FIREFIGHTER GL48	5	gal	9/29/2015
0001394087		CONTACT CLEANER 2000	13	oz	9/29/2015
0001394088		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393987		FIREFIGHTER GL48	5	gal	9/29/2015
0001394089		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393934		CONTACT CLEANER 2000	13	oz	9/29/2015
0001393970		FIREFIGHTER GL48	5	gal	9/29/2015
0001393960		FIREFIGHTER GL48	5	gal	9/29/2015
0001393961		FIREFIGHTER GL48	5	gal	9/29/2015
0001393962		FIREFIGHTER GL48	5	gal	9/29/2015
0001393963		FIREFIGHTER GL48	5	gal	9/29/2015
0001393964		FIREFIGHTER GL48	5	gal	9/29/2015
0001393965		FIREFIGHTER GL48	5	gal	9/29/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001393966		FIREFIGHTER GL48	5	gal	9/29/2015
0001393967		FIREFIGHTER GL48	5	gal	9/29/2015
0001393969		FIREFIGHTER GL48	5	gal	9/29/2015
0001393978		FIREFIGHTER GL48	5	gal	9/29/2015
0001393971		FIREFIGHTER GL48	5	gal	9/29/2015
0001393972		FIREFIGHTER GL48	5	gal	9/29/2015
0001393973		FIREFIGHTER GL48	5	gal	9/29/2015
0001393974		FIREFIGHTER GL48	5	gal	9/29/2015
0001393977		FIREFIGHTER GL48	5	gal	9/29/2015
0001393975		FIREFIGHTER GL48	5	gal	9/29/2015
0001393976		FIREFIGHTER GL48	5	gal	9/29/2015
0001393968		FIREFIGHTER GL48	5	gal	9/29/2015
0001394231		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394107		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394252		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394106		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394253		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353630	15238-00-3	COBALT(II) IODIDE	1	gm	9/30/2015
0001394254		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394233		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353632	10031-22-8	LEAD BROMIDE	5	gm	9/30/2015
0001394248		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353629	7789-43-7	COBALTOUS BROMIDE, ANHYDROUS	5	gm	9/30/2015
0001353633	7758-95-4	LEAD(II) CHLORIDE	10	gm	9/30/2015
0001394257		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394250		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394251		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353634	7789-45-9	COPPER(II) BROMIDE	25	gm	9/30/2015
0001353635	7447-39-4	COPPER(II) CHLORIDE	10	gm	9/30/2015
0001394249		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394262		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353636		PHOSPHOROUS TRICHLORIDE REAGENT PLUS	250	gm	9/30/2015
0001394152		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394104		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394131		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394132		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394101		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394100		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394099		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394266		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394265		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394105		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394263		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353628	7646-79-9	COBALT (II) CHLORIDE	5	gm	9/30/2015
0001394261		CONTACT CLEANER 2000	13	oz	9/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394260		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394259		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394258		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394256		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394103		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353704	7647-14-5	SODIUM CHLORIDE	5	kg	9/30/2015
0001394255		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353627	13446-03-2	MANGANESE(II) BROMIDE	25	gm	9/30/2015
0001191574		FERROUS IRON REAGENT	.25	oz	9/30/2015
0001394264		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394127		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353693		"TRANSOPTIC" POWDER	2.3	kg	9/30/2015
0001394234		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394235		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394236		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394237		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394238		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394239		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394240		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394241		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394133		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394145		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394135		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394147		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394136		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394128		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394129		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394130		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394148		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394149		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394150		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394151		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353637	137348-86-8	DI-TERT-BUTYL DIISOPROPYL	1	gm	9/30/2015
0001353638	18868-43-4	Molybdenum (IV) Oxide	100	gm	9/30/2015
0001353639		NDSB-256	5	gm	9/30/2015
0001394154		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394146		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394112		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394125		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394124		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394123		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394122		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394121		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394120		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394119		CONTACT CLEANER 2000	13	oz	9/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394118		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394117		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394116		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394115		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394134		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394113		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353694		"TRANSOPTIC" POWDER	2.3	kg	9/30/2015
0001394111		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394126		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394102		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394144		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394143		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394142		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394141		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394140		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394139		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394138		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394137		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394114		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394242		CONTACT CLEANER 2000	13	oz	9/30/2015
0001410022		RUST COAT ENAMEL	12	oz	9/30/2015
0001394108		CONTACT CLEANER 2000	13	oz	9/30/2015
0001410026		LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	oz	9/30/2015
0001353640	38880-58-9	NDSB-211	5	gm	9/30/2015
0001353702	75-05-8	ACETONITRILE	1	l	9/30/2015
0001410027		LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	oz	9/30/2015
0001410028		LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	oz	9/30/2015
0001410029		LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	oz	9/30/2015
0001410030		LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	oz	9/30/2015
0001394158		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353631	15238-00-3	COBALT(II) IODIDE	1	gm	9/30/2015
0001410025		LIQUID NAILS PANEL AND CONSTRUCTION ADHESIVE	10	oz	9/30/2015
0001394243		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394244		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394245		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394246		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394247		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353625	1513-65-1	2,6-Difluoropyridine	25	gm	9/30/2015
0001353626	1513-65-1	2,6-Difluoropyridine	25	gm	9/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394110		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394109		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353696		EPOTHIN EPOXY HARDENER	1.9	l	9/30/2015
0001353699	75-05-8	ACETONITRILE	1	l	9/30/2015
0001394157		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394153		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353701	75-05-8	ACETONITRILE	1	l	9/30/2015
0001353700	75-05-8	ACETONITRILE	1	l	9/30/2015
0001353698	108-32-7	CYCLIC PROPYLENE CARBONATE	800	ml	9/30/2015
0001353697	108-32-7	CYCLIC PROPYLENE CARBONATE	800	ml	9/30/2015
0001353695		EPOTHIN EPOXY RESIN	3.8	l	9/30/2015
0001394232		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394155		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394156		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394205		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394059		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394050		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394051		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394052		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394053		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394054		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394057		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394055		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394049		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394056		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394058		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394201		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394039		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394040		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394210		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394209		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394208		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394207		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394206		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394203		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394202		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394048		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394041		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394042		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394043		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394044		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394045		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394046		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394047		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394204		CONTACT CLEANER 2000	13	oz	9/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394000		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394221		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394196		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394195		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394194		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394193		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394192		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394191		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394169		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394170		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394198		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394001		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394199		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394190		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394189		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394188		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394187		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394186		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394185		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394184		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394183		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394182		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394181		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394002		CONTACT CLEANER 2000	13	oz	9/30/2015
0001410024		RUST COAT ENAMEL	12	oz	9/30/2015
0001394222		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394224		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394226		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394227		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394228		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394229		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394159		CONTACT CLEANER 2000	13	oz	9/30/2015
0001410020		3M Adhesive	17.6	oz	9/30/2015
0001394160		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394197		CONTACT CLEANER 2000	13	oz	9/30/2015
0001410023		RUST COAT ENAMEL	12	oz	9/30/2015
0001394178		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353711	67-64-1	ACETONE FOR HPLC	4	l	9/30/2015
0001394161		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394162		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394163		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394164		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394165		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394166		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394167		CONTACT CLEANER 2000	13	oz	9/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394168		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394200		CONTACT CLEANER 2000	13	oz	9/30/2015
0001410021		3M Adhesive	17.6	oz	9/30/2015
0001355741		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001353712		DOW CORNING 3145RTV ADHESIVE/SEALANT (CLEAR)	3	oz	9/30/2015
0001353713		DOW CORNING 3145RTV ADHESIVE/SEALANT (CLEAR)	3	oz	9/30/2015
0001353714		DOW CORNING 3145RTV ADHESIVE/SEALANT (CLEAR)	3	oz	9/30/2015
0001353715		DOW CORNING 3145RTV ADHESIVE/SEALANT (CLEAR)	3	oz	9/30/2015
0001353716		DOW CORNING 3145RTV ADHESIVE/SEALANT (CLEAR)	3	oz	9/30/2015
0001355735		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001355736		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001355737		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001355738		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001394180		CONTACT CLEANER 2000	13	oz	9/30/2015
0001355740		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001393991		CONTACT CLEANER 2000	13	oz	9/30/2015
0001355742		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001334207	16853-85-3	LITHIUM ALUMINUM HYDRIDE	10	gm	9/30/2015
0001355743		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001394230		CONTACT CLEANER 2000	13	oz	9/30/2015
0001355744		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001355745		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001355746		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001355747		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001355748		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001355749		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355739		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001355751		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001394223		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394177		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394176		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394175		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394174		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394173		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394172		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394171		CONTACT CLEANER 2000	13	oz	9/30/2015
0001355755		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001355754		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001353709		SILVER CONDUCTIVE EPOXY	20	gm	9/30/2015
0001355752		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001353708		SILVER CONDUCTIVE EPOXY	20	gm	9/30/2015
0001355750		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001393999		CONTACT CLEANER 2000	13	oz	9/30/2015
0001393998		CONTACT CLEANER 2000	13	oz	9/30/2015
0001393997		CONTACT CLEANER 2000	13	oz	9/30/2015
0001393996		CONTACT CLEANER 2000	13	oz	9/30/2015
0001393995		CONTACT CLEANER 2000	13	oz	9/30/2015
0001393994		CONTACT CLEANER 2000	13	oz	9/30/2015
0001393993		CONTACT CLEANER 2000	13	oz	9/30/2015
0001393992		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394179		CONTACT CLEANER 2000	13	oz	9/30/2015
0001355753		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001384177	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/30/2015
0001394072		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394025		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394026		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394027		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394028		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394029		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394030		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353706	7722-84-1	HYDROGEN PEROXIDE	500	ml	9/30/2015
0001353707	1310-73-2	SODIUM HYDROXIDE	500	gm	9/30/2015
0001353710	64-17-5	ETHYL ALCOHOL	4	l	9/30/2015
0001394023		CONTACT CLEANER 2000	13	oz	9/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001384176	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/30/2015
0001394022		CONTACT CLEANER 2000	13	oz	9/30/2015
0001384178	1310-73-2	Sodium Hydroxide 25%	3400	lb	9/30/2015
0001410033		BUTANE FUEL	5.1	oz	9/30/2015
0001394064		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394065		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394066		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394067		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394068		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394225		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394070		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394220		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394063		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394011		CONTACT CLEANER 2000	13	oz	9/30/2015
0001312613		MULTI-PURPOSE GREASE	14.1	oz	9/30/2015
0001394062		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394061		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394060		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394003		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394004		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394005		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394006		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394007		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394008		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394024		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394010		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394071		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394012		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394013		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394014		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394015		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394016		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394017		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394018		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394019		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394020		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394021		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394009		CONTACT CLEANER 2000	13	oz	9/30/2015
0001355757		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001394086		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394073		CONTACT CLEANER 2000	13	oz	9/30/2015
0001355766	110-54-3	N-HEXANE	4	l	9/30/2015
0001394069		CONTACT CLEANER 2000	13	oz	9/30/2015
0001355764	110-54-3	N-HEXANE	4	l	9/30/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355763		ULTIMA GOLD AB	10	l	9/30/2015
0001355762		ULTIMA GOLD AB	10	l	9/30/2015
0001355761		ULTIMA GOLD AB	10	l	9/30/2015
0001355760		ULTIMA GOLD AB	10	l	9/30/2015
0001394085		CONTACT CLEANER 2000	13	oz	9/30/2015
0001355758		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001355767	110-54-3	N-HEXANE	4	l	9/30/2015
0001355756		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001394211		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394212		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394213		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394214		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394215		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394216		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394217		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394218		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394219		CONTACT CLEANER 2000	13	oz	9/30/2015
0001355759		DOW CORNING 732 MULTI-PURPOSE SEALANT (WHITE)	4.7	oz	9/30/2015
0001394032		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394074		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394075		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394076		CONTACT CLEANER 2000	13	oz	9/30/2015
0001353705	925-90-6	ETHYLMAGNESIUM BROMIDE	100	ml	9/30/2015
0001353703	10533-44-5	1,3,5-NAPHTHALENE TRI-SULFONATE	25	kg	9/30/2015
0001410032		HEAVY DUTY BRAKE FLUID	32	oz	9/30/2015
0001355765	110-54-3	N-HEXANE	4	l	9/30/2015
0001394031		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394084		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394033		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394034		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394081		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394036		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394037		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394038		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394077		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394078		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394079		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394080		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394035		CONTACT CLEANER 2000	13	oz	9/30/2015
0001410031		HEAVY DUTY BRAKE FLUID	32	oz	9/30/2015
0001394082		CONTACT CLEANER 2000	13	oz	9/30/2015
0001394083		CONTACT CLEANER 2000	13	oz	9/30/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001327849		ALMOND SPRAY PAINT	12	oz	10/1/2015
0001353644	1513-65-1	2,6-Difluoropyridine	100	gm	10/1/2015
0001383473	15185-43-0	3,3'-DIETHYLOXATRICARBOCYANINE IODIDE	100	mg	10/1/2015
0001382869		SOLDERING FLUID	10	gm	10/1/2015
0001327851		ALMOND SPRAY PAINT	12	oz	10/1/2015
0001353642	1513-65-1	2,6-Difluoropyridine	100	gm	10/1/2015
0001327850		ALMOND SPRAY PAINT	12	oz	10/1/2015
0001353643	1513-65-1	2,6-Difluoropyridine	100	gm	10/1/2015
0001327854		700 INDUSTRIAL SILICONE SEALANT	300	ml	10/1/2015
0001396793	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396792	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396791	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396761	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001355769	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	10/1/2015
0001355768	7697-37-2	NITRIC ACID	2.5	l	10/1/2015
0001353718		ULTRALANE THINNER	1	qt	10/1/2015
0001353717	1174006-36-0	TAPC	1	gm	10/1/2015
0001353646	7647-14-5	SODIUM CHLORIDE	500	gm	10/1/2015
0001353645		ARATHANE 5750-A/B	920	gm	10/1/2015
0001353641	1513-65-1	2,6-Difluoropyridine	100	gm	10/1/2015
0001327852		ALMOND SPRAY PAINT	12	oz	10/1/2015
0001396805	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396815	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001396814	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001396813	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001396812	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001396811	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001396810	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001396809	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001396808	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001396816	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001396806	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001396797	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396804	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396803	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396802	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396801	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396800	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396799	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396798	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396796	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396794	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396807	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001327855	74-98-6	PROPANE	400	gm	10/1/2015
0001092227		ISOPROPANOL	1	gal	10/1/2015
0001396818	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001396795	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396820	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001327848		ALMOND SPRAY PAINT	12	oz	10/1/2015
0001396817	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001327853		700 INDUSTRIAL SILICONE SEALANT	300	ml	10/1/2015
0001327847		ALMOND SPRAY PAINT	12	oz	10/1/2015
0001396819	7440-37-1	ARGON, COMPRESSED	220	cf	10/1/2015
0001394282		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394283		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394284		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394285		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394286		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394281		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001396836	74-86-2	ACETYLENE	240	cf	10/1/2015
0001394272		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001382873		SOLDERING FLUID	10	gm	10/1/2015
0001396780	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396781	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001092230		ISOPROPANOL	1	gal	10/1/2015
0001394267		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394268		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394269		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001396778	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001394271		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001396777	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001394273		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394274		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394276		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001396762	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001382876		SOLDERING FLUID	10	gm	10/1/2015
0001382877		SOLDERING FLUID	10	gm	10/1/2015
0001382878		SOLDERING FLUID	10	gm	10/1/2015
0001382874		SOLDERING FLUID	10	gm	10/1/2015
0001394270		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001396768	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001355770	50-81-7	L-ASCORBIC ACID	100	gm	10/1/2015
0001355771	7782-61-8	FERRIC NITRATE, NONAHYDRATE	500	gm	10/1/2015
0001396838		Argon 75%, Carbon Dioxide 25%	220	cf	10/1/2015
0001394280		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001396763	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396764	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396765	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396779	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396767	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001382875		SOLDERING FLUID	10	gm	10/1/2015
0001396769	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396770	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396771	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396772	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396773	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396774	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396775	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396776	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396766	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396839		Argon 75%, Carbon Dioxide 25%	220	cf	10/1/2015
0001396825	74-98-6	PROPANE	33	lb	10/1/2015
0001396826	74-98-6	PROPANE	33	lb	10/1/2015
0001396827	74-98-6	PROPANE	33	lb	10/1/2015
0001396828	74-98-6	PROPANE	33	lb	10/1/2015
0001396829	74-98-6	PROPANE	33	lb	10/1/2015
0001396830	74-98-6	PROPANE	20	lb	10/1/2015
0001396831	74-86-2	ACETYLENE	40	cf	10/1/2015
0001396832	74-86-2	ACETYLENE	40	cf	10/1/2015
0001382872		SOLDERING FLUID	10	gm	10/1/2015
0001396834	74-86-2	ACETYLENE	40	cf	10/1/2015
0001396824	74-98-6	PROPANE	33	lb	10/1/2015
0001396837	7440-59-7	HELIUM	80	cf	10/1/2015
0001396833	74-86-2	ACETYLENE	40	cf	10/1/2015
0001396840		Argon 75%, Carbon Dioxide 25%	220	cf	10/1/2015
0001396841		HYDROGEN 5% IN NITROGEN	220	cf	10/1/2015
0001396842		HYDROGEN 5% IN NITROGEN	220	cf	10/1/2015
0001396843		Nitrogen 2%, Bal. Helium	220	cf	10/1/2015
0001396844		Nitrogen 2%, Bal. Helium	220	cf	10/1/2015
0001396845		Nitrogen 2%, Bal. Helium	220	cf	10/1/2015
0001396846		Nitrogen 2%, Bal. Helium	220	cf	10/1/2015
0001394277		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394278		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394279		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001394275		SUBMARINE SEALER COOLER COATING	1	gal	10/1/2015
0001396785	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396835	74-86-2	ACETYLENE	240	cf	10/1/2015
0001382871		SOLDERING FLUID	10	gm	10/1/2015
0001382870		SOLDERING FLUID	10	gm	10/1/2015
0001396782	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396823	74-98-6	PROPANE	33	lb	10/1/2015
0001396784	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396786	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396787	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396788	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396789	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396790	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001396821	74-98-6	PROPANE	33	lb	10/1/2015
0001396822	74-98-6	PROPANE	33	lb	10/1/2015
0001396783	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/1/2015
0001410040		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001410041		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001410042		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001394303		DE1541-5 HIDE PLUS EGGSHELL	5	gal	10/2/2015
0001394342		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001410039		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001410037		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001394305		FLAT WALL PAINT - MIDTONE BASE	5	gal	10/2/2015
0001394311		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394313		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394315		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394316		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394317		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394318		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394319		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001410038		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001410044		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001394355		PSX 700 CURE	1	qt	10/2/2015
0001394354		PSX 700 CURE	1	qt	10/2/2015
0001394287		RUST-OLEUM GALVANIZING AEROSOL	20	oz	10/2/2015
0001394288		RUST-OLEUM GALVANIZING AEROSOL	20	oz	10/2/2015
0001394289		RUST-OLEUM GALVANIZING AEROSOL	20	oz	10/2/2015
0001394290		RUST-OLEUM GALVANIZING AEROSOL	20	oz	10/2/2015
0001394291		RUST-OLEUM GALVANIZING AEROSOL	20	oz	10/2/2015
0001394292		RUST-OLEUM GALVANIZING AEROSOL	20	oz	10/2/2015
0001410034		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001394302		DE1541-5 HIDE PLUS EGGSHELL	5	gal	10/2/2015
0001410045		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001394301		DE1541-5 HIDE PLUS EGGSHELL	5	gal	10/2/2015
0001410043		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001394293		PEEL STOP CLEAR BINDING PRIMER	5	gal	10/2/2015
0001394294		PEEL STOP CLEAR BINDING PRIMER	5	gal	10/2/2015
0001394295		PEEL STOP CLEAR BINDING PRIMER	5	gal	10/2/2015
0001394296		PEEL STOP CLEAR BINDING PRIMER	5	gal	10/2/2015
0001394297		PEEL STOP CLEAR BINDING PRIMER	5	gal	10/2/2015
0001394298		PEEL STOP CLEAR BINDING PRIMER	5	gal	10/2/2015
0001394299		DE1541-5 HIDE PLUS EGGSHELL	5	gal	10/2/2015
0001394300		DE1541-5 HIDE PLUS EGGSHELL	5	gal	10/2/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394314		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001410035		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001394348		JET BLACK "WRINKLE FINISH" PAINT	1	gal	10/2/2015
0001394329		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394330		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394331		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394332		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394333		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394349		GLOSS PORCH & FLOOR ENAMEL - BLUE GRAY	1	gal	10/2/2015
0001394335		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394312		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394353		PSX 700 CURE	1	qt	10/2/2015
0001394328		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394352		PSX 700 CURE	1	qt	10/2/2015
0001394334		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394347		OIL BASE GLOSS	1	gal	10/2/2015
0001394346		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394345		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394344		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394343		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394337		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394338		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394339		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394340		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394341		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394304		DE1541-5 HIDE PLUS EGGSHELL	5	gal	10/2/2015
0001394309		FLAT WALL PAINT - MIDTONE BASE	5	gal	10/2/2015
0001394350		GLOSS PORCH & FLOOR ENAMEL - BLUE GRAY	1	gal	10/2/2015
0001394351		PSX 700 CURE	1	qt	10/2/2015
0001410036		DIESEL EXHAUST FLUID	2.5	gal	10/2/2015
0001394336		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394310		FLAT WALL PAINT - MIDTONE BASE	5	gal	10/2/2015
0001394327		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394308		FLAT WALL PAINT - MIDTONE BASE	5	gal	10/2/2015
0001394307		FLAT WALL PAINT - MIDTONE BASE	5	gal	10/2/2015
0001394324		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394320		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394323		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394322		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394321		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394325		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394326		BIG STRETCH CAULK	10.5	oz	10/2/2015
0001394306		FLAT WALL PAINT - MIDTONE BASE	5	gal	10/2/2015
0001396856	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/5/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001384186	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/5/2015
0001384183	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/5/2015
0001384184	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/5/2015
0001384185	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/5/2015
0001396857	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/5/2015
0001355828	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355818	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355827	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355826	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355825	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355824	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355823	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355822	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355821	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355837	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355829	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355819	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001356031	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/5/2015
0001355817	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355820	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001384181	7705-08-0	FERRIC CHLORIDE	3400	lb	10/5/2015
0001355816	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001356032	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/5/2015
0001356033	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/5/2015
0001356034	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/5/2015
0001356035	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/5/2015
0001356036	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/5/2015
0001355836	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001384180	7705-08-0	FERRIC CHLORIDE	3400	lb	10/5/2015
0001355830	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001384182	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/5/2015
0001355835	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355834	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355833	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355832	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355831	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001384179	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	10/5/2015
0001396848	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/5/2015
0001355813	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355812	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355811	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355809	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396855	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/5/2015
0001355815	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355814	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355807	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355810	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001396851	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/5/2015
0001396849	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/5/2015
0001396850	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/5/2015
0001396854	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/5/2015
0001396853	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/5/2015
0001396852	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/5/2015
0001355808	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001356030	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/5/2015
0001356023	9002-88-4	LOW DENSITY POLYETHYLENE POWDER	1	lb	10/5/2015
0001356025	9002-88-4	LOW DENSITY POLYETHYLENE POWDER	1	lb	10/5/2015
0001356026	9002-88-4	LOW DENSITY POLYETHYLENE POWDER	1	lb	10/5/2015
0001355838	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355845	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355844	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001356027	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/5/2015
0001356024	9002-88-4	LOW DENSITY POLYETHYLENE POWDER	1	lb	10/5/2015
0001356029	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/5/2015
0001355846	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355843	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355842	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355841	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355840	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001355839	7440-44-0	CARBON, ACTIVATED	5	lb	10/5/2015
0001356028	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/5/2015
0001355950		EC 14 CATALYST White	1	lb	10/6/2015
0001355947		EPOXY KIT H2OE PART A	1	oz	10/6/2015
0001394455		PSX 700 CURE	1	qt	10/6/2015
0001394456		PSX 700 CURE	1	qt	10/6/2015
0001355939	872-50-4	N-METHYL-2-PYRROLIDONE	4	l	10/6/2015
0001355940	872-50-4	N-METHYL-2-PYRROLIDONE	4	l	10/6/2015
0001394457		PSX 700 CURE	1	qt	10/6/2015
0001356084	2582-30-1	AMINOGUANIDINE BICARBONATE	250	gm	10/6/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355806		DEVCON 5-MINUTE EPOXY (resin, bisphenyl and diglycidyl ether resin 60-100%; hardener propiety)	25	ml	10/6/2015
0001355941	872-50-4	N-METHYL-2-PYRROLIDONE	4	l	10/6/2015
0001356085	13520-92-8	ZIRCONIUM(IV) OXYCHLORIDE OCTAHYDRATE	100	gm	10/6/2015
0001356086	12024-21-4	GALLIUM (III) OXIDE	5	gm	10/6/2015
0001356087	7681-49-4	SODIUM FLUORIDE	5	gm	10/6/2015
0001384189	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	10/6/2015
0001384195		NALCO 8735	639	lb	10/6/2015
0001384199		NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	gal	10/6/2015
0001384212	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/6/2015
0001384206	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/6/2015
0001384210	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/6/2015
0001394474		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001394475		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001384211	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/6/2015
0001384213	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/6/2015
0001355949	9002-18-0	AGAR	1	kg	10/6/2015
0001394472		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001384205	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/6/2015
0001394471		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001384207	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/6/2015
0001384208	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/6/2015
0001355948		E4110-LV PART B	1	oz	10/6/2015
0001356083	7664-39-3	HYDROFLUORIC ACID	500	gm	10/6/2015
0001180520	1343-98-2	DESSICANT SILICA GEL	.75	lb	10/6/2015
0001356082		CERMABOND	1	qt	10/6/2015
0001356105	1655-45-4	Disodium 2,6-Naphthalenedisulfonate	25	kg	10/6/2015
0001394464		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001394459		PSX 700 CURE	1	qt	10/6/2015
0001394460		PSX 700 CURE	1	qt	10/6/2015
0001394461		PSX 700 CURE	1	qt	10/6/2015
0001394462		PSX 700 CURE	1	qt	10/6/2015
0001356081		PYRO-PUTTY 600	1	pt	10/6/2015
0001394463		PSX 700 CURE	1	qt	10/6/2015
0001394473		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001384209	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/6/2015
0001394458		PSX 700 CURE	1	qt	10/6/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394465		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001394466		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001394467		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001394468		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001394469		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001394470		Loctite PL S10 Polyurethane - Concrete & Masonry Sealant	10	oz	10/6/2015
0001356088	7647-10-1	PALLADIUM(II) CHLORIDE	1	gm	10/6/2015
0001356107	5182-30-9	Trisodium Naphthalene-1,3,6-trisulfonate Hydrate	25	kg	10/6/2015
0001394438		PSX 700 pearl gray resin	1	gal	10/6/2015
0001394439		PSX 700 pearl gray resin	1	gal	10/6/2015
0001394440		PSX 700 pearl gray resin	1	gal	10/6/2015
0001394442		PSX 700 pearl gray resin	1	gal	10/6/2015
0001394445		PSX 700 pearl gray resin	1	gal	10/6/2015
0001394446		PSX 700 pearl gray resin	1	gal	10/6/2015
0001394437		PSX 700 pearl gray resin	1	gal	10/6/2015
0001394448		PSX 700 pearl gray resin	1	gal	10/6/2015
0001394441		PSX 700 pearl gray resin	1	gal	10/6/2015
0001394444		PSX 700 pearl gray resin	1	gal	10/6/2015
0001394449		PSX 700 pearl gray resin	1	gal	10/6/2015
0001394450		PSX 700 CURE	1	qt	10/6/2015
0001394451		PSX 700 CURE	1	qt	10/6/2015
0001394452		PSX 700 CURE	1	qt	10/6/2015
0001394453		PSX 700 CURE	1	qt	10/6/2015
0001394454		PSX 700 CURE	1	qt	10/6/2015
0001394447		PSX 700 pearl gray resin	1	gal	10/6/2015
0001384188	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	10/6/2015
0001356106	1655-45-4	Disodium 2,6-Naphthalenedisulfonate	25	kg	10/6/2015
0001355942	872-50-4	N-METHYL-2-PYRROLIDONE	4	l	10/6/2015
0001355943	872-50-4	N-METHYL-2-PYRROLIDONE	4	l	10/6/2015
0001355944	872-50-4	N-METHYL-2-PYRROLIDONE	4	l	10/6/2015
0001355945	872-50-4	N-METHYL-2-PYRROLIDONE	4	l	10/6/2015
0001394443		PSX 700 pearl gray resin	1	gal	10/6/2015
0001356075	1317-38-0	COPPER (II) OXIDE, PURATRONIC, 99.999%	100	gm	10/6/2015
0001356093	68952-30-7	POLYPHENYL-(DIMETHYLHYDROSILOXY) SILOXANE,HYDRIDE TERMINATED	25	gm	10/6/2015
0001356080	7664-39-3	HYDROFLUORIC ACID	500	gm	10/6/2015
0001356090	1310-73-2	BUFFER RICCA PH 12.00	1	l	10/6/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001356089		ION CHROMATOGRAPHY PERCHLORATE STANDARD	125	ml	10/6/2015
0001356092	877-24-7	BUFFER PH 4 (RED BUFFER)	1	l	10/6/2015
0001355946	872-50-4	N-METHYL-2-PYRROLIDONE	4	l	10/6/2015
0001356091		BUFFER SOLUTION (PH 3.00)	1	l	10/6/2015
0001394405		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394406		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394404		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394403		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001356077	22189-08-8	MAGNESIUM SULFATE HYDRATE	50	gm	10/6/2015
0001394401		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001356169		weld-on 3	1	pt	10/6/2015
0001356168		8320 EPOXY HARDENER (PART B)	375	ml	10/6/2015
0001356167		8320 EPOXY HARDENER (PART B)	375	ml	10/6/2015
0001356076	10294-70-9	TIN(II) IODIDE	10	gm	10/6/2015
0001394407		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394415		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394402		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394408		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394409		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394410		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394411		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394389		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001356078	106-93-4	1,2-DIBROMOETHANE	250	gm	10/6/2015
0001394412		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394414		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394416		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394417		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394418		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394419		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394420		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394421		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394413		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394371		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394383		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394382		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394381		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394380		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394379		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394378		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394377		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394376		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394375		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394374		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394422		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394372		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394386		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394370		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394369		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394368		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394435		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394436		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001355796	7732-18-5	1000 PPM PHOSPHATE H2O 100ML	125	ml	10/6/2015
0001355797		INSTRUMENT CHECK STANDARD 6	125	ml	10/6/2015
0001356079		ATC HEXID A4 Fluid	5	l	10/6/2015
0001355799	109-99-9	TETRAHYDROFURAN	2.5	l	10/6/2015
0001394391		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001355801	6484-52-2	AMMONIUM NITRATE	100	gm	10/6/2015
0001394373		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394399		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394423		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394424		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394425		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394426		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394427		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394428		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394429		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394430		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394431		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394432		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394433		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394384		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394400		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394385		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394398		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394397		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394396		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394395		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394394		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394393		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394392		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394390		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394388		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394387		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001355804		RUST STAIN REMOVER	1	gal	10/6/2015
0001394434		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001384190	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/6/2015
0001355802		RUST STAIN REMOVER	1	gal	10/6/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001356098		DEVCON 5-MINUTE EPOXY (resin, bisphenyl and diglycidyl ether resin 60-100%; hardener propiety)	25	ml	10/6/2015
0001356097		DEVCON 5-MINUTE EPOXY (resin, bisphenyl and diglycidyl ether resin 60-100%; hardener propiety)	25	ml	10/6/2015
0001356096		DEVCON 5-MINUTE EPOXY (resin, bisphenyl and diglycidyl ether resin 60-100%; hardener propiety)	25	ml	10/6/2015
0001356095		DEVCON 5-MINUTE EPOXY (resin, bisphenyl and diglycidyl ether resin 60-100%; hardener propiety)	25	ml	10/6/2015
0001356094		TRIS(DIBUTYLSULFIDE)RHODIUM TRICHLORIDE, 20-22% in toluene	5	gm	10/6/2015
0001384198		NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	gal	10/6/2015
0001384197		TRI-ACT 1820	450	lb	10/6/2015
0001384196		Nalco 22341	503	lb	10/6/2015
0001384194	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/6/2015
0001384193	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/6/2015
0001356100		DEVCON 5-MINUTE EPOXY (resin, bisphenyl and diglycidyl ether resin 60-100%; hardener propiety)	25	ml	10/6/2015
0001384191	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/6/2015
0001356101		DEVCON 5-MINUTE EPOXY (resin, bisphenyl and diglycidyl ether resin 60-100%; hardener propiety)	25	ml	10/6/2015
0001355788		DOW CORNING 3145RTV ADHESIVE/SEALANT	3	oz	10/6/2015
0001355787		DOW CORNING 3145RTV ADHESIVE/SEALANT	3	oz	10/6/2015
0001355786		DOW CORNING 3145RTV ADHESIVE/SEALANT	3	oz	10/6/2015
0001355785		DOW CORNING 3145RTV ADHESIVE/SEALANT	3	oz	10/6/2015
0001355784		DOW CORNING 3145RTV ADHESIVE/SEALANT	3	oz	10/6/2015
0001355783		DOW CORNING 3145RTV ADHESIVE/SEALANT	3	oz	10/6/2015
0001355782		DOW CORNING 3145RTV ADHESIVE/SEALANT	3	oz	10/6/2015
0001355781		DOW CORNING 3145RTV ADHESIVE/SEALANT	3	oz	10/6/2015
0001355780		DOW CORNING 3145RTV ADHESIVE/SEALANT	3	oz	10/6/2015
0001355779		DOW CORNING 3145RTV ADHESIVE/SEALANT	3	oz	10/6/2015
0001384187	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	10/6/2015
0001384192	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/6/2015
0001394364		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001355798	10022-31-8	BARIUM NITRATE	500	gm	10/6/2015
0001355805		RUST STAIN REMOVER	1	gal	10/6/2015
0001356040	5329-14-6	SULFAMIC ACID	500	gm	10/6/2015
0001355794		AMMONIA NITROGEN STANDARD	125	ml	10/6/2015
0001355795		CLP VOLATILES SOLUTION	125	ml	10/6/2015
0001394356		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394357		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394358		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394359		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394360		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394361		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001356099		DEVCON 5-MINUTE EPOXY (resin, bisphenyl and diglycidyl ether resin 60-100%; hardener propiety)	25	ml	10/6/2015
0001394363		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001355803		RUST STAIN REMOVER	1	gal	10/6/2015
0001394365		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394366		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001394367		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001384204	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/6/2015
0001384203	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/6/2015
0001384202	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/6/2015
0001384201	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/6/2015
0001384200	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/6/2015
0001356104		DEVCON 5-MINUTE EPOXY (resin, bisphenyl and diglycidyl ether resin 60-100%; hardener propiety)	25	ml	10/6/2015
0001356103		DEVCON 5-MINUTE EPOXY (resin, bisphenyl and diglycidyl ether resin 60-100%; hardener propiety)	25	ml	10/6/2015
0001356102		DEVCON 5-MINUTE EPOXY (resin, bisphenyl and diglycidyl ether resin 60-100%; hardener propiety)	25	ml	10/6/2015
0001394362		FANTASTIK ALL PURPOSE CLEANER	1	qt	10/6/2015
0001355793	7647-15-6	BROMIDE STANDARD	125	ml	10/6/2015
0001355792		IC INSTRUMENT CHECK STANDARD 1	125	ml	10/6/2015
0001355791		CYANIDE STANDARD 1000PPM	125	ml	10/6/2015
0001355790	7439-96-5	MANGANESE	250	gm	10/6/2015
0001355789	1317-61-9	FERRIC-FERROUS OXIDE	500	gm	10/6/2015
0001355800	108-88-3	TOLUENE	2.5	l	10/6/2015
0001410055		VELOSSA (HERBICIDE)	2.5	gal	10/7/2015
0001410059		VELOSSA (HERBICIDE)	1	gal	10/7/2015
0001410048		VELOSSA (HERBICIDE)	2.5	gal	10/7/2015
0001410049		VELOSSA (HERBICIDE)	2.5	gal	10/7/2015
0001410050		VELOSSA (HERBICIDE)	2.5	gal	10/7/2015
0001410051		VELOSSA (HERBICIDE)	2.5	gal	10/7/2015
0001410052		VELOSSA (HERBICIDE)	2.5	gal	10/7/2015
0001410054		VELOSSA (HERBICIDE)	2.5	gal	10/7/2015
0001410056		VELOSSA (HERBICIDE)	2.5	gal	10/7/2015
0001410057		VELOSSA (HERBICIDE)	2.5	gal	10/7/2015
0001410053		VELOSSA (HERBICIDE)	2.5	gal	10/7/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410058		VELOSSA (HERBICIDE)	2.5	gal	10/7/2015
0001410046		AW 32 HYDRAULIC FLUID	5	gal	10/7/2015
0001394497		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394493		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001356124	50-81-7	L-ASCORBIC ACID	100	gm	10/8/2015
0001394529		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394530		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394531		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394495		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394498		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394476		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001396858	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/8/2015
0001394494		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394528		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394496		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394516		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394515		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394521		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394503		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394502		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394509		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001396861	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/8/2015
0001396860	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/8/2015
0001384222	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/8/2015
0001396859	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/8/2015
0001384219	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/8/2015
0001356121	64-17-5	ALCOHOL, ANHYDROUS REAGENT	4	l	10/8/2015
0001356120	110-54-3	HEXANES (CERTIFIED ACS)	4	l	10/8/2015
0001356119	110-54-3	HEXANES (CERTIFIED ACS)	4	l	10/8/2015
0001356118	110-54-3	HEXANES (CERTIFIED ACS)	4	l	10/8/2015
0001356117	110-54-3	HEXANES (CERTIFIED ACS)	4	l	10/8/2015
0001356125	50-81-7	L-ASCORBIC ACID	100	gm	10/8/2015
0001356126	50-81-7	L-ASCORBIC ACID	100	gm	10/8/2015
0001356128	50-81-7	L-ASCORBIC ACID	100	gm	10/8/2015
0001356129		CHELEX 100 RESIN	500	gm	10/8/2015
0001356171		EPO-TEK	8	oz	10/8/2015
0001394519		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001384218	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/8/2015
0001384221	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/8/2015
0001394523		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394522		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394500		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394520		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394518		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394517		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394535		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394534		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394533		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394532		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001384220	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/8/2015
0001385497	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	10/8/2015
0001394524		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001356123	50-81-7	L-ASCORBIC ACID	100	gm	10/8/2015
0001410064	64742-54-7	John Deere Hy-Gard	5	gal	10/8/2015
0001394488		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394507		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394486		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001356127	50-81-7	L-ASCORBIC ACID	100	gm	10/8/2015
0001394485		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394480		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394484		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001410063	64742-54-7	John Deere Hy-Gard	5	gal	10/8/2015
0001394501		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001356122	64-17-5	ALCOHOL, ANHYDROUS REAGENT	4	l	10/8/2015
0001394526		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394514		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394527		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394491		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394490		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394489		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394483		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001410062	64742-54-7	John Deere Hy-Gard	5	gal	10/8/2015
0001394508		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394506		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394505		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001356112		FANTASTIK SPRAY CLEAN	32	oz	10/8/2015
0001394504		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394513		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394487		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394481		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394525		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394482		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394510		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394492		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394511		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394512		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394499		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394477		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394478		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015
0001394479		PREMIUM WATERPROOF SILICONE	9.8	oz	10/8/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410061	64742-54-7	John Deere Hy-Gard	5	gal	10/8/2015
0001384217	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/8/2015
0001356116	67-63-0	ISOPROPYL ALCOHOL	4	l	10/8/2015
0001410060	64742-54-7	John Deere Hy-Gard	5	gal	10/8/2015
0001356115	67-63-0	ISOPROPYL ALCOHOL	4	l	10/8/2015
0001356114	67-63-0	ISOPROPYL ALCOHOL	4	l	10/8/2015
0001356110	7704-34-9	SULFUR POWDER	50	gm	10/8/2015
0001356108	1307-96-6	COBALT(II) OXIDE	10	gm	10/8/2015
0001356109	7758-09-0	POTASSIUM NITRITE	2.5	kg	10/8/2015
0001266318		EPON RESIN 815	450	ml	10/8/2015
0001384216	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/8/2015
0001384215	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/8/2015
0001384214	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/8/2015
0001356111	7758-95-4	LEAD(II) CHLORIDE	50	gm	10/8/2015
0001356113	67-63-0	ISOPROPYL ALCOHOL	4	l	10/8/2015
0001410106		DIESEL FUEL SUPPLEMENT	32	oz	10/9/2015
0001410107		DIESEL FUEL SUPPLEMENT	32	oz	10/9/2015
0001410146		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410145		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410144		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410099		WD-40 NON-AEROSOL	20	oz	10/9/2015
0001410067		CHAIN AND CABLE FLUID	12	oz	10/9/2015
0001394560		M-SPECLT HP 6PK DRY ERASE ACTVTR	8	oz	10/9/2015
0001410143		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410069		sUPER TRIM ADHESIVE	19	oz	10/9/2015
0001410141		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410142		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410139		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410100		WD-40 NON-AEROSOL	20	oz	10/9/2015
0001410102		WD-40 NON-AEROSOL	20	oz	10/9/2015
0001410103		WD-40 NON-AEROSOL	20	oz	10/9/2015
0001410104		WD-40 NON-AEROSOL	20	oz	10/9/2015
0001410101		WD-40 NON-AEROSOL	20	oz	10/9/2015
0001410065		MOTOR ASSEMBLY GREASE NO.105	10	oz	10/9/2015
0001410070		THREADLOCKER HIGH STRENGTH	.34	oz	10/9/2015
0001410105		DIESEL FUEL SUPPLEMENT	32	oz	10/9/2015
0001410068		CHAIN AND CABLE FLUID	12	oz	10/9/2015
0001394572		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001410066		MOTOR ASSEMBLY GREASE NO.105	10	oz	10/9/2015
0001394561		M-SPECLT HP 6PK DRY ERASE ACTVTR	8	oz	10/9/2015
0001394564		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001394577		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	10/9/2015
0001410148		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410147		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410112		JB WELD STEEL	1	oz	10/9/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394551		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001394541		PVC PURPLE PRIMER	32	oz	10/9/2015
0001394542		PVC PURPLE PRIMER	32	oz	10/9/2015
0001394562		SEM-SPECLT QT 4PK DRY ERASE BASE	19	oz	10/9/2015
0001394544		PVC PURPLE PRIMER	32	oz	10/9/2015
0001394570		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001394546		PVC PURPLE PRIMER	32	oz	10/9/2015
0001394547		PVC PURPLE PRIMER	32	oz	10/9/2015
0001394548		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001394540		PVC PURPLE PRIMER	32	oz	10/9/2015
0001394550		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001394543		PVC PURPLE PRIMER	32	oz	10/9/2015
0001394552		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001410140		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001394554		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001394555		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001394556		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001394576		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	10/9/2015
0001394559		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001394557		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001394558		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001394549		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001394573		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001394563		SEM-SPECLT QT 4PK DRY ERASE BASE	19	oz	10/9/2015
0001394565		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001394566		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001394567		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001394568		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001394569		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001394545		PVC PURPLE PRIMER	32	oz	10/9/2015
0001394571		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001394553		OATEY CLEAR CEMENT FOR PVC	32	oz	10/9/2015
0001394574		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001394578		DIAMOND VOGEL PRO MAX LATEX PRIMER SEALER DU-1507 WHITE	5	gal	10/9/2015
0001410074		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	10/9/2015
0001410108		DIESEL FUEL SUPPLEMENT	32	oz	10/9/2015
0001394538		PVC PURPLE PRIMER	32	oz	10/9/2015
0001394537		PVC PURPLE PRIMER	32	oz	10/9/2015
0001410109		SAE 75W-90 GEAR OIL	1	qt	10/9/2015
0001410110		BATTERY TERMINAL PROTECTOR	7.5	oz	10/9/2015
0001394575		BIG STRETCH CAULK	10.5	oz	10/9/2015
0001394539		PVC PURPLE PRIMER	32	oz	10/9/2015
0001394536		PVC PURPLE PRIMER	32	oz	10/9/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410111		BRAKE FLUID DOT 3	12	oz	10/9/2015
0001410244		DX-III/MERCON ATF	1	qt	10/9/2015
0001410243		DX-III/MERCON ATF	1	qt	10/9/2015
0001410245		DX-III/MERCON ATF	1	qt	10/9/2015
0001410246		DX-III/MERCON ATF	1	qt	10/9/2015
0001410247		DX-III/MERCON ATF	1	qt	10/9/2015
0001410248		DX-III/MERCON ATF	1	qt	10/9/2015
0001410249		DX-III/MERCON ATF	1	qt	10/9/2015
0001410239		POWER STEERING FLUID	1	qt	10/9/2015
0001410260		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410172		15w40 motor oil	1	qt	10/9/2015
0001410258		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410257		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410256		80/90 Gear Oil	1	qt	10/9/2015
0001410255		80/90 Gear Oil	1	qt	10/9/2015
0001410254		80/90 Gear Oil	1	qt	10/9/2015
0001410250		DX-III/MERCON ATF	1	qt	10/9/2015
0001410252		RV & MARINE ANTIFREEZE	1	gal	10/9/2015
0001410089		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410238		POWER STEERING FLUID	1	qt	10/9/2015
0001410251		DX-III/MERCON ATF	1	qt	10/9/2015
0001410093		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410092		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410091		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410090		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410170		15w40 motor oil	1	qt	10/9/2015
0001410253		80/90 Gear Oil	1	qt	10/9/2015
0001410169		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410077		PYROIL CARB AND CHOKE CLEANER	13	oz	10/9/2015
0001410076		PYROIL CARB AND CHOKE CLEANER	13	oz	10/9/2015
0001410075		DRY FILM MOLY LUBRICANT LU 200	12	oz	10/9/2015
0001410098		SANDABLE PRIMER	12	oz	10/9/2015
0001410073		LACQUER PAINT HOT ROD BLACK	12	oz	10/9/2015
0001410072		PREMIUM ENAMEL FLAT BLACK	12	oz	10/9/2015
0001410071		GASOILA THREAD SEALANT WITH PTFE	.5	pt	10/9/2015
0001410164		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410165		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410079		PYROIL CARB AND CHOKE CLEANER	13	oz	10/9/2015
0001410166		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410242		DX-III/MERCON ATF	1	qt	10/9/2015
0001410168		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410171		15w40 motor oil	1	qt	10/9/2015
0001410080		PYROIL CARB AND CHOKE CLEANER	13	oz	10/9/2015
0001410081		PYROIL CARB AND CHOKE CLEANER	13	oz	10/9/2015
0001410082		PYROIL CARB AND CHOKE CLEANER	13	oz	10/9/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410083		PYROIL CARB AND CHOKE CLEANER	13	oz	10/9/2015
0001410084		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410085		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410086		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410087		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410294	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410088		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410261		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410078		PYROIL CARB AND CHOKE CLEANER	13	oz	10/9/2015
0001410167		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410134		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410127		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410137		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410208		15w40 motor oil	1	qt	10/9/2015
0001410207		15w40 motor oil	1	qt	10/9/2015
0001410206		15w40 motor oil	1	qt	10/9/2015
0001410154		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410287		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410135		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410138		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410133		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410132		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410131		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410130		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410129		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410296	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410136		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410174		15w40 motor oil	1	qt	10/9/2015
0001410308	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410307	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410306	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410305	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410304	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410301	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410288		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410173		15w40 motor oil	1	qt	10/9/2015
0001410126		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410282		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410283		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410284		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410285		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410286		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410302	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410303	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410297	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410128		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410290		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410291		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410292	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410293	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410156		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410266		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410163		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410267		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410298	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410299	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410300	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410265		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410264		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410263		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410295	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410117		ULTRA BLACK GASKET MAKER	3.35	oz	10/9/2015
0001410125		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410124		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410123		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410122		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410121		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410120		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410289		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410118		ULTRA BLACK GASKET MAKER	3.35	oz	10/9/2015
0001410262		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410116		ULTRA BLACK GASKET MAKER	3.35	oz	10/9/2015
0001410114		JB WELD STEEL	1	oz	10/9/2015
0001410310	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410311	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410274		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410115	68410-23-1	POLY(AMIDE) RESIN	1	oz	10/9/2015
0001410119		MULTI-PURPOSE GREASE	14.1	oz	10/9/2015
0001410184		15w40 motor oil	1	qt	10/9/2015
0001410227		SAE 30 MOTOR OIL	1	qt	10/9/2015
0001410226		SAE 30 MOTOR OIL	1	qt	10/9/2015
0001410175		15w40 motor oil	1	qt	10/9/2015
0001410176		15w40 motor oil	1	qt	10/9/2015
0001410177		15w40 motor oil	1	qt	10/9/2015
0001410178		15w40 motor oil	1	qt	10/9/2015
0001410179		15w40 motor oil	1	qt	10/9/2015
0001410180		15w40 motor oil	1	qt	10/9/2015
0001410181		15w40 motor oil	1	qt	10/9/2015
0001410221		SAE 30 MOTOR OIL	1	qt	10/9/2015
0001410183		15w40 motor oil	1	qt	10/9/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410229		ATF	1	qt	10/9/2015
0001410185		15w40 motor oil	1	qt	10/9/2015
0001410186		15w40 motor oil	1	qt	10/9/2015
0001410187		15w40 motor oil	1	qt	10/9/2015
0001410188		15w40 motor oil	1	qt	10/9/2015
0001410189		15w40 motor oil	1	qt	10/9/2015
0001410224		SAE 30 MOTOR OIL	1	qt	10/9/2015
0001410268		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410222		SAE 30 MOTOR OIL	1	qt	10/9/2015
0001410216		15w40 motor oil	1	qt	10/9/2015
0001410182		15w40 motor oil	1	qt	10/9/2015
0001410240		DX-III/MERCON ATF	1	qt	10/9/2015
0001410113	68410-23-1	POLY(AMIDE) RESIN	1	oz	10/9/2015
0001410209		15w40 motor oil	1	qt	10/9/2015
0001410210		15w40 motor oil	1	qt	10/9/2015
0001410211		15w40 motor oil	1	qt	10/9/2015
0001410212		15w40 motor oil	1	qt	10/9/2015
0001410213		15w40 motor oil	1	qt	10/9/2015
0001410217		15w40 motor oil	1	qt	10/9/2015
0001410214		15w40 motor oil	1	qt	10/9/2015
0001410215		15w40 motor oil	1	qt	10/9/2015
0001410228		10W-30 SAE MOTOR OIL	1	qt	10/9/2015
0001410269		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410162		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410237		DX-III/MERCON ATF	1	qt	10/9/2015
0001410236		DX-III/MERCON ATF	1	qt	10/9/2015
0001410235		DX-III/MERCON ATF	1	qt	10/9/2015
0001410234		ATF	1	qt	10/9/2015
0001410233		ATF	1	qt	10/9/2015
0001410232		ATF	1	qt	10/9/2015
0001410231		ATF	1	qt	10/9/2015
0001410230		ATF	1	qt	10/9/2015
0001410158		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410223		SAE 30 MOTOR OIL	1	qt	10/9/2015
0001410241		DX-III/MERCON ATF	1	qt	10/9/2015
0001410149		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410200		15w40 motor oil	1	qt	10/9/2015
0001410202		15w40 motor oil	1	qt	10/9/2015
0001410220		SAE 30 MOTOR OIL	1	qt	10/9/2015
0001410273		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410225		SAE 30 MOTOR OIL	1	qt	10/9/2015
0001410271		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410270		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410204		15w40 motor oil	1	qt	10/9/2015
0001410205		15w40 motor oil	1	qt	10/9/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410199		15w40 motor oil	1	qt	10/9/2015
0001410259		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410203		15w40 motor oil	1	qt	10/9/2015
0001410150		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410152		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410153		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410155		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410218		15w40 motor oil	1	qt	10/9/2015
0001410157		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410309	Multi	Purus Diesel Exhaust Fluid	2.5	gal	10/9/2015
0001410159		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410160		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410161		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410151		ANTIFREEZE/COOLANT	1	gal	10/9/2015
0001410281		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410097		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410096		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410095		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410094		ULTRA LOW VOC BRAKLEEN	14	oz	10/9/2015
0001410272		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410219		15w40 motor oil	1	qt	10/9/2015
0001410198		15w40 motor oil	1	qt	10/9/2015
0001410280		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410279		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410278		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410195		15w40 motor oil	1	qt	10/9/2015
0001410197		15w40 motor oil	1	qt	10/9/2015
0001410201		15w40 motor oil	1	qt	10/9/2015
0001410196		15w40 motor oil	1	qt	10/9/2015
0001410277		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410194		15w40 motor oil	1	qt	10/9/2015
0001410193		15w40 motor oil	1	qt	10/9/2015
0001410275		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001410192		15w40 motor oil	1	qt	10/9/2015
0001410191		15w40 motor oil	1	qt	10/9/2015
0001410190		15w40 motor oil	1	qt	10/9/2015
0001410276		DIESEL ENGINE OIL SAE 15W-40	1	gal	10/9/2015
0001396934	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001385502	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/13/2015
0001385500	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/13/2015
0001385498	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/13/2015
0001385501	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/13/2015
0001385503	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/13/2015
0001385499	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/13/2015
0001396988	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396997	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396996	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396994	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396993	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396992	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396990	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396989	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396998	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396973	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396978	7440-37-1	ARGON	220	cf	10/13/2015
0001396925		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396926		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396927		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396928		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396929		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396977	7440-37-1	ARGON	220	cf	10/13/2015
0001396976	7440-37-1	ARGON	220	cf	10/13/2015
0001396922		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396974	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396921		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396972	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396971	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396970	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396969	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396968	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396967	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396966	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396960	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396975	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396910		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396986	7440-37-1	ARGON	220	cf	10/13/2015
0001396984	7440-37-1	ARGON	220	cf	10/13/2015
0001396983	7440-37-1	ARGON	220	cf	10/13/2015
0001396982	7440-37-1	ARGON	220	cf	10/13/2015
0001396906	74-98-6	PROPANE	50	lb	10/13/2015
0001396907		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396981	7440-37-1	ARGON	220	cf	10/13/2015
0001396979	7440-37-1	ARGON	220	cf	10/13/2015
0001396923		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396909		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396987	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396911		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396912		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396913		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396914		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396916		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396917		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396918		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396920		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396908		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001410313		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/13/2015
0001396879	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001385451		TRI REAGENT	50	ml	10/13/2015
0001397005		94% ARGON/6% HYDROGEN	220	cf	10/13/2015
0001397004		94% ARGON/6% HYDROGEN	220	cf	10/13/2015
0001397003		94% ARGON/6% HYDROGEN	220	cf	10/13/2015
0001397002		94% ARGON/6% HYDROGEN	220	cf	10/13/2015
0001397001	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001397000	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396999	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001385450		TRI REAGENT	50	ml	10/13/2015
0001385449		TRI REAGENT	50	ml	10/13/2015
0001385453		TRI REAGENT	50	ml	10/13/2015
0001410314		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/13/2015
0001385454		TRI REAGENT	50	ml	10/13/2015
0001410312		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/13/2015
0001385447		TRI REAGENT	50	ml	10/13/2015
0001356130		SILVER CONDUCTIVE EPOXY	14	gm	10/13/2015
0001396931		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396930		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001356175		FANTASTIKE ALL PURPOSE CLEANER	1	gal	10/13/2015
0001356174		FANTASTIKE ALL PURPOSE CLEANER	1	gal	10/13/2015
0001356173		FANTASTIKE ALL PURPOSE CLEANER	1	gal	10/13/2015
0001356172		FANTASTIKE ALL PURPOSE CLEANER	1	gal	10/13/2015
0001356152	112-90-3	OLEYLAMINE 70%	500	gm	10/13/2015
0001356151	112-90-3	OLEYLAMINE 70%	500	gm	10/13/2015
0001385448		TRI REAGENT	50	ml	10/13/2015
0001356178	123-91-1	1,4-DIOXANE	100	ml	10/13/2015
0001396878	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396877	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396876	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001396875	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001396874	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001396873	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001396872	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001396871	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001396937	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001396962	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396935	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001385452		TRI REAGENT	50	ml	10/13/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396932		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001356146	67-56-1	METHANOL	4	lb	10/13/2015
0001356177	107-94-8	3-CHLOROPROPIONIC ACID	100	gm	10/13/2015
0001356176	590-92-1	3-BROMOPROPIONIC ACID	100	gm	10/13/2015
0001397012	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397011	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397010		94% ARGON/6% HYDROGEN	220	cf	10/13/2015
0001397009		94% ARGON/6% HYDROGEN	220	cf	10/13/2015
0001397008		94% ARGON/6% HYDROGEN	220	cf	10/13/2015
0001397007		94% ARGON/6% HYDROGEN	220	cf	10/13/2015
0001397006		94% ARGON/6% HYDROGEN	220	cf	10/13/2015
0001385456		TRI REAGENT	50	ml	10/13/2015
0001385455		TRI REAGENT	50	ml	10/13/2015
0001396933		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001397026	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397036	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	10/13/2015
0001397038	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	10/13/2015
0001396870	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001396869	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001396868	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001396867	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001397019	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397020	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397021	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397022	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397023	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001356148	7440-33-7	TUNGSTEN POWDER	500	gm	10/13/2015
0001397025	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001396862	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001397027	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397028	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397029	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397030	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397031	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001396847	7440-63-3	XENON	83	Cubic Centimeter (CC)	10/13/2015
0001397032	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/13/2015
0001397033	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/13/2015
0001397034	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/13/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397035	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/13/2015
0001397037	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	10/13/2015
0001397024	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001356133	67-56-1	METHANOL	4	lb	10/13/2015
0001396938	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001356145	67-56-1	METHANOL	4	lb	10/13/2015
0001356144	67-56-1	METHANOL	4	lb	10/13/2015
0001356143	67-56-1	METHANOL	4	lb	10/13/2015
0001356142	67-56-1	METHANOL	4	lb	10/13/2015
0001356141	67-56-1	METHANOL	4	lb	10/13/2015
0001356140	67-56-1	METHANOL	4	lb	10/13/2015
0001356139	67-56-1	METHANOL	4	lb	10/13/2015
0001356138	67-56-1	METHANOL	4	lb	10/13/2015
0001356137	67-56-1	METHANOL	4	lb	10/13/2015
0001356136	67-56-1	METHANOL	4	lb	10/13/2015
0001396865	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001356134	67-56-1	METHANOL	4	lb	10/13/2015
0001396864	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001356131		PELCO COLLOIDAL SILVER, 30G	20	gal	10/13/2015
0001396991	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396995	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/13/2015
0001396919		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396924		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396915		P-10 (90% ARGON 10% METHANE)	220	cf	10/13/2015
0001396980	7440-37-1	ARGON	220	cf	10/13/2015
0001396985	7440-37-1	ARGON	220	cf	10/13/2015
0001396881	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396883	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396936	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001356147	67-56-1	METHANOL	4	lb	10/13/2015
0001356135	67-56-1	METHANOL	4	lb	10/13/2015
0001394579		QUIKCRETE CONCRETE	60	lb	10/13/2015
0001396903	74-98-6	PROPANE	50	lb	10/13/2015
0001396958	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396959	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396866	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001396961	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396963	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396964	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396956	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396863	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/13/2015
0001396955	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001356179	110-46-3	Isopentyl nitrite	100	ml	10/13/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397014	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397015	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397016	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001397013	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001396905	74-98-6	PROPANE	50	lb	10/13/2015
0001396939	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001396965	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/13/2015
0001396948	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001396940	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001356132	67-56-1	METHANOL	4	lb	10/13/2015
0001396941	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001396942	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001396943	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001396944	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001396945	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001396957	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396947	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001396902	74-98-6	PROPANE	50	lb	10/13/2015
0001396880	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396949	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396950	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396951	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396952	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396953	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396954	2551-62-4	SULFUR HEXAFLUORIDE	220	cf	10/13/2015
0001396946	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/13/2015
0001396890	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396904	74-98-6	PROPANE	50	lb	10/13/2015
0001396895	74-98-6	PROPANE	50	lb	10/13/2015
0001396894	74-98-6	PROPANE	50	lb	10/13/2015
0001396893	74-98-6	PROPANE	50	lb	10/13/2015
0001396892	74-98-6	PROPANE	50	lb	10/13/2015
0001396891	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396897	74-98-6	PROPANE	50	lb	10/13/2015
0001397018	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001396898	74-98-6	PROPANE	50	lb	10/13/2015
0001396889	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396888	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396887	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396886	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396885	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396884	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001396882	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/13/2015
0001397017	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/13/2015
0001396901	74-98-6	PROPANE	50	lb	10/13/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001396900	74-98-6	PROPANE	50	lb	10/13/2015
0001396896	74-98-6	PROPANE	50	lb	10/13/2015
0001396899	74-98-6	PROPANE	50	lb	10/13/2015
0001394732		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394730		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394731		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394703		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001410317		TRANSMISSION FLUID	5	gal	10/14/2015
0001394715		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394716		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394717		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394718		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394719		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394721		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394722		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394728		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394665		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394695		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394726		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394725		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394724		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394723		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394720		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394742		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394734		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394735		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394736		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394737		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394738		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394739		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001410316		TRANSMISSION FLUID	5	gal	10/14/2015
0001394741		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001410315		TRANSMISSION FLUID	5	gal	10/14/2015
0001394743		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394830		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394744		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394727		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385190		ALMOND SPRAY PAINT	12	oz	10/14/2015
0001394729		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394733		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394740		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394694		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394683		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394684		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394685		100% SILICONE SEALANT	9.8	oz	10/14/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394686		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394687		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394688		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394689		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394690		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394691		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394706		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394693		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394680		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394696		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394697		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394698		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394699		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394700		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394701		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394702		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394704		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001353742		ELECTRODE STORAGE SOLUTION	1	l	10/14/2015
0001394692		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394814		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394800		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394802		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394803		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394804		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394805		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394806		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394808		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394810		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394811		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394682		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394813		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394681		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394815		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394816		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394817		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394818		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394819		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394820		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394821		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394822		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394679		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394707		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394812		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385168		RTV12C SILICONE CATATLYST	16	oz	10/14/2015
0001385192		ALMOND SPRAY PAINT	12	oz	10/14/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001385193		ALMOND SPRAY PAINT	12	oz	10/14/2015
0001385173		URETHANE POUR FOAM - PART A	18.1	kg	10/14/2015
0001385160		RTV12C SILICONE CATATLYST	16	oz	10/14/2015
0001385161		RTV12C SILICONE CATATLYST	16	oz	10/14/2015
0001385162		RTV12C SILICONE CATATLYST	16	oz	10/14/2015
0001385163		RTV12C SILICONE CATATLYST	16	oz	10/14/2015
0001385164		RTV12C SILICONE CATATLYST	16	oz	10/14/2015
0001385165		RTV12C SILICONE CATATLYST	16	oz	10/14/2015
0001394705		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385167		RTV12C SILICONE CATATLYST	16	oz	10/14/2015
0001394841		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385170		RTV12A	5	gal	10/14/2015
0001385172		SYLGARD	18.1	kg	10/14/2015
0001385174		URETHANE POUR FOAM - PART B	5	gal	10/14/2015
0001353748	462-18-0	Dihexyl ketone	5	gm	10/14/2015
0001353747	119-60-8	DICYCLOHEXYL KETONE	10	gm	10/14/2015
0001353746	12125-02-9	AMMONIUM CHLORIDE	1	kg	10/14/2015
0001353745	1314-23-4	ZIRCONIUM(IV) OXIDE	100	gm	10/14/2015
0001353744		ELECTRODE STORAGE SOLUTION	1	l	10/14/2015
0001353743		ELECTRODE STORAGE SOLUTION	1	l	10/14/2015
0001385166		RTV12C SILICONE CATATLYST	16	oz	10/14/2015
0001394827		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394708		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394709		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394710		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394711		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394712		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394713		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394714		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394823		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394824		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385191		ALMOND SPRAY PAINT	12	oz	10/14/2015
0001394826		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394842		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394828		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394829		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394832		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394835		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394836		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394837		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394838		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394839		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394840		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394796		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394825		100% SILICONE SEALANT	9.8	oz	10/14/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394766		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394755		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394756		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394757		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394758		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394759		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394760		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394761		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394762		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394763		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394799		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394765		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394752		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394767		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394768		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394769		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394770		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394771		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394772		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394773		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394774		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394775		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394764		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001356201		NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	gal	10/14/2015
0001385195		SPRAY PRIMER	12	oz	10/14/2015
0001385189		KRYLON INTERIOR/EXTERIOR PAINT - KHAKI GLOSS BEIGE 2504	12	oz	10/14/2015
0001385187		PLASTIC PRIMER	12	oz	10/14/2015
0001385186		PLASTIC PRIMER	12	oz	10/14/2015
0001385185		PLASTIC PRIMER	12	oz	10/14/2015
0001385183		CAMOUFLAGE	12	oz	10/14/2015
0001385182		CAMOUFLAGE	12	oz	10/14/2015
0001385181		CAMOUFLAGE	12	oz	10/14/2015
0001385194		SPRAY PRIMER	12	oz	10/14/2015
0001394754		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385504		NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	gal	10/14/2015
0001394753		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001356200		VACUUM PUMP OIL	4	l	10/14/2015
0001394750		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394749		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394748		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394747		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394746		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394745		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385211		PRIMER	12	oz	10/14/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394751		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394778		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385505		PERMATREAT	511	lb	10/14/2015
0001394785		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394776		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394676		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394677		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394678		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394797		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394790		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394801		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394831		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394834		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394674		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394784		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394673		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394786		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394787		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394788		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394789		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394791		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394792		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394793		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394794		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394795		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394809		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394833		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385216		KRYLON SHORT CUTS HOBBY/CRAFT ENAMEL PAINT	3	oz	10/14/2015
0001394798		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394779		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394780		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394781		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394782		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394783		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385207	68551-17-7	MINERAL SPIRITS	32	qt	10/14/2015
0001385203		MULTI-PURPOSE PRIMER	12	oz	10/14/2015
0001385204		MULTI-PURPOSE PRIMER	12	oz	10/14/2015
0001394675		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385206		MULTI-PURPOSE PRIMER	12	oz	10/14/2015
0001394777		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385209		PLASTIC PRIMER	12	oz	10/14/2015
0001394663		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394664		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394666		100% SILICONE SEALANT	9.8	oz	10/14/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394667		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394668		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394669		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394670		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394671		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001394672		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385205		MULTI-PURPOSE PRIMER	12	oz	10/14/2015
0001394807		100% SILICONE SEALANT	9.8	oz	10/14/2015
0001385176		CAMO PAINT	12	oz	10/14/2015
0001353770	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353771	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353769	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353772	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001385198		WELD-ON 3 ACRYLIC	32	qt	10/14/2015
0001353773	123-83-1	N,N-Dimethyl-N?-ethylethylenediamine	5	gm	10/14/2015
0001353775	123-83-1	N,N-Dimethyl-N?-ethylethylenediamine	5	gm	10/14/2015
0001385200		LATEX ENAMEL	12	oz	10/14/2015
0001353776	14040-11-0	tungsten hexacarbonyl	10	gm	10/14/2015
0001385213		SEMI FLAT BLACK	12	oz	10/14/2015
0001353777	23936-60-9	1,2-BIS(DIMETHYLPHOSPHINO)ETHANE	1	gm	10/14/2015
0001385212		SATIN BLACK	12	oz	10/14/2015
0001385175		CAMO PAINT	12	oz	10/14/2015
0001353779	367-11-3	1,2-DIFLUOROBENZENE	10	gm	10/14/2015
0001353780	13774-81-7	BORANE-AMMONIA COMPLEX, TECH., 97%	10	gm	10/14/2015
0001353759	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353774	123-83-1	N,N-Dimethyl-N?-ethylethylenediamine	5	gm	10/14/2015
0001353781	72914-19-3	4,4-DI-TERT-BUTYL-2,2-DIPYRIDYL	25	gm	10/14/2015
0001385196		WELD-ON 3 ACRYLIC	32	qt	10/14/2015
0001353749	5469-26-1	1-BROMOPINACOLONE	1	ml	10/14/2015
0001353757	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353751	822-87-7	2-Chlorocyclohexanone	5	gm	10/14/2015
0001353792	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	10/14/2015
0001353791	23582-03-8	TRIS(2-DIPHENYLPHOSPHINEETHYL) PHOSPHINE	5	gm	10/14/2015
0001353764	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353765	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353790	3996-15-4	FORMIC-D ACID, SODIUM SALT	5	gm	10/14/2015
0001385177		CAMO PAINT	12	oz	10/14/2015
0001353794	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	10/14/2015
0001385179		CAMO PAINT	12	oz	10/14/2015
0001353793	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	10/14/2015
0001353782	24388-23-6	Phenylboronic acid pinacol ester	5	gm	10/14/2015
0001353783	14221-01-3	TETRAKIS(TRIPHENYLPHOSPHINE)-PALLADIUM(O)	1	gm	10/14/2015
0001353784	919-30-2	3-AMINOPROPYLTRIETHOXYSILANE	100	ml	10/14/2015
0001353785	919-30-2	3-AMINOPROPYLTRIETHOXYSILANE	100	ml	10/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353786	78-10-4	TETRAETHYL ORTHOSILICATE	250	ml	10/14/2015
0001353787	78-10-4	TETRAETHYL ORTHOSILICATE	250	ml	10/14/2015
0001353788	3996-15-4	FORMIC-D ACID, SODIUM SALT	5	gm	10/14/2015
0001353789	3996-15-4	FORMIC-D ACID, SODIUM SALT	5	gm	10/14/2015
0001353767	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353766	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001385178		CAMO PAINT	12	oz	10/14/2015
0001353760	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001385197		WELD-ON 3 ACRYLIC	32	qt	10/14/2015
0001385201		LATEX ENAMEL	12	oz	10/14/2015
0001353750	431-35-6	3-Bromo-1,1,1-trifluoroacetone	5	gm	10/14/2015
0001385219		OIL BASE WOOD STAIN	8	oz	10/14/2015
0001353752	40949-94-8	POTASSIUM BIS(TRIMETHYLSILYL)AMIDE	25	gm	10/14/2015
0001353753	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353754	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353755	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353756	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001385199		WELD-ON 3 ACRYLIC	32	qt	10/14/2015
0001353758	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001356199	109-99-9	TETRAHYDROFURAN	4	l	10/14/2015
0001353796	79-31-2	ISOBUTYRIC ACID	500	ml	10/14/2015
0001356198		LAM-MS	500	ugm	10/14/2015
0001356197		LAM-MS	500	ugm	10/14/2015
0001353768	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353795	1120-21-4	UNDECANE	100	ml	10/14/2015
0001353761	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353797	694-53-1	PHENYLSILANE	5	gm	10/14/2015
0001353798	694-53-1	PHENYLSILANE	5	gm	10/14/2015
0001353763	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001353762	594-61-6	2-HYDROXYISOBUTYRIC ACID	100	gm	10/14/2015
0001356196		LAM-MS	500	ugm	10/14/2015
0001383517		COTE ALL SAFETY YELLOW	1	gal	10/15/2015
0001383522		PSX 700 LIGHT TINT RESIN	1	gal	10/15/2015
0001383526		PSX 700 CURE	1	qt	10/15/2015
0001383520		PSX 700 CURE	1	qt	10/15/2015
0001383521		PSX 700 CURE	1	qt	10/15/2015
0001383529		VITA-D-CHLOR	5	gal	10/15/2015
0001383523		PSX 700 LIGHT TINT RESIN	1	gal	10/15/2015
0001383528		VITA-D-CHLOR	5	gal	10/15/2015
0001383527		VITA-D-CHLOR	5	gal	10/15/2015
0001383530		VITA-D-CHLOR	5	gal	10/15/2015
0001383516		COTE ALL SAFETY YELLOW	1	gal	10/15/2015
0001383518		COTE ALL SAFETY YELLOW	1	gal	10/15/2015
0001383519		COTE ALL SAFETY YELLOW	1	gal	10/15/2015
0001383508		PSX 700 CURE	1	qt	10/15/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001383512		PSX 700 pearl gray resin	1	gal	10/15/2015
0001383513		PSX 700 pearl gray resin	1	gal	10/15/2015
0001383514		PSX 700 pearl gray resin	1	gal	10/15/2015
0001383515		PSX 700 pearl gray resin	1	gal	10/15/2015
0001394580		5080 PRESSURE SENSITIVE ADHESIVE	4	gal	10/15/2015
0001383506		PSX 700 CURE	1	qt	10/15/2015
0001383507		PSX 700 CURE	1	qt	10/15/2015
0001383524		COTE ALL SAFETY YELLOW	1	gal	10/15/2015
0001383509		PSX 700 CURE	1	qt	10/15/2015
0001383510		PSX 700 CURE	1	qt	10/15/2015
0001383511		PSX 700 CURE	1	qt	10/15/2015
0001383525		PSX 700 CURE	1	qt	10/15/2015
0001144656		SILVER NITRATE APPLICATORS	6	gm	10/15/2015
0001394645		NON-SHRINK GROUT	50	lb	10/15/2015
0001397146		95% NITROGEN/5% HYDROGEN	220	cf	10/16/2015
0001397147		95% NITROGEN/5% HYDROGEN	220	cf	10/16/2015
0001397148	74-86-2	ACETYLENE	10	lb	10/16/2015
0001397142		95% NITROGEN/5% HYDROGEN	220	cf	10/16/2015
0001397141	7440-59-7	HELIUM	220	cf	10/16/2015
0001397128	7440-59-7	HELIUM	220	cf	10/16/2015
0001397140	7440-59-7	HELIUM	220	cf	10/16/2015
0001397127	7440-59-7	HELIUM	220	cf	10/16/2015
0001397143		95% NITROGEN/5% HYDROGEN	220	cf	10/16/2015
0001397136	7440-59-7	HELIUM	220	cf	10/16/2015
0001397144		95% NITROGEN/5% HYDROGEN	220	cf	10/16/2015
0001397129	7440-59-7	HELIUM	220	cf	10/16/2015
0001397137	7440-59-7	HELIUM	220	cf	10/16/2015
0001397135	7440-59-7	HELIUM	220	cf	10/16/2015
0001397134	7440-59-7	HELIUM	220	cf	10/16/2015
0001397138	7440-59-7	HELIUM	220	cf	10/16/2015
0001397139	7440-59-7	HELIUM	220	cf	10/16/2015
0001397133	7440-59-7	HELIUM	220	cf	10/16/2015
0001397132	7440-59-7	HELIUM	220	cf	10/16/2015
0001397131	7440-59-7	HELIUM	220	cf	10/16/2015
0001397130	7440-59-7	HELIUM	220	cf	10/16/2015
0001397145		95% NITROGEN/5% HYDROGEN	220	cf	10/16/2015
0001397049		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397103	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397073	811-97-2	AIR	220	cf	10/16/2015
0001397105	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397104	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397062		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397053		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397055		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397056		94% ARGON/6% HYDROGEN	220	cf	10/16/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397057		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397058		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397059		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397070	811-97-2	AIR	220	cf	10/16/2015
0001397061		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397050		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397063		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397149	64742-65-0	PUMP OIL	1	gal	10/16/2015
0001397066		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397071	811-97-2	AIR	220	cf	10/16/2015
0001397068	811-97-2	AIR	220	cf	10/16/2015
0001410320		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/16/2015
0001397060		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397041	7440-37-1	ARGON, COMPRESSED	100	l	10/16/2015
0001410321		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/16/2015
0001410322		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/16/2015
0001410323		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/16/2015
0001410324		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/16/2015
0001410325		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/16/2015
0001410326		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/16/2015
0001397052		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397040	7440-37-1	ARGON, COMPRESSED	100	l	10/16/2015
0001397051		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397042	74-98-6	PROPANE	50	lb	10/16/2015
0001397043	74-98-6	PROPANE	50	lb	10/16/2015
0001397044	74-98-6	PROPANE	50	lb	10/16/2015
0001397045	74-98-6	PROPANE	50	lb	10/16/2015
0001397047	74-98-6	PROPANE	50	lb	10/16/2015
0001397048	74-98-6	PROPANE	50	lb	10/16/2015
0001397072	811-97-2	AIR	220	cf	10/16/2015
0001397039	7440-37-1	ARGON, COMPRESSED	100	l	10/16/2015
0001397054		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397093		Nitrogen UHP	220	cf	10/16/2015
0001397094		Nitrogen UHP	220	cf	10/16/2015
0001397095		Nitrogen UHP	220	cf	10/16/2015
0001397096		Nitrogen UHP	220	cf	10/16/2015
0001397084		Nitrogen UHP	220	cf	10/16/2015
0001397097		Nitrogen UHP	220	cf	10/16/2015
0001397069	811-97-2	AIR	220	cf	10/16/2015
0001397065		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397089		Nitrogen UHP	220	cf	10/16/2015
0001397115	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001397102	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397101		Nitrogen UHP	220	cf	10/16/2015
0001397100		Nitrogen UHP	220	cf	10/16/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397099		Nitrogen UHP	220	cf	10/16/2015
0001397098		Nitrogen UHP	220	cf	10/16/2015
0001397046	74-98-6	PROPANE	50	lb	10/16/2015
0001397082		Nitrogen UHP	220	cf	10/16/2015
0001397074	811-97-2	AIR	220	cf	10/16/2015
0001397075	811-97-2	AIR	220	cf	10/16/2015
0001397076	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/16/2015
0001397077	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/16/2015
0001397078	124-38-9	CARBON DIOXIDE, GAS	220	cf	10/16/2015
0001397079		Nitrogen UHP	220	cf	10/16/2015
0001397092		Nitrogen UHP	220	cf	10/16/2015
0001397081		Nitrogen UHP	220	cf	10/16/2015
0001397091		Nitrogen UHP	220	cf	10/16/2015
0001397083		Nitrogen UHP	220	cf	10/16/2015
0001397085		Nitrogen UHP	220	cf	10/16/2015
0001397086		Nitrogen UHP	220	cf	10/16/2015
0001397090		Nitrogen UHP	220	cf	10/16/2015
0001397087		Nitrogen UHP	220	cf	10/16/2015
0001397088		Nitrogen UHP	220	cf	10/16/2015
0001397064		94% ARGON/6% HYDROGEN	220	cf	10/16/2015
0001397080		Nitrogen UHP	220	cf	10/16/2015
0001397110	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397120	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001397119	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001397106	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397117	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001397114	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397113	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397121	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001397111	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397118	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001397109	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397108	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397107	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001410319		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/16/2015
0001397067	811-97-2	AIR	220	cf	10/16/2015
0001397150	64742-65-0	PUMP OIL	1	gal	10/16/2015
0001397112	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	10/16/2015
0001397116	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001397122	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001397126	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001397125	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001397124	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001397123	7440-37-1	ARGON ULTRA HIGH PURITY	220	cf	10/16/2015
0001410318		3M SUPER 77 SPRAY ADHESIVE	16.75	oz	10/16/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001178969		PRIMER PART B	2.2	qt	10/19/2015
0001178978		PRIMER PART B	2.2	qt	10/19/2015
0001178964		PRIMER PART B	2.2	qt	10/19/2015
0001178981		PRIMER PART B	2.2	qt	10/19/2015
0001178965		PRIMER PART B	2.2	qt	10/19/2015
0001178966		PRIMER PART B	2.2	qt	10/19/2015
0001178968		PRIMER PART B	2.2	qt	10/19/2015
0001178979		PRIMER PART B	2.2	qt	10/19/2015
0001178970		PRIMER PART B	2.2	qt	10/19/2015
0001178977		PRIMER PART B	2.2	qt	10/19/2015
0001178961		PRIMER PART B	2.2	qt	10/19/2015
0001178980		PRIMER PART B	2.2	qt	10/19/2015
0001178967		PRIMER PART B	2.2	qt	10/19/2015
0001178971		PRIMER PART B	2.2	qt	10/19/2015
0001178956		PRIMER PART B	2.2	qt	10/19/2015
0001178982		PRIMER PART B	2.2	qt	10/19/2015
0001178955		PRIMER PART B	2.2	qt	10/19/2015
0001178954		PRIMER PART B	2.2	qt	10/19/2015
0001178953		PRIMER PART B	2.2	qt	10/19/2015
0001178957		PRIMER PART B	2.2	qt	10/19/2015
0001178963		PRIMER PART B	2.2	qt	10/19/2015
0001178959		PRIMER PART B	2.2	qt	10/19/2015
0001178976		PRIMER PART B	2.2	qt	10/19/2015
0001178972		PRIMER PART B	2.2	qt	10/19/2015
0001178973		PRIMER PART B	2.2	qt	10/19/2015
0001178960		PRIMER PART B	2.2	qt	10/19/2015
0001178962		PRIMER PART B	2.2	qt	10/19/2015
0001178974		PRIMER PART B	2.2	qt	10/19/2015
0001178975		PRIMER PART B	2.2	qt	10/19/2015
0001178958		PRIMER PART B	2.2	qt	10/19/2015
0001353805	7647-01-0	HYDROCHLORIC ACID, CONCENTRATED (36-37%)	2.5	l	10/19/2015
0001178986		PRIMER PART B	2.2	qt	10/19/2015
0001178985		PRIMER PART B	2.2	qt	10/19/2015
0001178984		PRIMER PART B	2.2	qt	10/19/2015
0001178983		PRIMER PART B	2.2	qt	10/19/2015
0001393366		KROIL	1	gal	10/19/2015
0001353810	141-78-6	ETHYL ACETATE	4	l	10/19/2015
0001353808	7647-01-0	HYDROCHLORIC ACID, CONCENTRATED (36-37%)	2.5	l	10/19/2015
0001178987		PRIMER PART B	2.2	qt	10/19/2015
0001353806	7647-01-0	HYDROCHLORIC ACID, CONCENTRATED (36-37%)	2.5	l	10/19/2015
0001353807	7647-01-0	HYDROCHLORIC ACID, CONCENTRATED (36-37%)	2.5	l	10/19/2015
0001356205	1310-58-3	POTASSIUM HYDROXIDE	500	gm	10/19/2015
0001385509	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	10/19/2015
0001356234	109-99-9	TETRAHYDROFURAN	1	l	10/19/2015
0001356231	109-99-9	TETRAHYDROFURAN	1	l	10/19/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353800	111-95-5	BIS(2-METHOXYETHYL)AMINE	250	ml	10/19/2015
0001353799	99326-34-8	BIS(1,5-CYCLOOCTADIENE)RH	1	gm	10/19/2015
0001356203	1665-00-5	DICHLOROMETHANE-D2	10	gm	10/19/2015
0001353811		FORMULA 2011	55	gal	10/19/2015
0001356204	67-64-1	ACETONE	500	ml	10/19/2015
0001356208	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001356233	109-99-9	TETRAHYDROFURAN	1	l	10/19/2015
0001356202	1665-00-5	DICHLOROMETHANE-D2	10	gm	10/19/2015
0001356235	109-99-9	TETRAHYDROFURAN	1	l	10/19/2015
0001356206	1310-58-3	POTASSIUM HYDROXIDE	500	gm	10/19/2015
0001356207	1310-73-2	SODIUM HYDROXIDE	1	kg	10/19/2015
0001353803	1066-45-1	TRIMETHYLTIN CHLORIDE	50	gm	10/19/2015
0001353802	1332-58-7	KAOLIN	500	gm	10/19/2015
0001355933	69011-20-7	AG 50W-X8 RESIN	100	gm	10/19/2015
0001353814		FORMULA 2011	55	gal	10/19/2015
0001353813		FORMULA 2011	55	gal	10/19/2015
0001353812		FORMULA 2011	55	gal	10/19/2015
0001353801	109-73-9	BUTYLAMINE	250	ml	10/19/2015
0001353809	73513-42-5	HEXANES, NORMAL	4	l	10/19/2015
0001356232	109-99-9	TETRAHYDROFURAN	1	l	10/19/2015
0001356214	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001356222		ANGSTROM BOND AB9110	2.5	gm	10/19/2015
0001356221		ANGSTROM BOND AB9110	2.5	gm	10/19/2015
0001356220		ANGSTROM BOND AB9110	2.5	gm	10/19/2015
0001356219	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001356218	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001356217	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001356224		ANGSTROM BOND AB9110	2.5	gm	10/19/2015
0001356215	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001356225		ANGSTROM BOND AB9110	2.5	gm	10/19/2015
0001356213	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001356212	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001385513	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	10/19/2015
0001385512	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	10/19/2015
0001385511	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	10/19/2015
0001385510	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	10/19/2015
0001356216	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001385508	7681-52-9	SODIUM HYPOCHLORITE	330	gal	10/19/2015
0001356210	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001356223		ANGSTROM BOND AB9110	2.5	gm	10/19/2015
0001356211	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001356209	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/19/2015
0001356230	109-99-9	TETRAHYDROFURAN	1	l	10/19/2015
0001356229		ANGSTROM BOND AB9110	2.5	gm	10/19/2015
0001356228		ANGSTROM BOND AB9110	2.5	gm	10/19/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001356227		ANGSTROM BOND AB9110	2.5	gm	10/19/2015
0001356226		ANGSTROM BOND AB9110	2.5	gm	10/19/2015
0001355867	517-60-2	Mellitic acid	1	gm	10/20/2015
0001355875	91-20-3	NAPHTHALENE	25	gm	10/20/2015
0001355874	123-42-2	4-HYDROXY-4-METHYL-2-PENTANONE	25	ml	10/20/2015
0001355869	85-01-8	PHENANTHRENE	25	gm	10/20/2015
0001355868	144-62-7	OXALIC ACID	50	gm	10/20/2015
0001054739		SUPER GLUE	.14	oz	10/20/2015
0001281873		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281542		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001355857	141-05-9	DIETHYL MALEATE	1	kg	10/20/2015
0001281539		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001281540		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001281541		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001281843		MOBIL 1 MOTOR OIL	1	qt	10/20/2015
0001281179		WD-40	11	oz	10/20/2015
0001281853		Loctite 545 Thread Sealant	1.69	oz	10/20/2015
0001385523	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/20/2015
0001355865	21860-03-7	2,5-DI-TERT-BUTYLANILINE	10	gm	10/20/2015
0001355866	12325-31-4	Sodium hexahydroxyplatinate(IV)	1	gm	10/20/2015
0001355876	56-40-6	GLYCINE	50	gm	10/20/2015
0001355878	3326-32-7	FLUORESCEIN ISOTHIOCYANATE	1	gm	10/20/2015
0001356236	7440-05-3	PALLADIUM	1	gm	10/20/2015
0001356238	1985-58-6	1,4-Bis(2-phenylethyl)benzene	1	gm	10/20/2015
0001385520	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/20/2015
0001353817	Multi	CS12A Eluent Concentrate	100	ml	10/20/2015
0001385522	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/20/2015
0001353820		DE-SOLV-IT MULTI PURPOSE SOLVENT	1	gal	10/20/2015
0001385524	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/20/2015
0001385519	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/20/2015
0001356237	67-63-0	ISOPROPYL ALCOHOL	4	l	10/20/2015
0001281851		MOBIL VELOCITE OIL NO. 3	5	gal	10/20/2015
0001281855		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281180		WD-40	11	oz	10/20/2015
0001281538		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001385521	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/20/2015
0001281869		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281857		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281858		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281859		PREMIUM MOTOR OIL	1	qt	10/20/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281860		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281861		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281862		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281863		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281864		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281865		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281866		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281856		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281537		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001281868		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281877		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281871		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281872		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281854		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001355858	7773-01-5	MANGANESE(II) CHLORIDE	5	gm	10/20/2015
0001355859	7773-01-5	MANGANESE(II) CHLORIDE	5	gm	10/20/2015
0001355860	15238-00-3	COBALT(II) IODIDE	1	gm	10/20/2015
0001281876		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281875		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281874		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281867		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001281181		WD-40	1	gal	10/20/2015
0001281870		PREMIUM MOTOR OIL	1	qt	10/20/2015
0001355877	36877-69-7	RHODAMINE B ISOTHIOCYANATE	1	gm	10/20/2015
0001281535		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001281533		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001281532		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001281531		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001281534		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001281182		WD-40	1	gal	10/20/2015
0001281850		MOBIL 1 MOTOR OIL	1	qt	10/20/2015
0001281849		MOBIL 1 MOTOR OIL	1	qt	10/20/2015
0001281848		MOBIL 1 MOTOR OIL	1	qt	10/20/2015
0001281536		FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP SEALANT	300	ml	10/20/2015
0001281847		MOBIL 1 MOTOR OIL	1	qt	10/20/2015
0001281846		MOBIL 1 MOTOR OIL	1	qt	10/20/2015
0001281845		MOBIL 1 MOTOR OIL	1	qt	10/20/2015
0001281844		MOBIL 1 MOTOR OIL	1	qt	10/20/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001281852		MOBIL VELOCITE OIL NO. 3	5	gal	10/20/2015
0001397176	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	10/20/2015
0001397175	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	10/20/2015
0001353824		Trypticase Peptone	454	gm	10/20/2015
0001353825	25155-30-0	SODIUM DODECYLBENZENESULFONATE	500	gm	10/20/2015
0001397172	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/20/2015
0001397174	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	10/20/2015
0001397173	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/20/2015
0001397160		Nitrogen UHP	220	cf	10/20/2015
0001353823		Trypticase Peptone	454	gm	10/20/2015
0001397159		Nitrogen UHP	220	cf	10/20/2015
0001397151		Nitrogen UHP	220	cf	10/20/2015
0001397153		Nitrogen UHP	220	cf	10/20/2015
0001397154		Nitrogen UHP	220	cf	10/20/2015
0001397155		Nitrogen UHP	220	cf	10/20/2015
0001353872		ferrous sulfamate	250	gm	10/20/2015
0001397156		Nitrogen UHP	220	cf	10/20/2015
0001397162		Nitrogen UHP	220	cf	10/20/2015
0001397158		Nitrogen UHP	220	cf	10/20/2015
0001397167		Nitrogen UHP	220	cf	10/20/2015
0001397161		Nitrogen UHP	220	cf	10/20/2015
0001397152		Nitrogen UHP	220	cf	10/20/2015
0001397163		Nitrogen UHP	220	cf	10/20/2015
0001397164		Nitrogen UHP	220	cf	10/20/2015
0001397165		Nitrogen UHP	220	cf	10/20/2015
0001397166		Nitrogen UHP	220	cf	10/20/2015
0001397157		Nitrogen UHP	220	cf	10/20/2015
0001353818	Multi	CS12A Eluent Concentrate	100	ml	10/20/2015
0001385526		SOY GEL PAINT STRIPPER	1	gal	10/20/2015
0001397168		Nitrogen UHP	220	cf	10/20/2015
0001397169		Nitrogen UHP	220	cf	10/20/2015
0001397170		Nitrogen UHP	220	cf	10/20/2015
0001397171	74-98-6	PROPANE (FUEL)	57	gal	10/20/2015
0001385525		SOY GEL PAINT STRIPPER	1	gal	10/20/2015
0001353822		Trypticase Peptone	454	gm	10/20/2015
0001355851	75-05-8	ACETONITRILE	4	l	10/20/2015
0001353819	Multi	CS12A Eluent Concentrate	100	ml	10/20/2015
0001355850	67-68-5	DIMETHYL SULFOXIDE	500	ml	10/20/2015
0001353816	64-17-5	ETHYL ALCOHOL, PURE	4	l	10/20/2015
0001353815	64-17-5	ETHYL ALCOHOL, PURE	4	l	10/20/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353804	64-17-5	ETHYL ALCOHOL	4	l	10/20/2015
0001397179	75-45-6	CHLORODIFLUOROMETHANE	30	lb	10/20/2015
0001397178	75-45-6	CHLORODIFLUOROMETHANE	30	lb	10/20/2015
0001397177	75-45-6	CHLORODIFLUOROMETHANE	30	lb	10/20/2015
0001054738		SUPER GLUE	.14	oz	10/20/2015
0001353821		Trypticase Peptone	454	gm	10/20/2015
0001353882		ferrous sulfamate	250	gm	10/20/2015
0001353874		ferrous sulfamate	250	gm	10/20/2015
0001353875		ferrous sulfamate	250	gm	10/20/2015
0001353876		ferrous sulfamate	250	gm	10/20/2015
0001353877		ferrous sulfamate	250	gm	10/20/2015
0001353878		ferrous sulfamate	250	gm	10/20/2015
0001353879		ferrous sulfamate	250	gm	10/20/2015
0001355856	10035-10-6	HYDROBROMIC ACID	250	ml	10/20/2015
0001353881		ferrous sulfamate	250	gm	10/20/2015
0001353873		ferrous sulfamate	250	gm	10/20/2015
0001353883		ferrous sulfamate	250	gm	10/20/2015
0001353884		ferrous sulfamate	250	gm	10/20/2015
0001353885		ferrous sulfamate	250	gm	10/20/2015
0001353886		ferrous sulfamate	250	gm	10/20/2015
0001353887		ferrous sulfamate	250	gm	10/20/2015
0001355847		EA-1000	70	gm	10/20/2015
0001355848	60-29-7	ETHYL ETHER	1	l	10/20/2015
0001355849	60-29-7	ETHYL ETHER	1	l	10/20/2015
0001353880		ferrous sulfamate	250	gm	10/20/2015
0001355965	108-20-3	ISOPROPYL ETHER	500	ml	10/21/2015
0001179057		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179056		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179055		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179054		BASF PRIMER PART A	8.2	lb	10/21/2015
0001355963	108-20-3	ISOPROPYL ETHER	500	ml	10/21/2015
0001179053		BASF PRIMER PART A	8.2	lb	10/21/2015
0001355964	108-20-3	ISOPROPYL ETHER	500	ml	10/21/2015
0001179052		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179048		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179050		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179047		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179049		BASF PRIMER PART A	8.2	lb	10/21/2015
0001355966	108-20-3	ISOPROPYL ETHER	500	ml	10/21/2015
0001384226		BASF PUTTY PART B	2.4	lb	10/21/2015
0001355967	108-20-3	ISOPROPYL ETHER	500	ml	10/21/2015
0001179046		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179051		BASF PRIMER PART A	8.2	lb	10/21/2015
0001384230		BASF PUTTY PART B	2.4	lb	10/21/2015
0001355962	108-20-3	ISOPROPYL ETHER	500	ml	10/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001356017		3M Thermally Conductive Adhesive TC-2707	37	ml	10/21/2015
0001179042		BASF PRIMER PART A	8.2	lb	10/21/2015
0001355980	7440-05-3	PALLADIUM	25	gm	10/21/2015
0001384231		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384232		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384233		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384234		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384224		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384236		BASF PUTTY PART B	2.4	lb	10/21/2015
0001179058		BASF PRIMER PART A	8.2	lb	10/21/2015
0001384229		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384228		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384227		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384225		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384223		BASF PUTTY PART B	2.4	lb	10/21/2015
0001179062		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179061		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179060		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179059		BASF PRIMER PART A	8.2	lb	10/21/2015
0001384235		BASF PUTTY PART B	2.4	lb	10/21/2015
0001179029		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179036		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179000		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179001		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179002		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179003		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179004		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179005		BASF PUTTY PART A	8.2	lb	10/21/2015
0001178998		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179044		BASF PRIMER PART A	8.2	lb	10/21/2015
0001178997		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179030		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179031		BASF PRIMER PART A	8.2	lb	10/21/2015
0001331806		SANFORD EXPO CLEANER FOR DRY ERASE	22	oz	10/21/2015
0001179032		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179033		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179034		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179045		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179006		BASF PUTTY PART A	8.2	lb	10/21/2015
0001355995		ENSOLV-IONIC	1	gal	10/21/2015
0001355981	1317-34-6	MANGANESE(III) OXIDE	500	gm	10/21/2015
0001355958		URANIUM STANDARD	125	ml	10/21/2015
0001355955	10031-22-8	LEAD BROMIDE	100	gm	10/21/2015
0001356016		3M Thermally Conductive Adhesive TC-2707	37	ml	10/21/2015
0001356015		3M Thermally Conductive Adhesive TC-2707	37	ml	10/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001356014		CONDUCTIVITY STANDARD	5	ml	10/21/2015
0001356012	64-17-5	ETHYL ALCOHOL (ETHANOL)	500	ml	10/21/2015
0001178999		BASF PUTTY PART A	8.2	lb	10/21/2015
0001356008	141-79-7	MESITYL OXIDE	100	gm	10/21/2015
0001179037		BASF PRIMER PART A	8.2	lb	10/21/2015
0001355990		Cooper's Own Self Dissolving Lily Tabs	40	gm	10/21/2015
0001355982	7790-33-2	Manganese (II) iodide, anhydrous	1	gm	10/21/2015
0001178992		BASF PUTTY PART A	8.2	lb	10/21/2015
0001178993		BASF PUTTY PART A	8.2	lb	10/21/2015
0001178994		BASF PUTTY PART A	8.2	lb	10/21/2015
0001178995		BASF PUTTY PART A	8.2	lb	10/21/2015
0001178996		BASF PUTTY PART A	8.2	lb	10/21/2015
0001356011	7782-42-5	Single Layer Graphene Oxide	2500	ml	10/21/2015
0001355988	518-47-8	FLUORESCEIN SODIUM SALT	1	mg	10/21/2015
0001179035		BASF PRIMER PART A	8.2	lb	10/21/2015
0001353833	112-30-1	1-DECANOL	500	gm	10/21/2015
0001353832	10287-53-3	ETHYL 4-(DIMETHYLAMINO)BENZOATE	100	gm	10/21/2015
0001353831	10287-53-3	ETHYL 4-(DIMETHYLAMINO)BENZOATE	100	gm	10/21/2015
0001353830	10287-53-3	ETHYL 4-(DIMETHYLAMINO)BENZOATE	100	gm	10/21/2015
0001353864	1064-10-4	Hexaphenylditin(IV)	5	gm	10/21/2015
0001353865	1064-10-4	Hexaphenylditin(IV)	5	gm	10/21/2015
0001353903	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/21/2015
0001355987	518-47-8	FLUORESCEIN SODIUM SALT	1	mg	10/21/2015
0001353904	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/21/2015
0001355952	Multi	ICP-MS-68B Solution A	250	ml	10/21/2015
0001355953	1513-65-1	2,6-Difluoropyridine	100	gm	10/21/2015
0001355954	10031-22-8	LEAD BROMIDE	100	gm	10/21/2015
0001355956	563-63-3	SILVER ACETATE	25	gm	10/21/2015
0001355957		URANIUM STANDARD	125	ml	10/21/2015
0001355959	103068-20-8	5'-Bromo-1,1':3',1"-terphenyl	10	gm	10/21/2015
0001355960	103068-20-8	5'-Bromo-1,1':3',1"-terphenyl	10	gm	10/21/2015
0001355986	518-47-8	FLUORESCEIN SODIUM SALT	1	mg	10/21/2015
0001353913	530-48-3	1,1-DIPHENYLETHYLENE	25	gm	10/21/2015
0001179038		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179039		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179040		BASF PRIMER PART A	8.2	lb	10/21/2015
0001179041		BASF PRIMER PART A	8.2	lb	10/21/2015
0001353834	1193-18-6	3-METHYL-2-CYCLOHEXENE-1-ONE	10	gm	10/21/2015
0001179043		BASF PRIMER PART A	8.2	lb	10/21/2015
0001356019	12069-89-5	DIMOLYBDENUM CARBIDE	25	gm	10/21/2015
0001353835	109-49-9	5-HEXEN-2-ONE	5	gm	10/21/2015
0001353914	530-48-3	1,1-DIPHENYLETHYLENE	5	gm	10/21/2015
0001355961	124215-44-7	2-(3-Bromopropyl)-4,4,5,5-tetramethyl-1,3,2-dioxaborolane	25	gm	10/21/2015
0001353911	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/21/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353910	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/21/2015
0001353909	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/21/2015
0001353908	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/21/2015
0001353907	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/21/2015
0001353906	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/21/2015
0001353905	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/21/2015
0001353915	7790-33-2	Manganese (II) iodide, anhydrous	2	gm	10/21/2015
0001179018		BASF PUTTY PART A	8.2	lb	10/21/2015
0001384251		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384252		BASF PUTTY PART B	2.4	lb	10/21/2015
0001353902	137-05-3	PERMABOND 910 ADHESIVE	1	oz	10/21/2015
0001384243		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384242		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384240		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384238		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384237		BASF PUTTY PART B	2.4	lb	10/21/2015
0001394857		fast setting cement	50	lb	10/21/2015
0001178991		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179014		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179015		BASF PUTTY PART A	8.2	lb	10/21/2015
0001384250		BASF PUTTY PART B	2.4	lb	10/21/2015
0001179017		BASF PUTTY PART A	8.2	lb	10/21/2015
0001384241		BASF PUTTY PART B	2.4	lb	10/21/2015
0001179019		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179020		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179021		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179022		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179023		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179024		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179025		BASF PUTTY PART A	8.2	lb	10/21/2015
0001179026		BASF PUTTY PART A	8.2	lb	10/21/2015
0001353866	19752-55-7	1-BROMO-3,5-DICHLOROBENZENE	100	gm	10/21/2015
0001353826		NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	gal	10/21/2015
0001353827	10373-78-1	CAMPHORQUINONE	5	gm	10/21/2015
0001353828	10373-78-1	CAMPHORQUINONE	5	gm	10/21/2015
0001353829	10373-78-1	CAMPHORQUINONE	5	gm	10/21/2015
0001179016		BASF PUTTY PART A	8.2	lb	10/21/2015
0001394855		fast setting cement	50	lb	10/21/2015
0001384249		BASF PUTTY PART B	2.4	lb	10/21/2015
0001394848		fast setting cement	50	lb	10/21/2015
0001384239		BASF PUTTY PART B	2.4	lb	10/21/2015
0001394850		fast setting cement	50	lb	10/21/2015
0001394851		fast setting cement	50	lb	10/21/2015
0001394852		fast setting cement	50	lb	10/21/2015
0001394846		fast setting cement	50	lb	10/21/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394854		fast setting cement	50	lb	10/21/2015
0001394847		fast setting cement	50	lb	10/21/2015
0001394856		fast setting cement	50	lb	10/21/2015
0001355983	540-69-2	AMMONIUM FORMATE	50	gm	10/21/2015
0001394862		fast setting cement	50	lb	10/21/2015
0001394861		fast setting cement	50	lb	10/21/2015
0001394860		fast setting cement	50	lb	10/21/2015
0001394859		fast setting cement	50	lb	10/21/2015
0001394858		fast setting cement	50	lb	10/21/2015
0001394853		fast setting cement	50	lb	10/21/2015
0001394844		fast setting cement	50	lb	10/21/2015
0001394849		fast setting cement	50	lb	10/21/2015
0001384246		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384244		BASF PUTTY PART B	2.4	lb	10/21/2015
0001179027		BASF PUTTY PART A	8.2	lb	10/21/2015
0001384247		BASF PUTTY PART B	2.4	lb	10/21/2015
0001384245		BASF PUTTY PART B	2.4	lb	10/21/2015
0001394843		fast setting cement	50	lb	10/21/2015
0001394845		fast setting cement	50	lb	10/21/2015
0001384248		BASF PUTTY PART B	2.4	lb	10/21/2015
0001353895		ANGSTROMBOND	2.5	gm	10/21/2015
0001353891		ANGSTROMBOND	2.5	gm	10/21/2015
0001004895		WD-40 AEROSOL	14.4	oz	10/21/2015
0001004896		WD-40 AEROSOL	14.4	oz	10/21/2015
0001353912	917-61-3	SODIUM ISOCYANATE	100	gm	10/21/2015
0001353898		ANGSTROMBOND	2.5	gm	10/21/2015
0001353897		ANGSTROMBOND	2.5	gm	10/21/2015
0001353896		ANGSTROMBOND	2.5	gm	10/21/2015
0001353868	5176-27-2	TERT-BUTYL 1-PYRROLECARBOXYLATE	100	ml	10/21/2015
0001353892		ANGSTROMBOND	2.5	gm	10/21/2015
0001385534	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/21/2015
0001353890		ANGSTROMBOND	2.5	gm	10/21/2015
0001353889	308080-99-1	MOLECULAR SIEVES 3A, POWDER	1	kg	10/21/2015
0001353888	12125-02-9	AMMONIUM CHLORIDE	500	gm	10/21/2015
0001353871	19955-99-8	3-Vinylbenzaldehyde	5	gm	10/21/2015
0001353870	73183-34-3	BIS(PIACOLATO)DIBORON	25	gm	10/21/2015
0001353893		ANGSTROMBOND	2.5	gm	10/21/2015
0001353894		ANGSTROMBOND	2.5	gm	10/21/2015
0001356021	504-20-1	2,6-Dimethyl-2,5-heptadien-4-one	5	gm	10/21/2015
0001355989	420-04-2	CYANAMIDE	1000	gm	10/21/2015
0001355985	518-47-8	FLUORESCEIN SODIUM SALT	1	mg	10/21/2015
0001355984		QC CHECK NUT. VIAL #1	25	ml	10/21/2015
0001353901		ANGSTROMBOND	2.5	gm	10/21/2015
0001353900		ANGSTROMBOND	2.5	gm	10/21/2015
0001353899		ANGSTROMBOND	2.5	gm	10/21/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001004894		WD-40 AEROSOL	12	oz	10/21/2015
0001353395	7553-56-2	IODINE REAGENT	100	gm	10/21/2015
0001004893		WD-40 AEROSOL	12	oz	10/21/2015
0001356022	775-12-2	DIPHENYLSILANE	5	gm	10/21/2015
0001385529	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/21/2015
0001385530	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/21/2015
0001385531	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/21/2015
0001385532	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/21/2015
0001385533	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/21/2015
0001353867	5176-27-2	TERT-BUTYL 1-PYRROLECARBOXYLATE	100	ml	10/21/2015
0001356020	20667-12-3	SILVER OXIDE	10	gal	10/21/2015
0001356006		ENSOLV-IONIC	1	gal	10/21/2015
0001353869	328-70-1	3,5-BIS(TRIFLUOROMETHYL)BROMOBENZENE	50	gm	10/21/2015
0001355999		ENSOLV-IONIC	1	gal	10/21/2015
0001356000		ENSOLV-IONIC	1	gal	10/21/2015
0001356001		ENSOLV-IONIC	1	gal	10/21/2015
0001356002		ENSOLV-IONIC	1	gal	10/21/2015
0001356003		ENSOLV-IONIC	1	gal	10/21/2015
0001355997		ENSOLV-IONIC	1	gal	10/21/2015
0001356005		ENSOLV-IONIC	1	gal	10/21/2015
0001355996		ENSOLV-IONIC	1	gal	10/21/2015
0001356007	60-29-7	DIETHYL ETHER ANHYDROUS	1	l	10/21/2015
0001356009	1076-43-3	BENZENE-D6	50	gm	10/21/2015
0001356010	1076-43-3	BENZENE-D6	50	gm	10/21/2015
0001356013		CONDUCTIVITY STANDARD	5	ml	10/21/2015
0001356018		BOELUBE	1	gal	10/21/2015
0001385527	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	10/21/2015
0001385528	7631-90-5	SODIUM BISULFITE, POWDER	2464	lb	10/21/2015
0001356004		ENSOLV-IONIC	1	gal	10/21/2015
0001355994		Cooper's Own Self Dissolving Lily Tabs	40	gm	10/21/2015
0001355993		Cooper's Own Self Dissolving Lily Tabs	40	gm	10/21/2015
0001355992		Cooper's Own Self Dissolving Lily Tabs	40	gm	10/21/2015
0001353863	1064-10-4	Hexaphenylditin(IV)	5	gm	10/21/2015
0001355991		Cooper's Own Self Dissolving Lily Tabs	40	gm	10/21/2015
0001410327		BUTANE FUEL	5.1	oz	10/21/2015
0001355998		ENSOLV-IONIC	1	gal	10/21/2015
0001397304	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/22/2015
0001397303	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/22/2015
0001397302	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/22/2015
0001397301	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/22/2015
0001397300	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/22/2015
0001397299	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/22/2015
0001397305	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/22/2015
0001397306	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/22/2015
0001397298	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/22/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397297	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/22/2015
0001397257		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397224		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397200		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397193		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397189		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397260		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397296	7440-59-7	HELIUM, ULTRA HIGH PURITY	220	cf	10/22/2015
0001397258		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397256		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397255		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397254		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397222		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397259		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397286	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397312	74-98-6	PROPANE	50	lb	10/22/2015
0001397311	74-98-6	PROPANE	50	lb	10/22/2015
0001397310	74-98-6	PROPANE	50	lb	10/22/2015
0001397309	74-98-6	PROPANE	50	lb	10/22/2015
0001397307	74-98-6	PROPANE	100	lb	10/22/2015
0001397295	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397294	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397293	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397292	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397291	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397272	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397287	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397219		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397285	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397284	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397283	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397282	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397281	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397280	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397279	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397278	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397276	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397275	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397245		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397290	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397231		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397244		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397243		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397242		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397241		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397240		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397239		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397238		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397237		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397236		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397235		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397234		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397313	74-98-6	PROPANE	50	lb	10/22/2015
0001397232		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397314	74-98-6	PROPANE	50	lb	10/22/2015
0001397230		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397229		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397228		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397227		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397226		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397225		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397223		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397335		2% Oxygen/Balance Helium	220	cf	10/22/2015
0001397220		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397308	74-98-6	PROPANE	100	lb	10/22/2015
0001397271	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397233		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397264	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397192		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397191		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397190		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397188		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397187		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397186		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397184	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/22/2015
0001397269	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397268	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397267	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397273	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397265	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397196		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397263	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397262	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397261	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397181	7440-59-7	HELIUM	220	cf	10/22/2015
0001397183	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/22/2015
0001397182	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/22/2015
0001397185		Fluorobenzene in Nitrogen	220	cf	10/22/2015
0001398182	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/22/2015
0001397180	7440-59-7	HELIUM	220	cf	10/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397274	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397277	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397266	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397208		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397270	1333-74-0	HYDROGEN ULTA HIGH PURITY	220	cf	10/22/2015
0001397288	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397289	7727-37-9	NITROGEN ULTRA HIGH PURITY	220	cf	10/22/2015
0001397218		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397217		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397216		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397215		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397214		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397213		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397212		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397211		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397194		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397209		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397195		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397207		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397206		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397205		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397204		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397203		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397202		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397201		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397199		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397198		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397197		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397221		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397210		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397249		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397246		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001394865		TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	gal	10/22/2015
0001394867		TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	gal	10/22/2015
0001394868		TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	gal	10/22/2015
0001394869		TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	gal	10/22/2015
0001397336		15% SULFUR HEXAFLUORIDE IN ARGON	220	cf	10/22/2015
0001397337		15% SULFUR HEXAFLUORIDE IN ARGON	220	cf	10/22/2015
0001397338		15% SULFUR HEXAFLUORIDE IN ARGON	220	cf	10/22/2015
0001397334		Gas mixture, 10% hydrogen, helium balance	220	cf	10/22/2015
0001397248		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001202947	97-64-3	ETHYL LACTATE	1	gal	10/22/2015
0001397250		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397251		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397252		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397253		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397340		15% SULFUR HEXAFLUORIDE IN ARGON	220	cf	10/22/2015
0001397341		15% SULFUR HEXAFLUORIDE IN ARGON	220	cf	10/22/2015
0001397342		15% SULFUR HEXAFLUORIDE IN ARGON	220	cf	10/22/2015
0001397343		15% SULFUR HEXAFLUORIDE IN ARGON	220	cf	10/22/2015
0001397339		15% SULFUR HEXAFLUORIDE IN ARGON	220	cf	10/22/2015
0001397322	74-98-6	PROPANE	50	lb	10/22/2015
0001397331		25% ARGON/75% HELIUM	220	cf	10/22/2015
0001397330		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397329		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397328		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397327		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397326	74-98-6	PROPANE	25	lb	10/22/2015
0001397325	74-98-6	PROPANE	25	lb	10/22/2015
0001397332		25% ARGON/75% HELIUM	220	cf	10/22/2015
0001397333		25% ARGON/75% HELIUM	220	cf	10/22/2015
0001397323	74-98-6	PROPANE	50	lb	10/22/2015
0001394866		TB-3581-5 DIAMOND VOGEL ALKYD MARKING PAINT (YELLOW)	5	gal	10/22/2015
0001397320	74-98-6	PROPANE	50	lb	10/22/2015
0001397319	74-98-6	PROPANE	50	lb	10/22/2015
0001397318	74-98-6	PROPANE	50	lb	10/22/2015
0001397317	74-98-6	PROPANE	50	lb	10/22/2015
0001397316	74-98-6	PROPANE	50	lb	10/22/2015
0001397315	74-98-6	PROPANE	50	lb	10/22/2015
0001397247		P-10 (90% ARGON 10% METHANE)	220	cf	10/22/2015
0001397324	74-98-6	PROPANE	50	lb	10/22/2015
0001397321	74-98-6	PROPANE	50	lb	10/22/2015
0001353930	75-25-2	BROMOFORM	50	gm	10/23/2015
0001269830	7722-84-1	HYDROGEN PEROXIDE, 3%	500	ml	10/23/2015
0001353929	109-66-0	PENTANE	1	l	10/23/2015
0000874661		SUPER GLUE GEL	.35	oz	10/23/2015
0001269833		OIL ISO 68	2	pt	10/23/2015
0001269828		MOBILUX EP-2	14	oz	10/23/2015
0001353931	75-25-2	BROMOFORM	50	gm	10/23/2015
0001353932	63148-57-2	POLYMETHYLHYDROSILOXANE	4	l	10/23/2015
0001269821		MOBILUX EP-2	14	oz	10/23/2015
0000874678		CONATHANE EN-4 PART A URETHANE PREPOLYMER	1	gal	10/23/2015
0001269820		MOBILUX EP-2	14	oz	10/23/2015
0001269822		MOBILUX EP-2	14	oz	10/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001269831	7722-84-1	HYDROGEN PEROXIDE, 3%	500	ml	10/23/2015
0001269824		MOBILUX EP-2	14	oz	10/23/2015
0001269825		MOBILUX EP-2	14	oz	10/23/2015
0001269826		MOBILUX EP-2	14	oz	10/23/2015
0001269827		MOBILUX EP-2	14	oz	10/23/2015
0000874671		OIL ISO 68	2	pt	10/23/2015
0001269823		MOBILUX EP-2	14	oz	10/23/2015
0001355901	36877-69-7	RHODAMINE B ISOTHIOCYANATE	500	mg	10/23/2015
0001353936	14898-67-0	RUTHENIUM(III)CHLORIDE HYDRATE	25	gm	10/23/2015
0001353950	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	10/23/2015
0001353939	623-73-4	ETHYL DIAZOACETATE	25	ml	10/23/2015
0001355894	7719-09-7	THIONYL CHLORIDE	100	ml	10/23/2015
0001355895	7697-37-2	NITRIC ACID FUMING 90%	500	ml	10/23/2015
0001355897	7782-42-5	GRAPHENE, NANO PLATELETS	500	gm	10/23/2015
0001355898	2206-27-1	DIMETHYL SULFOXIDE-D6	100	gm	10/23/2015
0001353952	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	10/23/2015
0001355900	109-49-9	5-HEXEN-2-ONE	25	gm	10/23/2015
0001355902	13477-34-4	CALCIUM NITRATE, TETRAHYDRATE	500	gm	10/23/2015
0001355903	932-66-1	1-Acetyl-1-cyclohexene	5	gm	10/23/2015
0001355904	109-49-9	5-HEXEN-2-ONE	25	gm	10/23/2015
0001355905	712-50-5	CYCLOHEXYL PHENYL KETONE	25	gm	10/23/2015
0001355906	925-90-6	ETHYLMAGNESIUM BROMIDE, 3M SOLN IN ETHER	100	ml	10/23/2015
0001353934		Buffer, Reference Standard	1	l	10/23/2015
0001353935	60177-39-1	AG1-8-X RESIN	500	gm	10/23/2015
0001355899	2206-27-1	DIMETHYL SULFOXIDE-D6	100	gm	10/23/2015
0001353961	7439-95-4	MAGNESIUM	100	gm	10/23/2015
0001353933		GALLIUM STANDARD SOLUTION	125	ml	10/23/2015
0001355914	865-47-4	POTASSIUM-TERT-BUTOXIDE	5	gm	10/23/2015
0001355913	865-47-4	POTASSIUM-TERT-BUTOXIDE	5	gm	10/23/2015
0001355912	14221-01-3	TETRAKIS(TRIPHENYLPHOSPHINE)-PALLADIUM(O)	5	gm	10/23/2015
0001355911	865-47-4	POTASSIUM-TERT-BUTOXIDE	50	ml	10/23/2015
0001355910	865-47-4	POTASSIUM-TERT-BUTOXIDE	50	ml	10/23/2015
0001355909	546-68-9	TITANIUM (IV) ISOPROPOXIDE	100	ml	10/23/2015
0001353951	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	10/23/2015
0001355907	111-78-4	1,5-CYCLOOCTADIENE	800	ml	10/23/2015
0001353949	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	10/23/2015
0001353960	7439-95-4	MAGNESIUM	100	gm	10/23/2015
0001353958	64-17-5	DENATURED ANHYDROUS ETHYL ALCOHOL	1	l	10/23/2015
0001353957	64-17-5	DENATURED ANHYDROUS ETHYL ALCOHOL	1	l	10/23/2015
0001353956	64-17-5	DENATURED ANHYDROUS ETHYL ALCOHOL	1	l	10/23/2015
0001353955	64-17-5	DENATURED ANHYDROUS ETHYL ALCOHOL	1	l	10/23/2015
0001353954	64-17-5	DENATURED ANHYDROUS ETHYL ALCOHOL	1	l	10/23/2015
0001353953	64-17-5	DENATURED ANHYDROUS ETHYL ALCOHOL	1	l	10/23/2015
0001355908	14630-40-1	BIS(TRIMETHYLSILYL)ACETYLENE	50	gm	10/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001353942		QIAquick PCR Purification Kit (50)	250	ml	10/23/2015
0001353940	1119-97-7	MYRISTYLTRIMETHYLAMMONIUM BROMIDE	5	gm	10/23/2015
0001353941		QIAquick PCR Purification Kit (50)	250	ml	10/23/2015
0001355896	7782-42-5	GRAPHENE, NANO PLATELETS	500	gm	10/23/2015
0001353943	110-93-0	6-Methyl-5-hepten-2-one	10	gm	10/23/2015
0001353944	18107-18-1	TRIMETHYLSILYLDIAZOMETHANE	25	ml	10/23/2015
0001353945	109-99-9	TETRAHYDROFURAN	1	l	10/23/2015
0001353946	109-99-9	TETRAHYDROFURAN	1	l	10/23/2015
0001353947	109-99-9	TETRAHYDROFURAN	1	l	10/23/2015
0001353948	109-99-9	TETRAHYDROFURAN	1	l	10/23/2015
0001355920		FORMULA 1152	55	gal	10/23/2015
0001355921		FORMULA 1152	55	gal	10/23/2015
0001355922		FORMULA 1152	30	gal	10/23/2015
0001355919	7647-01-0	HYDROCHLORIC ACID, CONCENTRATED (36-37%)	500	ml	10/23/2015
0001355923		FORMULA 1152	30	gal	10/23/2015
0001353938	623-73-4	ETHYL DIAZOACETATE	25	ml	10/23/2015
0001355915	286-20-4	CYCLOHEXENE OXIDE	100	ml	10/23/2015
0001355917	7647-01-0	HYDROCHLORIC ACID, CONCENTRATED (36-37%)	500	ml	10/23/2015
0001353937	14898-67-0	RUTHENIUM(III)CHLORIDE HYDRATE	25	gm	10/23/2015
0001355916	5456-63-3	trans-2-Aminocyclohexanol hydrochloride	25	gm	10/23/2015
0001355918	7647-01-0	HYDROCHLORIC ACID, CONCENTRATED (36-37%)	500	ml	10/23/2015
0001394957		LYSOL BRAND III	12.5	oz	10/26/2015
0001394975		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001397350	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/26/2015
0001394956		LYSOL BRAND III	12.5	oz	10/26/2015
0001394963		LYSOL BRAND III	12.5	oz	10/26/2015
0001394962		LYSOL BRAND III	12.5	oz	10/26/2015
0001394954		LYSOL BRAND III	12.5	oz	10/26/2015
0001394996		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394964		LYSOL BRAND III	12.5	oz	10/26/2015
0001394958		LYSOL BRAND III	12.5	oz	10/26/2015
0001395007		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395008		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395009		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395010		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394961		LYSOL BRAND III	12.5	oz	10/26/2015
0001394953		LYSOL BRAND III	12.5	oz	10/26/2015
0001394976		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394977		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394978		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394979		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394980		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394955		LYSOL BRAND III	12.5	oz	10/26/2015
0001394952		LYSOL BRAND III	12.5	oz	10/26/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395013		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001397344	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/26/2015
0001397346	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/26/2015
0001394960		LYSOL BRAND III	12.5	oz	10/26/2015
0001397348	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/26/2015
0001397349	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/26/2015
0001394965		LYSOL BRAND III	12.5	oz	10/26/2015
0001394981		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001395026		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394959		LYSOL BRAND III	12.5	oz	10/26/2015
0001394934		LYSOL BRAND III	12.5	oz	10/26/2015
0001394933		LYSOL BRAND III	12.5	oz	10/26/2015
0001394932		LYSOL BRAND III	12.5	oz	10/26/2015
0001394931		LYSOL BRAND III	12.5	oz	10/26/2015
0001394930		LYSOL BRAND III	12.5	oz	10/26/2015
0001394929		LYSOL BRAND III	12.5	oz	10/26/2015
0001394928		LYSOL BRAND III	12.5	oz	10/26/2015
0001394927		LYSOL BRAND III	12.5	oz	10/26/2015
0001394926		LYSOL BRAND III	12.5	oz	10/26/2015
0001395031		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395030		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395029		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395011		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395020		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001397345	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/26/2015
0001395014		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395015		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395016		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395017		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395028		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395019		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395027		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395021		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395022		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395023		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395024		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395025		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395012		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395018		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394985		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394967		LYSOL BRAND III	12.5	oz	10/26/2015
0001395006		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394994		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394993		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394992		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394991		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394990		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394989		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394988		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394971		LYSOL BRAND III	12.5	oz	10/26/2015
0001395004		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394986		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001395003		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394951		LYSOL BRAND III	12.5	oz	10/26/2015
0001394984		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001397347	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	10/26/2015
0001394983		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394982		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394999		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394997		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394998		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394968		LYSOL BRAND III	12.5	oz	10/26/2015
0001394969		LYSOL BRAND III	12.5	oz	10/26/2015
0001394970		LYSOL BRAND III	12.5	oz	10/26/2015
0001394987		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394939		LYSOL BRAND III	12.5	oz	10/26/2015
0001394950		LYSOL BRAND III	12.5	oz	10/26/2015
0001394949		LYSOL BRAND III	12.5	oz	10/26/2015
0001394974		CLEAR PREMIUM ACRYLIC SEALANT	1	gal	10/26/2015
0001394948		LYSOL BRAND III	12.5	oz	10/26/2015
0001394947		LYSOL BRAND III	12.5	oz	10/26/2015
0001394946		LYSOL BRAND III	12.5	oz	10/26/2015
0001394945		LYSOL BRAND III	12.5	oz	10/26/2015
0001394944		LYSOL BRAND III	12.5	oz	10/26/2015
0001394943		LYSOL BRAND III	12.5	oz	10/26/2015
0001355879	7722-84-1	HYDROGEN PEROXIDE, 8-40%	500	ml	10/26/2015
0001394942		LYSOL BRAND III	12.5	oz	10/26/2015
0001395005		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394940		LYSOL BRAND III	12.5	oz	10/26/2015
0001394938		LYSOL BRAND III	12.5	oz	10/26/2015
0001394937		LYSOL BRAND III	12.5	oz	10/26/2015
0001395000		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001395001		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394936		LYSOL BRAND III	12.5	oz	10/26/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394935		LYSOL BRAND III	12.5	oz	10/26/2015
0001394966		LYSOL BRAND III	12.5	oz	10/26/2015
0001395002		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394972		LYSOL BRAND III	12.5	oz	10/26/2015
0001394973		LYSOL BRAND III	12.5	oz	10/26/2015
0001394995		CONCRET BONDING ADHESIVE	1	gal	10/26/2015
0001394941		LYSOL BRAND III	12.5	oz	10/26/2015
0001355880	7722-84-1	HYDROGEN PEROXIDE, 8-40%	500	ml	10/26/2015
0001355883	7722-84-1	HYDROGEN PEROXIDE, 8-40%	500	ml	10/26/2015
0001355882	7722-84-1	HYDROGEN PEROXIDE, 8-40%	500	ml	10/26/2015
0001355881	7722-84-1	HYDROGEN PEROXIDE, 8-40%	500	ml	10/26/2015
0001328396		PERMACRYL eggshell white INTERIOR ACRYLIC DE-1531	1	gal	10/27/2015
0001395109		PIPE THREAD SEALANT	8	oz	10/27/2015
0001328530		HERCULES CLEAR PVC PRIMER	1	qt	10/27/2015
0001328527		OATEY CLEAR CEMENT FOR PVC	1	qt	10/27/2015
0001328685		WEATHER PLATE ACRYLIC LATEX EXTERIOR FINISH	1	gal	10/27/2015
0001328686		WEATHER PLATE ACRYLIC LATEX EXTERIOR FINISH	1	gal	10/27/2015
0001395107		PIPE THREAD SEALANT	8	oz	10/27/2015
0001328687		WEATHER PLATE ACRYLIC LATEX EXTERIOR FINISH	1	gal	10/27/2015
0001328688		WEATHER PLATE ACRYLIC LATEX EXTERIOR FINISH	1	gal	10/27/2015
0001328689		WEATHER PLATE ACRYLIC LATEX EXTERIOR FINISH	1	gal	10/27/2015
0001328690		WEATHER PLATE ACRYLIC LATEX EXTERIOR FINISH	1	gal	10/27/2015
0001328529		HERCULES HEAVY BODY SOLW SET GREY PVC	1	qt	10/27/2015
0001395108		PIPE THREAD SEALANT	8	oz	10/27/2015
0001328713		Colorants C	1	l	10/27/2015
0001328717		COLORANT B LAMP BLACK	1	l	10/27/2015
0001328716		COLORANT B LAMP BLACK	1	l	10/27/2015
0001328715		Colorants C	1	l	10/27/2015
0001328714		Colorants C	1	l	10/27/2015
0001328728		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	10/27/2015
0001328662		LOCTITE SUPERFLEX RED HIGH TEMP RTV	13	oz	10/27/2015
0001328692		WEATHER PLATE ACRYLIC LATEX EXTERIOR FINISH	1	gal	10/27/2015
0001328710		COLORANTS F - RED OXIDE	1	l	10/27/2015
0001328711		COLORANTS F - RED OXIDE	1	l	10/27/2015
0001328712		COLORANTS F - RED OXIDE	1	l	10/27/2015
0001328691		WEATHER PLATE ACRYLIC LATEX EXTERIOR FINISH	1	gal	10/27/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395111		PIPE THREAD SEALANT	8	oz	10/27/2015
0001395121		PIPE THREAD SEALANT	8	oz	10/27/2015
0001395122		PIPE THREAD SEALANT	8	oz	10/27/2015
0001395120		PIPE THREAD SEALANT	8	oz	10/27/2015
0001395119		PIPE THREAD SEALANT	8	oz	10/27/2015
0001395118		PIPE THREAD SEALANT	8	oz	10/27/2015
0001328729		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	10/27/2015
0001395117		PIPE THREAD SEALANT	8	oz	10/27/2015
0001395116		PIPE THREAD SEALANT	8	oz	10/27/2015
0001395115		PIPE THREAD SEALANT	8	oz	10/27/2015
0001395114		PIPE THREAD SEALANT	8	oz	10/27/2015
0001328520		LOCTITE SUPERFLEX RED HIGH TEMP RTV	13	oz	10/27/2015
0001395112		PIPE THREAD SEALANT	8	oz	10/27/2015
0001328539		TAP MAGIC A CUTTING FLUID	4	oz	10/27/2015
0001395110		PIPE THREAD SEALANT	8	oz	10/27/2015
0001395123		PIPE THREAD SEALANT	8	oz	10/27/2015
0001395125		PIPE THREAD SEALANT	8	oz	10/27/2015
0001328659		LOCTITE SUPERFLEX RED HIGH TEMP RTV	13	oz	10/27/2015
0001328660		LOCTITE SUPERFLEX RED HIGH TEMP RTV	13	oz	10/27/2015
0001328661		LOCTITE SUPERFLEX RED HIGH TEMP RTV	13	oz	10/27/2015
0001328519		LOCTITE SUPERFLEX RED HIGH TEMP RTV	13	oz	10/27/2015
0001395124		PIPE THREAD SEALANT	8	oz	10/27/2015
0001328521		RECTORSEAL TRU-BLU VIBRATION RESISTANT THREAD SEALANT	1.75	oz	10/27/2015
0001328541		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	4	oz	10/27/2015
0001328540		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	8	oz	10/27/2015
0001395113		PIPE THREAD SEALANT	8	oz	10/27/2015
0001395048	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395055	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395054	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395053	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395052	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395051	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395041	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395049	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395058	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395047	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395046	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395045	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395044	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395043	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395066	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395050	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395100	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395064	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001328718		COLORANT B LAMP BLACK	1	l	10/27/2015
0001395060	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395059	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395096	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395097	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395056	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395099	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395057	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395101	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395102	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395103	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395104	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395105	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395040	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395098	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394878		ARDEX FEATHER FINISH	10	lb	10/27/2015
0001394885		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394884		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394883		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394882		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394881		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001395042	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394879		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394888		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394877		ARDEX FEATHER FINISH	10	lb	10/27/2015
0001394876		ARDEX FEATHER FINISH	10	lb	10/27/2015
0001394875		ARDEX FEATHER FINISH	10	lb	10/27/2015
0001394874		ARDEX FEATHER FINISH	10	lb	10/27/2015
0001394873		ARDEX FEATHER FINISH	10	lb	10/27/2015
0001394872		ARDEX FEATHER FINISH	10	lb	10/27/2015
0001394880		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394894		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001395106	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394581		PIPE THREAD SEALANT	8	oz	10/27/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394871		ARDEX FEATHER FINISH	10	lb	10/27/2015
0001395071	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394898		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394897		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394886		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394895		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394887		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394893		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394892		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394891		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394890		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394889		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001395065	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394896		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394915		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001395067	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394908		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394909		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394910		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394911		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394912		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394906		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394914		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394905		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394916		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394917		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394918		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394919		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001395063	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394921		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394913		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001395080	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395072	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395073	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395074	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395075	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395076	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395077	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394907		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001395079	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394922		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394899		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394900		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394901		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394902		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394903		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394904		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001395078	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395092	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395084	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394920		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001395086	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395087	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395088	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395089	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394923		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001395091	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395083	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395093	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395094	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395095	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395070	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395069	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395068	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395090	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395035	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001394924		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001394925		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	10.1	oz	10/27/2015
0001395032	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395085	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395034	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395082	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395036	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395037	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395038	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395039	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395062	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395061	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395081	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001395033	7681-52-9	SODIUM HYPOCHLORITE	121	oz	10/27/2015
0001317142	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001328397		PermAcryl Interior Latex Satin Enamel, DS-1531	1	gal	10/28/2015
0001328418		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328596		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	5.5	oz	10/28/2015
0001328411		PSX 700 pearl gray resin	1	gal	10/28/2015
0001328410		PSX 700 pearl gray resin	1	gal	10/28/2015
0001328409		PSX 700 pearl gray resin	1	gal	10/28/2015
0001328429		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328428		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328427		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328426		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328425		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328424		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328423		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328422		PSX 700 PART A(RESIN)	1	gal	10/28/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001328421		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328600		RECTORSEAL T PLUS 2	1.75	oz	10/28/2015
0001328414		PSX 700 pearl gray resin	1	gal	10/28/2015
0000132593	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001328536		NORDSTROM 167 Bulk Sealant	5	qt	10/28/2015
0001328416		PSX 700 ENGINEERED SILOXANE	1	gal	10/28/2015
0001317140	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001317141	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001328420		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328601		RECTORSEAL T PLUS 2	1.75	oz	10/28/2015
0001328419		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328413		PSX 700 pearl gray resin	1	gal	10/28/2015
0001328412		PSX 700 pearl gray resin	1	gal	10/28/2015
0001328431		AMERLOCK 400 PART A	1	gal	10/28/2015
0001328432		AMERLOCK 400 PART B	1	qt	10/28/2015
0001328417		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328430		FLOOR-COTE, CB 0401	1	gal	10/28/2015
0001328415		PSX 700 pearl gray resin	1	gal	10/28/2015
0001317128	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001328646		NOKORODE REGULAR PASTE FLUX	1.7	oz	10/28/2015
0001328609		RECTORSEAL NICKEL RICH ANTI-SEIZE THREAD COMPOUND	8	oz	10/28/2015
0001328611		TRU-BLU VIBRATION RESISTANT THREAD SEALANT	16	oz	10/28/2015
0001328408		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328407		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328406		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328405		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328645		NOKORODE REGULAR PASTE FLUX	1.7	oz	10/28/2015
0001317129	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001317127	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001317139	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001317126	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001328599		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	2.8	oz	10/28/2015
0001317124	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001328437		COTE ALL SAFETY YELLOW	1	gal	10/28/2015
0001328441		Flor-Cote Tool Gray	1	gal	10/28/2015
0001317120		COLORTREND BROWN OXIDE 888-1572	1	l	10/28/2015
0001238359		SAE 5W20 MOTOR OIL	1	qt	10/28/2015
0001317130	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001317121		WEATHER PLATE ACRYLIC LATEX EXTERIOR FINISH	1	gal	10/28/2015
0001317125	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001328644		NOKORODE REGULAR PASTE FLUX	1.7	oz	10/28/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001328595		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	5.5	oz	10/28/2015
0001328597		DAP ALEX PLUS ACRYLIC LATEX PLUS SILICONE (CLEAR)	5.5	oz	10/28/2015
0001317138	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001317122		WEATHER PLATE ACRYLIC LATEX EXTERIOR FINISH	1	gal	10/28/2015
0001328602		RECTORSEAL T PLUS 2	1.75	oz	10/28/2015
0001328603		RECTORSEAL T PLUS 2	1.75	oz	10/28/2015
0001328640		hercules multipurpose lube oil	4	oz	10/28/2015
0001317131	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001328643		NOKORODE REGULAR PASTE FLUX	1.7	oz	10/28/2015
0001317137	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001328642		NOKORODE REGULAR PASTE FLUX	1.7	oz	10/28/2015
0001328641		NOKORODE REGULAR PASTE FLUX	1.7	oz	10/28/2015
0001317132	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001317133	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001317134	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001317135	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001317136	8020-83-5	MINERAL OIL (LIGHT WHITE OIL)	16	oz	10/28/2015
0001397360	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001397362	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001397361	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001328440		COTE ALL WHITE BASE	1	gal	10/28/2015
0001328537		POLYKEN LIQUID ADHESIVE	1	qt	10/28/2015
0001328538		POLYKEN LIQUID ADHESIVE	1	qt	10/28/2015
0001397363	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001328721		AMERLOCK SEALER CLEAR RESIN PART A	1	gal	10/28/2015
0001328722		AMERON AMERLOCK SEALER PART B CURE	1	qt	10/28/2015
0001328445		VERS-ACRYL 222	1	gal	10/28/2015
0001328446		RAW UMBER COLORANT	1	l	10/28/2015
0001328442		Flor-Cote Tool Gray	1	gal	10/28/2015
0001328443		Flor-Cote Tool Gray	1	gal	10/28/2015
0001397359	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001328438		COTE ALL WHITE BASE	1	gal	10/28/2015
0001328727		PERMACRYL INTERIOR FLAT WHITE BASE	1	gal	10/28/2015
0001328434		COTE ALL SAFETY YELLOW	1	gal	10/28/2015
0001328433		COTE ALL SAFETY RED	1	gal	10/28/2015
0001328444		COTE ALL WHITE BASE	1	gal	10/28/2015
0001397355	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001328535		NORDSTROM 167 Bulk Sealant	5	qt	10/28/2015
0001397358	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001328725		PERMACRYL INTERIOR FLAT WHITE BASE	1	gal	10/28/2015
0001397351	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001397352	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397354	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001397356	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001328404		PSX 700 PART A(RESIN)	1	gal	10/28/2015
0001328709		amercoat 888	1	gal	10/28/2015
0001328726		PERMACRYL INTERIOR FLAT WHITE BASE	1	gal	10/28/2015
0001328724		PERMACRYL INTERIOR FLAT WHITE BASE	1	gal	10/28/2015
0001328526		OATEY CLEANER FOR CPVC-PVC-ABS PLASTIC PIPE & FITTINGS	1	qt	10/28/2015
0001397353	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001328723		PERMACRYL INTERIOR FLAT WHITE BASE	1	gal	10/28/2015
0001328684		PERMACRYL INTERIOR FLAT WHITE BASE	1	gal	10/28/2015
0001328720		amercoat 888	1	gal	10/28/2015
0001397357	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/28/2015
0001328639		OATEY CLEAR CEMENT FOR PVC	32	oz	10/28/2015
0001328683		PERMACRYL INTERIOR FLAT WHITE BASE	1	gal	10/28/2015
0001328719		amercoat 888	1	gal	10/28/2015
0001395138		fast setting cement	50	lb	10/29/2015
0001395190		SODA ASH	50	lb	10/29/2015
0001395131		fast setting cement	50	lb	10/29/2015
0001395144		fast setting cement	50	lb	10/29/2015
0001395143		fast setting cement	50	lb	10/29/2015
0001395142		fast setting cement	50	lb	10/29/2015
0001395141		fast setting cement	50	lb	10/29/2015
0001395140		fast setting cement	50	lb	10/29/2015
0001395139		fast setting cement	50	lb	10/29/2015
0001395145		fast setting cement	50	lb	10/29/2015
0001395137		fast setting cement	50	lb	10/29/2015
0001395127		fast setting cement	50	lb	10/29/2015
0001395128		fast setting cement	50	lb	10/29/2015
0001395136		fast setting cement	50	lb	10/29/2015
0001395135		fast setting cement	50	lb	10/29/2015
0001395134		fast setting cement	50	lb	10/29/2015
0001395214		SODA ASH	50	lb	10/29/2015
0001395132		fast setting cement	50	lb	10/29/2015
0001395130		fast setting cement	50	lb	10/29/2015
0001395129		fast setting cement	50	lb	10/29/2015
0001353972		PELCO CONDUCTIVE GRAPH ISOPROPYL ALCOHOL	30	gm	10/29/2015
0001353973	60-29-7	DIETHYL ETHER	1	l	10/29/2015
0001355929	75-05-8	ACETONITRILE	4	l	10/29/2015
0001355930	75-05-8	ACETONITRILE	4	l	10/29/2015
0001395133		fast setting cement	50	lb	10/29/2015
0001395218		SODA ASH	50	lb	10/29/2015
0001395201		SODA ASH	50	lb	10/29/2015
0001395202		SODA ASH	50	lb	10/29/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395203		SODA ASH	50	lb	10/29/2015
0001395204		SODA ASH	50	lb	10/29/2015
0001395205		SODA ASH	50	lb	10/29/2015
0001395206		SODA ASH	50	lb	10/29/2015
0001395207		SODA ASH	50	lb	10/29/2015
0001395208		SODA ASH	50	lb	10/29/2015
0001395209		SODA ASH	50	lb	10/29/2015
0001395232		SODA ASH	50	lb	10/29/2015
0001395231		SODA ASH	50	lb	10/29/2015
0001354013		OP-S SUSPENSION	4	l	10/29/2015
0001395229		SODA ASH	50	lb	10/29/2015
0001395198		SODA ASH	50	lb	10/29/2015
0001355931	75-05-8	ACETONITRILE	4	l	10/29/2015
0001353853		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353855		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353856		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001395223		SODA ASH	50	lb	10/29/2015
0001353857		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353858		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353859		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353860		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353861		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353862	109-72-8	N-BUTYLLITHIUM 1.6M IN HEXANES	500	ml	10/29/2015
0001395230		SODA ASH	50	lb	10/29/2015
0001355928	75-05-8	ACETONITRILE	4	l	10/29/2015
0001395215		SODA ASH	50	lb	10/29/2015
0001395225		SODA ASH	50	lb	10/29/2015
0001395224		SODA ASH	50	lb	10/29/2015
0001395216		SODA ASH	50	lb	10/29/2015
0001395213		SODA ASH	50	lb	10/29/2015
0001395212		SODA ASH	50	lb	10/29/2015
0001395211		SODA ASH	50	lb	10/29/2015
0001395210		SODA ASH	50	lb	10/29/2015
0001395217		SODA ASH	50	lb	10/29/2015
0001395238		SODA ASH	50	lb	10/29/2015
0001395237		SODA ASH	50	lb	10/29/2015
0001395200		SODA ASH	50	lb	10/29/2015
0001397405	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001395199		SODA ASH	50	lb	10/29/2015
0001395126		fast setting cement	50	lb	10/29/2015
0001395191		SODA ASH	50	lb	10/29/2015
0001395192		SODA ASH	50	lb	10/29/2015
0001395193		SODA ASH	50	lb	10/29/2015
0001395194		SODA ASH	50	lb	10/29/2015
0001395195		SODA ASH	50	lb	10/29/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395196		SODA ASH	50	lb	10/29/2015
0001395197		SODA ASH	50	lb	10/29/2015
0001395235		SODA ASH	50	lb	10/29/2015
0001395234		SODA ASH	50	lb	10/29/2015
0001395233		SODA ASH	50	lb	10/29/2015
0001353854		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001395236		SODA ASH	50	lb	10/29/2015
0001353970		PELCO CONDUCTIVE GRAPH ISOPROPYL ALCOHOL	30	gm	10/29/2015
0001395227		SODA ASH	50	lb	10/29/2015
0001395226		SODA ASH	50	lb	10/29/2015
0001395222		SODA ASH	50	lb	10/29/2015
0001395219		SODA ASH	50	lb	10/29/2015
0001395228		SODA ASH	50	lb	10/29/2015
0001353969		PELCO CONDUCTIVE GRAPH ISOPROPYL ALCOHOL	30	gm	10/29/2015
0001353968		PELCO CONDUCTIVE GRAPH ISOPROPYL ALCOHOL	30	gm	10/29/2015
0001395221		SODA ASH	50	lb	10/29/2015
0001395220		SODA ASH	50	lb	10/29/2015
0001355932		ADHESIVE KIT	1	pt	10/29/2015
0001353971		PELCO CONDUCTIVE GRAPH ISOPROPYL ALCOHOL	30	gm	10/29/2015
0001397400		AIR, COMPRESSED	220	cf	10/29/2015
0001397401		AIR, COMPRESSED	220	cf	10/29/2015
0001397402		AIR, COMPRESSED	220	cf	10/29/2015
0001397397		AIR, COMPRESSED	220	cf	10/29/2015
0001397403		AIR, COMPRESSED	220	cf	10/29/2015
0001397404		AIR, COMPRESSED	220	cf	10/29/2015
0001397399		AIR, COMPRESSED	220	cf	10/29/2015
0001355924	64-17-5	ETHYL ALCOHOL	4	l	10/29/2015
0001397398		AIR, COMPRESSED	220	cf	10/29/2015
0001397396		AIR, COMPRESSED	220	cf	10/29/2015
0001397395		AIR, COMPRESSED	220	cf	10/29/2015
0001397393		AIR, COMPRESSED	220	cf	10/29/2015
0001355925	64-17-5	ETHYL ALCOHOL	4	l	10/29/2015
0001397512		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001353836	67-56-1	METHANOL OPTIMA	4	l	10/29/2015
0001397389		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397390		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397392		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397391		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397394		AIR, COMPRESSED	220	cf	10/29/2015
0001397510		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397415	1333-74-0	HYDROGEN	220	cf	10/29/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397414	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397501		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397502		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397503		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397504		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397505		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397506		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397507		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397413	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397509		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001355926	165534-43-0	3-(Diethoxyphosphoryloxy)-1,2,3-benzotriazin-4	5	gm	10/29/2015
0001397511		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397462	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397513		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397412	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397411	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397410	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397409	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397408	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397407	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397406	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397508		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001355888	7732-18-5	NITRIC ACID SOLUTION	2.5	l	10/29/2015
0001397417	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397418	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397419	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001397420	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001355927	14630-40-1	BIS(TRIMETHYLSILYL)ACETYLENE	50	gm	10/29/2015
0001353925	109-72-8	N-BUTYLLITHIUM	100	ml	10/29/2015
0001353926	930-68-7	2-CYCLOHEXEN-1-ONE	25	ml	10/29/2015
0001355884	7732-18-5	NITRIC ACID SOLUTION	2.5	l	10/29/2015
0001355885	7732-18-5	NITRIC ACID SOLUTION	2.5	l	10/29/2015
0001353920	63148-62-9	PMX 200 FLUID 1,000 CS	1	gal	10/29/2015
0001355887	7732-18-5	NITRIC ACID SOLUTION	2.5	l	10/29/2015
0001385563	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/29/2015
0001355889	7732-18-5	NITRIC ACID SOLUTION	2.5	l	10/29/2015
0001354012	7697-37-2	NITRIC ACID 69%-70%	500	ml	10/29/2015
0001397500		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001385561	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	10/29/2015
0001385560	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	10/29/2015
0001355893	75-09-2	DICHLOROMETHANE	2.5	l	10/29/2015
0001355892	75-09-2	DICHLOROMETHANE	2.5	l	10/29/2015
0001355891	75-09-2	DICHLOROMETHANE	2.5	l	10/29/2015
0001355890	75-09-2	DICHLOROMETHANE	2.5	l	10/29/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355886	7732-18-5	NITRIC ACID SOLUTION	2.5	l	10/29/2015
0001353959	21645-51-2	ALUMINUM HYDROXIDE	500	gm	10/29/2015
0001397515		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397516		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397517		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001328523		HARRIS STAY-SILV WHITE BRACING FLUX	6.5	oz	10/29/2015
0001353919	63148-62-9	PMX 200 FLUID 1,000 CS	1	gal	10/29/2015
0001353921	128008-30-0	Indium(III) trifluoromethanesulfonate	5	gm	10/29/2015
0001397461	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397460	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397459	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397416	1333-74-0	HYDROGEN	220	cf	10/29/2015
0001353923	109-72-8	N-BUTYLLITHIUM	100	ml	10/29/2015
0001385562	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/29/2015
0001397468	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001353924	109-72-8	N-BUTYLLITHIUM	100	ml	10/29/2015
0001385571	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/29/2015
0001385569	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/29/2015
0001385568	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/29/2015
0001385567	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/29/2015
0001385566	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/29/2015
0001385565	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/29/2015
0001385564	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/29/2015
0001397514		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001353922	109-72-8	N-BUTYLLITHIUM	100	ml	10/29/2015
0001385576	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/29/2015
0001353917		LOCTITE 3035 PO BONDER	50	ml	10/29/2015
0001397438	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397440	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397441	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397442	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397435	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001385577	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/29/2015
0001397434	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001385575	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/29/2015
0001385574	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/29/2015
0001397487	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397486	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397485	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397484	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001385578	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	10/29/2015
0001397426	7440-59-7	HELIUM	220	cf	10/29/2015
0001397489		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397488		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397421	7440-59-7	HELIUM	220	cf	10/29/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397422	7440-59-7	HELIUM	220	cf	10/29/2015
0001397423	7440-59-7	HELIUM	220	cf	10/29/2015
0001397437	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397425	7440-59-7	HELIUM	220	cf	10/29/2015
0001397445	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397428	7440-59-7	HELIUM	220	cf	10/29/2015
0001397429	7440-59-7	HELIUM	220	cf	10/29/2015
0001397430	7440-59-7	HELIUM	220	cf	10/29/2015
0001397431	7440-59-7	HELIUM	220	cf	10/29/2015
0001397432	7440-59-7	HELIUM	220	cf	10/29/2015
0001397433	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397424	7440-59-7	HELIUM	220	cf	10/29/2015
0001397475	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397479	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397478	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397436	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397466	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397439	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397443	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397476	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397482	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397474	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397473	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397472	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397471	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397470	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397469	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397477	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397454	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397492		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397446	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397447	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397448	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397449	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397451	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397480	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397453	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397481	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397455	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397456	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397457	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397458	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397483	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397444	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001397452	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354008	7697-37-2	NITRIC ACID 69%-70%	500	ml	10/29/2015
0001397364	74-98-6	PROPANE	50	lb	10/29/2015
0001397365	74-98-6	PROPANE	50	lb	10/29/2015
0001397366	74-98-6	PROPANE	50	lb	10/29/2015
0001397367	74-98-6	PROPANE	50	lb	10/29/2015
0001397368	74-98-6	PROPANE	50	lb	10/29/2015
0001385570	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/29/2015
0001354007	7697-37-2	NITRIC ACID 69%-70%	500	ml	10/29/2015
0001353963	140-89-6	POTASSIUM ETHYLXANTHATE	100	gm	10/29/2015
0001354009	7697-37-2	NITRIC ACID 69%-70%	500	ml	10/29/2015
0001354010	7697-37-2	NITRIC ACID 69%-70%	500	ml	10/29/2015
0001354011	7697-37-2	NITRIC ACID 69%-70%	500	ml	10/29/2015
0001292150		MAGNAFLUX ZYGLO ZP-9F DEVELOPER	16	oz	10/29/2015
0001292151		ZYGLO PENETRANT ZL-27A	16	oz	10/29/2015
0001397490		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397369	74-98-6	PROPANE	50	lb	10/29/2015
0001397523		75% ARGON/25% CARBON DIOXIDE	220	cf	10/29/2015
0001397498		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397530	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397529		75% ARGON/25% CARBON DIOXIDE	220	cf	10/29/2015
0001397528		75% ARGON/25% CARBON DIOXIDE	220	cf	10/29/2015
0001397527		75% ARGON/25% CARBON DIOXIDE	220	cf	10/29/2015
0001397526		75% ARGON/25% CARBON DIOXIDE	220	cf	10/29/2015
0001353965		LANTHANUM PLASMA STANDARDS, 1,000 PPM, 10,000 PPM IN DILUTE	500	ml	10/29/2015
0001397524		75% ARGON/25% CARBON DIOXIDE	220	cf	10/29/2015
0001353964	98-88-4	BENZOYL CHLORIDE	100	ml	10/29/2015
0001397522		75% ARGON/25% CARBON DIOXIDE	220	cf	10/29/2015
0001397521	7440-59-7	HELIUM	40	cf	10/29/2015
0001397520	7440-59-7	HELIUM	40	cf	10/29/2015
0001397519	7440-59-7	HELIUM	40	cf	10/29/2015
0001397518	7440-59-7	HELIUM	40	cf	10/29/2015
0001397371		95% NITROGEN/5% HYDROGEN	220	cf	10/29/2015
0001397525		75% ARGON/25% CARBON DIOXIDE	220	cf	10/29/2015
0001353966		NOCHROMIX-GLASS CLEANING REAGENT	3	oz	10/29/2015
0001397383		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397382		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397381		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397380		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397379		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001353918		LOCTITE 3035 PO BONDER	50	ml	10/29/2015
0001397370		95% NITROGEN/5% HYDROGEN	220	cf	10/29/2015
0001397386		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397497		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397496		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397495		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397494		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397493		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397499		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001397378		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397464	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397372		95% NITROGEN/5% HYDROGEN	220	cf	10/29/2015
0001397373		95% NITROGEN/5% HYDROGEN	220	cf	10/29/2015
0001397374		95% NITROGEN/5% HYDROGEN	220	cf	10/29/2015
0001397375		95% NITROGEN/5% HYDROGEN	220	cf	10/29/2015
0001397376		95% NITROGEN/5% HYDROGEN	220	cf	10/29/2015
0001397377		95% NITROGEN/5% HYDROGEN	220	cf	10/29/2015
0001397384		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397463	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397385		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397465	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397467	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001328525		SPRAY PAINT RED	12	oz	10/29/2015
0001397388		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397387		94% Argon and 6% Hydrogen	220	cf	10/29/2015
0001397491		P-10 (90% ARGON 10% METHANE)	220	cf	10/29/2015
0001385573	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	10/29/2015
0001385457		LIME-A-WAY	828	ml	10/29/2015
0001395158		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395157		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395156		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395155		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395154		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395153		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395152		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395151		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395150		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395149		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395148		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395147		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395146		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395175		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001397537	74-98-6	PROPANE	100	lb	10/29/2015
0001395174		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001397531	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397532	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397533	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001397534	7440-37-1	ARGON, COMPRESSED	220	cf	10/29/2015
0001395172		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001397536	74-98-6	PROPANE	100	lb	10/29/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395173		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001397538	74-98-6	PROPANE	100	lb	10/29/2015
0001397539		2% HYDROGEN/BAL. ARGON	220	cf	10/29/2015
0001397540		5% HYDROGEN/95% ARGON	220	cf	10/29/2015
0001385506		SOY GEL PAINT STRIPPER	1	gal	10/29/2015
0001385507		SOY GEL PAINT STRIPPER	1	gal	10/29/2015
0001395169		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001397535	74-98-6	PROPANE	100	lb	10/29/2015
0001353841		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001395171		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001353847		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353846		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353845		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353844		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353849		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353842		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353850		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353840		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353839		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353838		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001354014		OP-S SUSPENSION	4	l	10/29/2015
0001354015		OP-S SUSPENSION	4	l	10/29/2015
0001353916	78560-45-9	1H,1H,2H,2H-PERFRLUOROOCTYLTRICHLOROSILANE	5	gm	10/29/2015
0001353843		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001395162		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395168		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001397450	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	10/29/2015
0001395167		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001385572	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/29/2015
0001395165		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001353848		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001395163		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395170		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395161		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395160		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395159		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001397427	7440-59-7	HELIUM	220	cf	10/29/2015
0001353852		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001353851		FANTASTIKE ALL PURPOSE CLEANER	32	oz	10/29/2015
0001395164		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001395166		BROMOCHLORODIMETHYL HYDRATION TABLETS	5	gal	10/29/2015
0001353974	60-29-7	DIETHYL ETHER	1	l	10/30/2015
0001354020	13463-67-7	Fiberset PM - White	5	gal	10/30/2015
0001353975	60-29-7	DIETHYL ETHER	1	l	10/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354031	64-04-0	PHENETHYLAMINE	250	ml	10/30/2015
0001354033		4,4,5,5-TETRAMETHYL-1,3,2-DIOXABOROLANE	25	gm	10/30/2015
0001354034	622-29-7	N-BENZYLIDENEMETHYLAMINE	5	gm	10/30/2015
0001354035	538-51-2	N-BENZYLIDENEANILINE	5	gm	10/30/2015
0001354038	56553-60-7	Sodium Triacetoxyborohydride	25	gm	10/30/2015
0001353978	108-88-3	TOLUENE	1	l	10/30/2015
0001385583	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/30/2015
0001354037	119-61-9	BENZOPHENONE	500	gm	10/30/2015
0001354039		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015
0001354040		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015
0001354041		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015
0001354042		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015
0001354036	2206-27-1	METHYL SULFOXIDE-D6	5	ml	10/30/2015
0001385580	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/30/2015
0001354057	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/30/2015
0001354056	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/30/2015
0001354055	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/30/2015
0001354054	64-17-5	ETHANOL, ANHYDROUS	4	l	10/30/2015
0001354053	64-17-5	ETHANOL, ANHYDROUS	4	l	10/30/2015
0001354059	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/30/2015
0001353980	108-88-3	TOLUENE	1	l	10/30/2015
0001385579	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/30/2015
0001353979	108-88-3	TOLUENE	1	l	10/30/2015
0001385581	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/30/2015
0001354032	Multi	CS12A Eluent Concentrate	100	ml	10/30/2015
0001385582	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/30/2015
0001354043		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015
0001353976	60-29-7	DIETHYL ETHER	1	l	10/30/2015
0001353977	108-88-3	TOLUENE	1	l	10/30/2015
0001354058	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/30/2015
0001354060	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	10/30/2015
0001354051	64-17-5	ETHANOL, ANHYDROUS	4	l	10/30/2015
0001354048		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015
0001354044		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015
0001354030	107-06-2	1,2-DICHLOROETHANE	500	ml	10/30/2015
0001354052	64-17-5	ETHANOL, ANHYDROUS	4	l	10/30/2015
0001354050		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001385584	1310-73-2	Sodium Hydroxide 25%	3400	lb	10/30/2015
0001354047		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015
0001354045		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015
0001354046		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015
0001354049		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	10/30/2015
0001395339		PSX 700 CURE	.2	gal	11/2/2015
0001395332		OIL BASE ENAMEL	1	gal	11/2/2015
0001385514		ABSORBENT-ACIDS 40LB PAIL 7GAL	7	gal	11/2/2015
0001395338		PSX 700 CURE	.2	gal	11/2/2015
0001385516		ABSORBENT-ACIDS 40LB PAIL 7GAL	7	gal	11/2/2015
0001385517		ABSORBENT-ACIDS 40LB PAIL 7GAL	7	gal	11/2/2015
0001397541	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/2/2015
0001385515		ABSORBENT-ACIDS 40LB PAIL 7GAL	7	gal	11/2/2015
0001397542	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/2/2015
0001397543	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/2/2015
0001397544	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/2/2015
0001397545	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/2/2015
0001397546	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/2/2015
0001397547	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/2/2015
0001397548	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/2/2015
0001397550	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/2/2015
0001385554		M-COAT A	4	oz	11/2/2015
0001385518		ABSORBENT-ACIDS 40LB PAIL 7GAL	7	gal	11/2/2015
0001397554	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	11/2/2015
0001397549	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/2/2015
0001383364		kwik seal	10.1	oz	11/2/2015
0001395337		PSX 700 CURE	.2	gal	11/2/2015
0001395254		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001397551	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	11/2/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395333		OIL BASE ENAMEL	1	gal	11/2/2015
0001397553	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	11/2/2015
0001397555	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/2/2015
0001397552	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	11/2/2015
0001395365		PERMACRYL INTERIOR SEMI GLOSS DEEP BASE 1573	1	gal	11/2/2015
0001395298		HENRY440	1	gal	11/2/2015
0001385540		M-PREP CONDITIONER A	16	oz	11/2/2015
0001395299		HENRY-430	4	gal	11/2/2015
0001395300		HENRY-430	4	gal	11/2/2015
0001395301		HENRY-430	4	gal	11/2/2015
0001395302		HENRY-430	4	gal	11/2/2015
0001395303		HENRY-430	4	gal	11/2/2015
0001395304		HENRY-430	4	gal	11/2/2015
0001395305		HENRY-430	4	gal	11/2/2015
0001395306		HENRY-430	4	gal	11/2/2015
0001395296		HENRY440	1	gal	11/2/2015
0001395308		HENRY-430	4	gal	11/2/2015
0001395295		HENRY440	1	gal	11/2/2015
0001395309		HENRY-430	4	gal	11/2/2015
0001395313		PSX 700 CURE	1	qt	11/2/2015
0001395314		PSX 700 CURE	1	qt	11/2/2015
0001395315		PSX 700 CURE	1	qt	11/2/2015
0001395316		NON-SKID EPOXY FLOOR COAT	1	lb	11/2/2015
0001395317		NON-SKID EPOXY FLOOR COAT	1	lb	11/2/2015
0001385539		M-PREP CONDITIONER A	16	oz	11/2/2015
0001395318		NON-SKID EPOXY FLOOR COAT	1	lb	11/2/2015
0001395319		NON-SKID EPOXY FLOOR COAT	1	lb	11/2/2015
0001355978		RTV11	1	lb	11/2/2015
0001385537		M-PREP NEUTRALIZER 5A	16	oz	11/2/2015
0001395307		HENRY-430	4	gal	11/2/2015
0001354066	7440-39-3	BARIUM DENDRITIC PIECES	5	gm	11/2/2015
0001395364		PERMACRYL INTERIOR SEMI GLOSS DEEP BASE 1573	1	gal	11/2/2015
0001395363		PERMACRYL INTERIOR SEMI GLOSS DEEP BASE 1573	1	gal	11/2/2015
0001395362		PERMACRYL INTERIOR SEMI GLOSS DEEP BASE 1573	1	gal	11/2/2015
0001395361		PERMACRYL INTERIOR SEMI GLOSS DEEP BASE 1573	1	gal	11/2/2015
0001354112	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	11/2/2015
0001395252		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001385552		M-BOND 200 ADHESIVE KIT	1	oz	11/2/2015
0001354079	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/2/2015
0001354071	7440-39-3	BARIUM DENDRITIC PIECES	5	gm	11/2/2015
0001354070	7440-39-3	BARIUM DENDRITIC PIECES	5	gm	11/2/2015
0001354069	7440-39-3	BARIUM DENDRITIC PIECES	5	gm	11/2/2015
0001395297		HENRY440	1	gal	11/2/2015
0001354067	7440-39-3	BARIUM DENDRITIC PIECES	5	gm	11/2/2015
0001395312		PSX 700 pearl gray resin	1	gal	11/2/2015
0001354065	1314-35-8	TUNGSTEN(VI) OXIDE	5	gm	11/2/2015
0001354064	25511-85-7	Poly(propylene carbonate)	25	gm	11/2/2015
0001354063	103476-89-7	LEUPEPTIN HEMISULFATE SALT	5	mg	11/2/2015
0001354062	9076-44-2	CHYMOSTATIN	5	mg	11/2/2015
0001395325		BIG STRETCH CAULK	10.5	oz	11/2/2015
0001395326		BIG STRETCH CAULK	10.5	oz	11/2/2015
0001395327		BIG STRETCH CAULK	10.5	oz	11/2/2015
0001395328		BIG STRETCH CAULK	10.5	oz	11/2/2015
0001395329		BIG STRETCH CAULK	10.5	oz	11/2/2015
0001395330		BIG STRETCH CAULK	10.5	oz	11/2/2015
0001395294		HENRY440	1	gal	11/2/2015
0001354068	7440-39-3	BARIUM DENDRITIC PIECES	5	gm	11/2/2015
0001395265		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395278		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395277		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395276		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395275		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395274		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395273		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395272		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395271		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395270		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395269		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395268		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001385536		M-PREP NEUTRALIZER 5A	16	oz	11/2/2015
0001395266		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395245		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001395264		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395263		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395262		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395261		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395260		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395259		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395258		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395257		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395256		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395255		ARDEX FEATHER FINISH	10	lb	11/2/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395242		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001395267		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001355974		RTV11	1	lb	11/2/2015
0001385586	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	11/2/2015
0001395311		PSX 700 pearl gray resin	1	gal	11/2/2015
0001395310		PSX 700 pearl gray resin	1	gal	11/2/2015
0001355977		RTV11	1	lb	11/2/2015
0001355976		RTV11	1	lb	11/2/2015
0001395253		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001353985		HAFNIUM ETHOXIDE	25	gm	11/2/2015
0001395320		NON-SKID EPOXY FLOOR COAT	1	lb	11/2/2015
0001395251		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001395250		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001395249		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001395279		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001355975		RTV11	1	lb	11/2/2015
0001395280		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001355973		RTV11	1	lb	11/2/2015
0001395322		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	5	gal	11/2/2015
0001354111	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	11/2/2015
0001354110	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	11/2/2015
0001395243		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001355972		RTV11	1	lb	11/2/2015
0001355971		RTV11	1	lb	11/2/2015
0001355970		RTV11	1	lb	11/2/2015
0001395244		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001395247		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001395246		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001385535		M-PREP NEUTRALIZER 5A	16	oz	11/2/2015
0001395248		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001395346		COTE ALL SAFETY YELLOW	1	gal	11/2/2015
0001353982		HAFNIUM ETHOXIDE	25	gm	11/2/2015
0001353981		HAFNIUM ETHOXIDE	25	gm	11/2/2015
0001353962	1592-23-0	CALCIUM STEARATE	1	kg	11/2/2015
0001385587	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	11/2/2015
0001395349		COTE ALL SAFETY BLUE	1	gal	11/2/2015
0001395323		BIG STRETCH CAULK	10.5	oz	11/2/2015
0001395324		BIG STRETCH CAULK	10.5	oz	11/2/2015
0001385585	7705-08-0	FERRIC CHLORIDE	3400	lb	11/2/2015
0001395348		COTE ALL SAFETY BLUE	1	gal	11/2/2015
0001353983		HAFNIUM ETHOXIDE	25	gm	11/2/2015
0001395358		PSX 700 CURE	26	oz	11/2/2015
0001395347		COTE ALL SAFETY YELLOW	1	gal	11/2/2015
0001395188		CLEAR SILICONE	9.8	oz	11/2/2015
0001395345		COTE ALL WHITE BASE	1	gal	11/2/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001394662		portland cement 1	94	lb	11/2/2015
0001354080	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/2/2015
0001354061	37682-72-7	ANTIPAIN, DIHYDROCHLORIDE	5	mg	11/2/2015
0001395366		PERMACRYL INTERIOR SEMI GLOSS DEEP BASE 1573	1	gal	11/2/2015
0001353990	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	11/2/2015
0001353989		Uraplex	125	ml	11/2/2015
0001394661		portland cement 1	94	lb	11/2/2015
0001394870		portland cement 1	94	lb	11/2/2015
0001353988		HAFNIUM ETHOXIDE	25	gm	11/2/2015
0001353987		HAFNIUM ETHOXIDE	25	gm	11/2/2015
0001353984		HAFNIUM ETHOXIDE	25	gm	11/2/2015
0001395183		ALEX PLUS	10.1	oz	11/2/2015
0001395357		PSX 700 CURE	26	oz	11/2/2015
0001395356		PSX 700 pearl gray resin	1	gal	11/2/2015
0001395355		PSX 700 pearl gray resin	1	gal	11/2/2015
0001395354		PERMACRYL INTERIOR SEMI GLOSS DEEP BASE 1573	1	gal	11/2/2015
0001395353		PERMACRYL INTERIOR SEMI GLOSS DEEP BASE 1573	1	gal	11/2/2015
0001354100	7697-37-2	NITRIC ACID OPTIMA	1	l	11/2/2015
0001354099	7697-37-2	NITRIC ACID OPTIMA	1	l	11/2/2015
0001395352		PERMACRYL INTERIOR SEMI GLOSS DEEP BASE 1573	1	gal	11/2/2015
0001395351		PERMACRYL INTERIOR SEMI GLOSS DEEP BASE 1573	1	gal	11/2/2015
0001354098	7697-37-2	NITRIC ACID OPTIMA	1	l	11/2/2015
0001354097	7697-37-2	NITRIC ACID OPTIMA	1	l	11/2/2015
0001395239		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001354087	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/2/2015
0001395189		CLEAR SILICONE	9.8	oz	11/2/2015
0001394864		CLEAR SILICONE	9.8	oz	11/2/2015
0001354086	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/2/2015
0001354085	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/2/2015
0001395350		PERMACRYL INTERIOR SEMI GLOSS DEEP BASE 1573	1	gal	11/2/2015
0001385588	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/2/2015
0001354084	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/2/2015
0001354083	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/2/2015
0001354082	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/2/2015
0001395187		CLEAR SILICONE	9.8	oz	11/2/2015
0001354081	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/2/2015
0001395291		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001354088	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/2/2015
0001354123	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	11/2/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395293		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001354106	7697-37-2	NITRIC ACID OPTIMA	1	l	11/2/2015
0001354107	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	11/2/2015
0001354108	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	11/2/2015
0001354109	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	11/2/2015
0001395336		PSX 700 CURE	.2	gal	11/2/2015
0001395334		ACE ACCENT COLORS ACRYLIC LATEX ENAMEL PAINT SEMI-GLOSS NEUTRAL BASE	1	gal	11/2/2015
0001395335		ACE ACCENT COLORS ACRYLIC LATEX ENAMEL PAINT SEMI-GLOSS NEUTRAL BASE	1	gal	11/2/2015
0001395331		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	11/2/2015
0001395321		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	5	gal	11/2/2015
0001355969		RTV11	1	lb	11/2/2015
0001354104	7697-37-2	NITRIC ACID OPTIMA	1	l	11/2/2015
0001354124	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	11/2/2015
0001354103	7697-37-2	NITRIC ACID OPTIMA	1	l	11/2/2015
0001354122	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	11/2/2015
0001354121	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	11/2/2015
0001354120	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	11/2/2015
0001395241		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001354119	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	11/2/2015
0001354118	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	11/2/2015
0001354117	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	11/2/2015
0001354116	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	11/2/2015
0001354115	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	500	ml	11/2/2015
0001395360		PERMACRYL eggshell white INTERIOR ACRYLIC DE-1531	5	gal	11/2/2015
0001395359		PERMACRYL eggshell white INTERIOR ACRYLIC DE-1531	5	gal	11/2/2015
0001355968		RTV11	1	lb	11/2/2015
0001385589	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/2/2015
0001395290		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395289		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395288		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395287		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395286		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395285		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395284		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395283		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395282		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001395281		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001354105	7697-37-2	NITRIC ACID OPTIMA	1	l	11/2/2015
0001355979		RTV11	1	lb	11/2/2015
0001395292		ARDEX FEATHER FINISH	10	lb	11/2/2015
0001385590	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/2/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001385591	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/2/2015
0001385592	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/2/2015
0001395340		PSX 700 pearl gray resin	1	gal	11/2/2015
0001395341		PSX 700 pearl gray resin	1	gal	11/2/2015
0001395342		PSX 700 pearl gray resin	1	gal	11/2/2015
0001395343		PSX 700 pearl gray resin	1	gal	11/2/2015
0001353986		HAFNIUM ETHOXIDE	25	gm	11/2/2015
0001395240		ROOF GUARD 700 ELASTOMERIC COATING	5	gal	11/2/2015
0001354101	7697-37-2	NITRIC ACID OPTIMA	1	l	11/2/2015
0001354102	7697-37-2	NITRIC ACID OPTIMA	1	l	11/2/2015
0001395344		COTE ALL WHITE BASE	1	gal	11/2/2015
0001354135		SYLGARD 184	1.1	lb	11/3/2015
0001353996	64065-08-3	BIS(DIMETHYLPHOSPHINO)METHANE	1	gm	11/3/2015
0001353998	10043-11-5	BORON NITRIDE	2	gm	11/3/2015
0001354016		PH-2 Standard	500	ml	11/3/2015
0001385594	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/3/2015
0001354017		PH-2 Standard	500	ml	11/3/2015
0001354018		PH-2 Standard	500	ml	11/3/2015
0001354138		SYLGARD 184	1.1	lb	11/3/2015
0001354142		SYLGARD 184	1.1	lb	11/3/2015
0001354144		SYLGARD 184	1.1	lb	11/3/2015
0001354139		SYLGARD 184	1.1	lb	11/3/2015
0001354136		SYLGARD 184	1.1	lb	11/3/2015
0001354140		SYLGARD 184	1.1	lb	11/3/2015
0001385598	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/3/2015
0001354141		SYLGARD 184	1.1	lb	11/3/2015
0001385596	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/3/2015
0001354005	606-68-8	B-NICOTINAMIDE ADENINE DI-NUCLEOTIDE	10	mg	11/3/2015
0001354143		SYLGARD 184	1.1	lb	11/3/2015
0001354019		PH-2 Standard	500	ml	11/3/2015
0001385595	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/3/2015
0001354114	661-69-8	HEXAMETHYLDITIN	25	gm	11/3/2015
0001354137		SYLGARD 184	1.1	lb	11/3/2015
0001385597	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/3/2015
0001354127		LYSOL BRAND II DISINFECTANT	12	oz	11/3/2015
0001354130		LYSOL BRAND II DISINFECTANT	12	oz	11/3/2015
0001354074	Multi	DURAPOSIT SMT 88R	20	l	11/3/2015
0001353997	56-81-5	GLYCEROL CERTIFIED ACS	1	l	11/3/2015
0001353999		SODIUM METHOXIDE, ANHYDROUS POWDER	100	gm	11/3/2015
0001354113	60-29-7	DIETHYL ETHER	4	l	11/3/2015
0001289972		RUST COAT ENAMEL - ALUMINUM	11	oz	11/3/2015
0001354125		LYSOL BRAND II DISINFECTANT	12	oz	11/3/2015
0001354129		LYSOL BRAND II DISINFECTANT	12	oz	11/3/2015
0001354128		LYSOL BRAND II DISINFECTANT	12	oz	11/3/2015
0001354073	Multi	DURAPOSIT SMT 88R	20	l	11/3/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354131	75-05-8	ACETONITRILE	4	l	11/3/2015
0001354132	75-05-8	ACETONITRILE	4	l	11/3/2015
0001354133	75-05-8	ACETONITRILE	4	l	11/3/2015
0001289973		RUST COAT ENAMEL - ALUMINUM	11	oz	11/3/2015
0001354134	75-05-8	ACETONITRILE	4	l	11/3/2015
0001385593	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/3/2015
0001354126		LYSOL BRAND II DISINFECTANT	12	oz	11/3/2015
0001354094		ULTIMA GOLD	10	l	11/3/2015
0001354075	78-10-4	TETRAETHYL ORTHOSILICATE	1	l	11/3/2015
0001354072	639-58-7	TRIPHENYLTIN CHLORIDE	50	gm	11/3/2015
0001354077	292-64-8	CYCLOOCTANE	100	ml	11/3/2015
0001354078	108-87-2	METHYLCYCLOHEXANE	100	ml	11/3/2015
0001354089		ULTIMA GOLD	10	l	11/3/2015
0001353992	67-63-0	ISOPROPYL ALCOHOL	500	ml	11/3/2015
0001354004	603-35-0	TRIPHENYLPHOSPHINE	100	gm	11/3/2015
0001353993	2622-14-2	TRICYCLOHEXYLPHOSPHINE	5	gm	11/3/2015
0001354090		ULTIMA GOLD	10	l	11/3/2015
0001354091		ULTIMA GOLD	10	l	11/3/2015
0001354093		ULTIMA GOLD	10	l	11/3/2015
0001354095		ULTIMA GOLD	10	l	11/3/2015
0001354096		ULTIMA GOLD	10	l	11/3/2015
0001353994	2622-14-2	TRICYCLOHEXYLPHOSPHINE	5	gm	11/3/2015
0001354003	00682-01-9	TETRA-N-PROPYL-SILICATE	100	gm	11/3/2015
0001354076	71-23-8	1-PROPANOL	2	l	11/3/2015
0001354001	584-09-8	RUBIDIUM CARBONATE	25	gm	11/3/2015
0001354092		ULTIMA GOLD	10	l	11/3/2015
0001354002	98072-47-0	STREPTOLYSIN O	25	mg	11/3/2015
0001353995	23936-60-9	1,2-BIS(DIMETHYLPHOSPHINO)ETHANE	1	gm	11/3/2015
0001353991	67-63-0	ISOPROPYL ALCOHOL	500	ml	11/3/2015
0001354244	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354245	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354301		Glucose Assay Reagent	50	ml	11/4/2015
0001397559		oxygen, nitrogen	34	l	11/4/2015
0001397558		oxygen, nitrogen	25	l	11/4/2015
0001397557		Difluoromethane 50%/Pentafluoromethane 50%	25	lb	11/4/2015
0001397556	75-45-6	CHLORODIFLUOROMETHANE	30	lb	11/4/2015
0001354298	9000-85-5	ALPHA-AMYLASE TYPE XII-A FROM BACILLUS LICHENIFORMIS	100	mg	11/4/2015
0001354248	811-97-2	DUSTER	10	oz	11/4/2015
0001354300		Glucose Assay Reagent	50	ml	11/4/2015
0001354246	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354302		Glucose Assay Reagent	50	ml	11/4/2015
0001385599	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	11/4/2015
0001385600	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	11/4/2015

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0001354250	811-97-2	DUSTER	10	oz	11/4/2015
0001354249	811-97-2	DUSTER	10	oz	11/4/2015
0001354247	811-97-2	DUSTER	10	oz	11/4/2015
0001354299		Glucose Assay Reagent	50	ml	11/4/2015
0001354160	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354224	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354225	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354226	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354227	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354228	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354229	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354161	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354162	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354222	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354159	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354158	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354157	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354156	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354155	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354154	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354230	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354263	7732-18-5	WATER HPLC GRADE	4	l	11/4/2015
0001354215	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354216	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354217	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354268	7732-18-5	WATER HPLC GRADE	4	l	11/4/2015
0001354267	7732-18-5	WATER HPLC GRADE	4	l	11/4/2015
0001354266	7732-18-5	WATER HPLC GRADE	4	l	11/4/2015
0001354223	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354264	7732-18-5	WATER HPLC GRADE	4	l	11/4/2015
0001354200	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354262	7732-18-5	WATER HPLC GRADE	4	l	11/4/2015
0001354261	7732-18-5	WATER HPLC GRADE	4	l	11/4/2015
0001354218	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354219	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354220	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354221	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354233	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354265	7732-18-5	WATER HPLC GRADE	4	l	11/4/2015
0001354199	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354231	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354207	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354206	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354205	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354204	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015

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0001354203	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354209	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354201	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354210	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354198	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354197	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354242	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354196	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354195	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354243	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354296	7791-20-0	NICKEL(II) CHLORIDE HEXAHYDRATE	100	gm	11/4/2015
0001354241	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354240	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354297	62-56-6	THIOUREA	100	gm	11/4/2015
0001354234	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354235	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354236	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354237	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354153	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354208	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354239	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354232	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354152	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354151	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354149	811-97-2	DUSTER ES1017	10	pt	11/4/2015
0001354214	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354213	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354212	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354211	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354238	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354172	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354184	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354183	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354182	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354181	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354180	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354179	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354178	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354177	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354176	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354175	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354256	811-97-2	DUSTER	10	oz	11/4/2015
0001354173	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354187	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354171	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015

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0001354170	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354169	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354168	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354167	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354166	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354165	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354164	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354254	811-97-2	DUSTER	10	oz	11/4/2015
0001354255	811-97-2	DUSTER	10	oz	11/4/2015
0001354174	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354292	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354271	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354270	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/4/2015
0001320402		SR RESIN	50	gm	11/4/2015
0001202234		EMPOWER	15	gal	11/4/2015
0001354269	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/4/2015
0001354259	9001-41-6	PHOSPHOGLUCOSE ISOMERASE	50	mg	11/4/2015
0001354150	7697-37-2	NITRIC ACID, TRACEMETAL	500	ml	11/4/2015
0001354148		QIAamp DNA Micro Kit	100	ml	11/4/2015
0001354202	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354295		IRON SULFAMATE, SOLUTION	250	gm	11/4/2015
0001354185	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354293	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354186	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354251	811-97-2	DUSTER	10	oz	11/4/2015
0001354252	811-97-2	DUSTER	10	oz	11/4/2015
0001354253	811-97-2	DUSTER	10	oz	11/4/2015
0001354291	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354194	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354193	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354192	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354191	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354303	63123-42-2	1-Methoxy-4-phenylpyridinium tetrafluoroborate	250	gm	11/4/2015
0001354189	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354188	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354294	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354280	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354287	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354190	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354285	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354284	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354283	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354282	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354281	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015

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0001354286	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354279	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354278	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354277	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354276	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354257	811-97-2	DUSTER	10	oz	11/4/2015
0001354289	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354275	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354288	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354258	811-97-2	DUSTER	10	oz	11/4/2015
0001354163	1336-21-6	AMMONIUM HYDROXIDE	2.5	l	11/4/2015
0001354260	9001-41-6	PHOSPHOGLUCOSE ISOMERASE	50	mg	11/4/2015
0001354272	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354273	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354274	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354290	64-17-5	ETHANOL, 200 PROOF	1	pt	11/4/2015
0001354372	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	11/4/2015
0001354322	64-17-5	ETHYL ALCOHOL, 95%	4	l	11/4/2015
0001354323	64-17-5	ETHYL ALCOHOL, 95%	4	l	11/4/2015
0001354324	64-17-5	ETHYL ALCOHOL, 95%	4	l	11/4/2015
0001354325	1310-73-2	BUFFER RICCA PH 12.00	500	ml	11/4/2015
0001354367		OBJET SUPPORT SUP705	1	kg	11/4/2015
0001354368		FULLCURE 835 VEROWHITE PLUS MODEL RESIN	1	kg	11/4/2015
0001354369		CLEANING FLUID	1	oz	11/4/2015
0001354370		CLEANING FLUID	1	oz	11/4/2015
0001354377	7727-37-9	NITROGEN	500	ml	11/4/2015
0001354376	7790-84-3	CADMIUM SULFATE OCTAHYDRATE	25	gm	11/4/2015
0001397563		oxygen, nitrogen	34	l	11/4/2015
0001397562		oxygen, nitrogen	34	l	11/4/2015
0001385604	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/4/2015
0001397560		oxygen, nitrogen	34	l	11/4/2015
0001354375	1336-21-6	AMMONIUM HYDROXIDE	5	ml	11/4/2015
0001354374	67-56-1	METHANOL	4	l	11/4/2015
0001354373	67-56-1	METHANOL	4	l	11/4/2015
0001385603	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/4/2015
0001385602	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/4/2015
0001385601	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/4/2015
0001354382	12125-02-9	NITROGEN-AMMONIA STANDARD	500	ml	11/4/2015
0001354381	12125-02-9	NITROGEN-AMMONIA STANDARD	500	ml	11/4/2015
0001354320	7732-18-5	Amtax Expulsion Solution 237 mL	1	l	11/4/2015
0001354380	12125-02-9	NITROGEN-AMMONIA STANDARD	500	ml	11/4/2015
0001354313		STANDARD SOLUTION AMTAX 5 MG/L	1	l	11/4/2015
0001354379	12125-02-9	NITROGEN-AMMONIA STANDARD	500	ml	11/4/2015
0001354378	12125-02-9	NITROGEN-AMMONIA STANDARD	500	ml	11/4/2015

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0001397561		oxygen, nitrogen	34	l	11/4/2015
0001354306	7429-90-5	ALUMINUM METAL, SHOT	500	gm	11/4/2015
0001354315	7732-18-5	Amtax Expulsion Solution 237 mL	1	l	11/4/2015
0001354311		STANDARD SOLUTION AMTAX 5 MG/L	1	l	11/4/2015
0001354319	7732-18-5	Amtax Expulsion Solution 237 mL	1	l	11/4/2015
0001354309		STANDARD SOLUTION AMTAX 5 MG/L	1	l	11/4/2015
0001354310		STANDARD SOLUTION AMTAX 5 MG/L	1	l	11/4/2015
0001320401		SR RESIN	50	gm	11/4/2015
0001354145		SYLGARD 184	1.1	lb	11/4/2015
0001354146		SYLGARD 184	1.1	lb	11/4/2015
0001354147	81239-45-4	Dimethylbenzylammoniumpropanesulfonate	25	gm	11/4/2015
0001354321	64-17-5	ETHYL ALCOHOL, 95%	4	l	11/4/2015
0001354305	7429-90-5	ALUMINUM METAL, SHOT	500	gm	11/4/2015
0001354307	7429-90-5	ALUMINUM METAL, SHOT	500	gm	11/4/2015
0001354308	7429-90-5	ALUMINUM METAL, SHOT	500	gm	11/4/2015
0001354312		STANDARD SOLUTION AMTAX 5 MG/L	1	l	11/4/2015
0001354371	23978-09-8	KRYPTOFIX 222	5	gm	11/4/2015
0001354314		STANDARD SOLUTION AMTAX 5 MG/L	1	l	11/4/2015
0001354316	7732-18-5	Amtax Expulsion Solution 237 mL	1	l	11/4/2015
0001354317	7732-18-5	Amtax Expulsion Solution 237 mL	1	l	11/4/2015
0001354318	7732-18-5	Amtax Expulsion Solution 237 mL	1	l	11/4/2015
0001354304	7429-90-5	ALUMINUM METAL, SHOT	500	gm	11/4/2015
0001354387		NITRAVER X REAGENT SET	50	ml	11/5/2015
0001354006	67-63-0	2-PROPANOL	1	l	11/5/2015
0001354388		NITRAVER X REAGENT SET	50	ml	11/5/2015
0001385607	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	11/5/2015
0001385606	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	11/5/2015
0001354400		PARYLENE DPX N	1	lb	11/5/2015
0001354399		LEAK SEALANT	6	oz	11/5/2015
0001354389		NITRAVER X REAGENT SET	50	ml	11/5/2015
0001354398	110-54-3	HEXANE-NORMAL, GR	1	l	11/5/2015
0001354397	55566-30-8	TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULFATE	250	ml	11/5/2015
0001354326	1336-21-6	AMMONIUM HYDROXIDE	100	ml	11/5/2015
0001354327	1923-70-2	TETRABUTYLAMMONIUM PERCHLORATE	50	gm	11/5/2015
0001385612	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/5/2015
0001354383		NITRAVER X REAGENT SET	50	ml	11/5/2015
0001354391		NITRAVER X REAGENT SET	50	ml	11/5/2015
0001354396	917-71-5	Formic-d acid	5	gm	11/5/2015
0001354384		NITRAVER X REAGENT SET	50	ml	11/5/2015
0001385608	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/5/2015
0001354390		NITRAVER X REAGENT SET	50	ml	11/5/2015
0001354392		NITRAVER X REAGENT SET	50	ml	11/5/2015
0001354393	2037-26-5	TOLUENE-D8	25	gm	11/5/2015
0001354394	22581-63-1	1, 2 dibromoethane	25	gm	11/5/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354395	109-99-9	TETRAHYDROFURAN OPTIMA	1	l	11/5/2015
0001354386		NITRAVER X REAGENT SET	50	ml	11/5/2015
0001385605	7705-08-0	FERRIC CHLORIDE	3400	lb	11/5/2015
0001385609	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/5/2015
0001385610	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/5/2015
0001354385		NITRAVER X REAGENT SET	50	ml	11/5/2015
0001354401		PARYLENE DPX N	1	lb	11/5/2015
0001385611	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/5/2015
0001003468	24937-78-8	Poly(ethylene/vinyl acetate) [72:28 (wt)]	500	gm	11/5/2015
0001331810		DRIERITE DESSICANT	5	lb	11/5/2015
0001003476	25067-34-9	POLY (VINL ALCOHOL-CO-ETHYLENE) ETHYLENE	25	gm	11/5/2015
0001331807		DIAPRO	500	ml	11/5/2015
0001331808		DIAPRO	500	ml	11/5/2015
0001410331	Multi	DIESEL 9.1.1	80	oz	11/5/2015
0001331809		DIAPRO	500	ml	11/5/2015
0001410330	Multi	DIESEL 9.1.1	80	oz	11/5/2015
0001410329	Multi	DIESEL 9.1.1	80	oz	11/5/2015
0001410328	Multi	DIESEL 9.1.1	80	oz	11/5/2015
0001003467	24937-78-8	Poly(ethylene/vinyl acetate) [72:28 (wt)]	500	gm	11/5/2015
0001395524		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395525		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395526		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395523		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395483		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395518		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395482		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395481		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395480		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395479		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395484		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395522		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395521		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395519		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395478		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395511		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395512		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395461		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395517		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395516		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395515		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395514		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395513		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395520		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395493		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395463		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395485		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395460		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395459		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395457		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395494		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395492		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395495		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395458		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395490		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395489		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395488		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395487		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395486		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395491		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395469		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395476		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395475		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395474		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395473		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395472		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395462		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395470		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395477		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395468		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395467		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395466		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395465		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395464		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395496		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395471		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395504		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395530		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395506		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395456		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395502		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395501		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395531		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395507		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395528		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395503		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395500		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395499		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395529		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395498		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395497		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395505		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395534		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395508		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395510		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001397626		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001395527		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395509		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395533		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395532		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001395536		PLUMBER'S ADHESIVE/SEALANT	1	oz	11/6/2015
0001395535		PLUMBER'S ADHESIVE/SEALANT	1	oz	11/6/2015
0001397639		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397594		Nitrogen UHP	220	cf	11/6/2015
0001397595		Nitrogen UHP	220	cf	11/6/2015
0001397596		Nitrogen UHP	220	cf	11/6/2015
0001395537		PLUMBER'S ADHESIVE/SEALANT	1	oz	11/6/2015
0001397638		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397577	7440-59-7	HELIUM	220	cf	11/6/2015
0001397574	7440-59-7	HELIUM	220	cf	11/6/2015
0001397582	7440-59-7	HELIUM	220	cf	11/6/2015
0001397624	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397578	7440-59-7	HELIUM	220	cf	11/6/2015
0001397580	7440-59-7	HELIUM	220	cf	11/6/2015
0001397579	7440-59-7	HELIUM	220	cf	11/6/2015
0001397633		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397575	7440-59-7	HELIUM	220	cf	11/6/2015
0001397634		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397573	7440-59-7	HELIUM	220	cf	11/6/2015
0001397617	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397618	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397619	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397589		Nitrogen UHP	220	cf	11/6/2015
0001397598		Nitrogen UHP	220	cf	11/6/2015
0001397576	7440-59-7	HELIUM	220	cf	11/6/2015
0001397587		Nitrogen UHP	220	cf	11/6/2015
0001397593		Nitrogen UHP	220	cf	11/6/2015
0001397592		Nitrogen UHP	220	cf	11/6/2015
0001397636		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397635		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397591		Nitrogen UHP	220	cf	11/6/2015
0001397632		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397588		Nitrogen UHP	220	cf	11/6/2015
0001397637		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397586		Nitrogen UHP	220	cf	11/6/2015
0001397585		Nitrogen UHP	220	cf	11/6/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395455		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/6/2015
0001397584		Nitrogen UHP	220	cf	11/6/2015
0001397583	7440-59-7	HELIUM	220	cf	11/6/2015
0001397581	7440-59-7	HELIUM	220	cf	11/6/2015
0001397590		Nitrogen UHP	220	cf	11/6/2015
0001397627		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397565	7440-59-7	HELIUM	220	cf	11/6/2015
0001397607	74-98-6	PROPANE	11	gal	11/6/2015
0001397608	74-98-6	PROPANE	11	gal	11/6/2015
0001397609	74-98-6	PROPANE	11	gal	11/6/2015
0001397572	7440-59-7	HELIUM	220	cf	11/6/2015
0001397625	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397571	7440-59-7	HELIUM	220	cf	11/6/2015
0001397605	74-98-6	PROPANE	11	gal	11/6/2015
0001397564	7440-59-7	HELIUM	220	cf	11/6/2015
0001397604	74-98-6	PROPANE	11	gal	11/6/2015
0001397628		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397570	7440-59-7	HELIUM	220	cf	11/6/2015
0001397569	7440-59-7	HELIUM	220	cf	11/6/2015
0001397629		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397568	7440-59-7	HELIUM	220	cf	11/6/2015
0001397567	7440-59-7	HELIUM	220	cf	11/6/2015
0001397566	7440-59-7	HELIUM	220	cf	11/6/2015
0001397630		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397612	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397631		P-10 (90% ARGON 10% METHANE)	220	cf	11/6/2015
0001397623	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397622	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397621	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397620	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397616	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397615	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397606	74-98-6	PROPANE	11	gal	11/6/2015
0001397613	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397610	74-98-6	PROPANE	11	gal	11/6/2015
0001397611	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001397597		Nitrogen UHP	220	cf	11/6/2015
0001397599	74-98-6	PROPANE	11	gal	11/6/2015
0001397600	74-98-6	PROPANE	11	gal	11/6/2015
0001397601	74-98-6	PROPANE	11	gal	11/6/2015
0001397602	74-98-6	PROPANE	11	gal	11/6/2015
0001397603	74-98-6	PROPANE	11	gal	11/6/2015
0001397614	7440-37-1	ARGON, COMPRESSED	220	cf	11/6/2015
0001269829		KESTER 197 SOLDER FLUX	1	gal	11/9/2015
0001354412	1693-74-9	TETRAHYDROFURAN-D8	10	ml	11/9/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001385645	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/9/2015
0001354410	513-81-5	2,3-DIMETHYL-1,3-BUTADIENE	10	gm	11/9/2015
0001354409	108-88-3	Poly(lauryl methacrylate) solution	25	gm	11/9/2015
0001354413	1693-74-9	TETRAHYDROFURAN-D8	10	ml	11/9/2015
0001354408	25087-17-6	Poly(hexyl methacrylate) solution	25	gm	11/9/2015
0001354414	75-05-8	ACETONITRILE ANHYDROUS	1	l	11/9/2015
0001395403		BIG STRETCH CAULK	10.5	oz	11/9/2015
0001354411	513-81-5	2,3-DIMETHYL-1,3-BUTADIENE	10	gm	11/9/2015
0001395406		PERMACRYL eggshell white INTERIOR ACRYLIC DE-1531	5	gal	11/9/2015
0001395404		BIG STRETCH CAULK	10.5	oz	11/9/2015
0001410333		DIESEL EXHAUST FLUID	2.5	gal	11/9/2015
0001385643	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/9/2015
0001397640	7782-50-5	CHLORINE	1	lb	11/9/2015
0001354407	624-73-7	1,2-DIIODOETHANE	25	gm	11/9/2015
0013055670	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	kg	11/9/2015
0001354415	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	11/9/2015
0001395399		BIG STRETCH CAULK	10.5	oz	11/9/2015
0001395400		BIG STRETCH CAULK	10.5	oz	11/9/2015
0001395401		BIG STRETCH CAULK	10.5	oz	11/9/2015
0001385644	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/9/2015
0001395402		BIG STRETCH CAULK	10.5	oz	11/9/2015
0001397641	7647-01-0	HYDROGEN CHLORIDE, ANHYDROUS	.5	lb	11/9/2015
0001395369		fast setting cement	50	lb	11/9/2015
0001354331	64-17-5	ETHYL ALCOHOL, PURE	4	l	11/9/2015
0001354330	64-17-5	ETHYL ALCOHOL, PURE	4	l	11/9/2015
0001354329	64-17-5	ETHYL ALCOHOL, PURE	4	l	11/9/2015
0001354328	64-17-5	ETHYL ALCOHOL, PURE	4	l	11/9/2015
0001354000		NITRATE NITROGEN STANDARD SOLUTION	500	ml	11/9/2015
0001352525		NALCO 73199 CORROSION INHIBITOR	5	gal	11/9/2015
0000874662		CONATHANE EN-7 PART B CURATIVE	1	qt	11/9/2015
0000874670		CONATHANE EN-7 PART B CURATIVE	1	qt	11/9/2015
0001056121		Spray Lacquer	12	oz	11/9/2015
0001354332	10-88-3	2,6-DIMETHYL-4-HEPTANONE	25	gm	11/9/2015
0001395381		fast setting cement	60	lb	11/9/2015
0001354342	Multi	DURAPOSIT SMT 88R	20	l	11/9/2015
0001395380		fast setting cement	60	lb	11/9/2015
0001354333	9003-39-8	POLYVINYLPYRROLIDONE	100	gm	11/9/2015
0001395375		fast setting cement	60	lb	11/9/2015
0001410332		DIESEL EXHAUST FLUID	2.5	gal	11/9/2015
0001354334	9003-39-8	POLYVINYLPYRROLIDONE	100	gm	11/9/2015
0001397650	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	11/9/2015
0001354337	628-99-9	2-Nonanol	25	gm	11/9/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397649	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/9/2015
0001354338	155090-83-8	POLY(3,4-ETHYLENEDIOXYTHIOPHENE)-POLY(STYRENESULFONATE), 2.2-2.6% IN H2O	250	gm	11/9/2015
0001397646	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/9/2015
0001354339	Multi	DURAPOSIT SMT 88R	20	l	11/9/2015
0001354402		BUFFER PACK, PH 4/7/10	275	ml	11/9/2015
0001354341	Multi	DURAPOSIT SMT 88R	20	l	11/9/2015
0001395368		fast setting cement	50	lb	11/9/2015
0001397648	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/9/2015
0001395379		fast setting cement	60	lb	11/9/2015
0001354403	557-20-0	DIETHYLZINC	25	gm	11/9/2015
0001354404	60-29-7	DIETHYL ETHER ANHYDROUS	1	l	11/9/2015
0001354405	877-24-7	POTASSIUM HYDROGEN PHTHALATE	100	gm	11/9/2015
0001354406	100929-99-5	NAPHTHYLAMIDE DIHYDROCHLORIDE	25	mg	11/9/2015
0001395408		ALEX PLUS	10.1	oz	11/9/2015
0001395409		ALEX PLUS	10.1	oz	11/9/2015
0001395410		ALEX PLUS	10.1	oz	11/9/2015
0001354340	Multi	DURAPOSIT SMT 88R	20	l	11/9/2015
0001394863		WHITE SILICONE	9.8	oz	11/9/2015
0001395372		fast setting cement	60	lb	11/9/2015
0001397647	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/9/2015
0001397642	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/9/2015
0001354336		2-NONANONE	100	gm	11/9/2015
0001395386		WHITE SILICONE	9.8	oz	11/9/2015
0001395385		WHITE SILICONE	9.8	oz	11/9/2015
0001395384		WHITE SILICONE	9.8	oz	11/9/2015
0001397643	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/9/2015
0001395382		WHITE SILICONE	9.8	oz	11/9/2015
0001305665	5968-11-6	SODIUM CARBONATE MONOHYDRATE	3	kg	11/9/2015
0001395413		COTE ALL NEUTRAL BASE	1	gal	11/9/2015
0001395412		COTE ALL SAFETY RED	1	gal	11/9/2015
0001395378		fast setting cement	60	lb	11/9/2015
0001397651	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	11/9/2015
0001395377		fast setting cement	60	lb	11/9/2015
0001397652	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	11/9/2015
0001397645	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/9/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397644	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/9/2015
0001395383		WHITE SILICONE	9.8	oz	11/9/2015
0001395394		PLUMBERS GREASE	1	oz	11/9/2015
0001354335	144-62-7	OXALIC ACID	250	gm	11/9/2015
0001395376		fast setting cement	60	lb	11/9/2015
0001395407		ALEX PLUS	10.1	oz	11/9/2015
0001395374		fast setting cement	60	lb	11/9/2015
0001395373		fast setting cement	60	lb	11/9/2015
0001395367		fast setting cement	50	lb	11/9/2015
0001395398		PLUMBERS GREASE	1	oz	11/9/2015
0001395397		PLUMBERS GREASE	1	oz	11/9/2015
0001395370		fast setting cement	50	lb	11/9/2015
0001395395		PLUMBERS GREASE	1	oz	11/9/2015
0001395411		COTE ALL SAFETY RED	1	gal	11/9/2015
0001395393		PLUMBERS GREASE	1	oz	11/9/2015
0001395392		WHITE SILICONE	9.8	oz	11/9/2015
0001395391		WHITE SILICONE	9.8	oz	11/9/2015
0001395390		WHITE SILICONE	9.8	oz	11/9/2015
0001395389		WHITE SILICONE	9.8	oz	11/9/2015
0001395388		WHITE SILICONE	9.8	oz	11/9/2015
0001395387		WHITE SILICONE	9.8	oz	11/9/2015
0001395371		fast setting cement	50	lb	11/9/2015
0001395396		PLUMBERS GREASE	1	oz	11/9/2015
0001354518	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001289039		VERSAMID 140 POLYAMIDE RESIN (CURING AGENT)	500	ml	11/10/2015
0001354517	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354516	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354515	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001289050		EPOXY RESIN	500	ml	11/10/2015
0001289036		EPOXY RESIN	500	ml	11/10/2015
0001354511	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001289035		EPOXY RESIN	500	ml	11/10/2015
0001354594	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354550	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354584	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354444		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001395558		CONCRETE SEALER	1	gal	11/10/2015
0001354442		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354441		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354447		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354565	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354448		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354595		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354596		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354597		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354598		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354599		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354600		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354566	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354545	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354553	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354552	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354551	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354549	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001289051		EPOXY RESIN	500	ml	11/10/2015
0001354548	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354446		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354546	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001147775		GLASS CLEANER	4.5	oz	11/10/2015
0001354453		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354452		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354451		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354450		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354519	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354449		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354547	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001395551		CONCRETE SEALER	1	gal	11/10/2015
0001354577	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001395557		CONCRETE SEALER	1	gal	11/10/2015
0001395556		CONCRETE SEALER	1	gal	11/10/2015
0001395555		CONCRETE SEALER	1	gal	11/10/2015
0001395554		CONCRETE SEALER	1	gal	11/10/2015
0001292154		ZYGLO PENETRANT ZL-27A	16	oz	11/10/2015
0001395552		CONCRETE SEALER	1	gal	11/10/2015
0001354522	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354583	7697-37-2	NITRIC ACID	2.5	l	11/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354582	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354581	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354580	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354579	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354572	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001395553		CONCRETE SEALER	1	gal	11/10/2015
0001354589	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001395561		CONCRETE SEALER	1	gal	11/10/2015
0001395560		CONCRETE SEALER	1	gal	11/10/2015
0001395559		CONCRETE SEALER	1	gal	11/10/2015
0001354585	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354586	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001292152		SKD-S SPOTCHECK DEVELOPER AEROSOL	16	oz	11/10/2015
0001354588	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354523	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354590	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354591	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354592	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354593	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354520	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354521	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354587	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354443		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354578	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001289057		EPOXY RESIN	500	ml	11/10/2015
0001289056		EPOXY RESIN	500	ml	11/10/2015
0001289055		EPOXY RESIN	500	ml	11/10/2015
0001289054		EPOXY RESIN	500	ml	11/10/2015
0001395540		CONCRETE SEALER	1	gal	11/10/2015
0001289052		EPOXY RESIN	500	ml	11/10/2015
0001395541		CONCRETE SEALER	1	gal	11/10/2015
0001354573	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354601		BUFFER PH 7.00	500	ml	11/10/2015
0001354571	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354570	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354569	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354568	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001289053		EPOXY RESIN	500	ml	11/10/2015
0001395548		CONCRETE SEALER	1	gal	11/10/2015
0001354524	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354525	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354576	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354575	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354574	7697-37-2	NITRIC ACID	2.5	l	11/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395539		CONCRETE SEALER	1	gal	11/10/2015
0001395549		CONCRETE SEALER	1	gal	11/10/2015
0001354567	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001395547		CONCRETE SEALER	1	gal	11/10/2015
0001395546		CONCRETE SEALER	1	gal	11/10/2015
0001395545		CONCRETE SEALER	1	gal	11/10/2015
0001395544		CONCRETE SEALER	1	gal	11/10/2015
0001395543		CONCRETE SEALER	1	gal	11/10/2015
0001395542		CONCRETE SEALER	1	gal	11/10/2015
0001395550		CONCRETE SEALER	1	gal	11/10/2015
0001354629		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354416		STRONTIUM TITANATE, POWDER	5	kg	11/10/2015
0001354527	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354526	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354422	78-50-2	TRIOCTYLPHOSPHINE OXIDE	100	gm	11/10/2015
0001354626		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354529	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354628		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354530	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354630		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354631	67-64-1	ACETONE	4	l	11/10/2015
0001354344	7087-68-5	N,N-DIISOPROPYLETHYLAMINE	100	ml	11/10/2015
0001354343	7646-69-7	SODIUM HYDRIDE	100	gm	11/10/2015
0001354556	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354557	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354627		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354535	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354539	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354538	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354537	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354536	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354417	6381-92-6	AMMONIA PH-ADJUSTING ISA	425	ml	11/10/2015
0001354528	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354419	6381-92-6	AMMONIA PH-ADJUSTING ISA	425	ml	11/10/2015
0001354560	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354534	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354533	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354532	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354420	6381-92-6	AMMONIA PH-ADJUSTING ISA	425	ml	11/10/2015
0001354421	78-50-2	TRIOCTYLPHOSPHINE OXIDE	100	gm	11/10/2015
0001354531	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354418	6381-92-6	AMMONIA PH-ADJUSTING ISA	425	ml	11/10/2015
0001354467		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354564	7697-37-2	NITRIC ACID	2.5	l	11/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354473		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354472		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354471		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354470		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354558	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354468		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354460		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354466		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354461		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354462		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354463		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354464		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354465		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354469		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354454		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354541	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354514	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354561	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354562	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354602		BUFFER PH 7.00	500	ml	11/10/2015
0001354513	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354563	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354512	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354474		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354455		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354456		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354457		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354458		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354459		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354559	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354445		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354612		BUFFER PH 7.00	500	ml	11/10/2015
0001354431	12060-59-2	STRONTIUM TITANIUM OXIDE	10	gm	11/10/2015
0001354430	7440-66-6	ZINC POWDER	250	gm	11/10/2015
0001354429	10026-12-7	NIOBIUM(V) CHLORIDE	5	gm	11/10/2015
0001354428	12034-59-2	NIOBIUM (IV) OXIDE	5	gm	11/10/2015
0001354355	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354619		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354611		BUFFER PH 7.00	500	ml	11/10/2015
0001354434	7664-93-9	SULFURIC ACID	2.5	l	11/10/2015
0001354613		BUFFER PH 7.00	500	ml	11/10/2015
0001354614		BUFFER PH 7.00	500	ml	11/10/2015
0001354615		BUFFER PH 7.00	500	ml	11/10/2015
0001354616		BUFFER PH 7.00	500	ml	11/10/2015
0001354617		BUFFER PH 7.00	500	ml	11/10/2015
0001354540	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354610		BUFFER PH 7.00	500	ml	11/10/2015
0001354357	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354603		BUFFER PH 7.00	500	ml	11/10/2015
0001354604		BUFFER PH 7.00	500	ml	11/10/2015
0001354605		BUFFER PH 7.00	500	ml	11/10/2015
0001354606		BUFFER PH 7.00	500	ml	11/10/2015
0001354607		BUFFER PH 7.00	500	ml	11/10/2015
0001354608		BUFFER PH 7.00	500	ml	11/10/2015
0001354432	12060-59-2	STRONTIUM TITANIUM OXIDE	50	gm	11/10/2015
0001354358	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354433	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	11/10/2015
0001354356	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354359	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354360	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354361	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354439		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354620		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354609		BUFFER PH 7.00	500	ml	11/10/2015
0001354440		AIR IN A CAN, (C.A.S. NO.)1, 1-DIFLUOROETHANE(75-37-6)	12	oz	11/10/2015
0001354366	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354365	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354542	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354543	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354544	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354364	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354363	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354362	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354555	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354554	7697-37-2	NITRIC ACID	2.5	l	11/10/2015
0001354423	78-50-2	TRIOCTYLPHOSPHINE OXIDE	100	gm	11/10/2015
0001354424	78-50-2	TRIOCTYLPHOSPHINE OXIDE	100	gm	11/10/2015
0001354618		BUFFER PH 7.00	500	ml	11/10/2015
0001354345	64-17-5	ALCOHOL REAGENT	4	l	11/10/2015
0001354353	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354621		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354622		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354623		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354624		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001354354	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354425	1664-40-0	N-PHENYLETHYLENEDIAMINE	10	gm	11/10/2015
0001354352	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354351	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354350	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354349	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	11/10/2015
0001354346	64-17-5	ALCOHOL REAGENT	4	l	11/10/2015
0001354427	103529-16-4	2-[(Trimethylsilyl)ethynyl]aniline	5	gm	11/10/2015
0001354426	4403-69-4	2-Aminobenzylamine	10	gm	11/10/2015
0001354625		BUFFER PH 10 (BLUE BUFFER)	500	ml	11/10/2015
0001292153		SPOTCHECK, SKC-S CLEANER/REMOVER	16	oz	11/10/2015
0001289040		VERSAMID 140 POLYAMIDE RESIN (CURING AGENT)	500	ml	11/10/2015
0001397656		SPOTCHECK SKD-S2 DEVELOPER	10.5	oz	11/10/2015
0001397655		SPOTCHECK PENETRANT SKL-HF/S(CONTAINS PETROLEUM DISTILLATES)	10.5	oz	11/10/2015
0001397654		SKC-S SPOTCHECK CLEANER/REMOVER	10.5	oz	11/10/2015
0001397653		SKC-S SPOTCHECK CLEANER/REMOVER	10.5	oz	11/10/2015
0001305670	5968-11-6	SODIUM CARBONATE, MONOHYDRATE	3	kg	11/10/2015
0001334225	18531-94-7	(R)-(+)-1,1'-BI-2-NAPHTHOL	2.5	gm	11/10/2015
0001289042		VERSAMID 140 POLYAMIDE RESIN (CURING AGENT)	500	ml	11/10/2015
0001334224	34830-11-0	EUROPIUM D-3-TRIFLUOROACETYLCAMPHORATE	1	gm	11/10/2015
0001289041		VERSAMID 140 POLYAMIDE RESIN (CURING AGENT)	500	ml	11/10/2015
0001289043		VERSAMID 140 POLYAMIDE RESIN (CURING AGENT)	500	ml	11/10/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001289044		VERSAMID 140 POLYAMIDE RESIN (CURING AGENT)	500	ml	11/10/2015
0001289045		VERSAMID 140 POLYAMIDE RESIN (CURING AGENT)	500	ml	11/10/2015
0001289046		VERSAMID 140 POLYAMIDE RESIN (CURING AGENT)	500	ml	11/10/2015
0001289047		VERSAMID 140 POLYAMIDE RESIN (CURING AGENT)	500	ml	11/10/2015
0001289048		VERSAMID 140 POLYAMIDE RESIN (CURING AGENT)	500	ml	11/10/2015
0001289049		VERSAMID 140 POLYAMIDE RESIN (CURING AGENT)	500	ml	11/10/2015
0001397728		AIR, COMPRESSED	220	cf	11/12/2015
0001397729		AIR, COMPRESSED	220	cf	11/12/2015
0001397731		AIR, COMPRESSED	220	cf	11/12/2015
0001402914		LYSOL BRAND III	12.5	oz	11/12/2015
0001397730		AIR, COMPRESSED	220	cf	11/12/2015
0001402852		ZOOM SPOUT OILER	4	oz	11/12/2015
0001334211		COLLOIDAL SILVER PASTE	25	gm	11/12/2015
0001334212		COLLOIDAL SILVER PASTE	25	gm	11/12/2015
0001334213		COLLOIDAL SILVER PASTE	25	gm	11/12/2015
0001334214		COLLOIDAL SILVER PASTE	25	gm	11/12/2015
0001334215		COLLOIDAL SILVER PASTE	25	gm	11/12/2015
0001402848		ZOOM SPOUT OILER	4	oz	11/12/2015
0001402849		ZOOM SPOUT OILER	4	oz	11/12/2015
0001395562		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/12/2015
0001402851		ZOOM SPOUT OILER	4	oz	11/12/2015
0001402905		LYSOL BRAND III	12.5	oz	11/12/2015
0001402853		ZOOM SPOUT OILER	4	oz	11/12/2015
0001402854		ZOOM SPOUT OILER	4	oz	11/12/2015
0001402906		LYSOL BRAND III	12.5	oz	11/12/2015
0001402907		LYSOL BRAND III	12.5	oz	11/12/2015
0001402908		LYSOL BRAND III	12.5	oz	11/12/2015
0001402855		ZOOM SPOUT OILER	4	oz	11/12/2015
0001402846		ZOOM SPOUT OILER	4	oz	11/12/2015
0001402850		ZOOM SPOUT OILER	4	oz	11/12/2015
0001402893		LYSOL BRAND III	12.5	oz	11/12/2015
0001402902		LYSOL BRAND III	12.5	oz	11/12/2015
0001402901		LYSOL BRAND III	12.5	oz	11/12/2015
0001402900		LYSOL BRAND III	12.5	oz	11/12/2015
0001402899		LYSOL BRAND III	12.5	oz	11/12/2015
0001402898		LYSOL BRAND III	12.5	oz	11/12/2015
0001402897		LYSOL BRAND III	12.5	oz	11/12/2015
0001402896		LYSOL BRAND III	12.5	oz	11/12/2015
0001334210		COLLOIDAL GRAPHITE IN ISOPROPANOL	50	gm	11/12/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001402894		LYSOL BRAND III	12.5	oz	11/12/2015
0001334236	630-08-0	CARBON MONOXIDE	.3	l	11/12/2015
0001402892		LYSOL BRAND III	12.5	oz	11/12/2015
0001402891		LYSOL BRAND III	12.5	oz	11/12/2015
0001402890		LYSOL BRAND III	12.5	oz	11/12/2015
0001402889		LYSOL BRAND III	12.5	oz	11/12/2015
0001402888		LYSOL BRAND III	12.5	oz	11/12/2015
0001402903		LYSOL BRAND III	12.5	oz	11/12/2015
0001402904		LYSOL BRAND III	12.5	oz	11/12/2015
0001402916		LYSOL BRAND III	12.5	oz	11/12/2015
0001402895		LYSOL BRAND III	12.5	oz	11/12/2015
0001402919		LYSOL BRAND III	12.5	oz	11/12/2015
0001397673	7440-37-1	ARGON, COMPRESSED	220	cf	11/12/2015
0001402913		LYSOL BRAND III	12.5	oz	11/12/2015
0001402847		ZOOM SPOUT OILER	4	oz	11/12/2015
0001402915		LYSOL BRAND III	12.5	oz	11/12/2015
0001397674	7440-37-1	ARGON, COMPRESSED	220	cf	11/12/2015
0001397675	7440-37-1	ARGON, COMPRESSED	220	cf	11/12/2015
0001397676	7440-37-1	ARGON, COMPRESSED	220	cf	11/12/2015
0001402856		ZOOM SPOUT OILER	4	oz	11/12/2015
0001402918		LYSOL BRAND III	12.5	oz	11/12/2015
0001397671	7440-37-1	ARGON, COMPRESSED	220	cf	11/12/2015
0001402920		LYSOL BRAND III	12.5	oz	11/12/2015
0001402921		LYSOL BRAND III	12.5	oz	11/12/2015
0001402922		LYSOL BRAND III	12.5	oz	11/12/2015
0001402843		ZOOM SPOUT OILER	4	oz	11/12/2015
0001402844		ZOOM SPOUT OILER	4	oz	11/12/2015
0001397734		UHP Nitrogen	80	cf	11/12/2015
0001397733		AIR, COMPRESSED	220	cf	11/12/2015
0001397677	7440-37-1	ARGON, COMPRESSED	220	cf	11/12/2015
0001402911		LYSOL BRAND III	12.5	oz	11/12/2015
0001397657	74-98-6	PROPANE	11	gal	11/12/2015
0001397658	74-98-6	PROPANE	11	gal	11/12/2015
0001397659	74-98-6	PROPANE	11	gal	11/12/2015
0001402917		LYSOL BRAND III	12.5	oz	11/12/2015
0001397660	74-98-6	PROPANE	11	gal	11/12/2015
0001402909		LYSOL BRAND III	12.5	oz	11/12/2015
0001397661	74-98-6	PROPANE	11	gal	11/12/2015
0001402912		LYSOL BRAND III	12.5	oz	11/12/2015
0001397662	74-98-6	PROPANE	11	gal	11/12/2015
0001397672	7440-37-1	ARGON, COMPRESSED	220	cf	11/12/2015
0001397663	74-98-6	PROPANE	11	gal	11/12/2015
0001397664	74-98-6	PROPANE	11	gal	11/12/2015
0001397665	74-98-6	PROPANE	11	gal	11/12/2015
0001397666	74-98-6	PROPANE	11	gal	11/12/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397667	74-98-6	PROPANE	11	gal	11/12/2015
0001397669	7440-37-1	ARGON, COMPRESSED	220	cf	11/12/2015
0001397670	7440-37-1	ARGON, COMPRESSED	220	cf	11/12/2015
0001397732		AIR, COMPRESSED	220	cf	11/12/2015
0001402910		LYSOL BRAND III	12.5	oz	11/12/2015
0001397702		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397690		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397691		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397692		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397693		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397709		UHP Nitrogen	220	cf	11/12/2015
0001397695		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397697		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397698		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397699		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397700		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001402881		LYSOL BRAND III	12.5	oz	11/12/2015
0001402880		LYSOL BRAND III	12.5	oz	11/12/2015
0001402872		LYSOL BRAND III	12.5	oz	11/12/2015
0001397701		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001402884		LYSOL BRAND III	12.5	oz	11/12/2015
0001397703		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397704		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397705		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397706		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397707		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001402878		LYSOL BRAND III	12.5	oz	11/12/2015
0001402877		LYSOL BRAND III	12.5	oz	11/12/2015
0001402845		ZOOM SPOUT OILER	4	oz	11/12/2015
0001402876		LYSOL BRAND III	12.5	oz	11/12/2015
0001402875		LYSOL BRAND III	12.5	oz	11/12/2015
0001402874		LYSOL BRAND III	12.5	oz	11/12/2015
0001402873		LYSOL BRAND III	12.5	oz	11/12/2015
0001402879		LYSOL BRAND III	12.5	oz	11/12/2015
0001397681		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397680		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397679		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397727		Carbon Dioxide 550ppm/Bal. Air	150	cf	11/12/2015
0001397726		Carbon Dioxide 550ppm/Bal. Air	150	cf	11/12/2015
0001397725		Carbon Dioxide 550ppm/Bal. Air	150	cf	11/12/2015
0001397724		Carbon Dioxide 550ppm/Bal. Air	150	cf	11/12/2015
0001397722		UHP Nitrogen	220	cf	11/12/2015
0001397721		UHP Nitrogen	220	cf	11/12/2015
0001397720		UHP Nitrogen	220	cf	11/12/2015
0001397719		UHP Nitrogen	220	cf	11/12/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397718		UHP Nitrogen	220	cf	11/12/2015
0001397717		UHP Nitrogen	220	cf	11/12/2015
0001402882		LYSOL BRAND III	12.5	oz	11/12/2015
0001397715		UHP Nitrogen	220	cf	11/12/2015
0001402883		LYSOL BRAND III	12.5	oz	11/12/2015
0001397682		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397683		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397684		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397685		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397686		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397687		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397688		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397689		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001397678		P-10 (90% ARGON 10% METHANE)	220	cf	11/12/2015
0001402887		LYSOL BRAND III	12.5	oz	11/12/2015
0001402886		LYSOL BRAND III	12.5	oz	11/12/2015
0001402885		LYSOL BRAND III	12.5	oz	11/12/2015
0001397696		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397716		UHP Nitrogen	220	cf	11/12/2015
0001397708		UHP Nitrogen	220	cf	11/12/2015
0001397713		UHP Nitrogen	220	cf	11/12/2015
0001397712		UHP Nitrogen	220	cf	11/12/2015
0001397714		UHP Nitrogen	220	cf	11/12/2015
0001397710		UHP Nitrogen	220	cf	11/12/2015
0001397711		UHP Nitrogen	220	cf	11/12/2015
0001402871		LYSOL BRAND III	12.5	oz	11/12/2015
0001397694		94% Argon and 6% Hydrogen	220	cf	11/12/2015
0001397668	7440-37-1	ARGON, COMPRESSED	220	cf	11/12/2015
0001397723		Carbon Dioxide 550ppm/Bal. Air	150	cf	11/12/2015
0001354640	67-56-1	METHANOL	4	l	11/13/2015
0001354639	67-56-1	METHANOL	4	l	11/13/2015
0001354435	67-63-0	ISOPROPYL ALCOHOL	1	l	11/13/2015
0001354637	67-56-1	METHANOL	4	l	11/13/2015
0001354436		SHELL EPON RESIN 828	1	gal	11/13/2015
0001354635	67-56-1	METHANOL	4	l	11/13/2015
0001354437		SHELL EPON RESIN 828	1	gal	11/13/2015
0001354634	67-63-0	ISOPROPYL ALCOHOL AND WATER	4	l	11/13/2015
0001354348	107-21-1	ETHYLENE GLYCOL (ANTI-FREEZE)	55	gal	11/13/2015
0001354347	107-21-1	ETHYLENE GLYCOL (ANTI-FREEZE)	55	gal	11/13/2015
0001354638	67-56-1	METHANOL	4	l	11/13/2015
0001354438		SHELL EPON RESIN 828	1	gal	11/13/2015
0001354632	68037-01-4	MECHANICAL PUMP OIL - 45	3.78	l	11/13/2015
0001410334		Blaw-Kote	5	gal	11/13/2015
0001410335		Blaw-Kote	5	gal	11/13/2015
0001410336		Blaw-Kote	5	gal	11/13/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410337		Blaw-Kote	5	gal	11/13/2015
0001410338		Blaw-Kote	5	gal	11/13/2015
0001354636	67-56-1	METHANOL	4	l	11/13/2015
0001410339		Blaw-Kote	5	gal	11/13/2015
0001410340		Blaw-Kote	5	gal	11/13/2015
0001354633	67-63-0	ISOPROPYL ALCOHOL AND WATER	4	l	11/13/2015
0001354683	67-64-1	ACETONE	1	l	11/13/2015
0001354679	528-50-7	D(+) Cellobiose	25	gm	11/13/2015
0001354671	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	11/13/2015
0001354672	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	11/13/2015
0001354673	108-88-3	TOLUENE, ANHYDROUS	1	l	11/13/2015
0001354680	5989-81-1	ALPHA-LACTOSE	500	gm	11/13/2015
0001354670	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	11/13/2015
0001354712		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	11/13/2015
0001354682	1344-28-1	ALPHA-ALUMINA	60	gm	11/13/2015
0001354681	99-20-7	D(+)-TREHALOSE DIHYDRATE	25	gm	11/13/2015
0001354776	2439-35-2	2-(Dimethylamino)ethyl acrylate	500	ml	11/13/2015
0001354705		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	11/13/2015
0001354741	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354742	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354719	1665-59-4	N,N-diethyl-N'-phenylethylenediamine	500	mg	11/13/2015
0001354704	112-55-0	1-DODECANETHIOL	100	ml	11/13/2015
0001354703		URANIUM STANDARD	125	ml	11/13/2015
0001354702		URANIUM STANDARD	125	ml	11/13/2015
0001354727	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354775	2439-35-2	2-(Dimethylamino)ethyl acrylate	500	ml	11/13/2015
0001354707		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	11/13/2015
0001354779		PROTEASE INHIBITOR COCKTAIL	1	l	11/13/2015
0001354780		IMJECT OVALBUMIN	1	mg	11/13/2015
0001354781		IMJECT OVALBUMIN	1	mg	11/13/2015
0001354782	1263-89-4	Paromomycin sulfate salt	1	gm	11/13/2015
0001354783	79-37-8	OXALYL CHLORIDE	100	gm	11/13/2015
0001354700	4712-51-0	Bis(trimethylsilylmethyl) sulfide	5	ml	11/13/2015
0001354699		pH Electrode Cleaning and Storage Solution C	120	ml	11/13/2015
0001354701		URANIUM STANDARD	125	ml	11/13/2015
0001354744		Simplified TKN (s-TKN) TNTplus	25	ml	11/13/2015
0001354668	773-64-8	2-MESITYLENESULFONYL CHLORIDE	100	gm	11/13/2015
0001354667		SYLGARD 184	1.1	lb	11/13/2015
0001354666		SYLGARD 184	1.1	lb	11/13/2015
0001354665		SYLGARD 184	1.1	lb	11/13/2015
0001354664		SYLGARD 184	1.1	lb	11/13/2015
0001354646		BUFFER PH 10 (BLUE BUFFER)	475	ml	11/13/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354645	6153-56-6	OXALIC ACID CERT. ACS	250	gm	11/13/2015
0001354774	2426-54-2	2-(Diethylamino)ethyl acrylate	100	ml	11/13/2015
0001354745		Simplified TKN (s-TKN) TNTplus	25	ml	11/13/2015
0001354706		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	11/13/2015
0001354743		Simplified TKN (s-TKN) TNTplus	25	ml	11/13/2015
0001354713	7440-23-5	Sodium 30-35 wt % dispersion in paraffin	100	gm	11/13/2015
0001354746		Simplified TKN (s-TKN) TNTplus	25	ml	11/13/2015
0001354711		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	11/13/2015
0001354710		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	11/13/2015
0001354709		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	11/13/2015
0001354708		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	11/13/2015
0001354669	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	11/13/2015
0001354644		PERCHLORIC ACID SOLUTION 0.1N	4	l	11/13/2015
0001354737	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354654	67-56-1	METHANOL OPTIMA	4	l	11/13/2015
0001354685	151-21-3	DODECYL SODIUM SULFATE	100	gm	11/13/2015
0001354684	80-62-6	METHYL METHACRYLATE	1	l	11/13/2015
0001385653	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/13/2015
0001385652	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/13/2015
0001385651	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/13/2015
0001385650	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/13/2015
0001354678	108-88-3	TOLUENE, ANHYDROUS	1	l	11/13/2015
0001354677	108-88-3	TOLUENE, ANHYDROUS	1	l	11/13/2015
0001354676	108-88-3	TOLUENE, ANHYDROUS	1	l	11/13/2015
0001354740	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354675	108-88-3	TOLUENE, ANHYDROUS	1	l	11/13/2015
0001354738	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354695	1145-73-9	4-(Dimethylamino)stilbene	5	gm	11/13/2015
0001354736	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354735	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354641	67-56-1	METHANOL	4	l	11/13/2015
0001354734	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354732	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354731	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354730	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354729	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354728	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354690	84901-27-9	Trimethyl[3-(triethoxysilyl)propyl]ammonium Chloride	5	gm	11/13/2015
0001385648	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	11/13/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001385647	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	11/13/2015
0001354739	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354720	48108-93-6	2-(2-amino-ethyl)-aniline	400	mg	11/13/2015
0001354651		PERCHLORIC ACID SOLUTION 0.1N	4	l	11/13/2015
0001354650	107-21-1	ETHYLENE GLYCOL	4	l	11/13/2015
0001354649	107-21-1	ETHYLENE GLYCOL	4	l	11/13/2015
0001354648	107-21-1	ETHYLENE GLYCOL	4	l	11/13/2015
0001354647	107-21-1	ETHYLENE GLYCOL	4	l	11/13/2015
0001385646		SODIUM BISULFITE 38-42%	2464	lb	11/13/2015
0001354714	528-50-7	Red First Contact Polymer Solutions	4.5	oz	11/13/2015
0001354698		PH ELECTRODE STORAGE SOLUTION	475	ml	11/13/2015
0001354773	69011-20-7	AG 5-W-X8 RESIN	100	gm	11/13/2015
0001354772		FORMIC ACID D2	10	gm	11/13/2015
0001354724	17372-87-1	EOSIN YELLOWISH, 1%	50	gm	11/13/2015
0001354723	6485-79-6	TRIISOPROPYLSILANE	50	gm	11/13/2015
0001354697		BUFFER PH 7 (YELLOW BUFFER)	475	ml	11/13/2015
0001354721	7727-54-0	AMMONIUM PERSULFATE	500	gm	11/13/2015
0001354696	Multi	Buffer pH 4.01 (Pink)	475	ml	11/13/2015
0001354652		VERSA-CLEAN LIQUID CONCENTRATE	4	l	11/13/2015
0001354653		VERSA-CLEAN LIQUID CONCENTRATE	4	l	11/13/2015
0001354715	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	11/13/2015
0001354716		BATH CLEAR ALGICIDE	8	oz	11/13/2015
0001354717		BATH CLEAR ALGICIDE	8	oz	11/13/2015
0001354718		TE BUFFER	1000	ml	11/13/2015
0001354686		3M DP420 OFF WHITE 1.25OZ EPOX	37	ml	11/13/2015
0001354687		3M DP420 OFF WHITE 1.25OZ EPOX	37	ml	11/13/2015
0001354688		3-AMINOCROTONONITRILE	100	gm	11/13/2015
0001354689		SR RESIN	50	gm	11/13/2015
0001354694	1145-73-9	4-(Dimethylamino)stilbene	5	gm	11/13/2015
0001354733	67-64-1	ACETONE HISTOLOGICAL GRADE	1	gal	11/13/2015
0001354722	67-68-5	Quant-iT Qubit ssDNA Assay Kit	125	ml	11/13/2015
0001354757		BUFFER PH 12.0	500	ml	11/13/2015
0001354778		PROTEASE INHIBITOR COCKTAIL	1	l	11/13/2015
0001354777		MOUSE IMMUNOGLOBULINS	10	mg	11/13/2015
0001354769		BUFFER PH 12.0	500	ml	11/13/2015
0001354674	108-88-3	TOLUENE, ANHYDROUS	1	l	11/13/2015
0001354767		BUFFER PH 12.0	500	ml	11/13/2015
0001354765		BUFFER PH 12.0	500	ml	11/13/2015
0001354764		BUFFER PH 12.0	500	ml	11/13/2015
0001354763		BUFFER PH 12.0	500	ml	11/13/2015
0001354762		BUFFER PH 12.0	500	ml	11/13/2015
0001354761		BUFFER PH 12.0	500	ml	11/13/2015
0001354760		BUFFER PH 12.0	500	ml	11/13/2015
0001354770		BUFFER PH 12.0	500	ml	11/13/2015
0001354758		BUFFER PH 12.0	500	ml	11/13/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354768		BUFFER PH 12.0	500	ml	11/13/2015
0001354756		BUFFER PH 12.0	500	ml	11/13/2015
0001354755		BUFFER PH 12.0	500	ml	11/13/2015
0001354754		BUFFER PH 12.0	500	ml	11/13/2015
0001354753		BUFFER PH 12.0	500	ml	11/13/2015
0001354752		BUFFER PH 12.0	500	ml	11/13/2015
0001354751		BUFFER PH 12.0	500	ml	11/13/2015
0001354750		BUFFER PH 12.0	500	ml	11/13/2015
0001354749		BUFFER PH 12.0	500	ml	11/13/2015
0001354748		BUFFER PH 12.0	500	ml	11/13/2015
0001354747		Simplified TKN (s-TKN) TNTplus	25	ml	11/13/2015
0001354642	67-56-1	METHANOL	4	l	11/13/2015
0001354759		BUFFER PH 12.0	500	ml	11/13/2015
0001354659		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	11/13/2015
0001354663		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	11/13/2015
0001354662		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	11/13/2015
0001354661		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	11/13/2015
0001354766		BUFFER PH 12.0	500	ml	11/13/2015
0001354660		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	11/13/2015
0001354658		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	11/13/2015
0001354657		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	11/13/2015
0001354656		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	11/13/2015
0001354655		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	11/13/2015
0001385649	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/13/2015
0001354643	109-72-8	N-BUTYLLITHIUM	100	ml	11/13/2015
0001354771		BUFFER PH 12.0	500	ml	11/13/2015
0001334264	7440-69-9	BISMUTH	25	gm	11/16/2015
0001334245	2551-62-4	SULFUR HEXAFLUORIDE	150	l	11/16/2015
0001334257	1333-74-0	HYDROGEN	7	l	11/16/2015
0001334265	1333-74-0	HYDROGEN	7	l	11/16/2015
0001334248	69991-67-9	FOMBLIN Y 25/6 L VAC	1	kg	11/16/2015
0001334249	69991-67-9	FOMBLIN Y 25/6 L VAC	1	kg	11/16/2015
0001334250	7440-21-3	SILICONE DIFFUSION PUMP FLUID	500	ml	11/16/2015
0001334229		NITROGEN-15	3	l	11/16/2015
0001334237	7782-44-7	OXYGEN, COMPRESSED GAS	10	l	11/16/2015
0001334234		NITROGEN-15	.25	l	11/16/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001334262	630-08-0	CARBON MONOXIDE	7	l	11/16/2015
0001334238	2551-62-4	SULFUR HEXAFLUORIDE	5	l	11/16/2015
0001334259	74-82-8	METHANE	5	l	11/16/2015
0001334244	7440-01-9	NEON	100	l	11/16/2015
0001334246	7440-59-7	HELIUM	7	l	11/16/2015
0001334228		NITROGEN-15	4	l	11/16/2015
0001334251		HIGH VACUUM PUMP OIL	1	l	11/16/2015
0013342226		CARBON DIOXIDE (C-13)	10	l	11/16/2015
0001334267		L GREASE	50	gm	11/16/2015
0001334266		L GREASE	50	gm	11/16/2015
0001334261	20667-12-3	SILVER OXIDE	125	gm	11/16/2015
0001334252	7440-21-3	SILICONE DIFFUSION PUMP FLUID	4	l	11/16/2015
0001334253		De-ox-ID Electronic Contact Cleaner	2	oz	11/16/2015
0001334235	17410-58-1	OXYGEN (O-18)	3	l	11/16/2015
0001334241	124-38-9	CARBON DIOXIDE, GAS	5	l	11/16/2015
0001334240		NITROGEN-15	.3	l	11/16/2015
0001334254		De-ox-ID Electronic Contact Cleaner	2	oz	11/16/2015
0001383434	7697-37-2	NITRIC ACID	100	ml	11/16/2015
0001334243	7439-90-9	KRYPTON	100	l	11/16/2015
0001334230	124-38-9	CARBON DIOXIDE, GAS	100	l	11/16/2015
0001334216		CONDUCTIVE SILVER PAINT	31	gm	11/16/2015
0001334209		AZ 5214-E PHOTORESIST	1	qt	11/16/2015
0001385613		BUFFER SOLUTIONS (PH 4.00)	8	l	11/16/2015
0001201272	7697-37-2	NITRIC ACID	900	ml	11/16/2015
0001334263	74-82-8	METHANE	7	l	11/16/2015
0001385614		BUFFER SOLUTIONS (PH 4.00)	8	l	11/16/2015
0001334242	7440-01-9	NEON	100	l	11/16/2015
0001334268		L GREASE	50	gm	11/16/2015
0001334233	7440-63-3	XENON	100	l	11/16/2015
0001334227		HELIUM-3	5	l	11/16/2015
0001334239		FREON	5	l	11/16/2015
0001334232	7782-44-7	OXYGEN, COMPRESSED GAS	100	l	11/16/2015
0001334231	124-38-9	CARBON DIOXIDE, GAS	100	l	11/16/2015
0001334260	74-82-8	METHANE, COMPRESSED GAS	10	l	11/16/2015
0001334255	74-98-6	PROPANE FUEL	14.1	oz	11/16/2015
0001334256	74-98-6	PROPANE FUEL	14.1	oz	11/16/2015
0001354853		SCOTCHCAST ELECTRICAL RESIN	1	qt	11/17/2015
0001354854		SCOTCHCAST ELECTRICAL RESIN	1	qt	11/17/2015
0001354855		SCOTCHCAST ELECTRICAL RESIN	1	qt	11/17/2015
0001354826	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354852	6363-53-7	MALTOSE, MONOHYDRATE	100	gm	11/17/2015
0001354828	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354806		PARATONE N	100	ml	11/17/2015
0001354856		SCOTCHCAST ELECTRICAL RESIN	1	qt	11/17/2015
0001354827	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354847	1310-73-2	SODIUM HYDROXIDE SOLUTIONS, 1N TO N/100	1	l	11/17/2015
0001354811	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354810		FLUORINERT FC-770	3.25	gal	11/17/2015
0001354809		FLUORINERT FC-770	3.25	gal	11/17/2015
0001354808		FLUORINERT FC-770	3.25	gal	11/17/2015
0001354807		PARATONE N	100	ml	11/17/2015
0001354726	1317-34-6	MANGANESE(III) OXIDE	250	gm	11/17/2015
0001354725		VINYL GUM, 0.1-0.2% VINYLMETHYLSILOXANE, 6-7% DIPHENYLSILOXANE	100	gm	11/17/2015
0001354832	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354845	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001402963		RAPID ROAD REPAIR	50	lb	11/17/2015
0001354839	108-88-3	TOLUENE	1	l	11/17/2015
0001354838	108-88-3	TOLUENE	1	l	11/17/2015
0001354837	108-88-3	TOLUENE	1	l	11/17/2015
0001354836	108-88-3	TOLUENE	1	l	11/17/2015
0001354835	108-88-3	TOLUENE	1	l	11/17/2015
0001354830	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001334217	75-24-1	TRIMETHYLALUMINUM	100	ml	11/17/2015
0001354841	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001334223	922-67-8	METHYL PROPIOLATE	2.5	gm	11/17/2015
0001334222	7440-19-9	SAMARIUM	10	gm	11/17/2015
0001334221	75-15-0	CARBON DISULFIDE	25	ml	11/17/2015
0001334220	999-97-3	1,1,1,3,3,3-HEXAMETHYLDISILAZANE	100	ml	11/17/2015
0001334219	1118-03-2	AZIDOTRIMETHYLTIN (IV)	1	gm	11/17/2015
0001334218	10026-08-1	THORIUM CHLORIDE	25	gm	11/17/2015
0001402964		RAPID ROAD REPAIR	50	lb	11/17/2015
0001354844	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354858		SCOTCHCAST ELECTRICAL RESIN	1	qt	11/17/2015
0001354859		SCOTCHCAST ELECTRICAL RESIN	1	qt	11/17/2015
0001354860		SCOTCHCAST ELECTRICAL RESIN	1	qt	11/17/2015
0001354861		SCOTCHCAST ELECTRICAL RESIN	1	qt	11/17/2015
0001354862		SCOTCHCAST ELECTRICAL RESIN	1	qt	11/17/2015
0001354829	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354846	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354831	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354834	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354833	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354863		GE LEXAN POLYCARBONATE RESIN	5	oz	11/17/2015
0001354864		GE LEXAN POLYCARBONATE RESIN	5	oz	11/17/2015
0001354865		GE LEXAN POLYCARBONATE RESIN	5	oz	11/17/2015
0001354866		GE LEXAN POLYCARBONATE RESIN	5	oz	11/17/2015
0001354857		SCOTCHCAST ELECTRICAL RESIN	1	qt	11/17/2015
0001354812	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354824	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354813	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354843	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354842	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001402965		RAPID ROAD REPAIR	50	lb	11/17/2015
0001402966		RAPID ROAD REPAIR	50	lb	11/17/2015
0001402967		RAPID ROAD REPAIR	50	lb	11/17/2015
0001354840	108-88-3	TOLUENE	1	l	11/17/2015
0001354825	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354823	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354820	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354814	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354815	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354821	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354816	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354817	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354818	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354822	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354819	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	11/17/2015
0001354488		CRYSTAL VIOLET	120	ml	11/17/2015
0001403038		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403049		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402859		CLEAR SILICONE	9.8	oz	11/17/2015
0001402858		CLEAR SILICONE	9.8	oz	11/17/2015
0001402857		CLEAR SILICONE	9.8	oz	11/17/2015
0001403057		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403055		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403054		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403053		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403036		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403051		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402924		MOBILITH SHC 220	13.7	oz	11/17/2015
0001403048		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403047		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403046		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403044		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403043		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403042		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403041		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403040		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403052		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001354482	1888-71-7	HEXACHLOROPROPENE	2	kg	11/17/2015
0001354804		VISCOSITY STANDARD	1	pt	11/17/2015
0001354805		VISCOSITY STANDARD	1	pt	11/17/2015
0001385654	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	11/17/2015
0001385655	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001385656	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/17/2015
0001385657	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/17/2015
0001385658	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/17/2015
0001385659	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/17/2015
0001402860		CLEAR SILICONE	9.8	oz	11/17/2015
0001354481	1888-71-7	HEXACHLOROPROPENE	2	kg	11/17/2015
0001402923		MOBILITH SHC 220	13.7	oz	11/17/2015
0001354483	1888-71-7	HEXACHLOROPROPENE	2	kg	11/17/2015
0001354788	10025-98-6	POTASSIUM TETRACHLOROPALLADATE(II)	1	gm	11/17/2015
0001354803	53597-69-6	1,3,5-Triaza-7-phosphaadamantane	1	gm	11/17/2015
0001402928		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402927		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402926		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402925		MOBILITH SHC 220	13.7	oz	11/17/2015
0001403037		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001354480	1888-71-7	HEXACHLOROPROPENE	2	kg	11/17/2015
0001403016		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403039		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403025		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403024		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403023		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403022		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403021		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403020		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403019		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403027		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403017		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403028		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403015		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403014		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403012		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403010		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403007		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403006		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403005		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403003		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403018		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001178988		LOCTITE HYSOL 1C EPOXY	2.2	oz	11/17/2015
0001403002		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403035		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403034		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403033		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403032		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403031		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403030		VULKEM 116 BLACK	10.1	oz	11/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403029		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403026		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001178989		LOCTITE HYSOL 1C EPOXY	2.2	oz	11/17/2015
0001403008		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001179007		LOCTITE HYSOL 1C EPOXY	2.2	oz	11/17/2015
0001179013		LOCTITE HYSOL 1C EPOXY	2.2	oz	11/17/2015
0001179012		LOCTITE HYSOL 1C EPOXY	2.2	oz	11/17/2015
0001179011		LOCTITE HYSOL 1C EPOXY	2.2	oz	11/17/2015
0001179010		LOCTITE HYSOL 1C EPOXY	2.2	oz	11/17/2015
0001179009		LOCTITE HYSOL 1C EPOXY	2.2	oz	11/17/2015
0001179008		LOCTITE HYSOL 1C EPOXY	2.2	oz	11/17/2015
0001397735	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/17/2015
0001178990		LOCTITE HYSOL 1C EPOXY	2.2	oz	11/17/2015
0001354790	10217-52-4	HYDRAZINE HYDRATE	100	ml	11/17/2015
0001354802		VITA-D-CHLOR	35	lb	11/17/2015
0001402962		MOBILITH SHC 220	13.7	oz	11/17/2015
0001403001		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001354475	16219-75-3	5-Ethylidene-2-norbornene	500	ml	11/17/2015
0001354476	16219-75-3	5-Ethylidene-2-norbornene	500	ml	11/17/2015
0001354477	16219-75-3	5-Ethylidene-2-norbornene	500	ml	11/17/2015
0001354478	16219-75-3	5-Ethylidene-2-norbornene	500	ml	11/17/2015
0001354479	16219-75-3	5-Ethylidene-2-norbornene	500	ml	11/17/2015
0001354484	865-49-6	CHLOROFORM-D	100	gm	11/17/2015
0001402981		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402960		MOBILITH SHC 220	13.7	oz	11/17/2015
0001403011		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402959		MOBILITH SHC 220	13.7	oz	11/17/2015
0001354791		SYLGARD 186 KIT	1.1	lb	11/17/2015
0001354792		SYLGARD 186 KIT	1.1	lb	11/17/2015
0001354793		SYLGARD 186 KIT	1.1	lb	11/17/2015
0001354794		SYLGARD 186 KIT	1.1	lb	11/17/2015
0001354795		SYLGARD 186 KIT	1.1	lb	11/17/2015
0001354796		SYLGARD 186 KIT	1.1	lb	11/17/2015
0001354797		SYLGARD 186 KIT	1.1	lb	11/17/2015
0001354798		SYLGARD 186 KIT	1.1	lb	11/17/2015
0001354799		SYLGARD 186 KIT	1.1	lb	11/17/2015
0001354800		SYLGARD 186 KIT	1.1	lb	11/17/2015
0001354801		VITA-D-CHLOR	35	lb	11/17/2015
0001354787	7761-88-8	SILVER NITRATE	25	gm	11/17/2015
0001402968		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402980		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402979		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402978		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402977		VULKEM 116 BLACK	10.1	oz	11/17/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001402976		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402975		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402974		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402973		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402972		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402971		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402961		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402969		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001354789	1074-82-4	PHTHALIMIDE POTASSIUM SALT	100	gm	11/17/2015
0001402982		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402983		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402950		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402951		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402952		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402953		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402954		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402955		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402956		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402957		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402958		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402970		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402942		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402993		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402995		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402932		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402934		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402935		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402936		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402937		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402938		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402939		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402992		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402941		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402931		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402943		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402944		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402945		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402946		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402947		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402948		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402949		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402996		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001354786	18497-13-7	CHLOROPLATINIC ACID, HEXAHYDRATE	1	gm	11/17/2015
0001402940		MOBILITH SHC 220	13.7	oz	11/17/2015
0001403004		VULKEM 116 BLACK	10.1	oz	11/17/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397736	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/17/2015
0001403000		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402998		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403045		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403050		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403056		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402933		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402999		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402991		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403009		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403013		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402989		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402930		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402997		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402984		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402985		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402986		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402987		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402988		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402929		MOBILITH SHC 220	13.7	oz	11/17/2015
0001402994		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001402990		VULKEM 116 BLACK	10.1	oz	11/17/2015
0001403178		WALL TEXTURE ORANGE PEEL OIL BASED	25	oz	11/18/2015
0001289058		Solid Green 99 Dish Machine Detergent	8	lb	11/18/2015
0001289059		Solid Green 99 Dish Machine Detergent	8	lb	11/18/2015
0001289061		Solid Green 99 Dish Machine Detergent	8	lb	11/18/2015
0001403164		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403161		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403162		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403163		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001289065		SCOTCHCAST ELECTRICAL RESIN 281 [PART B]	8	lb	11/18/2015
0001289060		Solid Green 99 Dish Machine Detergent	8	lb	11/18/2015
0001403165		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403168		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403167		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403166		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001331811		ADHESIVE AB9110LV ANGSTROMBOND	47.5	gm	11/18/2015
0001403160		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403158		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403156		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403169		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403157		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001289064		SCOTCHCAST ELECTRICAL RESIN 281 [PART B]	8	lb	11/18/2015
0001403170		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403171		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001402868		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	11/18/2015
0001402867		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 45	18	lb	11/18/2015
0001403177		DIAMOND VOGEL PRO MAX LATEX PRIMER SEALER DU-1507 WHITE	5	gal	11/18/2015
0001403174		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403159		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403172		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403173		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403175		SBS FLASHING CEMENT MATRIX 202	4.75	gal	11/18/2015
0001403181		WALL TEXTURE ORANGE PEEL OIL BASED	25	oz	11/18/2015
0001403182		WALL TEXTURE ORANGE PEEL OIL BASED	25	oz	11/18/2015
0001403183		WALL TEXTURE ORANGE PEEL OIL BASED	25	oz	11/18/2015
0001354922	7697-37-2	NITRIC ACID	2.5	l	11/18/2015
0001403184		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001403185		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001403271		WEST C-358 INHIBITOR, ALKILINE	504	lb	11/18/2015
0001403180		WALL TEXTURE ORANGE PEEL OIL BASED	25	oz	11/18/2015
0001403186		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001354880		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015
0001403273		WEST C-358 INHIBITOR, ALKILINE	504	lb	11/18/2015
0001403223		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001403222		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001403191		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001403190		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001403189		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001354876	67-66-3	CHLOROFORM	4	l	11/18/2015
0001354877	67-66-3	CHLOROFORM	4	l	11/18/2015
0001403225		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001354879		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015
0001403226		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001354881		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403188		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001403187		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001354888		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015
0001354887		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015
0001354886		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015
0001354885		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015
0001354884		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015
0001354883		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015
0001354878		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015
0001403266		WEST C-358 INHIBITOR, ALKILINE	504	lb	11/18/2015
0001289063		SCOTCHCAST ELECTRICAL RESIN 281 [PART A]	8	lb	11/18/2015
0001289062		SCOTCHCAST ELECTRICAL RESIN 281 [PART A]	8	lb	11/18/2015
0001403275		WEST C-358 INHIBITOR, ALKILINE	504	lb	11/18/2015
0001403274		WEST C-358 INHIBITOR, ALKILINE	504	lb	11/18/2015
0001403272		WEST C-358 INHIBITOR, ALKILINE	504	lb	11/18/2015
0001354882		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015
0001403270		WEST C-358 INHIBITOR, ALKILINE	504	lb	11/18/2015
0001403269		WEST C-358 INHIBITOR, ALKILINE	504	lb	11/18/2015
0001403224		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001403267		WEST C-358 INHIBITOR, ALKILINE	504	lb	11/18/2015
0001403179		WALL TEXTURE ORANGE PEEL OIL BASED	25	oz	11/18/2015
0001403265		WEST R-630	573	lb	11/18/2015
0001403264		WEST R-630	573	lb	11/18/2015
0001403263		WEST R-630	573	lb	11/18/2015
0001403262		WEST R-630	573	lb	11/18/2015
0001403195		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403194		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403193		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403192		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403227		LIGHTWEIGHT SETTING TYPE JOINT COMPOUND - EASY SAND 20	18	lb	11/18/2015
0001403268		WEST C-358 INHIBITOR, ALKILINE	504	lb	11/18/2015
0001354919		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001403197		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403248		ARDEX FEATHER FINISH	10	lb	11/18/2015
0001403249		ARDEX FEATHER FINISH	10	lb	11/18/2015
0001403250		ARDEX FEATHER FINISH	10	lb	11/18/2015
0001403252		ARDEX FEATHER FINISH	10	lb	11/18/2015
0001403253		ARDEX FEATHER FINISH	10	lb	11/18/2015
0001403254		ARDEX FEATHER FINISH	10	lb	11/18/2015
0001403255		ARDEX FEATHER FINISH	10	lb	11/18/2015
0001403246		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354920		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001403245		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001354918		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354917		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354916		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354915		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354914		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354913		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354912		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354911		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354910		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354921		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001403235		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001402869		ALL-PURPOSE JOINT COMPOUND	4.5	gal	11/18/2015
0001402870		ALL-PURPOSE JOINT COMPOUND	4.5	gal	11/18/2015
0001403251		ARDEX FEATHER FINISH	10	lb	11/18/2015
0001403228		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403229		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403230		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403231		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403232		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403247		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403234		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001354907		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001403236		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403237		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403238		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403239		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403240		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403241		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403242		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403243		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403244		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001403233		EZ-PRO TEXTURE IN A BAG	20	oz	11/18/2015
0001354899		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001403202		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403201		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403200		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403199		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403196		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403198		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001354903		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354902		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354909		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354900		DISTILLED WHITE VINEGAR	1	gal	11/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403205		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001354898		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354897	4165-56-4	1,4-DIBROMOBENZENE-D4	5	gm	11/18/2015
0001354896	4165-56-4	1,4-DIBROMOBENZENE-D4	5	gm	11/18/2015
0001354895	4165-56-4	1,4-DIBROMOBENZENE-D4	5	gm	11/18/2015
0001354894	27565-41-9	DITHIOTHREITOL (DTT), CLELANDS REAGENT	5	gm	11/18/2015
0001354893	76-05-1	TRIFLUOROACETIC ACID	500	gm	11/18/2015
0001354892	76-05-1	TRIFLUOROACETIC ACID	500	gm	11/18/2015
0001354891	76-05-1	TRIFLUOROACETIC ACID	500	gm	11/18/2015
0001354890	76-05-1	TRIFLUOROACETIC ACID	500	gm	11/18/2015
0001354901		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001403214		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001354889		FANTASTIKE ALL PURPOSE CLEANER	32	oz	11/18/2015
0001354906		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354905		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001354904		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001403221		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403220		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403219		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403218		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403217		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403203		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403215		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403204		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403213		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403212		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403211		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403210		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403209		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403208		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403207		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403206		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001354908		DISTILLED WHITE VINEGAR	1	gal	11/18/2015
0001403216		BIG STRETCH CAULK	10.5	oz	11/18/2015
0001403260		WEST R-630	573	lb	11/18/2015
0001403257		WEST R-630	573	lb	11/18/2015
0001403258		WEST R-630	573	lb	11/18/2015
0001403259		WEST R-630	573	lb	11/18/2015
0001403256		WEST R-630	573	lb	11/18/2015
0001403261		WEST R-630	573	lb	11/18/2015
0001397892		Argon 75%, Carbon Dioxide 25%	220	cf	11/19/2015
0001410467		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001410466		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001410465		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001410464		ANTIFREEZE/COOLANT	1	gal	11/19/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410463		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001397893		Argon 75%, Carbon Dioxide 25%	220	cf	11/19/2015
0001410405	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/19/2015
0001410442		DOW CORNING 732 MULTI-PURPOSE SEALANT (CLEAR)	10.1	oz	11/19/2015
0001397891		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397890		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397889		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001410476		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001397779		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397894		Argon 75%, Carbon Dioxide 25%	220	cf	11/19/2015
0001410409	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/19/2015
0001410472		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001410471		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001410470		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001410469		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001397751		Carbon Monoxide 1000 ppm in Air	105	l	11/19/2015
0001410474		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001410406	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/19/2015
0001410410	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/19/2015
0001397752		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001410408	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/19/2015
0001410475		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001397753		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001410468		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001410473		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001397754		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397778		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001410479		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001410412	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/19/2015
0001410411	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/19/2015
0001397772		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397758		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397759		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397760		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397777		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397750		Carbon Monoxide 1000 ppm in Air	105	l	11/19/2015
0001397780		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397757		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001410478		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001397761		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001410480		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001397762		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397768		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397763		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397764		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397765		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397766		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397769		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397770		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397771		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001410477		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001397756		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397773		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397767		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397774		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397776		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397775		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001397755		P-10 (90% ARGON 10% METHANE)	220	cf	11/19/2015
0001410407	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/19/2015
0001410457		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001397888		95% NITROGEN/5% HYDROGEN	220	cf	11/19/2015
0001410395	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410394	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410393	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397896	75-73-0	TETRAFLUOROMETHANE	70	lb	11/19/2015
0001410451		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001410452		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001410453		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001410454		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001397850	74-98-6	PROPANE	11	gal	11/19/2015
0001397895	75-73-0	TETRAFLUOROMETHANE	70	lb	11/19/2015
0001410456		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001410443		ANTIFREEZE/COOLANT	1	gal	11/19/2015
0001410458		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001410459		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001397881		94% ARGON/6% HYDROGEN	220	cf	11/19/2015
0001410460		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001410345	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410441		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001410440		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001397816	7440-59-7	HELIUM	220	cf	11/19/2015
0001410346	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410347	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410455		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001410398	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410418		DRY FILM MOLY LUBRICANT LU 200	11	oz	11/19/2015
0001410417		LUBRIPLATE CHAIN AND CABLE FLUID	11	oz	11/19/2015
0001410416		LUBRIPLATE CHAIN AND CABLE FLUID	11	oz	11/19/2015
0001410415		LUBRIPLATE CHAIN AND CABLE FLUID	11	oz	11/19/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410414		LUBRIPLATE CHAIN AND CABLE FLUID	11	oz	11/19/2015
0001410413		LUBRIPLATE CHAIN AND CABLE FLUID	11	oz	11/19/2015
0001410404	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410403	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410402	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410401	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410396	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410399	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410419		DRY FILM MOLY LUBRICANT LU 200	11	oz	11/19/2015
0001410397	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397882		94% ARGON/6% HYDROGEN	220	cf	11/19/2015
0001397883		94% ARGON/6% HYDROGEN	220	cf	11/19/2015
0001397884		95% NITROGEN/5% HYDROGEN	220	cf	11/19/2015
0001397885		95% NITROGEN/5% HYDROGEN	220	cf	11/19/2015
0001397886		95% NITROGEN/5% HYDROGEN	220	cf	11/19/2015
0001397887		95% NITROGEN/5% HYDROGEN	220	cf	11/19/2015
0001410353	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397737		ZERO AIR THC < 1 PPM	17	l	11/19/2015
0001410348	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410400	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397846	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001410350	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397835	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397836	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397837	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397838	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397839	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397840	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397841	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397842	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397843	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397833	7440-37-1	ARGON, COMPRESSED	220	cf	11/19/2015
0001397845	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397832	7440-37-1	ARGON, COMPRESSED	220	cf	11/19/2015
0001397738		20 PPM Carbon Monoxide/Balance Air	17	l	11/19/2015
0001397847	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397848	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397849	74-98-6	PROPANE	11	gal	11/19/2015
0001289067		EPOXY RESIN	1	pt	11/19/2015
0001289066		EPOXY RESIN	1	pt	11/19/2015
0001385738	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/19/2015
0001385739	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/19/2015
0001385740	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	11/19/2015
0001385741	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	11/19/2015
0001385742	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	11/19/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397844	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397820	7440-59-7	HELIUM	220	cf	11/19/2015
0001397815	7440-59-7	HELIUM	220	cf	11/19/2015
0001410352	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397812	7440-59-7	HELIUM	220	cf	11/19/2015
0001410354	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410355	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410356	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410357	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410358	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410359	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397817	7440-59-7	HELIUM	220	cf	11/19/2015
0001397834	1333-74-0	HYDROGEN	220	cf	11/19/2015
0001397819	7440-59-7	HELIUM	220	cf	11/19/2015
0001410439		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001397821	7440-59-7	HELIUM	220	cf	11/19/2015
0001397822	7440-59-7	HELIUM	220	cf	11/19/2015
0001397823	7440-59-7	HELIUM	220	cf	11/19/2015
0001397824	7440-37-1	ARGON, COMPRESSED	220	cf	11/19/2015
0001397825	7440-37-1	ARGON, COMPRESSED	220	cf	11/19/2015
0001397826	7440-37-1	ARGON, COMPRESSED	220	cf	11/19/2015
0001397827	7440-37-1	ARGON, COMPRESSED	220	cf	11/19/2015
0001397828	7440-37-1	ARGON, COMPRESSED	220	cf	11/19/2015
0001397829	7440-37-1	ARGON, COMPRESSED	220	cf	11/19/2015
0001397830	7440-37-1	ARGON, COMPRESSED	220	cf	11/19/2015
0001397831	7440-37-1	ARGON, COMPRESSED	220	cf	11/19/2015
0001397818	7440-59-7	HELIUM	220	cf	11/19/2015
0001354961	623-24-5	DIBROMO-P-XYLENE	50	gm	11/19/2015
0013355972		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0001397868	74-98-6	PROPANE	11	gal	11/19/2015
0001397867	74-98-6	PROPANE	11	gal	11/19/2015
0001397866	74-98-6	PROPANE	11	gal	11/19/2015
0001397865	74-98-6	PROPANE	11	gal	11/19/2015
0013355979		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0013355978		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0013355977		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0013355976		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0013355975		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0001397870	74-98-6	PROPANE	11	gal	11/19/2015
0001354960	75-78-5	DICHLORODIMETHYLSILANE	100	gm	11/19/2015
0001397871	74-98-6	PROPANE	11	gal	11/19/2015
0001354962	598-21-0	BROMOACETYL BROMIDE	100	gm	11/19/2015
0001354963	598-21-0	BROMOACETYL BROMIDE	100	gm	11/19/2015
0001354964	108-90-7	CHLOROBENZENE	100	ml	11/19/2015
0001354965	71-36-3	1-BUTANOL	100	ml	11/19/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410341	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410342	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410343	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410344	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410462		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001410461		SUPER 77 ADHESIVE SPRAY	16.75	oz	11/19/2015
0001397814	7440-59-7	HELIUM	220	cf	11/19/2015
0013355974		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0001410426		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001410438		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001410437		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001410436		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001410435		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001410434		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001410433		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001410432		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001410431		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001410430		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001410429		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001397869	74-98-6	PROPANE	11	gal	11/19/2015
0001410427		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0013355971		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0001410425		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001397880		94% ARGON/6% HYDROGEN	220	cf	11/19/2015
0001410424		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001397879	74-98-6	PROPANE	5	gal	11/19/2015
0001397878	74-98-6	PROPANE	5	gal	11/19/2015
0001397877	74-98-6	PROPANE	5	gal	11/19/2015
0001397876	74-98-6	PROPANE	5	gal	11/19/2015
0001397875	74-98-6	PROPANE	5	gal	11/19/2015
0001397874	74-98-6	PROPANE	5	gal	11/19/2015
0001397873	74-98-6	PROPANE	11	gal	11/19/2015
0001397872	74-98-6	PROPANE	11	gal	11/19/2015
0001410428		PYROIL CARB AND CHOKE CLEANER	13	oz	11/19/2015
0001397742		carbon dioxide 1000 ppm in air	104	l	11/19/2015
0013355973		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0001397784	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397783	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397782	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397781	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397749		Carbon Monoxide 35 ppm/Air	105	l	11/19/2015
0001397748		Nitrogen UHP	105	l	11/19/2015
0001397747		AIR LIQUIDE CALGAZ 100 PPM ISOBUTANE IN AIR	105	l	11/19/2015
0001397746		AIR LIQUIDE CALGAZ 100 PPM ISOBUTANE IN AIR	105	l	11/19/2015
0001397745		AIR LIQUIDE CALGAZ 100 PPM ISOBUTANE IN AIR	105	l	11/19/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001397786	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397743		carbon dioxide 1000 ppm in air	104	l	11/19/2015
0001397787	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397741		carbon dioxide 1000 ppm in air	104	l	11/19/2015
0001397740		carbon dioxide 1000 ppm in air	104	l	11/19/2015
0001397739		Isobutane .9%/Balance Air	34	l	11/19/2015
0001397806	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397807	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397808	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397809	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397810	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397811	7440-59-7	HELIUM	220	cf	11/19/2015
0001410351	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397813	7440-59-7	HELIUM	220	cf	11/19/2015
0001397744		AIR LIQUIDE CALGAZ 100 PPM ISOBUTANE IN AIR	105	l	11/19/2015
0001397796	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0013355970		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0013355969		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0013355968		SILICONE ELASTOMER BASE	1	lb	11/19/2015
0001289069		SCOTCHCAST ELECTRICAL RESIN 281 [PART B]	.5	lb	11/19/2015
0001289068		SCOTCHCAST ELECTRICAL RESIN 281 [PART B]	.5	lb	11/19/2015
0001354959	79-10-7	ACRYLIC ACID	500	gm	11/19/2015
0001397802	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397801	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397800	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397799	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397785	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397797	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001385743	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	11/19/2015
0001397795	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397794	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397803	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397804	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397805	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397793	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397792	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397791	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397790	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397789	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397788	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001397798	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/19/2015
0001385661	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/19/2015
0001410370	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410371	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410391	Multi	DIESEL 9.1.1	80	oz	11/19/2015

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0001410390	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410389	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001354971	1310-73-2	SODIUM HYDROXIDE	500	ml	11/19/2015
0001410387	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410367	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001385735	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/19/2015
0001354977		MOLUB-ALLOY NO. 1 GREASE	14	oz	11/19/2015
0001354975	1310-73-2	SODIUM HYDROXIDE	500	ml	11/19/2015
0001354974	1310-73-2	SODIUM HYDROXIDE	500	ml	11/19/2015
0001354973	1310-73-2	SODIUM HYDROXIDE	500	ml	11/19/2015
0001354972	1310-73-2	SODIUM HYDROXIDE	500	ml	11/19/2015
0001410388	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410372	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001385662	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/19/2015
0001385736	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/19/2015
0001385737	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/19/2015
0001410360	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410361	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410362	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410369	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410364	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410368	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410365	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410349	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001385744	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	11/19/2015
0001410392	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410366	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001354976	1310-73-2	SODIUM HYDROXIDE	500	ml	11/19/2015
0001410363	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397851	74-98-6	PROPANE	11	gal	11/19/2015
0001397858	74-98-6	PROPANE	11	gal	11/19/2015
0001397857	74-98-6	PROPANE	11	gal	11/19/2015
0001397856	74-98-6	PROPANE	11	gal	11/19/2015
0001354970		M-BOND 200 CATALYST	30	ml	11/19/2015
0001397854	74-98-6	PROPANE	11	gal	11/19/2015
0001385660	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/19/2015
0001397859	74-98-6	PROPANE	11	gal	11/19/2015
0001397852	74-98-6	PROPANE	11	gal	11/19/2015
0001397855	74-98-6	PROPANE	11	gal	11/19/2015
0001410379	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410378	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410377	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410376	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410375	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410374	Multi	DIESEL 9.1.1	80	oz	11/19/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410373	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397853	74-98-6	PROPANE	11	gal	11/19/2015
0001410382	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001354969		M-BOND 200 CATALYST	30	ml	11/19/2015
0001354968	3615-41-6	L-Rhamnose	25	gm	11/19/2015
0001354967	111-65-9	OCTANE	100	ml	11/19/2015
0001354966	64-17-5	ETHYL ALCOHOL, PURE	500	ml	11/19/2015
0001410386	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410385	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001410383	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397860	74-98-6	PROPANE	11	gal	11/19/2015
0001410380	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397861	74-98-6	PROPANE	11	gal	11/19/2015
0001397862	74-98-6	PROPANE	11	gal	11/19/2015
0001397863	74-98-6	PROPANE	11	gal	11/19/2015
0001410384	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001397864	74-98-6	PROPANE	11	gal	11/19/2015
0001410381	Multi	DIESEL 9.1.1	80	oz	11/19/2015
0001402820		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001402828		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001403282		CHEMICAL RESISTANT EPOXY 555 CURE PART B	26	oz	11/20/2015
0001403277		PSX 700 pearl gray resin	1	gal	11/20/2015
0001402819		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001410485		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	11/20/2015
0001402821		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001402822		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001402826		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001403278		PSX 700 pearl gray resin	1	gal	11/20/2015
0001403279		PSX 700 pearl gray resin	1	gal	11/20/2015
0001403281		CHEMICAL RESISTANT EPOXY 555 CURE PART B	26	oz	11/20/2015
0001402818		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001403304		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001403284		PERMACRYL eggshell white INTERIOR ACRYLIC DE-1531	5	gal	11/20/2015
0001403283		PERMACRYL eggshell white INTERIOR ACRYLIC DE-1531	5	gal	11/20/2015
0001403285		PSX 700 LIGHT TINT RESIN	1	gal	11/20/2015
0001410481		Hydraulic Fluid AW #32	5	gal	11/20/2015
0001402827		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001402823		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001402824		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001402825		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001403280		CHEMICAL RESISTANT EPOXY 555 CURE PART B	26	oz	11/20/2015
0001403306		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001148977		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403309		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001403307		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001403308		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001403314		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001403315		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001148970		M-BOND TYPE-10 CURING AGENT	100	ml	11/20/2015
0001403286		PSX 700 LIGHT TINT RESIN	1	gal	11/20/2015
0001403312		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001403311		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001403310		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001403313		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001410482		Hydraulic Fluid AW #32	5	gal	11/20/2015
0001410422		RUBBERIZED UNDERCOATING	19.7	oz	11/20/2015
0001410423		synthetic 4-cycle engine oil	1	qt	11/20/2015
0001410444		THREADLOCKER RED	.34	oz	11/20/2015
0001410445		THREADLOCKER RED	.34	oz	11/20/2015
0001410446		THREADLOCKER RED	.34	oz	11/20/2015
0001410447		LOCTITE 242 THREADLOCKER	.34	oz	11/20/2015
0001410448		LOCTITE 242 THREADLOCKER	.34	oz	11/20/2015
0001403297		RUST STAIN REMOVER	1	gal	11/20/2015
0001402817		FANTASTIK ALL PURPOSE CLEANER	1	qt	11/20/2015
0001148975		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015
0001410450		LOCTITE 242 THREADLOCKER	.34	oz	11/20/2015
0001410488		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	11/20/2015
0001291941		MOBILE OIL	1	qt	11/20/2015
0001410483		HYDRAULIC FLUID	5	gal	11/20/2015
0001410484		TRANSMISSION FLUID	5	gal	11/20/2015
0001403298		RUST STAIN REMOVER	1	gal	11/20/2015
0001403299		RANDO HD	5	gal	11/20/2015
0001403300		RANDO HD	5	gal	11/20/2015
0001403301		RANDO HD	5	gal	11/20/2015
0001403302		RANDO HD	5	gal	11/20/2015
0001403303		RANDO HD	5	gal	11/20/2015
0001148983		5 MINUTE EPOXY	.47	oz	11/20/2015
0001410449		LOCTITE 242 THREADLOCKER	.34	oz	11/20/2015
0001403305		TEXACO TYPE F TRANSMISSION FLUID	1	qt	11/20/2015
0001403288		PSX 700 LIGHT TINT RESIN	1	gal	11/20/2015
0001403289		PSX 700 LIGHT TINT RESIN	1	gal	11/20/2015
0001403290		PSX 700 CURE	1	qt	11/20/2015
0001403291		PSX 700 CURE	1	qt	11/20/2015
0001403292		PSX 700 CURE	1	qt	11/20/2015
0001403293		PSX 700 CURE	1	qt	11/20/2015
0001403294		PSX 700 CURE	1	qt	11/20/2015
0001148971		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015
0001148972		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001148973		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015
0001410421		RUBBERIZED UNDERCOATING	19.7	oz	11/20/2015
0001148976		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015
0001410420		MOTOR ASSEMBLY GREASE NO.105	10	oz	11/20/2015
0001148978		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015
0001148979		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015
0001148980		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015
0001148981		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015
0001148982		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015
0001403295		RUST STAIN REMOVER	1	gal	11/20/2015
0001403296		RUST STAIN REMOVER	1	gal	11/20/2015
0001410486		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	11/20/2015
0001410487		ES COMPLEAT OAT ETHYLENE GLYCOL	1	gal	11/20/2015
0001403287		PSX 700 LIGHT TINT RESIN	1	gal	11/20/2015
0001148974		M-BOND ADHESIVE RESIN TYPE AE	10	gm	11/20/2015
0001148967		M-PREP CONDITIONER A	2	oz	11/20/2015
0001148969		M-BOND TYPE-10 CURING AGENT	100	ml	11/20/2015
0001397903	74-98-6	PROPANE	11	gal	11/20/2015
0001397902		P-10 (90% ARGON 10% METHANE)	220	cf	11/20/2015
0001397901	7727-37-9	NITROGEN, COMPRESSED GAS	20	cf	11/20/2015
0001397899	7727-37-9	NITROGEN, COMPRESSED GAS	20	cf	11/20/2015
0001397898	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/20/2015
0001397897	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	11/20/2015
0001291942	118-82-1	Mobil SHC 627 Synthetic Oil	1	qt	11/20/2015
0001148957		M-PREP NEUTRALIZER 5A	2	oz	11/20/2015
0001148968		M-PREP CONDITIONER A	2	oz	11/20/2015
0001148956		M-PREP NEUTRALIZER 5A	2	oz	11/20/2015
0001397910	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	cf	11/23/2015
0001397911	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	cf	11/23/2015
0001397905	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	cf	11/23/2015
0001397906	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	cf	11/23/2015
0001397907	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	cf	11/23/2015
0001397912	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	cf	11/23/2015
0001397908	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	cf	11/23/2015
0001397909	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	cf	11/23/2015
0001397904	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	cf	11/23/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410515		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410524		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410525		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410517		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410489		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410490		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410491		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410492		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410493		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410495		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410498		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410514		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410513		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410512		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410523		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410496		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410497		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001276243		Formula 815 GD Process Detergent	5	gal	11/23/2015
0001410500		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410499		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410494		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001289070	7440-37-1	ARGON	220	cf	11/23/2015
0001410521		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410520		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410519		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410518		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410501		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410522		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001410516		CRC BRAKLEEN BRAKE CLEANER	14	oz	11/23/2015
0001355006		Norland Optical Adhesive 76	100	gm	11/24/2015
0001410530		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410529		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410528		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410527		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410531		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001355007		Norland Optical Adhesive 76	100	gm	11/24/2015
0001354978	141-78-6	ETHYL ACETATE	4	l	11/24/2015
0001355015		304L FE Base Metal Powder	11	lb	11/24/2015
0001354980	64-17-5	ETHYL ALCOHOL HPLC	4	l	11/24/2015
0001410526		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001355002	64-19-7	ACETIC ACID, GLACIAL	2.5	l	11/24/2015
0001354937	693-13-0	N,N'-DIISOPROPYLCARBODIIMIDE	25	gm	11/24/2015
0001354939		Thermally Conductive, Controlled Volatility Silicone	50	gm	11/24/2015
0001354981	64-17-5	ETHYL ALCOHOL HPLC	4	l	11/24/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001354986	67-63-0	2-PROPANOL	4	l	11/24/2015
0001354985	67-63-0	2-PROPANOL	4	l	11/24/2015
0001354984	67-63-0	2-PROPANOL	4	l	11/24/2015
0001354979	64-17-5	ETHYL ALCOHOL HPLC	4	l	11/24/2015
0001354982	64-17-5	ETHYL ALCOHOL HPLC	4	l	11/24/2015
0001354983	67-63-0	2-PROPANOL	4	l	11/24/2015
0001354938	693-13-0	N,N'-DIISOPROPYLCARBODIIMIDE	25	gm	11/24/2015
0001403321		HENRY440	1	gal	11/24/2015
0001403335		HENRY440	1	gal	11/24/2015
0001403336		HENRY440	1	gal	11/24/2015
0001403337		HENRY440	1	gal	11/24/2015
0001403338		HENRY440	1	gal	11/24/2015
0001403339		HENRY440	1	gal	11/24/2015
0001403340		HENRY440	1	gal	11/24/2015
0001403341		HENRY440	1	gal	11/24/2015
0001403342		HENRY440	1	gal	11/24/2015
0001385755	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/24/2015
0001403344		HENRY440	1	gal	11/24/2015
0001410590		15w40 motor oil	1	qt	11/24/2015
0001403320		HENRY440	1	gal	11/24/2015
0001403319		HENRY440	1	gal	11/24/2015
0001403318		HENRY440	1	gal	11/24/2015
0001403317		HENRY440	1	gal	11/24/2015
0001403316		HENRY440	1	gal	11/24/2015
0001403358		HENRY440	1	gal	11/24/2015
0001403357		HENRY440	1	gal	11/24/2015
0001410632	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410633	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001403343		HENRY440	1	gal	11/24/2015
0001410581		15w40 motor oil	1	qt	11/24/2015
0001410637	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001385757	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/24/2015
0001385758	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/24/2015
0001385759	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/24/2015
0001410608	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410591		ATF	1	qt	11/24/2015
0001403323		ready mix concrete	60	lb	11/24/2015
0001403322		HENRY440	1	gal	11/24/2015
0001410572		15w40 motor oil	1	qt	11/24/2015
0001403334		HENRY440	1	gal	11/24/2015
0001410580		15w40 motor oil	1	qt	11/24/2015
0001403333		HENRY440	1	gal	11/24/2015
0001410582		15w40 motor oil	1	qt	11/24/2015
0001410583		15w40 motor oil	1	qt	11/24/2015
0001410584		15w40 motor oil	1	qt	11/24/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410585		15w40 motor oil	1	qt	11/24/2015
0001410586		15w40 motor oil	1	qt	11/24/2015
0001410587		15w40 motor oil	1	qt	11/24/2015
0001410588		15w40 motor oil	1	qt	11/24/2015
0001410589		15w40 motor oil	1	qt	11/24/2015
0001403346		HENRY440	1	gal	11/24/2015
0001410579		15w40 motor oil	1	qt	11/24/2015
0001410647	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410634	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410657		DX-111/M ATF	1	qt	11/24/2015
0001410656		DX-111/M ATF	1	qt	11/24/2015
0001410655		DX-111/M ATF	1	qt	11/24/2015
0001410654		DX-111/M ATF	1	qt	11/24/2015
0001410653		DX-111/M ATF	1	qt	11/24/2015
0001410652		DX-111/M ATF	1	qt	11/24/2015
0001410651		DX-111/M ATF	1	qt	11/24/2015
0001410650		DX-111/M ATF	1	qt	11/24/2015
0001410659		DX-111/M ATF	1	qt	11/24/2015
0001410648		DX-111/M ATF	1	qt	11/24/2015
0001410660		DX-111/M ATF	1	qt	11/24/2015
0001410646	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410645	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410644	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410643	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410642	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410641	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410640	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410639	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410638	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410649		DX-111/M ATF	1	qt	11/24/2015
0001403354		HENRY440	1	gal	11/24/2015
0001385754	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/24/2015
0001410668		DX-111/M ATF	1	qt	11/24/2015
0001410667		DX-111/M ATF	1	qt	11/24/2015
0001410666		DX-111/M ATF	1	qt	11/24/2015
0001403347		HENRY440	1	gal	11/24/2015
0001403348		HENRY440	1	gal	11/24/2015
0001403349		HENRY440	1	gal	11/24/2015
0001403350		HENRY440	1	gal	11/24/2015
0001403351		HENRY440	1	gal	11/24/2015
0001410658		DX-111/M ATF	1	qt	11/24/2015
0001403353		HENRY440	1	gal	11/24/2015
0001403345		HENRY440	1	gal	11/24/2015
0001403355		HENRY440	1	gal	11/24/2015
0001403356		HENRY440	1	gal	11/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410635	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410636	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410665		DX-111/M ATF	1	qt	11/24/2015
0001410664		DX-111/M ATF	1	qt	11/24/2015
0001410663		DX-111/M ATF	1	qt	11/24/2015
0001410662		DX-111/M ATF	1	qt	11/24/2015
0001410661		DX-111/M ATF	1	qt	11/24/2015
0001403352		HENRY440	1	gal	11/24/2015
0001410547		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410557		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410538		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410539		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410540		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410541		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410542		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410543		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410544		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410536		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410546		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410535		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410548		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410549		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410550		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410551		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410552		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410553		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001385756	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/24/2015
0001410555		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410545		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410618	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410629	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410628	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410627	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410625	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410624	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410623	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410622	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410621	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410537		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410619	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410556		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410617	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410616	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410615	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410614	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410626	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410532		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410533		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410534		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410620	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410609	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410611	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410554		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001355026		304L FE Base Metal Powder	11	lb	11/24/2015
0001355027		304L FE Base Metal Powder	11	lb	11/24/2015
0001355028		304L FE Base Metal Powder	11	lb	11/24/2015
0001355029		304L FE Base Metal Powder	11	lb	11/24/2015
0001355030		304L FE Base Metal Powder	11	lb	11/24/2015
0001355031		304L FE Base Metal Powder	11	lb	11/24/2015
0001410613	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410610	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410612	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001355032		304L FE Base Metal Powder	11	lb	11/24/2015
0001355033		304L FE Base Metal Powder	11	lb	11/24/2015
0001355034		304L FE Base Metal Powder	11	lb	11/24/2015
0001385746	7705-08-0	FERRIC CHLORIDE	3400	lb	11/24/2015
0001354940	1817-49-8	1,3-Diphenyl-2-propyn-1-ol	5	gm	11/24/2015
0001354942	7761-88-8	SILVER NITRATE	25	gm	11/24/2015
0001385752	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/24/2015
0001385753	1310-73-2	Sodium Hydroxide 25%	3400	lb	11/24/2015
0001354935	100-46-9	BENZYLAMINE	4	gm	11/24/2015
0001410564		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410558		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410559		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410560		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410561		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001355025		304L FE Base Metal Powder	11	lb	11/24/2015
0001410563		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410631	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001410565		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001355016		304L FE Base Metal Powder	11	lb	11/24/2015
0001355017		304L FE Base Metal Powder	11	lb	11/24/2015
0001410630	Multi	Purus Diesel Exhaust Fluid	2.5	gal	11/24/2015
0001355019		304L FE Base Metal Powder	11	lb	11/24/2015
0001355020		304L FE Base Metal Powder	11	lb	11/24/2015
0001355021		304L FE Base Metal Powder	11	lb	11/24/2015
0001355022		304L FE Base Metal Powder	11	lb	11/24/2015
0001355023		304L FE Base Metal Powder	11	lb	11/24/2015
0001355024		304L FE Base Metal Powder	11	lb	11/24/2015
0001355018		304L FE Base Metal Powder	11	lb	11/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410562		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001382596		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382597		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382598		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382599		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382600		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382595		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382602		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382589		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001385748	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/24/2015
0001382601		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382594		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382593		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382592		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001385747	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/24/2015
0001382590		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001354934	25952-53-8	N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride	5	gm	11/24/2015
0001382588		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382587		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382586		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382585		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382591		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001410751		HEAVY DUTY BRAKE FLUID	12	oz	11/24/2015
0001382610		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382609		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382608		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382607		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382606		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382605		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382604		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382603		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001354925	109-99-9	TETRAHYDROFURAN	4	l	11/24/2015
0001354931	53655-17-7	IR-140	100	mg	11/24/2015
0001355003	1888-71-7	HEXACHLOROPROPENE	250	gm	11/24/2015
0001354933	25952-53-8	N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydrochloride	5	gm	11/24/2015
0001355004	1888-71-7	HEXACHLOROPROPENE	250	gm	11/24/2015
0001410750		HEAVY DUTY BRAKE FLUID	12	oz	11/24/2015
0001410749		HEAVY DUTY BRAKE FLUID	12	oz	11/24/2015
0001410727		SAE 75W-90 GEAR OIL	1	qt	11/24/2015
0001410726		GEAR OIL 80-90	1	qt	11/24/2015
0001354941	1336-21-6	AMMONIUM HYDROXIDE	500	ml	11/24/2015
0001385751	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/24/2015
0001385750	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410597		ATF	1	qt	11/24/2015
0001354936	100-46-9	BENZYLAMINE	4	gm	11/24/2015
0001382584		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001354932	25086-15-1	METHACRYLIC METHACRYLATE COPOLYMER	500	gm	11/24/2015
0001410679		15w40 motor oil	1	gal	11/24/2015
0001410599		ATF	1	qt	11/24/2015
0001410594		ATF	1	qt	11/24/2015
0001410593		ATF	1	qt	11/24/2015
0001410592		ATF	1	qt	11/24/2015
0001410578		15w40 motor oil	1	qt	11/24/2015
0001410577		15w40 motor oil	1	qt	11/24/2015
0001410576		15w40 motor oil	1	qt	11/24/2015
0001410575		15w40 motor oil	1	qt	11/24/2015
0001410574		15w40 motor oil	1	qt	11/24/2015
0001410681		15w40 motor oil	1	gal	11/24/2015
0001410571		POWER STEERING FLUID	1	qt	11/24/2015
0001410682		15w40 motor oil	1	gal	11/24/2015
0001410570		POWER STEERING FLUID	1	qt	11/24/2015
0001410569		POWER STEERING FLUID	1	qt	11/24/2015
0001410568		POWER STEERING FLUID	1	qt	11/24/2015
0001410567		POWER STEERING FLUID	1	qt	11/24/2015
0001410566		POWER STEERING FLUID	1	qt	11/24/2015
0001410747		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001354923	64-19-7	ACETIC ACID	2.5	l	11/24/2015
0001410746		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410677		15w40 motor oil	1	gal	11/24/2015
0001410678		15w40 motor oil	1	gal	11/24/2015
0001410573		15w40 motor oil	1	qt	11/24/2015
0001410701		15w40 motor oil	1	gal	11/24/2015
0001410600		ATF	1	qt	11/24/2015
0001410598		ATF	1	qt	11/24/2015
0001410596		ATF	1	qt	11/24/2015
0001410595		ATF	1	qt	11/24/2015
0001410745		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001385749	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	11/24/2015
0001410706		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410705		15w40 motor oil	1	gal	11/24/2015
0001410704		15w40 motor oil	1	gal	11/24/2015
0001410680		15w40 motor oil	1	gal	11/24/2015
0001410702		15w40 motor oil	1	gal	11/24/2015
0001382583		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001410700		15w40 motor oil	1	gal	11/24/2015
0001410699		15w40 motor oil	1	gal	11/24/2015
0001410698		15w40 motor oil	1	gal	11/24/2015
0001382611		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410697		15w40 motor oil	1	gal	11/24/2015
0001410602		ATF	1	qt	11/24/2015
0001410686		15w40 motor oil	1	gal	11/24/2015
0001410685		15w40 motor oil	1	gal	11/24/2015
0001410684		15w40 motor oil	1	gal	11/24/2015
0001410683		15w40 motor oil	1	gal	11/24/2015
0001410703		15w40 motor oil	1	gal	11/24/2015
0001382570		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001410730		SILICONE GASKET MAKER	3.35	oz	11/24/2015
0001382581		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382580		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382579		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382578		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382577		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382576		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382575		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382574		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382573		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001410754		CRC QD ELECTRONIC CLEANER	11	oz	11/24/2015
0001382571		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001410724		CRC BATTERY CLEANER	7.5	oz	11/24/2015
0001354930	12027-06-4	AMMONIUM IODIDE	100	gm	11/24/2015
0001354927	1634-04-4	TERT-BUTYL METHYL ETHER	2.5	l	11/24/2015
0001354926	1634-04-4	TERT-BUTYL METHYL ETHER	2.5	l	11/24/2015
0001410689		15w40 motor oil	1	gal	11/24/2015
0001354924	64-19-7	ACETIC ACID	2.5	l	11/24/2015
0001382612		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001410603		ATF	1	qt	11/24/2015
0001382569		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382568		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001382567		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001410676		80W 90 GEAR OIL	1	qt	11/24/2015
0001382572		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001410713		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410690		15w40 motor oil	1	gal	11/24/2015
0001410691		15w40 motor oil	1	gal	11/24/2015
0001410692		15w40 motor oil	1	gal	11/24/2015
0001410693		15w40 motor oil	1	gal	11/24/2015
0001410694		15w40 motor oil	1	gal	11/24/2015
0001410695		15w40 motor oil	1	gal	11/24/2015
0001410696		15w40 motor oil	1	gal	11/24/2015
0001410707		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410708		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410709		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410710		WINDSHIELD WASHER FLUID	1	gal	11/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001382582		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001410712		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410725		BATTERY TERMINAL PROTECTOR	7.5	oz	11/24/2015
0001410714		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410715		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410716		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410717		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410718		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410719		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410720		ANTI-SEIZE LUBRICANT	16	oz	11/24/2015
0001410721		ANTI-SEIZE LUBRICANT	16	oz	11/24/2015
0001410722		CRC BATTERY CLEANER	7.5	oz	11/24/2015
0001410723		CRC BATTERY CLEANER	7.5	oz	11/24/2015
0001410604		ATF	1	qt	11/24/2015
0001410711		WINDSHIELD WASHER FLUID	1	gal	11/24/2015
0001410731		WD-40 NON-AEROSOL	20	oz	11/24/2015
0001403327		ready mix concrete	60	lb	11/24/2015
0001410687		15w40 motor oil	1	gal	11/24/2015
0001410688		15w40 motor oil	1	gal	11/24/2015
0001410744		MULTI-PURPOSE GREASE	14.1	oz	11/24/2015
0001410601		ATF	1	qt	11/24/2015
0001410753		STA-BIL FUEL STABILIZER	8	oz	11/24/2015
0001410605		ATF	1	qt	11/24/2015
0001410606		ATF	1	qt	11/24/2015
0001410607		ATF	1	qt	11/24/2015
0001403324		ready mix concrete	60	lb	11/24/2015
0001403325		ready mix concrete	60	lb	11/24/2015
0001382613		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001410732		WD-40 NON-AEROSOL	20	oz	11/24/2015
0001410734		WD-40 NON-AEROSOL	20	oz	11/24/2015
0001410729		ULTRA BLACK GASKET MAKER	3.35	oz	11/24/2015
0001410752		HEAVY DUTY BRAKE FLUID	12	oz	11/24/2015
0001410671		80W 90 GEAR OIL	1	qt	11/24/2015
0001410670		80W 90 GEAR OIL	1	qt	11/24/2015
0001410669		80W 90 GEAR OIL	1	qt	11/24/2015
0001403332		ready mix concrete	60	lb	11/24/2015
0001403331		ready mix concrete	60	lb	11/24/2015
0001403330		ready mix concrete	60	lb	11/24/2015
0001403329		ready mix concrete	60	lb	11/24/2015
0001403328		ready mix concrete	60	lb	11/24/2015
0001403326		ready mix concrete	60	lb	11/24/2015
0001410733		WD-40 NON-AEROSOL	20	oz	11/24/2015
0001355062	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/24/2015
0001410743		STARTING FLUID	10.7	oz	11/24/2015
0001410742		STARTING FLUID	10.7	oz	11/24/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410741		STARTING FLUID	10.7	oz	11/24/2015
0001410740		STARTING FLUID	10.7	oz	11/24/2015
0001410675		80W 90 GEAR OIL	1	qt	11/24/2015
0001410674		80W 90 GEAR OIL	1	qt	11/24/2015
0001410673		80W 90 GEAR OIL	1	qt	11/24/2015
0001410672		80W 90 GEAR OIL	1	qt	11/24/2015
0001355067	497-19-8	SODIUM BICARBONATE (SODA ASH)	1	kg	11/24/2015
0001355066	497-19-8	SODIUM BICARBONATE (SODA ASH)	1	kg	11/24/2015
0001355065	7440-33-7	TUNGSTEN POWDER	10	gm	11/24/2015
0001382614		GBX DEVELOPER AND REPLENISEHR	16	oz	11/24/2015
0001355063	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/24/2015
0001355061	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/24/2015
0001355010		Norland Optical Adhesive 75	30	gm	11/24/2015
0001355009		Norland Optical Adhesive 75	30	gm	11/24/2015
0001355008		Norland Optical Adhesive 75	30	gm	11/24/2015
0001355005		Norland Optical Adhesive 76	100	gm	11/24/2015
0001355060	10217-52-4	HYDRAZINE HYDRATE	250	gm	11/24/2015
0001410739		STARTING FLUID	10.7	oz	11/24/2015
0001410738		WD-40 NON-AEROSOL	20	oz	11/24/2015
0001410737		WD-40 NON-AEROSOL	20	oz	11/24/2015
0001410736		WD-40 NON-AEROSOL	20	oz	11/24/2015
0001410735		WD-40 NON-AEROSOL	20	oz	11/24/2015
0001355064	7697-37-2	NITRIC ACID OPTIMA	500	ml	11/24/2015
0001403387		PERMACRYL DS-1539 PURE WHITE	5	gal	11/25/2015
0001403386		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015
0001403385		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015
0001403384		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015
0001403383		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015
0001403382		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015
0001410798		RV & MARINE ANTIFREEZE	1	gal	11/25/2015
0001410767		SANDABLE PRIMER	12	oz	11/25/2015
0001410785		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410799		RV & MARINE ANTIFREEZE	1	gal	11/25/2015
0001410789		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410780		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410779		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410778		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410777		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410759		ULTRA-LOW VOC BRAKLEEN	14	oz	11/25/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410776		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410775		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410783		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410786		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410793		10W-30 SAE MOTOR OIL	1	qt	11/25/2015
0001410788		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410794		10W-30 SAE MOTOR OIL	1	qt	11/25/2015
0001410790		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410791		10W-30 SAE MOTOR OIL	1	qt	11/25/2015
0001410774		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410773		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410772		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001403381		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015
0001410771		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001403379		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015
0001410770		SANDABLE PRIMER	12	oz	11/25/2015
0001410784		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410787		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001403377		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015
0001403380		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015
0001410782		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410768		SANDABLE PRIMER	12	oz	11/25/2015
0001410781		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	11/25/2015
0001410766		SANDABLE PRIMER	12	oz	11/25/2015
0001410765		SANDABLE PRIMER	12	oz	11/25/2015
0001410764		SANDABLE PRIMER	12	oz	11/25/2015
0001410763		ULTRA-LOW VOC BRAKLEEN	14	oz	11/25/2015
0001410762		ULTRA-LOW VOC BRAKLEEN	14	oz	11/25/2015
0001410761		ULTRA-LOW VOC BRAKLEEN	14	oz	11/25/2015
0001410792		10W-30 SAE MOTOR OIL	1	qt	11/25/2015
0001403378		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410769		SANDABLE PRIMER	12	oz	11/25/2015
0001410758		ULTRA-LOW VOC BRAKLEEN	14	oz	11/25/2015
0001410757		ULTRA-LOW VOC BRAKLEEN	14	oz	11/25/2015
0001410756		ULTRA-LOW VOC BRAKLEEN	14	oz	11/25/2015
0001410755		ULTRA-LOW VOC BRAKLEEN	14	oz	11/25/2015
0001403376		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015
0001403375		SASHCO BIG STRETCH SEALER	10.5	oz	11/25/2015
0001410797		RV & MARINE ANTIFREEZE	1	gal	11/25/2015
0001410796		RV & MARINE ANTIFREEZE	1	gal	11/25/2015
0001410795		RV & MARINE ANTIFREEZE	1	gal	11/25/2015
0001410760		ULTRA-LOW VOC BRAKLEEN	14	oz	11/25/2015
0001355103	108-10-1	4-METHYL-2-PENTANONE	500	ml	11/25/2015
0001355106	53655-17-7	IR 140	10	mg	11/25/2015
0001385762	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	11/25/2015
0001385761	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	11/25/2015
0001385760	7631-90-5	SODIUM BISULFITE, POWDER	2464	lb	11/25/2015
0001355160		URANIUM STANDARD	125	ml	11/25/2015
0001355159		YTTRIUM STANDARD	125	ml	11/25/2015
0001355086	75-05-8	ACETONITRILE ANHYDROUS	100	ml	11/25/2015
0001355104	109-66-0	PENTANE	1	l	11/25/2015
0001355085	75-05-8	ACETONITRILE ANHYDROUS	100	ml	11/25/2015
0001355083	280-57-9	1,4-DIAZABICYCLO[2.2.2]OCTANE	500	gm	11/25/2015
0001355082		Superscope Stripper & Cleaner	1	gal	11/25/2015
0001355081		Superscope Stripper & Cleaner	1	gal	11/25/2015
0001355080		Superscope Stripper & Cleaner	1	gal	11/25/2015
0001355079		Superscope Stripper & Cleaner	1	gal	11/25/2015
0001355105	7647-14-5	SODIUM CHLORIDE CERTIFIED ACS	500	gm	11/25/2015
0001403429		CLOROX	1	gal	11/25/2015
0001355013	12027-06-4	AMMONIUM IODIDE	100	gm	11/25/2015
0001355014		DOUBLE BUBBLE RED EXTRA FAST SETTING EPOXY	3.5	gm	11/25/2015
0001403415		CLOROX	1	gal	11/25/2015
0001403416		CLOROX	1	gal	11/25/2015
0001403417		CLOROX	1	gal	11/25/2015
0001403418		CLOROX	1	gal	11/25/2015
0001403419		CLOROX	1	gal	11/25/2015
0001403420		CLOROX	1	gal	11/25/2015
0001403424		CLOROX	1	gal	11/25/2015
0001403425		CLOROX	1	gal	11/25/2015
0001403426		CLOROX	1	gal	11/25/2015
0001355012	7460-82-4	Diethylene glycol di(p-toluenesulfonate)	25	gm	11/25/2015
0001403428		CLOROX	1	gal	11/25/2015
0001403435		CLOROX	1	gal	11/25/2015
0001403430		CLOROX	1	gal	11/25/2015
0001403431		CLOROX	1	gal	11/25/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403432		CLOROX	1	gal	11/25/2015
0001403433		CLOROX	1	gal	11/25/2015
0001403434		CLOROX	1	gal	11/25/2015
0001403436		CLOROX	1	gal	11/25/2015
0001403438		CLOROX	1	gal	11/25/2015
0001403371		vic-lube	1	qt	11/25/2015
0001403372		vic-lube	1	qt	11/25/2015
0001403373		RECTORSEAL TRU-BLU PIPE THREAD SEALANT	1	pt	11/25/2015
0001403374		RECTORSEAL TRU-BLU PIPE THREAD SEALANT	1	pt	11/25/2015
0001403427		CLOROX	1	gal	11/25/2015
0001385745	64741-44-2	Oil-Base Vehicle #6	5	gal	11/25/2015
0001403394		EASY SAND 20	18	lb	11/25/2015
0001403393		EASY SAND 20	18	lb	11/25/2015
0001403392		EASY SAND 20	18	lb	11/25/2015
0001403423		CLOROX	1	gal	11/25/2015
0001403391		EASY SAND 20	18	lb	11/25/2015
0001403422		CLOROX	1	gal	11/25/2015
0001403421		CLOROX	1	gal	11/25/2015
0001403388		PERMACRYL DS-1539 PURE WHITE	5	gal	11/25/2015
0001403389		PERMACRYL DS-1539 PURE WHITE	5	gal	11/25/2015
0001403390		PERMACRYL DS-1539 PURE WHITE	5	gal	11/25/2015
0001403437		CLOROX	1	gal	11/25/2015
0001355011	7146-67-0	N,N-Bis(2-hydroxyethyl)-p-toluenesulfonamide	25	gm	11/25/2015
0001355084	75-05-8	ACETONITRILE ANHYDROUS	100	ml	11/25/2015
0001403104	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403113	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001397932		RID-X	9.8	oz	11/30/2015
0001403118	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403117	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403116	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403115	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403112	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403360		fast setting cement	94	lb	11/30/2015
0001403105	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403111	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403110	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403109	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403108	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403107	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403106	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403114	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403366		fast setting cement	50	lb	11/30/2015
0001397931		RID-X	9.8	oz	11/30/2015
0001403149	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403443		100% SILICONE SEALANT	9.8	oz	11/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403442		100% SILICONE SEALANT	9.8	oz	11/30/2015
0001403441		100% SILICONE SEALANT	9.8	oz	11/30/2015
0001403440		LATEX GLAZE	10.1	oz	11/30/2015
0001403439		LATEX GLAZE	10.1	oz	11/30/2015
0001403370		fast setting cement	50	lb	11/30/2015
0001403369		fast setting cement	50	lb	11/30/2015
0001403098	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403367		fast setting cement	50	lb	11/30/2015
0001403103	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403365		fast setting cement	50	lb	11/30/2015
0001403364		fast setting cement	94	lb	11/30/2015
0001403363		fast setting cement	94	lb	11/30/2015
0001403362		fast setting cement	94	lb	11/30/2015
0001403361		fast setting cement	94	lb	11/30/2015
0001403359		fast setting cement	94	lb	11/30/2015
0001403099	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403100	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403101	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403102	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403368		fast setting cement	50	lb	11/30/2015
0001403151	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403137	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403083	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403084	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403085	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403086	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403087	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403088	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403089	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403155	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403154	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001397930		RID-X	9.8	oz	11/30/2015
0001403152	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403080	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403150	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403148	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403146	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403145	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403144	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403143	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403142	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403141	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403140	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403139	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403138	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403153	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403068	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001397916	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/30/2015
0001403128	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403127	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403126	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403125	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403124	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403123	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403122	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403121	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403120	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403082	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403067	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403081	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403069	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403070	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403071	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403072	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403073	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403074	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403075	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403076	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403077	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403078	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403147	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403119	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001397926		RID-X	9.8	oz	11/30/2015
0001397928		RID-X	9.8	oz	11/30/2015
0001403136	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403079	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001397927		RID-X	9.8	oz	11/30/2015
0001397925		RID-X	9.8	oz	11/30/2015
0001397924		RID-X	9.8	oz	11/30/2015
0001397923		RID-X	9.8	oz	11/30/2015
0001397922		RID-X	9.8	oz	11/30/2015
0001397921		RID-X	9.8	oz	11/30/2015
0001403097	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403096	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403095	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403132	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403093	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403092	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403091	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403090	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403129	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403130	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403131	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403134	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403133	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001397929		RID-X	9.8	oz	11/30/2015
0001403135	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403094	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403065	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403066	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403063	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001397919	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/30/2015
0001403062	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001397914	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/30/2015
0001397915	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/30/2015
0001397918	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/30/2015
0001403058	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403059	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403060	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001397917	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/30/2015
0001397913	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	11/30/2015
0001397920	74-98-6	PROPANE	57	lb	11/30/2015
0001403061	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403064	497-19-8	SODIUM CARBONATE (SODA ASH)	50	lb	11/30/2015
0001403496		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403495		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403494		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403493		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403491		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403502		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403489		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403492		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403497		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403498		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403499		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403501		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403503		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355109	75-09-2	DICHLOROMETHANE	2.5	l	12/1/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403504		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355087		Nexguard 22350	55	gal	12/1/2015
0001403779		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403500		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403882		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403785		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403784		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403783		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403782		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403781		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403880		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403780		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403518		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403777		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403505		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403488		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403912		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403869		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403453		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403454		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403484		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403485		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403486		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403487		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403778		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403474		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403462		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403463		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403464		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403465		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403466		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403468		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403470		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403516		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403473		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403459		VULKEM 116 BUFF	10.1	oz	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403475		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403476		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403477		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403479		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403480		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403481		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403482		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403483		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403472		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403519		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403507		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403508		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403509		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403510		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403511		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403512		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403513		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403514		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403461		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403517		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403460		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403520		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403521		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403455		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403830		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403456		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403457		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403458		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403506		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403515		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355134		Poly(N-isopropylacrylamide), carboxylic acid terminated	1	gm	12/1/2015
0001355099		Nexguard 22350	55	gal	12/1/2015
0001355091		Nexguard 22350	55	gal	12/1/2015
0001355092		Nexguard 22350	55	gal	12/1/2015
0001355093		Nexguard 22350	55	gal	12/1/2015
0001355094		Nexguard 22350	55	gal	12/1/2015
0001355095		Nexguard 22350	55	gal	12/1/2015
0001355088		Nexguard 22350	55	gal	12/1/2015
0001355135		Poly(N-isopropylacrylamide), carboxylic acid terminated	1	gm	12/1/2015
0001403641		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355133		Poly(N-isopropylacrylamide), carboxylic acid terminated	1	gm	12/1/2015
0001355132		PROTEASE INHIBITOR COCKTAIL	25	ml	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355131		PROTEASE INHIBITOR COCKTAIL	25	ml	12/1/2015
0001355130	4731-53-7	TRIOCTYLPHOSPHINE	100	ml	12/1/2015
0001355096		Nexguard 22350	55	gal	12/1/2015
0001355097		Nexguard 22350	55	gal	12/1/2015
0001403731		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355136	121-45-9	TRIMETHYL PHOSPHITE	25	gm	12/1/2015
0001355244		M-BOND 200 ADHESIVE	1	oz	12/1/2015
0001403879		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403733		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403734		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403735		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403736		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355239	1010840-17-1	Acetylene-1,2-diyl bis(boronic acid pinacol ester)	1	gm	12/1/2015
0001355090		Nexguard 22350	55	gal	12/1/2015
0001355243		M-BOND 200 ADHESIVE	1	oz	12/1/2015
0001355100		Nexguard 22350	55	gal	12/1/2015
0001355245		M-BOND 200 ADHESIVE	1	oz	12/1/2015
0001385763	7705-08-0	FERRIC CHLORIDE	3400	lb	12/1/2015
0001385764	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	12/1/2015
0001385765	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	12/1/2015
0001385766	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	12/1/2015
0001385767	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	12/1/2015
0001385768	7786-30-3	MAGNESIUM CHLORIDE 30% SOLUTION	3300	lb	12/1/2015
0001355242		M-BOND 200 ADHESIVE	1	oz	12/1/2015
0001403815		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001355098		Nexguard 22350	55	gal	12/1/2015
0001403822		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403821		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403820		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403819		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403818		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403824		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403816		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403825		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403814		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403813		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403812		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403562		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403563		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403564		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403565		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403817		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403790		100% SILICONE SEALANT	9.8	oz	12/1/2015
0001355101		Nexguard 22350	55	gal	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355102		Nexguard 22350	55	gal	12/1/2015
0001355129	4731-53-7	TRIOCTYLPHOSPHINE	100	ml	12/1/2015
0001355128	4731-53-7	TRIOCTYLPHOSPHINE	100	ml	12/1/2015
0001355127	4731-53-7	TRIOCTYLPHOSPHINE	100	ml	12/1/2015
0001355126	108-88-3	Poly(2-ethylhexyl acrylate) solution	50	gm	12/1/2015
0001403823		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403791		100% SILICONE SEALANT	9.8	oz	12/1/2015
0001403730		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403789		100% SILICONE SEALANT	9.8	oz	12/1/2015
0001403788		100% SILICONE SEALANT	9.8	oz	12/1/2015
0001403787		100% SILICONE SEALANT	9.8	oz	12/1/2015
0001403829		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403828		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403827		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403826		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403792		100% SILICONE SEALANT	9.8	oz	12/1/2015
0001403896		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403905		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403889		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403890		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403891		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403892		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403893		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403743		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403895		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403596		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403897		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403898		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403899		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403900		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403901		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403903		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403732		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403894		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403605		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403881		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403883		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403884		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403885		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403887		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403888		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403594		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403606		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403906		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403604		VULKEM 116 BUFF	10.1	oz	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403603		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403602		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403601		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403600		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403599		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403598		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403607		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403722		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403904		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403927		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403928		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403929		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403718		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403719		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403925		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403721		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403924		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403723		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403724		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403725		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403726		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403727		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403728		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403729		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403720		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403916		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403907		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403908		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403909		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403910		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403911		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403913		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403926		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403915		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403568		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403917		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403918		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403919		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403920		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403921		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403922		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403923		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403914		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403807		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403799		ACRYLIC LATEX ENAMEL SEMI-GLOSS	1	gal	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403740		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403741		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403742		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403811		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403810		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403738		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403808		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403737		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403806		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403805		PERMACRYL INTERIOR FLAT NEUTRAL BASE	5	gal	12/1/2015
0001403804		PERMACRYL INTERIOR FLAT NEUTRAL BASE	5	gal	12/1/2015
0001403803		PERMACRYL INTERIOR FLAT NEUTRAL BASE	5	gal	12/1/2015
0001403802		ACRYLIC LATEX ENAMEL SEMI-GLOSS	1	gal	12/1/2015
0001403801		ACRYLIC LATEX ENAMEL SEMI-GLOSS	1	gal	12/1/2015
0001403566		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403809		BIG STRETCH CAULK	10.5	oz	12/1/2015
0001403962		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403952		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403953		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403954		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403956		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403957		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403958		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403739		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403961		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403798		ACRYLIC LATEX ENAMEL SEMI-GLOSS	1	gal	12/1/2015
0001403963		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403965		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403966		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403967		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403968		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403969		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403970		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403959		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001402841		FANTASTIK ALL PURPOSE CLEANER	1	qt	12/1/2015
0001403800		ACRYLIC LATEX ENAMEL SEMI-GLOSS	1	gal	12/1/2015
0001355120	68-12-2	N,N-DIMETHYLFORMAMIDE	2.5	l	12/1/2015
0001403469		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355232		Glucose Assay Reagent	50	ml	12/1/2015
0001355231	58-85-5	D-BIOTIN	1	gm	12/1/2015
0001355117	865-49-6	CHLOROFORM-D 99.8+ ATOM% D	100	gm	12/1/2015
0001355122	15529-49-4	DICHLOROTRIS(TRIPHENYL PHOSPHINE)RUTHENIUM	5	gm	12/1/2015
0001395593		FANTASTIK ALL PURPOSE CLEANER	1	qt	12/1/2015
0001355246	7429-90-5	ALUMINUM SHOT	1	kg	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001395596		FANTASTIK ALL PURPOSE CLEANER	1	qt	12/1/2015
0001395589		FANTASTIK ALL PURPOSE CLEANER	1	qt	12/1/2015
0001395586		FANTASTIK ALL PURPOSE CLEANER	1	qt	12/1/2015
0001403746		PORCH AND FLOOR COATING, ANTI SKID	116	oz	12/1/2015
0001403745		PORCH AND FLOOR COATING, ANTI SKID	116	oz	12/1/2015
0001403744		PORCH AND FLOOR COATING, ANTI SKID	116	oz	12/1/2015
0001355116	7757-79-1	POTASSIUM NITRATE	100	ml	12/1/2015
0001395587		FANTASTIK ALL PURPOSE CLEANER	1	qt	12/1/2015
0001355254	50-81-7	L-ASCORBIC ACID	25	gm	12/1/2015
0001403797		ACRYLIC LATEX ENAMEL SEMI-GLOSS	1	gal	12/1/2015
0001403796		ACRYLIC LATEX ENAMEL SEMI-GLOSS	1	gal	12/1/2015
0001403795		ACRYLIC LATEX ENAMEL SEMI-GLOSS	1	gal	12/1/2015
0001403794		ACRYLIC LATEX ENAMEL SEMI-GLOSS	1	gal	12/1/2015
0001403793		ACRYLIC LATEX ENAMEL SEMI-GLOSS	1	gal	12/1/2015
0001355257	6230-01-0	CASAMINO ACIDS	500	gm	12/1/2015
0001355121	250220-36-1	Bis(tricyclohexylphosphine)-3-phenyl-1H-inden-1-ylideneruthenium(II) dichloride	1	gm	12/1/2015
0001355255	622-79-7	BENZYL AZIDE	10	ml	12/1/2015
0001403949		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001355253	7440-19-9	SAMARIUM METAL	10	gm	12/1/2015
0001355252		LITHIUM ALUMINUM HYDRIDE BIS(TETRAHYDROFURAN)	100	ml	12/1/2015
0001355251		LITHIUM ALUMINUM HYDRIDE BIS(TETRAHYDROFURAN)	100	ml	12/1/2015
0001355250		LITHIUM ALUMINUM HYDRIDE BIS(TETRAHYDROFURAN)	100	ml	12/1/2015
0001355249		LITHIUM ALUMINUM HYDRIDE BIS(TETRAHYDROFURAN)	100	ml	12/1/2015
0001355248	1295-35-8	BIS(1,5-CYCLOOCTADIENE)NICKEL(0)	10	gm	12/1/2015
0001355247	54723-94-3	AMMONIUM PHOSPHOMOLYBDATE	50	gm	12/1/2015
0001355256	6230-01-0	CASAMINO ACIDS	500	gm	12/1/2015
0001355118	68-12-2	N,N-DIMETHYLFORMAMIDE	2.5	l	12/1/2015
0001403951		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403587		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403478		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403588		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403589		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403590		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403585		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403592		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403584		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355119	68-12-2	N,N-DIMETHYLFORMAMIDE	2.5	l	12/1/2015
0001403930		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403931		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403932		VULKEM 116 BLACK	10.1	oz	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403933		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403934		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403935		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403591		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403576		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403597		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403569		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403570		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403571		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403572		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403573		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403586		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403575		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403938		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403577		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403578		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403579		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403580		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403581		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403582		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403583		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403574		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403942		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403971		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001355089		Nexguard 22350	55	gal	12/1/2015
0001403939		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403940		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403955		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403886		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403936		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403941		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403974		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403943		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403944		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403945		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403946		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403947		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403948		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403567		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403960		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403786		KILZ STAIN SEALER	10	oz	12/1/2015
0001403950		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403593		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355110	67-64-1	ACETONE FOR HPLC	1	l	12/1/2015
0001355111	67-64-1	ACETONE FOR HPLC	1	l	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355112	67-64-1	ACETONE FOR HPLC	1	l	12/1/2015
0001355113	67-64-1	ACETONE FOR HPLC	1	l	12/1/2015
0001355114	67-64-1	ACETONE FOR HPLC	1	l	12/1/2015
0001403972		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403471		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403973		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001355258	98-13-5	PHENYLTRICHLOROSILANE	10	gm	12/1/2015
0001403979		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403978		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403977		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403976		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403975		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403937		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001355115	67-64-1	ACETONE FOR HPLC	1	l	12/1/2015
0001403595		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403773		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403774		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403775		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403703		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403702		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403701		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403776		DPD COMPOUND FOR FREE AND TOTAL CHLORINE ANALYZERS	24	gm	12/1/2015
0001403700		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403699		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403698		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403697		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403964		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403695		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403770		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403693		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403692		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403691		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403690		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403689		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403688		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403687		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403686		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403685		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403684		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403709		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403878		VULKEM 116 BLACK	10.1	oz	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403758		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403708		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403707		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403706		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403705		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403704		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403750		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403751		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403752		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403753		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403754		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403755		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403772		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403757		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403771		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403759		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403760		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403761		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403762		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403763		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403764		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403765		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403766		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403767		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403768		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403769		TOTAL CHLORINE BUFFER SOLUTION # 22635-11	473	ml	12/1/2015
0001403682		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403756		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001355108	7681-11-0	POTASSIUM IODIDE	100	gm	12/1/2015
0001403653		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403652		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403651		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403650		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403452		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403451		VULKEM 116 BUFF	10.1	oz	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403450		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403449		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403448		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403447		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403446		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403683		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403444		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403656		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355107	34411-77-3	IR-895	1	gm	12/1/2015
0001403902		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403467		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403649		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403648		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403647		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403646		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403645		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403644		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403643		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403642		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403445		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403668		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403681		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403680		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403679		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403678		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403677		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403676		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403675		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403674		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403673		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403672		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403671		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403654		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403669		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403655		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403667		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403666		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403665		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403664		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403663		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403662		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403661		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403660		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403659		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403658		VULKEM 116 BUFF	10.1	oz	12/1/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403657		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403696		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403670		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403860		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403849		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403850		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403851		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403852		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403853		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403854		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403855		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403856		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403631		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403857		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403837		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403859		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403710		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403632		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403633		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403846		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403845		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403844		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403843		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403842		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403841		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403840		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403839		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403838		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403858		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403617		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403630		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403629		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403628		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403627		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403626		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403625		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403624		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403623		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403622		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403621		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403620		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403848		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403618		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403847		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403616		VULKEM 116 BUFF	10.1	oz	12/1/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403615		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403614		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403613		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403612		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403611		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403610		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403609		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403694		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403608		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403861		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403619		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403867		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403715		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403866		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403875		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403874		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403873		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403872		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403490		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403871		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403713		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403868		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403712		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403717		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403716		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403714		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403749		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403748		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403747		TOTAL CHLORINE INDICATOR SOLUTION# 22634-11	473	ml	12/1/2015
0001403836		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403276		SOLO A4, SMOKE DETECTOR TESTER	9.5	oz	12/1/2015
0001403870		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403831		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001355235	5112-95-8	Bis(diphenylphosphino)acetylene	1	gm	12/1/2015
0001403835		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403834		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403634		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403635		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403636		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403637		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403638		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403877		VULKEM 116 BLACK	10.1	oz	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403832		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403711		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403640		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403862		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403876		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403863		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403864		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403865		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403639		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403833		VULKEM 116 BLACK	10.1	oz	12/1/2015
0001403534		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403538		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355238	2117-50-2	Bis(trimethylstannyl)acetylene	1	gm	12/1/2015
0001403537		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403536		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403535		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403553		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403533		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403532		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403531		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403530		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403529		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403539		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403528		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403527		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403556		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355240	1010840-17-1	Acetylene-1,2-diyl bis(boronic acid pinacol ester)	1	gm	12/1/2015
0001355241		M-BOND 200 ADHESIVE	1	oz	12/1/2015
0001355237	2117-50-2	Bis(trimethylstannyl)acetylene	1	gm	12/1/2015
0001403545		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001355236	5112-95-8	Bis(diphenylphosphino)acetylene	1	gm	12/1/2015
0001202037		WOOD FILLER	12	oz	12/1/2015
0001355234	1807-68-7	Diazodimedone	1	gm	12/1/2015
0001403561		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403560		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403559		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403551		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403557		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403540		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403555		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403554		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403552		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403550		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403549		VULKEM 116 BUFF	10.1	oz	12/1/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403548		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403546		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403544		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403543		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403542		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403541		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403558		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403525		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403524		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403523		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001202038		SPRAY PAINT	11	oz	12/1/2015
0001403522		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403547		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001403526		VULKEM 116 BUFF	10.1	oz	12/1/2015
0001410809		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001410801		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001410802		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001410803		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001410804		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001410805		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001410806		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001410808		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001355141	82494-09-5	n-DECYL-?-D-MALTOPYRANOSIDE	25	gm	12/2/2015
0001410810		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001410811		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001397937		HYDROGEN SULFIDE 25ppm, CO2 50ppm, METHANE 50%, OXYGEN 20.9%, IN NITROGEN	58	l	12/2/2015
0001410807		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001355138	506-87-6	AMMONIUM CARBONATE	10	gm	12/2/2015
0001355139	108-32-7	CYCLIC PROPYLENE CARBONATE	800	ml	12/2/2015
0001355140	82494-09-5	n-DECYL-?-D-MALTOPYRANOSIDE	25	gm	12/2/2015
0001355259		BUFFER PH 7 (YELLOW BUFFER)	500	ml	12/2/2015
0001355260	60676-86-0	SILICON STANDARD	125	ml	12/2/2015
0001355137	7758-02-3	POTASSIUM BROMIDE	25	gm	12/2/2015
0001403999		TREMSEAL D	10.1	oz	12/2/2015
0001403984		TREMSEAL D	10.1	oz	12/2/2015
0001403983		TREMSEAL D	10.1	oz	12/2/2015
0001403982		TREMSEAL D	10.1	oz	12/2/2015
0001403998		TREMSEAL D	10.1	oz	12/2/2015
0001403997		TREMSEAL D	10.1	oz	12/2/2015
0001404000		TREMSEAL D	10.1	oz	12/2/2015
0001403980		TREMSEAL D	10.1	oz	12/2/2015
0001403981		TREMSEAL D	10.1	oz	12/2/2015
0001403985		TREMSEAL D	10.1	oz	12/2/2015
0001403987		TREMSEAL D	10.1	oz	12/2/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001403996		TREMSEAL D	10.1	oz	12/2/2015
0001404005		TREMSEAL D	10.1	oz	12/2/2015
0001403988		TREMSEAL D	10.1	oz	12/2/2015
0001403989		TREMSEAL D	10.1	oz	12/2/2015
0001403990		TREMSEAL D	10.1	oz	12/2/2015
0001403991		TREMSEAL D	10.1	oz	12/2/2015
0001403992		TREMSEAL D	10.1	oz	12/2/2015
0001403993		TREMSEAL D	10.1	oz	12/2/2015
0001403994		TREMSEAL D	10.1	oz	12/2/2015
0001403995		TREMSEAL D	10.1	oz	12/2/2015
0001403986		TREMSEAL D	10.1	oz	12/2/2015
0001404002		TREMSEAL D	10.1	oz	12/2/2015
0001397936		100PPM ISOBUTYLENE IN AIR	103	l	12/2/2015
0001397935		100PPM ISOBUTYLENE IN AIR	103	l	12/2/2015
0001397933	7440-01-9	NEON	100	l	12/2/2015
0001404003		TREMSEAL D	10.1	oz	12/2/2015
0001397934		Calibration Gas Chlorine 5ppm/Bal. Nitrogen	29	l	12/2/2015
0001404001		TREMSEAL D	10.1	oz	12/2/2015
0001410812		BUTANE FUEL	5.1	oz	12/2/2015
0001404004		TREMSEAL D	10.1	oz	12/2/2015
0001410800		Promatch Forklift Truck Lube	11	oz	12/2/2015
0001404009		TREMSEAL D	10.1	oz	12/2/2015
0001404008		TREMSEAL D	10.1	oz	12/2/2015
0001404007		TREMSEAL D	10.1	oz	12/2/2015
0001404006		TREMSEAL D	10.1	oz	12/2/2015
0001410813		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410850		SAE 30 MOTOR OIL	1	qt	12/3/2015
0001410851		SAE 30 MOTOR OIL	1	qt	12/3/2015
0001410852		SAE 30 MOTOR OIL	1	qt	12/3/2015
0001410849		SAE 30 MOTOR OIL	1	qt	12/3/2015
0001410854		ATF	1	qt	12/3/2015
0001410844		MULTI-PURPOSE GREASE	14.1	oz	12/3/2015
0001397965		Nitrogen UHP	220	cf	12/3/2015
0001410912		JB WELD HARDENER / STEEL	1	oz	12/3/2015
0001410853		ATF	1	qt	12/3/2015
0001410848		MULTI-PURPOSE GREASE	14.1	oz	12/3/2015
0001410847		MULTI-PURPOSE GREASE	14.1	oz	12/3/2015
0001410845		MULTI-PURPOSE GREASE	14.1	oz	12/3/2015
0001410843		MULTI-PURPOSE GREASE	14.1	oz	12/3/2015
0001410842		MULTI-PURPOSE GREASE	14.1	oz	12/3/2015
0001410841		MULTI-PURPOSE GREASE	14.1	oz	12/3/2015
0001410840		MULTI-PURPOSE GREASE	14.1	oz	12/3/2015
0001410839		MULTI-PURPOSE GREASE	14.1	oz	12/3/2015
0001410838		WD-40 NON-AEROSOL	20	oz	12/3/2015
0001397955		Nitrogen UHP	220	cf	12/3/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410846		MULTI-PURPOSE GREASE	14.1	oz	12/3/2015
0001397991		Nitrogen UHP	220	cf	12/3/2015
0001410817		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001397992		Nitrogen UHP	220	cf	12/3/2015
0001397993		Nitrogen UHP	220	cf	12/3/2015
0001397994		Nitrogen UHP	220	cf	12/3/2015
0001397995	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001397996	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001397997	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001397982		Nitrogen UHP	220	cf	12/3/2015
0001397999	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001410820		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001397990		Nitrogen UHP	220	cf	12/3/2015
0001397989		Nitrogen UHP	220	cf	12/3/2015
0001397988		Nitrogen UHP	220	cf	12/3/2015
0001397987		Nitrogen UHP	220	cf	12/3/2015
0001397986		Nitrogen UHP	220	cf	12/3/2015
0001397985		Nitrogen UHP	220	cf	12/3/2015
0001397984		Nitrogen UHP	220	cf	12/3/2015
0001397962		Nitrogen UHP	220	cf	12/3/2015
0001397998	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001410832		SPLASH WINDSHIELD WASHER FLUID	1	gal	12/3/2015
0001397963		Nitrogen UHP	220	cf	12/3/2015
0001410823		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410824		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410825		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410826		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410827		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410828		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410829		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410818		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410831		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410819		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410833		SPLASH WINDSHIELD WASHER FLUID	1	gal	12/3/2015
0001410834		AIR BRAKE ANTI-FREEZE & CONDITIONER	1	gal	12/3/2015
0001410835		AIR BRAKE ANTI-FREEZE & CONDITIONER	1	gal	12/3/2015
0001410836		DIESEL FUEL SUPPLEMENT	32	oz	12/3/2015
0001410837		DIESEL FUEL SUPPLEMENT	32	oz	12/3/2015
0001410822		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410821		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001397981		Nitrogen UHP	220	cf	12/3/2015
0001410830		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001398011	7727-37-9	NITROGEN, COMPRESSED GAS	40	cf	12/3/2015
0001398001	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001398002	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001398003	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001398004	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001398005	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001398006	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001398007	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001397983		Nitrogen UHP	220	cf	12/3/2015
0001398009	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001397959		Nitrogen UHP	220	cf	12/3/2015
0001398012	74-86-2	ACETYLENE	40	cf	12/3/2015
0001397956		Nitrogen UHP	220	cf	12/3/2015
0001397954		Nitrogen UHP	220	cf	12/3/2015
0001398024	74-86-2	ACETYLENE	130	cf	12/3/2015
0001398025	74-86-2	ACETYLENE	130	cf	12/3/2015
0001398026	74-86-2	ACETYLENE	240	cf	12/3/2015
0001410816		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001410815		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001398008	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001397970		Nitrogen UHP	220	cf	12/3/2015
0001397980		Nitrogen UHP	220	cf	12/3/2015
0001397979		Nitrogen UHP	220	cf	12/3/2015
0001397978		Nitrogen UHP	220	cf	12/3/2015
0001397977		Nitrogen UHP	220	cf	12/3/2015
0001397976		Nitrogen UHP	220	cf	12/3/2015
0001397975		Nitrogen UHP	220	cf	12/3/2015
0001397974		Nitrogen UHP	220	cf	12/3/2015
0001397973		Nitrogen UHP	220	cf	12/3/2015
0001398000	7440-37-1	ARGON, COMPRESSED	220	cf	12/3/2015
0001397971		Nitrogen UHP	220	cf	12/3/2015
0001397958		Nitrogen UHP	220	cf	12/3/2015
0001397969		Nitrogen UHP	220	cf	12/3/2015
0001397968		Nitrogen UHP	220	cf	12/3/2015
0001397967		Nitrogen UHP	220	cf	12/3/2015
0001397966		Nitrogen UHP	220	cf	12/3/2015
0001397964		Nitrogen UHP	220	cf	12/3/2015
0001397961		Nitrogen UHP	220	cf	12/3/2015
0001397960		Nitrogen UHP	220	cf	12/3/2015
0001410814		RV & MARINE ANTIFREEZE	1	gal	12/3/2015
0001397972		Nitrogen UHP	220	cf	12/3/2015
0001410868		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410916		TRIM ADHESIVE	19	oz	12/3/2015
0001410915		DRY FILM MOLY LUBRICANT LU 200	11	oz	12/3/2015
0001410914		732 MULTI-PURPOSE SEALANT CLEAR	10.1	oz	12/3/2015
0001410913		732 MULTI-PURPOSE SEALANT CLEAR	10.1	oz	12/3/2015
0001410911		JB WELD STEEL	1	oz	12/3/2015
0001410910		DI-ELECTRIC GREASE	3.3	oz	12/3/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410909		DI-ELECTRIC GREASE	3.3	oz	12/3/2015
0001397957		Nitrogen UHP	220	cf	12/3/2015
0001410907		ULTRA LOW VOC BRAKLEEN	14	oz	12/3/2015
0001410858		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410891		DIESEL ENGINE OIL SAE 15W-40	1	gal	12/3/2015
0001410919		PYROIL CARB AND CHOKE CLEANER	13	oz	12/3/2015
0001410867		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410866		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410865		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410864		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410863		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410862		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410861		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410860		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410859		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410892		DIESEL ENGINE OIL SAE 15W-40	1	gal	12/3/2015
0001397951		Nitrogen UHP	220	cf	12/3/2015
0001397940		Nitrogen UHP	220	cf	12/3/2015
0001397941		Nitrogen UHP	220	cf	12/3/2015
0001397942		Nitrogen UHP	220	cf	12/3/2015
0001397943		Nitrogen UHP	220	cf	12/3/2015
0001397944		Nitrogen UHP	220	cf	12/3/2015
0001397945		Nitrogen UHP	220	cf	12/3/2015
0001397946		Nitrogen UHP	220	cf	12/3/2015
0001397947		Nitrogen UHP	220	cf	12/3/2015
0001397948		Nitrogen UHP	220	cf	12/3/2015
0001410917		PYROIL CARB AND CHOKE CLEANER	13	oz	12/3/2015
0001397950		Nitrogen UHP	220	cf	12/3/2015
0001410918		PYROIL CARB AND CHOKE CLEANER	13	oz	12/3/2015
0001397952		Nitrogen UHP	220	cf	12/3/2015
0001397953		Nitrogen UHP	220	cf	12/3/2015
0001355287	9003-07-0	POLYPROPYLENE	10	lb	12/3/2015
0001410925		PYROIL CARB AND CHOKE CLEANER	13	oz	12/3/2015
0001410924		PYROIL CARB AND CHOKE CLEANER	13	oz	12/3/2015
0001410923		PYROIL CARB AND CHOKE CLEANER	13	oz	12/3/2015
0001410922		PYROIL CARB AND CHOKE CLEANER	13	oz	12/3/2015
0001410921		PYROIL CARB AND CHOKE CLEANER	13	oz	12/3/2015
0001410920		PYROIL CARB AND CHOKE CLEANER	13	oz	12/3/2015
0001410893		DIESEL ENGINE OIL SAE 15W-40	1	gal	12/3/2015
0001397949		Nitrogen UHP	220	cf	12/3/2015
0001410908		ULTRA LOW VOC BRAKLEEN	14	oz	12/3/2015
0001398030		25% ARGON/BAL. HELIUM	220	cf	12/3/2015
0001398029		25% ARGON/BAL. HELIUM	220	cf	12/3/2015
0001410894	Multi	Purus Diesel Exhaust Fluid	2.5	gal	12/3/2015
0001410890		ANTIFREEZE/COOLANT	1	gal	12/3/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410889		ANTIFREEZE/COOLANT	1	gal	12/3/2015
0001410895	Multi	Purus Diesel Exhaust Fluid	2.5	gal	12/3/2015
0001398028	74-86-2	ACETYLENE	240	cf	12/3/2015
0001410899	Multi	Purus Diesel Exhaust Fluid	2.5	gal	12/3/2015
0001398023	74-86-2	ACETYLENE	40	cf	12/3/2015
0001398048		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001410896	Multi	Purus Diesel Exhaust Fluid	2.5	gal	12/3/2015
0001398020	74-86-2	ACETYLENE	40	cf	12/3/2015
0001398031		25% ARGON/BAL. HELIUM	220	cf	12/3/2015
0001398032		25% ARGON/BAL. HELIUM	220	cf	12/3/2015
0001398021	74-86-2	ACETYLENE	40	cf	12/3/2015
0001398014	74-86-2	ACETYLENE	40	cf	12/3/2015
0001398038		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398036		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398035		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398034		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398033		2% Deuterium/Balance Helium	220	cf	12/3/2015
0001398016	74-86-2	ACETYLENE	40	cf	12/3/2015
0001398017	74-86-2	ACETYLENE	40	cf	12/3/2015
0001398018	74-86-2	ACETYLENE	40	cf	12/3/2015
0001398022	74-86-2	ACETYLENE	40	cf	12/3/2015
0001398046		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001410900	Multi	Purus Diesel Exhaust Fluid	2.5	gal	12/3/2015
0001398047		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398013	74-86-2	ACETYLENE	40	cf	12/3/2015
0001398040		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398041		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398042		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398019	74-86-2	ACETYLENE	40	cf	12/3/2015
0001398043		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398044		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398037		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398045		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398015	74-86-2	ACETYLENE	40	cf	12/3/2015
0001398039		94% Argon and 6% Hydrogen	220	cf	12/3/2015
0001398027	74-86-2	ACETYLENE	240	cf	12/3/2015
0001410855		80W 90 GEAR OIL	1	qt	12/3/2015
0001410856		80W 90 GEAR OIL	1	qt	12/3/2015
0001410857		SAE 5W20 MOTOR OIL	1	qt	12/3/2015
0001410869		DX-111/M ATF	1	qt	12/3/2015
0001410870		DX-111/M ATF	1	qt	12/3/2015
0001410871		DX-111/M ATF	1	qt	12/3/2015
0001410874		DX-111/M ATF	1	qt	12/3/2015
0001410901	Multi	Purus Diesel Exhaust Fluid	2.5	gal	12/3/2015
0001410873		DX-111/M ATF	1	qt	12/3/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410902		CRC BATTERY CLEANER	11	oz	12/3/2015
0001410903		CRC BATTERY CLEANER	11	oz	12/3/2015
0001410897	Multi	Purus Diesel Exhaust Fluid	2.5	gal	12/3/2015
0001410898	Multi	Purus Diesel Exhaust Fluid	2.5	gal	12/3/2015
0001410904		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	12/3/2015
0001410905		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	12/3/2015
0001410906		193 GLOSS BLACK CHASSIS & GRILLE GUARD PAINT	12	oz	12/3/2015
0001410872		DX-111/M ATF	1	qt	12/3/2015
0001410884		ANTIFREEZE/COOLANT	1	gal	12/3/2015
0001410879		DX-111/M ATF	1	qt	12/3/2015
0001410880		DX-111/M ATF	1	qt	12/3/2015
0001410881		ANTIFREEZE/COOLANT	1	gal	12/3/2015
0001410882		ANTIFREEZE/COOLANT	1	gal	12/3/2015
0001410878		DX-111/M ATF	1	qt	12/3/2015
0001410877		DX-111/M ATF	1	qt	12/3/2015
0001410885		ANTIFREEZE/COOLANT	1	gal	12/3/2015
0001410886		ANTIFREEZE/COOLANT	1	gal	12/3/2015
0001410887		ANTIFREEZE/COOLANT	1	gal	12/3/2015
0001410888		ANTIFREEZE/COOLANT	1	gal	12/3/2015
0001410876		DX-111/M ATF	1	qt	12/3/2015
0001410875		DX-111/M ATF	1	qt	12/3/2015
0001398010	7727-37-9	NITROGEN, COMPRESSED GAS	40	cf	12/3/2015
0001410883		ANTIFREEZE/COOLANT	1	gal	12/3/2015
0001334173		PRO INDUSTRIAL 0 VOC ACRYLIC COATING-SEMI GLOSS, EXTRA WHITE	469	oz	12/4/2015
0001404432		PLUMBERS GREASE	1	oz	12/4/2015
0001404433		PLUMBERS GREASE	1	oz	12/4/2015
0001404434		PLUMBERS GREASE	1	oz	12/4/2015
0001404435		PLUMBERS GREASE	1	oz	12/4/2015
0001404436		PLUMBERS GREASE	1	oz	12/4/2015
0001404055		rust reformer	1	gal	12/4/2015
0001404056		COTE ALL ENAMEL	1	gal	12/4/2015
0001404057		COTE ALL NEUTRAL BASE	1	gal	12/4/2015
0001404053		DTE-10 EXCEL 32	5	gal	12/4/2015
0001404431		PLUMBERS GREASE	1	oz	12/4/2015
0001404063		PermAcryl Exterior Latex Enamel 1533	1	gal	12/4/2015
0001404058		COTE ALL NEUTRAL BASE	1	gal	12/4/2015
0001334174		PRO INDUSTRIAL 0 VOC ACRYLIC COATING-SEMI GLOSS, EXTRA WHITE	469	oz	12/4/2015
0001383435	7664-93-9	SULFURIC ACID	300	ml	12/4/2015
0001383432	7664-93-9	SULFURIC ACID	476	ml	12/4/2015
0001383441	7697-37-2	NITRIC ACID	44	ml	12/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001385615		BUFFER PH 7.00	1	gal	12/4/2015
0001385617	1310-73-2	SODIUM HYDROXIDE	92	ml	12/4/2015
0001385618	1310-73-2	SODIUM HYDROXIDE	64	ml	12/4/2015
0001385621		BUFFER PH 10 (BLUE BUFFER)	4	l	12/4/2015
0001404059		COTE ALL DEEP BASE	1	gal	12/4/2015
0001334177		PRO INDUSTRIAL WATER BASED CATALYZED EPOXY HARDENER	1	gal	12/4/2015
0001385619	1310-73-2	SODIUM HYDROXIDE	312	ml	12/4/2015
0001385622	1310-73-2	SODIUM HYDROXIDE	1000	ml	12/4/2015
0001404060		COTE ALL DEEP BASE	1	gal	12/4/2015
0001334176		PRO INDUSTRIAL WATER BASED CATALYZED EPOXY HARDENER	1	gal	12/4/2015
0001404430		PLUMBERS GREASE	1	oz	12/4/2015
0001334178		PRO INDUSTRIAL WATER BASED CATALYZED EPOXY HARDENER	1	gal	12/4/2015
0001334179		PRO INDUSTRIAL WATER BASED CATALYZED EPOXY HARDENER	1	gal	12/4/2015
0001334180		PRO INDUSTRIAL WATER BASED CATALYZED EPOXY HARDENER	1	gal	12/4/2015
0001404054		DTE-10 EXCEL 32	5	gal	12/4/2015
0001334171		PRO INDUSTRIAL 0 VOC ACRYLIC COATING-SEMI GLOSS, EXTRA WHITE	469	oz	12/4/2015
0001383442	1310-73-2	SODIUM HYDROXIDE	284	ml	12/4/2015
0001404429		PLUMBERS GREASE	1	oz	12/4/2015
0001404428		PLUMBERS GREASE	1	oz	12/4/2015
0001404427		PLUMBERS GREASE	1	oz	12/4/2015
0001334172		PRO INDUSTRIAL 0 VOC ACRYLIC COATING-SEMI GLOSS, EXTRA WHITE	469	oz	12/4/2015
0001334170		PRO INDUSTRIAL 0 VOC ACRYLIC COATING-SEMI GLOSS, EXTRA WHITE	469	oz	12/4/2015
0001334169		PRO INDUSTRIAL 0 VOC ACRYLIC COATING-SEMI GLOSS, EXTRA WHITE	469	oz	12/4/2015
0001398049	75-45-6	CHLORODIFLUOROMETHANE	30	lb	12/4/2015
0001404390		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404408		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410950		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404407		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404171		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404409		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410953		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410952		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410951		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404419		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404417		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404416		VULKEM 116 WHITE	10.1	oz	12/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404415		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404414		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404413		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404412		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404411		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404392		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404406		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404393		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404418		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404387		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404388		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404389		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404420		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404391		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404410		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410957		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410993		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410955		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404423		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404422		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404421		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410997		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410996		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404425		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410994		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404426		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410992		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410991		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410990		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410989		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404400		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404401		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404402		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410995		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410961		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410954		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404404		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404403		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404295		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410956		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410958		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404424		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410960		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404405		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410974		SAE 30 MOTOR OIL	1	qt	12/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410975		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410976		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410977		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410978		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410979		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410980		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410959		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404167		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404185		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404184		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404183		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404182		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404181		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404180		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404179		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404178		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404161		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404162		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404163		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404164		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404287		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404166		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410973		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404168		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404169		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404155		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404154		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404153		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404152		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404294		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404399		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404292		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404291		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404290		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404289		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404293		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404165		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404299		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404157		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404158		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404312		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404311		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404310		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404309		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404308		VULKEM 116 WHITE	10.1	oz	12/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404307		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404306		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404305		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404304		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404303		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404302		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404186		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404189		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404286		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410972		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410971		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410970		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410969		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404301		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404188		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404300		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404190		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404160		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404159		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404297		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404298		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404187		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410968		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404372		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404359		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404360		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404361		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404362		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404260		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404363		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404364		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404365		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404366		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404367		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404368		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404369		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404288		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404371		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404356		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404373		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404374		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404375		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404376		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404377		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404378		VULKEM 116 WHITE	10.1	oz	12/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404379		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404380		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404381		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404382		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404383		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404384		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404385		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404370		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404082		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404285		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404284		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404283		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404282		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404281		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404280		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404279		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404278		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404277		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404276		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404275		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404274		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404273		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404358		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404076		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404386		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404355		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404354		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404072		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404073		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404084		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404075		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404083		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404077		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404078		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404079		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404080		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404081		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404357		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404074		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404228		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404119		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404120		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404121		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404122		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404123		VULKEM 116 WHITE	10.1	oz	12/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404124		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404351		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404227		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404116		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404229		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404126		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404127		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404128		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404230		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404353		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404327		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404125		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404222		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404213		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404214		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404215		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404216		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404217		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404218		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404219		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404118		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404221		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404117		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404223		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404224		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404225		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404226		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404114		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404115		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404350		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404220		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404335		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404343		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404342		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404341		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404109		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404339		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404398		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404352		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404336		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404346		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404334		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404333		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404332		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404331		VULKEM 116 WHITE	10.1	oz	12/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404330		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404329		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404328		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404337		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404135		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404349		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404348		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404347		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404129		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404130		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404131		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404132		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404344		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404134		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404345		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404136		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404137		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404138		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404139		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404140		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404141		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001302468		ALCONOX DETERGENT	4	lb	12/4/2015
0001404133		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404199		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404194		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404263		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404264		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404265		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404266		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404195		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404212		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404198		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404191		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404200		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404201		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404202		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404267		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404268		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404269		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404270		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404196		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404254		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404261		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404262		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404113		VULKEM 116 WHITE	10.1	oz	12/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404112		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404259		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404258		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404257		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404193		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404255		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404192		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404253		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404252		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404251		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404250		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404249		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404172		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404248		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404256		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404208		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404271		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404067		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404066		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001338680	7697-37-2	NITRIC ACID OPTIMA	500	ml	12/4/2015
0001404203		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404204		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404205		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404069		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404207		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404070		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404209		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404210		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404065		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	12/4/2015
0001404064		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	12/4/2015
0001404062		PERMACRYL INTERIOR SEMI-GLOSS NEUTRAL BASE	1	gal	12/4/2015
0001404061		PERMACRYL INTERIOR SEMI-GLOSS NEUTRAL BASE	1	gal	12/4/2015
0001404338		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404206		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404239		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404211		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404247		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404246		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404245		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404244		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404243		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404242		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404068		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404240		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404272		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404238		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404237		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404236		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404235		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404234		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404233		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404071		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404241		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404094		PERMACRYL INTERIOR SEMI-GLOSS WHITE BASE	1	gal	12/4/2015
0001404103		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404149		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404150		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404151		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404231		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404232		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404170		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404147		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001289037	7697-37-2	NITRIC ACID OPTIMA	500	ml	12/4/2015
0001404146		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404095		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	12/4/2015
0001404096		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	12/4/2015
0001404097		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404098		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404099		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404100		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404101		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410942		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404092		COTE ALL DEEP BASE	1	gal	12/4/2015
0001410964		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410943		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410944		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410945		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410946		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404326		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410948		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404340		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404148		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410963		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404104		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410965		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404173		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404174		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410966		SAE 30 MOTOR OIL	1	qt	12/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410967		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404143		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404144		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404145		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410962		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404087		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404102		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410984		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404110		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404111		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410983		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410982		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410981		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001289038	7697-37-2	NITRIC ACID OPTIMA	500	ml	12/4/2015
0001404086		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001334175		PRO INDUSTRIAL WATER BASED CATALYZED EPOXY HARDENER	1	gal	12/4/2015
0001404088		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404089		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404090		PSX 700 CURE	1	pt	12/4/2015
0001404091		PSX 700 PART A(RESIN)	1	gal	12/4/2015
0001404394		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404395		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404396		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404397		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404085		SASHCO BIG STRETCH SEALER	10.5	oz	12/4/2015
0001404156		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404105		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404106		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410988		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404197		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410987		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410986		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404107		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404093		COTE ALL DEEP BASE	1	gal	12/4/2015
0001404108		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410947		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410985		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001383437	7664-93-9	SULFURIC ACID	800	ml	12/4/2015
0001383438	7664-93-9	SULFURIC ACID	400	ml	12/4/2015
0001383439	7664-93-9	SULFURIC ACID	400	ml	12/4/2015
0013834369	7664-93-9	SULFURIC ACID	32	ml	12/4/2015
0001383440	7664-93-9	SULFURIC ACID	260	ml	12/4/2015
0001146862	7664-93-9	SULFURIC ACID	140	ml	12/4/2015
0001385620	1310-73-2	SODIUM HYDROXIDE	184	ml	12/4/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404296		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404316		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410935		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410934		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410933		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410941		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410931		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410949		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410929		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410928		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410927		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410926		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404313		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404314		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410936		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404315		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410932		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001404317		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404318		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404319		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404320		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404321		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404177		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404176		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404175		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404322		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404323		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404324		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404325		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001404142		VULKEM 116 WHITE	10.1	oz	12/4/2015
0001410940		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410939		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410938		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410937		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001410930		SAE 30 MOTOR OIL	1	qt	12/4/2015
0001144676		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144675		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144660		SILICONE SEALANT	2.8	oz	12/7/2015
0001144674		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144681		CONTACT CLEANER	14	oz	12/7/2015
0001144673		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144672		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144671		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144677		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144678		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001144670		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144679		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144680		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144682		CONTACT CLEANER	14	oz	12/7/2015
0001144664		SILICONE SEALANT	2.8	oz	12/7/2015
0001144663		SILICONE SEALANT	2.8	oz	12/7/2015
0001144661		SILICONE SEALANT	2.8	oz	12/7/2015
0001144657		SILICONE SEALANT	2.8	oz	12/7/2015
0001144659		SILICONE SEALANT	2.8	oz	12/7/2015
0001144683		CONTACT CLEANER	14	oz	12/7/2015
0001144658		SILICONE SEALANT	2.8	oz	12/7/2015
0001404051	65997-15-1	PORTLAND CEMENT	94	lb	12/7/2015
0001404052	65997-15-1	PORTLAND CEMENT	94	lb	12/7/2015
0001144669		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144684		CONTACT CLEANER	14	oz	12/7/2015
0001144662		SILICONE SEALANT	2.8	oz	12/7/2015
0001355261	7697-37-2	NITRIC ACID OPTIMA	500	ml	12/7/2015
0001144685		CONTACT CLEANER	14	oz	12/7/2015
0001355153	64-17-5	ETHANOL, ANHYDROUS	20	l	12/7/2015
0001355154	64-17-5	ETHANOL, ANHYDROUS	20	l	12/7/2015
0001355155	64-17-5	ETHANOL, ANHYDROUS	20	l	12/7/2015
0001355156		2-NONANONE	1	kg	12/7/2015
0001355152	64-17-5	ETHANOL, ANHYDROUS	20	l	12/7/2015
0001355158	Multi	Silver, dispersion	25	ml	12/7/2015
0001355151	64-17-5	ETHANOL, ANHYDROUS	20	l	12/7/2015
0001355262	7697-37-2	NITRIC ACID OPTIMA	500	ml	12/7/2015
0001355263	7697-37-2	NITRIC ACID OPTIMA	500	ml	12/7/2015
0001355264	7697-37-2	NITRIC ACID OPTIMA	500	ml	12/7/2015
0001355265	7697-37-2	NITRIC ACID OPTIMA	500	ml	12/7/2015
0001355266	7697-37-2	NITRIC ACID OPTIMA	500	ml	12/7/2015
0001355143	7631-86-9	SILICON DIOXIDE	500	gm	12/7/2015
0001355157	9002-93-1	TRITON X-100	500	ml	12/7/2015
0001320404		METADI FLUID	32	oz	12/7/2015
0001144667		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144666		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001144665		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001320387		CRYSTAL BOND 509	90	gm	12/7/2015
0001320395		CRYSTAL BOND 509	90	gm	12/7/2015
0001320396		METADI DIAMOND SUSPENSION	8	oz	12/7/2015
0001398050	7782-50-5	CHLORINE	1	lb	12/7/2015
0001320403		METADI FLUID	32	oz	12/7/2015
0001395595		FANTASTIK ALL PURPOSE CLEANER	32	oz	12/7/2015
0001355146	2554-06-5	1,3,5,7-TETRAVINYL-1,3,5,7-TETRAMETHYLCYCLOTETRASILOXANE	25	gm	12/7/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355147	68478-92-2	PLATINUM-DIVINYLTETRAMETHYLDISILOXANE COMPLEX	5	gm	12/7/2015
0001355148	67-64-1	ACETONE	4	l	12/7/2015
0001355149	67-64-1	ACETONE	4	l	12/7/2015
0001355150	64-17-5	ETHANOL, ANHYDROUS	20	l	12/7/2015
0001144668		Sprayon S00708 T.F.E Dry Lube	14	oz	12/7/2015
0001320397		METADI DIAMOND SUSPENSION	8	oz	12/7/2015
0001385778	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/7/2015
0001144696		RTV ADHESIVE	2.7	oz	12/7/2015
0001144695		RTV ADHESIVE	2.7	oz	12/7/2015
0001144694		SUPERFLEX HIGH TEMP RTV SILICONE ADHESIVE SEALANT	2.7	oz	12/7/2015
0001144693		SUPERFLEX HIGH TEMP RTV SILICONE ADHESIVE SEALANT	2.7	oz	12/7/2015
0001144691		CONTACT CLEANER	14	oz	12/7/2015
0001144690		CONTACT CLEANER	14	oz	12/7/2015
0001144689		CONTACT CLEANER	14	oz	12/7/2015
0001144688		CONTACT CLEANER	14	oz	12/7/2015
0001144697		RTV ADHESIVE	2.7	oz	12/7/2015
0001144686		CONTACT CLEANER	14	oz	12/7/2015
0001398051	7782-50-5	CHLORINE	1	lb	12/7/2015
0001385779	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/7/2015
0001385780	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/7/2015
0001385781	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/7/2015
0001385782	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/7/2015
0001355336		M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	1	gal	12/7/2015
0001355123	998-30-1	TRIETHOXYSILANE	10	ml	12/7/2015
0001398052	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	12/7/2015
0001061155		Rodent Defense	32	oz	12/7/2015
0001144687		CONTACT CLEANER	14	oz	12/7/2015
0001398053	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	250	l	12/7/2015
0001395592		FANTASTIK ALL PURPOSE CLEANER	32	oz	12/7/2015
0001355175	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355167	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355168	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355169	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355170	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355171	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355172	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355166	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355174	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355271	9002-89-5	POLYVINYL ALCOHOL	500	gm	12/7/2015
0001355176	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355177	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355173	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001404442		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001355270	1079-66-9	CHLORODIPHENYLPHOSPHINE	25	gm	12/7/2015
0001404443		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001355272	9002-89-5	POLYVINYL ALCOHOL	250	gm	12/7/2015
0001355178	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355179	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355180	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355273	28961-43-5	Ethoxylated (3) Trimethylolpropane Triacrylate	250	ml	12/7/2015
0001355181	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001355274	7473-98-5	2-Hydroxy-2-methylpropiophenone	50	ml	12/7/2015
0001355275	108-88-3	Poly(lauryl methacrylate) solution	5	gm	12/7/2015
0001355276	108-88-3	Poly(lauryl methacrylate) solution	5	gm	12/7/2015
0001355165	64742-65-0	Alcatel 119	4	l	12/7/2015
0001355267		EP30HT	50	ml	12/7/2015
0001404050	65997-15-1	PORTLAND CEMENT	94	lb	12/7/2015
0001404441		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404456		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404455		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404452		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404453		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001355185	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001144692		SUPERFLEX HIGH TEMP RTV SILICONE ADHESIVE SEALANT	2.7	oz	12/7/2015
0001355184	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355142	79-22-1	METHYL CHLOROFORMATE	100	ml	12/7/2015
0001355144	67762-94-1	(VINYLMETHYLSILOXANE)-DIMETHYLSILOXANE COPOLYMER	100	gm	12/7/2015
0001355291	1344-28-1	ALUMINA POWDER	1	lb	12/7/2015
0001355290	1344-28-1	ALUMINA POWDER	1	lb	12/7/2015
0001355289	1344-28-1	ALUMINA POWDER	1	lb	12/7/2015
0001355288		SILVER EPOXY	1	oz	12/7/2015
0001404454		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404451		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404444		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404445		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404446		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404447		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404448		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404457		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404450		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001355145	67762-94-1	(VINYLMETHYLSILOXANE)-DIMETHYLSILOXANE COPOLYMER	100	gm	12/7/2015
0001355182	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001404461		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404460		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404459		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404458		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001355183	105333-10-6	(n5-2,4-Cyclopentadien-1-yl)[(1,2,3-n)-1-phenyl-2-propenyl]-palladium	100	mg	12/7/2015
0001404449		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001355285	12060-58-1	SAMARIUM 149	10	mg	12/7/2015
0001354997	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001354998	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001354999	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001355000	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001355268		DOW CORNING 7 RELEASE COMPOUND	5.3	oz	12/7/2015
0001355001	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001355282	7664-38-2	PHOSPHORIC ACID	1	l	12/7/2015
0001398055	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	12/7/2015
0001355284	12060-58-1	SAMARIUM 149	10	mg	12/7/2015
0001355269	7782-42-5	GRAPHITE POWDER	1	kg	12/7/2015
0001355286	12060-58-1	SAMARIUM 149	10	mg	12/7/2015
0001355314		FloMag H	5	gal	12/7/2015
0001355315		FloMag H	5	gal	12/7/2015
0001355316		FloMag H	5	gal	12/7/2015
0001355317		FloMag H	5	gal	12/7/2015
0001355318		FloMag H	5	gal	12/7/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355277	25322-68-3	POLY(ETHYLENE OXIDE)	250	gm	12/7/2015
0001355283	60-29-7	DIETHYL ETHER	5	l	12/7/2015
0001355308	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	12/7/2015
0001355278	13587-16-1	LITHIUM DEUTERIDE	2	gm	12/7/2015
0001355279	530-62-1	N,N'-CARBONYLDIIMIDAZOLE	5	gm	12/7/2015
0001355280		STYCAST 1266 PART A CLEANER	1	qt	12/7/2015
0001355281		STYCAST 1266, PART B	1	qt	12/7/2015
0001355303	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	12/7/2015
0001355304	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	12/7/2015
0001355305	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	12/7/2015
0001355313		SYLGARD 184	1.1	lb	12/7/2015
0001355307	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	12/7/2015
0001355312	694-53-1	PHENYLSILANE	1	gm	12/7/2015
0001355309	111-84-2	NONANE	1000	mg	12/7/2015
0001355310		1-NONENE	5	ml	12/7/2015
0001355311	623-93-8	5-Nonanol	25	ml	12/7/2015
0001397939		oxygen, nitrogen	58	l	12/7/2015
0001397938		oxygen, nitrogen	58	l	12/7/2015
0001398057	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	12/7/2015
0001398056	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	12/7/2015
0001398054	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	12/7/2015
0001355306	811-97-2	AIRIT SUPER FRIENDLY DUSTER	11	oz	12/7/2015
0001355332		FloMag H	5	gal	12/7/2015
0001355323		FloMag H	5	gal	12/7/2015
0001355324		FloMag H	5	gal	12/7/2015
0001355325		FloMag H	5	gal	12/7/2015
0001355326		FloMag H	5	gal	12/7/2015
0001355327		FloMag H	5	gal	12/7/2015
0001355328		FloMag H	5	gal	12/7/2015
0001355329		FloMag H	5	gal	12/7/2015
0001355319		FloMag H	5	gal	12/7/2015
0001355331		FloMag H	5	gal	12/7/2015
0001385772	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/7/2015
0001355334		Anti-Mature-SP-C-Rabbit	100	ul	12/7/2015
0001385773	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/7/2015
0001385774		TRI-ACT 1820	450	lb	12/7/2015
0001385775		TRI-ACT 1820	450	lb	12/7/2015
0001385776		Nalco 22341	503	lb	12/7/2015
0001385777		NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	gal	12/7/2015
0001354987	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001355330		FloMag H	5	gal	12/7/2015
0001354988	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355337		M-3160 A/B 60 SHORE A POLYURETHANE ELASTOMER	1	gal	12/7/2015
0001355335	9002-83-9	Halovac 125	64	lb	12/7/2015
0001354995	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001354994	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001354993	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001354992	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001354991	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001355322		FloMag H	5	gal	12/7/2015
0001354989	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001355321		FloMag H	5	gal	12/7/2015
0001385769	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/7/2015
0001385770	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/7/2015
0001385771	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/7/2015
0001404440		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404439		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001404438		SUMMIT SH-46 SYNTHETIC LUBRICANT	1	gal	12/7/2015
0001355320		FloMag H	5	gal	12/7/2015
0001354996	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001354990	16219-75-3	5-Ethylidene-2-norbornene	500	ml	12/7/2015
0001355338		JEFFAMINE T-403	1	gal	12/7/2015
0001355293	1344-28-1	ALUMINA POWDER	1	lb	12/7/2015
0001355292	1344-28-1	ALUMINA POWDER	1	lb	12/7/2015
0001355339		JEFFAMINE T-403	1	gal	12/7/2015
0001355294	13154-24-0	TRIISOPROPYLSILYL CHLORIDE	50	gm	12/8/2015
0001410507		ULTRA-LOW VOC BRAKLEEN	14	oz	12/9/2015
0001410502		ULTRA-LOW VOC BRAKLEEN	14	oz	12/9/2015
0001289072		LPS PRECISION CLEAN	18	oz	12/9/2015
0001410511		ULTRA-LOW VOC BRAKLEEN	14	oz	12/9/2015
0001410510		ULTRA-LOW VOC BRAKLEEN	14	oz	12/9/2015
0001381411		GOO GONE	12	oz	12/9/2015
0001410508		ULTRA-LOW VOC BRAKLEEN	14	oz	12/9/2015
0001410506		ULTRA-LOW VOC BRAKLEEN	14	oz	12/9/2015
0001410505		ULTRA-LOW VOC BRAKLEEN	14	oz	12/9/2015
0001410504		ULTRA-LOW VOC BRAKLEEN	14	oz	12/9/2015
0001410503		ULTRA-LOW VOC BRAKLEEN	14	oz	12/9/2015
0001289071		LPS PRECISION CLEAN	18	oz	12/9/2015
0001410509		ULTRA-LOW VOC BRAKLEEN	14	oz	12/9/2015
0001355055	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355056	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355057	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355059	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355054	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355125	7087-68-5	N,N-DIISOPROPYLETHYLAMINE	500	ml	12/9/2015
0001355058	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355036	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001054974	64-17-5	ETHYL ALCOHOL	1	gal	12/9/2015
0001355035	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001054955	64-17-5	ETHYL ALCOHOL	1	gal	12/9/2015
0001355037	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355048	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355041	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355043	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355124	7087-68-5	N,N-DIISOPROPYLETHYLAMINE	500	ml	12/9/2015
0001355053	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355045	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355046	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355040	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355042	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355047	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355044	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355049	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355039	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355038	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355052	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355051	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001355050	1888-71-7	HEXACHLOROPROPENE	100	gm	12/9/2015
0001404496		RAPID ROAD REPAIR	50	lb	12/10/2015
0001398192	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398193	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001410998		HYDRAULIC JACK OIL	1	gal	12/10/2015
0001404502		RAPID ROAD REPAIR	50	lb	12/10/2015
0001404505		ready mix concrete	60	lb	12/10/2015
0001398194	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398195	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398196	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398197	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398198	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398199	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001404506		ready mix concrete	60	lb	12/10/2015
0001404495		RAPID ROAD REPAIR	50	lb	12/10/2015
0001355219	64-17-5	ALCOHOL USP, ETHYL ALCOHOL, 190 PROOF PUNCTILIOUS(R)	1	l	12/10/2015
0001404497		RAPID ROAD REPAIR	50	lb	12/10/2015
0001404498		RAPID ROAD REPAIR	50	lb	12/10/2015
0001404499		RAPID ROAD REPAIR	50	lb	12/10/2015
0001404500		RAPID ROAD REPAIR	50	lb	12/10/2015
0001398202	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398203	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398205	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404507		ready mix concrete	60	lb	12/10/2015
0001355218	67-56-1	METHANOL	1	l	12/10/2015
0001398207	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398208	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001404508		ready mix concrete	60	lb	12/10/2015
0001398201	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398200	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001355229	71-36-3	1-BUTANOL	4	l	12/10/2015
0001355228	71-36-3	1-BUTANOL	4	l	12/10/2015
0001355227	71-36-3	1-BUTANOL	4	l	12/10/2015
0001355226	71-36-3	1-BUTANOL	4	l	12/10/2015
0001355225	71-36-3	1-BUTANOL	4	l	12/10/2015
0001355224	71-36-3	1-BUTANOL	4	l	12/10/2015
0001355223	71-36-3	1-BUTANOL	4	l	12/10/2015
0001355222	71-36-3	1-BUTANOL	4	l	12/10/2015
0001404549		fast setting cement	50	lb	12/10/2015
0001404548		fast setting cement	50	lb	12/10/2015
0001404547		fast setting cement	50	lb	12/10/2015
0001404546		fast setting cement	50	lb	12/10/2015
0001398191	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001404501		RAPID ROAD REPAIR	50	lb	12/10/2015
0001398190	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001404551		fast setting cement	50	lb	12/10/2015
0001404552		fast setting cement	50	lb	12/10/2015
0001404553		fast setting cement	50	lb	12/10/2015
0001404554		fast setting cement	50	lb	12/10/2015
0001355230	71-36-3	1-BUTANOL	4	l	12/10/2015
0001398218		AIR, COMPRESSED	220	cf	12/10/2015
0001395591		FANTASTIKE ALL PURPOSE CLEANER	32	oz	12/10/2015
0001402842		FANTASTIKE ALL PURPOSE CLEANER	32	oz	12/10/2015
0001395588		FANTASTIKE ALL PURPOSE CLEANER	32	oz	12/10/2015
0001404503		ready mix concrete	60	lb	12/10/2015
0001404504		ready mix concrete	60	lb	12/10/2015
0001355221	71-36-3	1-BUTANOL	4	l	12/10/2015
0001404550		fast setting cement	50	lb	12/10/2015
0001404545		fast setting cement	50	lb	12/10/2015
0001404534		fast setting cement	50	lb	12/10/2015
0001398216		AIR, COMPRESSED	220	cf	12/10/2015
0001404514		ready mix concrete	60	lb	12/10/2015
0001398212	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398211	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001404544		fast setting cement	50	lb	12/10/2015
0001404543		fast setting cement	50	lb	12/10/2015
0001404542		fast setting cement	50	lb	12/10/2015
0001404541		fast setting cement	50	lb	12/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404540		fast setting cement	50	lb	12/10/2015
0001404539		fast setting cement	50	lb	12/10/2015
0001404538		fast setting cement	50	lb	12/10/2015
0001404537		fast setting cement	50	lb	12/10/2015
0001404512		ready mix concrete	60	lb	12/10/2015
0001404535		fast setting cement	50	lb	12/10/2015
0001404511		ready mix concrete	60	lb	12/10/2015
0001404533		fast setting cement	50	lb	12/10/2015
0001404532		fast setting cement	50	lb	12/10/2015
0001404531		fast setting cement	50	lb	12/10/2015
0001404530		fast setting cement	50	lb	12/10/2015
0001404529		fast setting cement	50	lb	12/10/2015
0001404528		fast setting cement	50	lb	12/10/2015
0001404555		fast setting cement	50	lb	12/10/2015
0001404527		fast setting cement	50	lb	12/10/2015
0001398204	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001355366		SYLGARD 184	10	gm	12/10/2015
0001355367		SYLGARD 184	10	gm	12/10/2015
0001355368		SYLGARD 184	10	gm	12/10/2015
0001398209	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001404536		fast setting cement	50	lb	12/10/2015
0001404517		ready mix concrete	60	lb	12/10/2015
0001398213		Sulfer Hexafluoride	40	cf	12/10/2015
0001398214		Sulfer Hexafluoride	40	cf	12/10/2015
0001398217		AIR, COMPRESSED	220	cf	12/10/2015
0001398210	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398219		AIR, COMPRESSED	220	cf	12/10/2015
0001398220		AIR, COMPRESSED	220	cf	12/10/2015
0001398221		AIR, COMPRESSED	220	cf	12/10/2015
0001355216	109-66-0	PENTANE, ANHYDROUS	1	l	12/10/2015
0001355215	109-99-9	TETRAHYDROFURAN, ANHYDROUS, 99.9%	1	l	12/10/2015
0001355214	108-88-3	TOLUENE, ANHYDROUS	1	l	12/10/2015
0001404515		ready mix concrete	60	lb	12/10/2015
0001404516		ready mix concrete	60	lb	12/10/2015
0001404513		ready mix concrete	60	lb	12/10/2015
0001404494		RAPID ROAD REPAIR	50	lb	12/10/2015
0001355217	109-66-0	PENTANE, ANHYDROUS	1	l	12/10/2015
0001404518		ready mix concrete	60	lb	12/10/2015
0001404519		ready mix concrete	60	lb	12/10/2015
0001404520		ready mix concrete	60	lb	12/10/2015
0001398222		AIR, COMPRESSED	220	cf	12/10/2015
0001398223		AIR, COMPRESSED	220	cf	12/10/2015
0001398224		AIR, COMPRESSED	220	cf	12/10/2015
0001398225		AIR, COMPRESSED	220	cf	12/10/2015
0001398226		AIR, COMPRESSED	220	cf	12/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001398227		AIR, COMPRESSED	220	cf	12/10/2015
0001398228	74-98-6	PROPANE	11	gal	12/10/2015
0001398252		75% ARGON/25% CARBON DIOXIDE	220	cf	12/10/2015
0001291885		SPRAY ADHESIVE	13.5	oz	12/10/2015
0001404510		ready mix concrete	60	lb	12/10/2015
0001305669	5968-11-6	SODIUM CARBONATE, MONOHYDRATE	3	kg	12/10/2015
0001404559		fast setting cement	50	lb	12/10/2015
0001355365		SYLGARD 184	10	gm	12/10/2015
0001398189	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398188	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398187	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398186	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398185	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001355364		SYLGARD 184	10	gm	12/10/2015
0001404558		fast setting cement	50	lb	12/10/2015
0001404560		fast setting cement	50	lb	12/10/2015
0001404561		fast setting cement	50	lb	12/10/2015
0001404566		fast setting cement	50	lb	12/10/2015
0001404562		fast setting cement	50	lb	12/10/2015
0001404563		fast setting cement	50	lb	12/10/2015
0001404564		fast setting cement	50	lb	12/10/2015
0001404565		fast setting cement	50	lb	12/10/2015
0001404567		fast setting cement	50	lb	12/10/2015
0001398184	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001404557		fast setting cement	50	lb	12/10/2015
0001404556		fast setting cement	50	lb	12/10/2015
0001398206	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001404509		ready mix concrete	60	lb	12/10/2015
0001398116		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398108		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398109		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398112		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398117		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398113		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398110		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398111		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398115		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398114		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398118		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398128		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001355346	141-05-9	DIETHYL MALEATE	1	kg	12/10/2015
0001355347	7439-95-4	MAGNESIUM	50	gm	12/10/2015
0001355348	68954-42-7	CHELATING RESIN 100-200 MESH SODIUM FORM	500	gm	12/10/2015
0001355349	288-13-1	PYRAZOLE, 98%	100	gm	12/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355352	144-55-8	SODIUM BICARBONATE (SODIUM HYDROGEN CARBONATE)	1	kg	12/10/2015
0001355353	10101-41-4	CALCIUM SULFATE, DIHYDRATE	1	kg	12/10/2015
0001398105		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001355355	10101-41-4	CALCIUM SULFATE, DIHYDRATE	1	kg	12/10/2015
0001398107		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001404493		TRU-BLU	50	gm	12/10/2015
0001404470		TRU-BLU	50	gm	12/10/2015
0001355296		DOUBLE BUBBLE PURPLE/BEIGE A85 PKG	350	gm	12/10/2015
0001385783	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/10/2015
0001398106		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001355385		FULLCURE 705	1	kg	12/10/2015
0001355354	10101-41-4	CALCIUM SULFATE, DIHYDRATE	1	kg	12/10/2015
0001404465		PermAcryl Exterior Latex Enamel 1533	1	gal	12/10/2015
0001398076		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398077		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001404469		TRU-BLU	50	gm	12/10/2015
0001398101		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398249	74-98-6	PROPANE	11	gal	12/10/2015
0001398126		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001404468		TRU-BLU	50	gm	12/10/2015
0001398248	74-98-6	PROPANE	11	gal	12/10/2015
0001291878		PUTTY	.25	lb	12/10/2015
0001291879		PUTTY	.25	lb	12/10/2015
0001291880		PUTTY	.25	lb	12/10/2015
0001291881		PUTTY	.25	lb	12/10/2015
0001291882		PUTTY	.25	lb	12/10/2015
0001404464		PERMACRYL EXTERIOR SEMI-GLOSS NEUTRAL BASE	1	gal	12/10/2015
0001398131		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001398125		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398119		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398120		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001355384	7782-40-3	SYNTHESIZED DIAMOND NANOPOWDER	10	mg	12/10/2015
0001355383		ORION SURE-FLOW REFERENCE ELECTRODE FILLING SOLUTION	120	ml	12/10/2015
0001398121		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398122		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398075		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398124		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001340066		CLEANING FLUID	1	kg	12/10/2015
0001355345	1665-59-4	N,N-diethyl-N'-phenylethylenediamine	1	gm	12/10/2015
0001398127		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398129		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0000802808		AJAX MULTISURFACE CLEANER "AMMONIA FRESH"	14	oz	12/10/2015
0001398183	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001340065		CLEANING FLUID	1	kg	12/10/2015
0001398123		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001355405	299-28-5	CALCIUM GLUCONATE GEL	25	gm	12/10/2015
0001398176	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398177	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398178	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398179	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398180	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001398058	7440-59-7	HELIUM	220	cf	12/10/2015
0001355362		PALLADIUM 10% ON ACTIVATED CARBON	50	gm	12/10/2015
0001355370		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001355358	131890-26-1	Bis[2-(diisopropylphosphino)ethyl]amine, 10% w/w soln. in THF	10	ml	12/10/2015
0001355357	131890-26-1	Bis[2-(diisopropylphosphino)ethyl]amine, 10% w/w soln. in THF	10	ml	12/10/2015
0001355356	10101-41-4	CALCIUM SULFATE, DIHYDRATE	1	kg	12/10/2015
0001340063		OBJET SUPPORT SUP705	1	kg	12/10/2015
0001404476		TRU-BLU	50	gm	12/10/2015
0001404477		TRU-BLU	50	gm	12/10/2015
0001398181	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001355299	123-91-1	1,4-DIOXANE	100	ml	12/10/2015
0001355360	131890-26-1	Bis[2-(diisopropylphosphino)ethyl]amine, 10% w/w soln. in THF	10	ml	12/10/2015
0001355361	13446-03-2	MANGANESE(II) BROMIDE	25	gm	12/10/2015
0001355369	24650-42-8	2,2-DIMETHOXY-2-PHENYLACETOPHENONE	50	gm	12/10/2015
0001398102		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001355363	31175-20-9	NAFION NR50	25	gm	12/10/2015
0001355220	67-64-1	ACETONE	1	l	12/10/2015
0001398175	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001355298	123-91-1	1,4-DIOXANE	100	ml	12/10/2015
0001398174	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/10/2015
0001355300	13520-69-9	IRON(II) PERCHLORATE HEXAHYDRATE	100	gm	12/10/2015
1351355302	63231-67-4	SILICA GEL	2.5	kg	12/10/2015
0001355382	7719-09-7	THIONYL CHLORIDE	500	ml	12/10/2015
0001398103		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398104		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001404480		TRU-BLU	50	gm	12/10/2015
0001355297	122-51-0	TRIETHYL ORTHOFORMATE (TRIETHYL ORTHOFORMATE, ANHYDROUS)	500	ml	12/10/2015
0001404471		TRU-BLU	50	gm	12/10/2015
0001404478		TRU-BLU	50	gm	12/10/2015
0001398132		94% Argon and 6% Hydrogen	220	cf	12/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001291883		PUTTY	.25	lb	12/10/2015
0001404475		TRU-BLU	50	gm	12/10/2015
0001398244	74-98-6	PROPANE	11	gal	12/10/2015
0001404473		TRU-BLU	50	gm	12/10/2015
0001398133		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001398246	74-98-6	PROPANE	11	gal	12/10/2015
0001398134		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001398247	74-98-6	PROPANE	11	gal	12/10/2015
0001404490		TRU-BLU	50	gm	12/10/2015
0001404491		TRU-BLU	50	gm	12/10/2015
0001404492		TRU-BLU	50	gm	12/10/2015
0001355342		NEODYMIUM PLASMA STANDARD	500	ml	12/10/2015
0001355343		NEODYMIUM PLASMA STANDARD	500	ml	12/10/2015
0001398245	74-98-6	PROPANE	11	gal	12/10/2015
0001404488		TRU-BLU	50	gm	12/10/2015
0001355344	9012-36-6	SEAKEM GTG AGAROSE	500	gm	12/10/2015
0001404481		TRU-BLU	50	gm	12/10/2015
0001404482		TRU-BLU	50	gm	12/10/2015
0001404483		TRU-BLU	50	gm	12/10/2015
0001404484		TRU-BLU	50	gm	12/10/2015
0001404485		TRU-BLU	50	gm	12/10/2015
0001398146	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001404487		TRU-BLU	50	gm	12/10/2015
0001404479		TRU-BLU	50	gm	12/10/2015
0001404489		TRU-BLU	50	gm	12/10/2015
0001404472		TRU-BLU	50	gm	12/10/2015
0001398138		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001398137		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001398136		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001398135		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001404486		TRU-BLU	50	gm	12/10/2015
0001398238	74-98-6	PROPANE	11	gal	12/10/2015
0001398231	74-98-6	PROPANE	11	gal	12/10/2015
0001398232	74-98-6	PROPANE	11	gal	12/10/2015
0001398233	74-98-6	PROPANE	11	gal	12/10/2015
0001398234	74-98-6	PROPANE	11	gal	12/10/2015
0001398235	74-98-6	PROPANE	11	gal	12/10/2015
0001398067	7440-59-7	HELIUM	220	cf	12/10/2015
0001398237	74-98-6	PROPANE	11	gal	12/10/2015
0001398215		AIR, COMPRESSED	220	cf	12/10/2015
0001398239	74-98-6	PROPANE	11	gal	12/10/2015
0001398240	74-98-6	PROPANE	11	gal	12/10/2015
0001398241	74-98-6	PROPANE	11	gal	12/10/2015
0001398242	74-98-6	PROPANE	11	gal	12/10/2015
0001398243	74-98-6	PROPANE	11	gal	12/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355350	288-13-1	PYRAZOLE, 98%	100	gm	12/10/2015
0001398236	74-98-6	PROPANE	11	gal	12/10/2015
0001291874		PUTTY	.25	lb	12/10/2015
0001398169	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001398144		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001398171	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001398172	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001398173	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001291877		PUTTY	.25	lb	12/10/2015
0001398230	74-98-6	PROPANE	11	gal	12/10/2015
0001291875		PUTTY	.25	lb	12/10/2015
0001398229	74-98-6	PROPANE	11	gal	12/10/2015
0001291873		PUTTY	.25	lb	12/10/2015
0001291872		PUTTY	.25	lb	12/10/2015
0001398130		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001398074		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398073	7440-59-7	HELIUM	220	cf	12/10/2015
0001398099		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001291876		PUTTY	.25	lb	12/10/2015
0001398086		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398093		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398092		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398091		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398090		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398089		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398066	7440-59-7	HELIUM	220	cf	12/10/2015
0001398087		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398070	7440-59-7	HELIUM	220	cf	12/10/2015
0001398085		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398084		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398083		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398082		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398081		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398080		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398088		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398095		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001355371		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001355372		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001398068	7440-59-7	HELIUM	220	cf	12/10/2015
0001355373		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001398098		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001355374		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001398072	7440-59-7	HELIUM	220	cf	12/10/2015
0001398096		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398071	7440-59-7	HELIUM	220	cf	12/10/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001398094		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001355301		TORR SEAL	118	gm	12/10/2015
0001404466		SAFETY GREEN ALKYD INDUSTRIAL ENAMEL	1	gal	12/10/2015
0001404467	64742-65-0	01657 RANDO OIL HD 32	5	gal	12/10/2015
0001398069	7440-59-7	HELIUM	220	cf	12/10/2015
0001398168	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001398097		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398155	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001398150	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001398151	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001355388		CLEANING FLUID	1	kg	12/10/2015
0001355387		CLEANING FLUID	1	kg	12/10/2015
0001398152	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001398167	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001398154	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001398148	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001398156	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001398157	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001398158	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001398159	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001398170	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001385787	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/10/2015
0001398153	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001398142		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001355351	288-13-1	PYRAZOLE, 98%	100	gm	12/10/2015
0001398078		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398079		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001398100		P-10 (90% ARGON 10% METHANE)	220	cf	12/10/2015
0001404474		TRU-BLU	50	gm	12/10/2015
0001398139		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001398149	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001398141		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001385785	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/10/2015
0001398143		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001355359	131890-26-1	Bis[2-(diisopropylphosphino)ethyl]amine, 10% w/w soln. in THF	10	ml	12/10/2015
0001398145	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001355386		FULLCURE 705	1	kg	12/10/2015
0001398147	7440-37-1	ARGON, COMPRESSED	220	cf	12/10/2015
0001385788	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/10/2015
0001398140		94% Argon and 6% Hydrogen	220	cf	12/10/2015
0001355378		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001385786	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/10/2015
0001398162	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001385784	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/10/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355407	299-28-5	CALCIUM GLUCONATE GEL	25	gm	12/10/2015
0001355406	299-28-5	CALCIUM GLUCONATE GEL	25	gm	12/10/2015
0001355381		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001398160	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001355379		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001398065	7440-59-7	HELIUM	220	cf	12/10/2015
0001355377		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001355376		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001355375		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001398163	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001398164	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001398165	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001398166	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001355380		FANTASTIKE ALL PURPOSE CLEANER	1	gal	12/10/2015
0001404463		PERMACRYL INTERIOR FLAT MIDTONE BASE	1	gal	12/10/2015
0001398255		75% ARGON/25% CARBON DIOXIDE	220	cf	12/10/2015
0001398254		75% ARGON/25% CARBON DIOXIDE	220	cf	12/10/2015
0001398253		75% ARGON/25% CARBON DIOXIDE	220	cf	12/10/2015
0001398250	74-98-6	PROPANE	11	gal	12/10/2015
0001398251	74-98-6	PROPANE	11	gal	12/10/2015
0001398059	7440-59-7	HELIUM	220	cf	12/10/2015
0001398161	1333-74-0	HYDROGEN	220	cf	12/10/2015
0001398061	7440-59-7	HELIUM	220	cf	12/10/2015
0001398256		75% ARGON/25% CARBON DIOXIDE	220	cf	12/10/2015
0001404462		PERMACRYL INTERIOR FLAT MIDTONE BASE	1	gal	12/10/2015
0001398062	7440-59-7	HELIUM	220	cf	12/10/2015
0001398063	7440-59-7	HELIUM	220	cf	12/10/2015
0001398064	7440-59-7	HELIUM	220	cf	12/10/2015
0001398060	7440-59-7	HELIUM	220	cf	12/10/2015
0001355424	299-28-5	CALCIUM GLUCONATE GEL	25	gm	12/11/2015
0001385792	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/11/2015
0001385791	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/11/2015
0001385790	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/11/2015
0001385789	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	12/11/2015
0001355452	7664-39-3	HYDROGEN FLUORIDE 48-51%	470	ml	12/11/2015
0001355451	6108-17-4	LITHIUM ACETATE DIHYDRATE	1	kg	12/11/2015
0001355450	25322-68-3	POLYETHYLENE OXIDE	100	gm	12/11/2015
0001355449	25322-68-3	POLYETHYLENE GLYCOL 8000	100	gm	12/11/2015
0001385793	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/11/2015
0001355447		WHITE LITHIUM GREASE	8	oz	12/11/2015
0000130530		OIL BASE PAINT	860	ml	12/11/2015
0001355423	299-28-5	CALCIUM GLUCONATE GEL	25	gm	12/11/2015
0001355421	299-28-5	CALCIUM GLUCONATE GEL	25	gm	12/11/2015
0001355403	67-63-0	2-PROPANOL	1	l	12/11/2015
0001355402	127-18-4	TETRACHLOROETHYLENE	1	l	12/11/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355401	127-18-4	TETRACHLOROETHYLENE	1	l	12/11/2015
0001355400	127-18-4	TETRACHLOROETHYLENE	1	l	12/11/2015
0001355399	127-18-4	TETRACHLOROETHYLENE	1	l	12/11/2015
0001355398	112-88-9	1-OCTADECENE	1	l	12/11/2015
0001355397	112-88-9	1-OCTADECENE	1	l	12/11/2015
0001355396	2917-26-2	N-HEXADECYL MERCAPTAN	100	ml	12/11/2015
0001355448		WHITE LITHIUM GREASE	8	oz	12/11/2015
0001404569		SILICONE SEALANT	9.8	oz	12/11/2015
0001404578		HENRY-430	4	gal	12/11/2015
0001355395	23582-03-8	TRIS(2-DIPHENYLPHOSPHINEETHYL) PHOSPHINE	5	gm	12/11/2015
0001404576		HENRY-430	4	gal	12/11/2015
0001404575		HENRY-430	4	gal	12/11/2015
0001354867		SCHULTZ REAGENT	100	gm	12/11/2015
0001354868		SCHULTZ REAGENT	100	gm	12/11/2015
0001404574		HENRY-430	4	gal	12/11/2015
0001404573		SILICONE SEALANT	9.8	oz	12/11/2015
0001404572		SILICONE SEALANT	9.8	oz	12/11/2015
0001385794	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/11/2015
0001404570		SILICONE SEALANT	9.8	oz	12/11/2015
0001353967	6153-56-6	OXALIC ACID, DIHYDRATE	250	gm	12/11/2015
0001404568		SILICONE SEALANT	9.8	oz	12/11/2015
0001404521		SILICONE SEALANT	9.8	oz	12/11/2015
0001355420	299-28-5	CALCIUM GLUCONATE GEL	25	gm	12/11/2015
0001395594		FANTASTIK ALL PURPOSE CLEANER	32	oz	12/11/2015
0001355394	503-17-3	2-BUTYNE	5	gm	12/11/2015
0001355393	503-17-3	2-BUTYNE	5	gm	12/11/2015
0001320316	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	12/11/2015
0001349860	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	1	l	12/11/2015
0001404577		HENRY-430	4	gal	12/11/2015
0000130529		PAINTERS ACRYLIC LATEX	860	ml	12/11/2015
0001404571		SILICONE SEALANT	9.8	oz	12/11/2015
0001404579		HENRY-430	4	gal	12/11/2015
0001404583		HENRY-430	4	gal	12/11/2015
0001404582		HENRY-430	4	gal	12/11/2015
0001404581		HENRY-430	4	gal	12/11/2015
0001404580		HENRY-430	4	gal	12/11/2015
0001404584		HENRY-430	4	gal	12/11/2015
0001404585		HENRY-430	4	gal	12/11/2015
0001355422	299-28-5	CALCIUM GLUCONATE GEL	25	gm	12/11/2015
0000123456	7647-01-0	HYDROGEN CHLORIDE, ANHYDROUS	200	cf	12/11/2015
0000121212	7664-41-7	AMMONIA, ANHYDROUS	35	lb	12/11/2015
0001411006		ANTIFREEZE/COOLANT	1	gal	12/11/2015
0001404525		SILICONE SEALANT	9.8	oz	12/11/2015
0001411001		ANTIFREEZE/COOLANT	1	gal	12/11/2015
0001320534		MICRO-90 CONCENTRATED CLEANER	100	ml	12/11/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001410999		ANTIFREEZE/COOLANT	1	gal	12/11/2015
0001404522		SILICONE SEALANT	9.8	oz	12/11/2015
0001404523		SILICONE SEALANT	9.8	oz	12/11/2015
0001404524		SILICONE SEALANT	9.8	oz	12/11/2015
0001404526		SILICONE SEALANT	9.8	oz	12/11/2015
0001382879		Arctic Silver 5	12	gm	12/11/2015
0001411000		ANTIFREEZE/COOLANT	1	gal	12/11/2015
0001411004		ANTIFREEZE/COOLANT	1	gal	12/11/2015
0001411005		ANTIFREEZE/COOLANT	1	gal	12/11/2015
0001411003		ANTIFREEZE/COOLANT	1	gal	12/11/2015
0001411002		ANTIFREEZE/COOLANT	1	gal	12/11/2015
0001382880		Arctic Silver 5	12	gm	12/11/2015
0000806703		DIESEL FUEL SUPPLEMENT	2.3	l	12/14/2015
0001355390	7664-93-9	SULFURIC ACID SOLUTION 10% V/V	465	lb	12/14/2015
0001355391	7664-93-9	SULFURIC ACID SOLUTION 10% V/V	465	lb	12/14/2015
0001327857		DIESEL FUEL SUPPLEMENT	2.3	l	12/14/2015
0001355389	7664-93-9	SULFURIC ACID SOLUTION 10% V/V	465	lb	12/14/2015
0001327856		DIESEL FUEL SUPPLEMENT	2.3	l	12/14/2015
0001202389		SNOOP LEAK DETECT	59	ml	12/14/2015
0001327858		DIESEL FUEL SUPPLEMENT	2.3	l	12/14/2015
0001355392	7664-93-9	SULFURIC ACID SOLUTION 10% V/V	465	lb	12/14/2015
0001202390		SNOOP LEAK DETECT	59	ml	12/14/2015
0001411009		80W 90 GEAR OIL	1	qt	12/14/2015
0001355415	15243-33-1	Triruthenium dodecacarbonyl 99%	1	gm	12/14/2015
0001355414		ethanol	4	l	12/14/2015
0001355413		ethanol	4	l	12/14/2015
0001355412		ethanol	4	l	12/14/2015
0001355461	7440-25-7	TANTALUM POWDER	50	gm	12/14/2015
0001355462	7440-25-7	TANTALUM POWDER	50	gm	12/14/2015
0001411010		80W 90 GEAR OIL	1	qt	12/14/2015
0001411011		80W 90 GEAR OIL	1	qt	12/14/2015
0001411008		80W 90 GEAR OIL	1	qt	12/14/2015
0001411007		80W 90 GEAR OIL	1	qt	12/14/2015
0001355464	7440-25-7	TANTALUM POWDER	50	gm	12/14/2015
0001355463	7440-25-7	TANTALUM POWDER	50	gm	12/14/2015
0001355456	40949-94-8	POTASSIUM BIS(TRIMETHYLSILYL)AMIDE	25	gm	12/14/2015
0001411015		80W 90 GEAR OIL	1	qt	12/14/2015
0001411016		80W 90 GEAR OIL	1	qt	12/14/2015
0001411017		80W 90 GEAR OIL	1	qt	12/14/2015
0001411018		80W 90 GEAR OIL	1	qt	12/14/2015
0001355460	7440-25-7	TANTALUM POWDER	50	gm	12/14/2015
0001355459	2627-86-3	L(-)-ALPHA-METHYLBENZYLAMINE	100	gm	12/14/2015
0000806704		DIESEL FUEL SUPPLEMENT	2.3	l	12/14/2015
0001355457	64-04-0	PHENETHYLAMINE	50	ml	12/14/2015
0001355416	107-21-1	ETHYLENE GLYCOL	1	l	12/14/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355455	79-08-3	BROMOACETIC ACID	100	gm	12/14/2015
0001355454	79-08-3	BROMOACETIC ACID	100	gm	12/14/2015
0001355453	7440-44-0	CARBON	500	gm	12/14/2015
0001355418	67-66-3	CHLOROFORM	1	l	12/14/2015
0001355417	107-21-1	ETHYLENE GLYCOL	1	l	12/14/2015
0001411013		80W 90 GEAR OIL	1	qt	12/14/2015
0001411012		80W 90 GEAR OIL	1	qt	12/14/2015
0001355458	64-04-0	PHENETHYLAMINE	50	ml	12/14/2015
0001355467	4097-89-6	TRIS(2-AMINOETHYL)AMINE	100	ml	12/14/2015
0001355465	7440-32-6	TITANIUM POWDER	500	gm	12/14/2015
0001385800	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/14/2015
0001385799	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/14/2015
0001385798	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/14/2015
0001385797	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/14/2015
0001385796	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/14/2015
0001355468	4097-89-6	TRIS(2-AMINOETHYL)AMINE	100	ml	12/14/2015
0001355466	506-68-3	Cyanogen bromide	100	gm	12/14/2015
0001355411		ethanol	4	l	12/14/2015
0001355410	67-63-0	ISOPROPYL ALCOHOL	8	kg	12/14/2015
0001355409	3886-69-9	D(+)-ALPHA-METHYLBENZYLAMINE	100	ml	12/14/2015
0001355408	112-90-3	OLEYLAMINE	20	gm	12/14/2015
0001411014		80W 90 GEAR OIL	1	qt	12/14/2015
0001385795	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/14/2015
0001355480		DOW CORNING 734 FLOWABLE SEALANT (WHITE)	3	oz	12/15/2015
0001355483	1310-73-2	SODIUM HYDROXIDE	1	l	12/15/2015
0001355419		BERYLLIUM DETECTION SOLUTION	1	l	12/15/2015
0001355440	67-64-1	ACETONE	1	gal	12/15/2015
0001355425	67-64-1	ACETONE	4	l	12/15/2015
0001355482	1310-73-2	SODIUM HYDROXIDE	1	l	12/15/2015
0001355479		DOW CORNING 734 FLOWABLE SEALANT (WHITE)	3	oz	12/15/2015
0001355426	67-64-1	ACETONE	4	l	12/15/2015
0001355471	7440-30-4	THULIUM FOIL	.58	gm	12/15/2015
0001355469		NOVUS HEAVY SCRATCH REMOVER	8	oz	12/15/2015
0001385896		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001355439	67-64-1	ACETONE	1	gal	12/15/2015
0001355476	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	12/15/2015
0001385888		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001398258	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	12/15/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001398257	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	12/15/2015
0001385895		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001398259	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	12/15/2015
0001355481	1310-73-2	SODIUM HYDROXIDE	1	l	12/15/2015
0001385893		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001355477	7722-84-1	HYDROGEN PEROXIDE, 50%	500	ml	12/15/2015
0001404713		CLOROX	1	gal	12/15/2015
0001355475	7722-84-1	HYDROGEN PEROXIDE, 30% SOLUTION	500	ml	12/15/2015
0001355474		5-NONANONE	500	gm	12/15/2015
0001355473		RUBIDIUM STANDARD SOLUTION	100	ml	12/15/2015
0001355472		ethanol	1	l	12/15/2015
0001385894		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001355470		NOVUS PLASTIC CLEAN & SHINE	8	oz	12/15/2015
0001355478	7722-84-1	HYDROGEN PEROXIDE,30%	500	ml	12/15/2015
0001355433		ENSOLV-IONIC	1	gal	12/15/2015
0001385879		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001385890		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001355429		ENSOLV-IONIC	1	gal	12/15/2015
0001355438		ENSOLV-IONIC	1	gal	12/15/2015
0001355437		ENSOLV-IONIC	1	gal	12/15/2015
0001355436		ENSOLV-IONIC	1	gal	12/15/2015
0001385891		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001355434		ENSOLV-IONIC	1	gal	12/15/2015
0001385880		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001355432		ENSOLV-IONIC	1	gal	12/15/2015
0001355431		ENSOLV-IONIC	1	gal	12/15/2015
0001355430		ENSOLV-IONIC	1	gal	12/15/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001385892		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001355484		GELCODE BLUE STAIN REAGENT	500	ml	12/15/2015
0001355485		GELCODE BLUE STAIN REAGENT	500	ml	12/15/2015
0001355341		Loctite 3494	25	ml	12/15/2015
0001355435		ENSOLV-IONIC	1	gal	12/15/2015
0001385889		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001355340		Loctite 3494	25	ml	12/15/2015
0001385887		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001385886		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001385885		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001385884		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001385883		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001385882		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001385881		KRYLON ColorMaster with Covermax Technology Paint + Primer Gloss Pumpkin Orange	12	oz	12/15/2015
0001355489	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	12/16/2015
0001355490		BUFFER PH 7 (YELLOW BUFFER)	500	ml	12/16/2015
0001355591	192198-85-9	Tpbi	500	mg	12/16/2015
0001355494	7757-83-7	SODIUM SULFITE	250	gm	12/16/2015
0001355492		BUFFER PH 7 (YELLOW BUFFER)	500	ml	12/16/2015
0001355491		BUFFER PH 7 (YELLOW BUFFER)	500	ml	12/16/2015
0001385897	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/16/2015
0001385806	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/16/2015
0001385805	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/16/2015
0001355507		DAISY YELLOW ENAMEL SPRAY PAINT	12	oz	12/16/2015
0001385803	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/16/2015
0001355500		GRAY PRIMER	12	oz	12/16/2015
0001355553	5574-97-0	TETRABUTYLAMMONIUM PHOSPHATE	100	ml	12/16/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355552	5574-97-0	TETRABUTYLAMMONIUM PHOSPHATE	100	ml	12/16/2015
0001355550	112-55-0	1-DODECANETHIOL	100	ml	12/16/2015
0001355504		DAISY YELLOW ENAMEL SPRAY PAINT	12	oz	12/16/2015
0001355505		DAISY YELLOW ENAMEL SPRAY PAINT	12	oz	12/16/2015
0001355548	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355506		DAISY YELLOW ENAMEL SPRAY PAINT	12	oz	12/16/2015
0001385804	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/16/2015
0001355445	64-19-7	ACETIC ACID	500	ml	12/16/2015
0001385404		Shell Gadus S3 V100 2	400	gm	12/16/2015
0001355518	3264-82-2	NICKEL(II)ACETATE	50	gm	12/16/2015
0001355517	13965-03-2	BIS(TRIPHENYLPHOSPHINE)PALLADIUM(II) DICHLORIDE	5	gm	12/16/2015
0001355516	69011-20-7	DOWEX 50WX8	100	gm	12/16/2015
0001355515	3030-47-5	N,N,N',N',N'-PENTAMETHYLDIETHYLENETRIAMINE	250	ml	12/16/2015
0001355514	Multi	NexION Setup Solution	500	ml	12/16/2015
0001355513	1066-54-2	TRIMETHYLSILYLACETYLENE 98%	25	gm	12/16/2015
0001355512	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	500	ml	12/16/2015
0001355511	64-17-5	ETHYL ALCOHOL 200 PROOF	500	ml	12/16/2015
0001355510	108-88-3	TOLUENE	500	ml	12/16/2015
0001385403		Shell Gadus S3 V100 2	400	gm	12/16/2015
0001355546	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355446	64-19-7	ACETIC ACID	500	ml	12/16/2015
0001355488	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	12/16/2015
0001355487	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	12/16/2015
0001355444	64-19-7	ACETIC ACID	500	ml	12/16/2015
0001385802	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	12/16/2015
0001385801	7705-08-0	FERRIC CHLORIDE	3400	lb	12/16/2015
0001355549	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355441		MONOSIALOGANGLIOSIDE-G	5	mg	12/16/2015
0001355442		MONOSIALOGANGLIOSIDE-G	5	mg	12/16/2015
0001355501		GRAY PRIMER	12	oz	12/16/2015
0001355497		GRAY PRIMER	12	oz	12/16/2015
0001355547	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355545	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355544	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001385402	5989-27-5	VpCI-369	11	oz	12/16/2015
0001355534	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355539	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001385901	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/16/2015
0001385900	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/16/2015
0001385899	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/16/2015
0001355538	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355508		DAISY YELLOW ENAMEL SPRAY PAINT	12	oz	12/16/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355537	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355503		DAISY YELLOW ENAMEL SPRAY PAINT	12	oz	12/16/2015
0001355527	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355535	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001385903	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/16/2015
0001355496		HYDRAULIC FLUID	1	pt	12/16/2015
0001355533	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355495	7757-83-7	SODIUM SULFITE	250	gm	12/16/2015
0001385898	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/16/2015
0001355532	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355531	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355530	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355529	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355528	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355536	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355524	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355498		GRAY PRIMER	12	oz	12/16/2015
0001355499		GRAY PRIMER	12	oz	12/16/2015
0001355443	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	5	gal	12/16/2015
0001355493	7757-83-7	SODIUM SULFITE	250	gm	12/16/2015
0001355509	379-50-0	Fluorotriphenylsilane	5	gm	12/16/2015
0001355519	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355520	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355521	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355540	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355523	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001385902	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/16/2015
0001355525	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355526	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355502		GRAY PRIMER	12	oz	12/16/2015
0001355543	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355542	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001355541	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001385904	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/16/2015
0001355522	N/A	Decon Gel 1108; Decon Gel 1127; Decon Gel 1128	1	l	12/16/2015
0001383602		COLORANTS C	1	l	12/16/2015
0001355551	20769-85-1	a-Bromoisobutyryl bromide	100	gm	12/16/2015
0001383603		COLORANTS B	1	l	12/16/2015
0001356187	1665-00-5	DICHLOROMETHANE-D2	7.5	ml	12/16/2015
0001383601		COLORANTS C	1	l	12/16/2015
0001383606		COLORTREND ORGANIC YELLOW AXX 888-2551	1	l	12/16/2015
0001383604		COLORANTS B	1	l	12/16/2015
0001398362	124-38-9	CARBON DIOXIDE	50	lb	12/17/2015
0001398269	74-98-6	PROPANE	11	gal	12/17/2015
0001398260	7727-37-9	NITROGEN, COMPRESSED GAS	20	cf	12/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001398331		94% ARGON/6% HYDROGEN	220	cf	12/17/2015
0001398338	7440-37-1	ARGON, COMPRESSED	220	cf	12/17/2015
0001398272	74-98-6	PROPANE	25	gal	12/17/2015
0001398273	74-98-6	PROPANE	25	gal	12/17/2015
0001398284	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398285	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398286	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398274	1333-74-0	HYDROGEN	20	cf	12/17/2015
0001398275	1333-74-0	HYDROGEN	20	cf	12/17/2015
0001398276	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398277	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398278	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398282	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398280	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398283	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398281	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398271	74-98-6	PROPANE	25	gal	12/17/2015
0001398270	74-98-6	PROPANE	25	gal	12/17/2015
0001398268	74-98-6	PROPANE	11	gal	12/17/2015
0001398267	74-98-6	PROPANE	11	gal	12/17/2015
0001398266	74-98-6	PROPANE	11	gal	12/17/2015
0001398265	74-98-6	PROPANE	11	gal	12/17/2015
0001398289	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398297	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398321		P-10 (90% ARGON 10% METHANE)	220	cf	12/17/2015
0001398329		94% ARGON/6% HYDROGEN	220	cf	12/17/2015
0001398279	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398287	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001355575		FK270-G	1	gal	12/17/2015
0001355574		FK270-G	1	gal	12/17/2015
0001355573		CONDUCTIVITY STANDARD	1	l	12/17/2015
0001355572		CONDUCTIVITY STANDARD	1	l	12/17/2015
0001355571		CONDUCTIVITY STANDARD	1	l	12/17/2015
0001355570		CONDUCTIVITY STANDARD	1	l	12/17/2015
0001355569		CONDUCTIVITY STANDARD	1	l	12/17/2015
0001355568		CONDUCTIVITY STANDARD	1	l	12/17/2015
0001355567		CONDUCTIVITY STANDARD	1	l	12/17/2015
0001355566		CONDUCTIVITY STANDARD	1	l	12/17/2015
0001398298	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398328		94% ARGON/6% HYDROGEN	220	cf	12/17/2015
0001398295	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001355578		RP 355 RINSE AGENT	1	gal	12/17/2015
0001398294	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398300	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398301	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001398309	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001404710		COTE ALL DEEP BASE	1	gal	12/17/2015
0001404709		COTE ALL DEEP BASE	1	gal	12/17/2015
0001404711		COTE ALL ENAMEL	1	gal	12/17/2015
0001398302	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398303	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398304	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398305	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398296	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001305860	140-10-3	T-CINNAMIC ACID	500	ml	12/17/2015
0001398311	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398312	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398313	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398314	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398315	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398316	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398317	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398318		P-10 (90% ARGON 10% METHANE)	220	cf	12/17/2015
0001398319		P-10 (90% ARGON 10% METHANE)	220	cf	12/17/2015
0001398320		P-10 (90% ARGON 10% METHANE)	220	cf	12/17/2015
0001398322		P-10 (90% ARGON 10% METHANE)	220	cf	12/17/2015
0001355576		FK270-G	1	gal	12/17/2015
0001398299	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001355577		FK270-G	1	gal	12/17/2015
0001206944		SCOTCHCAST ELECTRICAL RESIN 281 [PART A]	8	lb	12/17/2015
0001355594		FMOC-PHE-OPFP	5	gm	12/17/2015
0001355593		FMOC-ASP(OBUT)OPFP	5	gm	12/17/2015
0001355592		FMOC-MET	5	gm	12/17/2015
0001355585		Fresh Gear Disinfectant	1	gal	12/17/2015
0001355584		Fresh Gear Disinfectant	1	gal	12/17/2015
0001355583		Fresh Gear Disinfectant	1	gal	12/17/2015
0001355582		Fresh Gear Disinfectant	1	gal	12/17/2015
0001355581		RP 355 RINSE AGENT	1	gal	12/17/2015
0001355580		RP 355 RINSE AGENT	1	gal	12/17/2015
0001355579		RP 355 RINSE AGENT	1	gal	12/17/2015
0001398361	124-38-9	CARBON DIOXIDE	50	lb	12/17/2015
0001398323		P-10 (90% ARGON 10% METHANE)	220	cf	12/17/2015
0001398327		94% ARGON/6% HYDROGEN	220	cf	12/17/2015
0001398306	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001355563		ULTIMA GOLD AB 2X5 LITERS	10	l	12/17/2015
0001355562		ULTIMA GOLD AB 2X5 LITERS	10	l	12/17/2015
0001355561		ULTIMA GOLD AB 2X5 LITERS	10	l	12/17/2015
0001355560		ULTIMA GOLD AB 2X5 LITERS	10	l	12/17/2015
0001355559		ULTIMA GOLD AB 2X5 LITERS	10	l	12/17/2015
0001355558		ULTIMA GOLD AB 2X5 LITERS	10	l	12/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355557		ULTIMA GOLD AB 2X5 LITERS	10	l	12/17/2015
0001355556		ULTIMA GOLD AB 2X5 LITERS	10	l	12/17/2015
0001398333	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398332		94% ARGON/6% HYDROGEN	220	cf	12/17/2015
0001355565		ULTIMA GOLD AB 2X5 LITERS	10	l	12/17/2015
0001398330		94% ARGON/6% HYDROGEN	220	cf	12/17/2015
0001398334	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398326		P-10 (90% ARGON 10% METHANE)	220	cf	12/17/2015
0001398325		P-10 (90% ARGON 10% METHANE)	220	cf	12/17/2015
0001398263	74-98-6	PROPANE	11	gal	12/17/2015
0001398262	74-98-6	PROPANE	11	gal	12/17/2015
0001398264	74-98-6	PROPANE	11	gal	12/17/2015
0001398352	7440-59-7	HELIUM	220	cf	12/17/2015
0001398308	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398293	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398292	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398291	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398290	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398288	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398324		P-10 (90% ARGON 10% METHANE)	220	cf	12/17/2015
0001398348	7440-59-7	HELIUM	220	cf	12/17/2015
0001398261	74-98-6	PROPANE	11	gal	12/17/2015
0001398360		AIR, COMPRESSED	220	cf	12/17/2015
0001398359		AIR, COMPRESSED	220	cf	12/17/2015
0001398358		AIR, COMPRESSED	220	cf	12/17/2015
0001398310	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398357		AIR, COMPRESSED	220	cf	12/17/2015
0001398356		AIR, COMPRESSED	220	cf	12/17/2015
0001398355		AIR, COMPRESSED	220	cf	12/17/2015
0001398354	7440-59-7	HELIUM	220	cf	12/17/2015
0001398353	7440-59-7	HELIUM	220	cf	12/17/2015
0001398351	7440-59-7	HELIUM	220	cf	12/17/2015
0001355564		ULTIMA GOLD AB 2X5 LITERS	10	l	12/17/2015
0001398349	7440-59-7	HELIUM	220	cf	12/17/2015
0001398307	7727-37-9	NITROGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398347	7440-59-7	HELIUM	220	cf	12/17/2015
0001398346	7440-59-7	HELIUM	220	cf	12/17/2015
0001398345	7440-59-7	HELIUM	220	cf	12/17/2015
0001398344	7440-37-1	ARGON, COMPRESSED	220	cf	12/17/2015
0001398343	7440-37-1	ARGON, COMPRESSED	220	cf	12/17/2015
0001398342	7440-37-1	ARGON, COMPRESSED	220	cf	12/17/2015
0001398341	7440-37-1	ARGON, COMPRESSED	220	cf	12/17/2015
0001398340	7440-37-1	ARGON, COMPRESSED	220	cf	12/17/2015
0001398339	7440-37-1	ARGON, COMPRESSED	220	cf	12/17/2015
0001398337	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	12/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001398336	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398335	7782-44-7	OXYGEN, COMPRESSED GAS	220	cf	12/17/2015
0001398350	7440-59-7	HELIUM	220	cf	12/17/2015
0001189263	1317-60-8	HEMATITE	1	l	12/17/2015
0001404587		RUST REMOVER	1	gal	12/17/2015
0001404586		RUST REMOVER	1	gal	12/17/2015
0001404588		RUST REMOVER	1	gal	12/17/2015
0001404589		RUST REMOVER	1	gal	12/17/2015
0001404594		COTE ALL NEUTRAL BASE	1	gal	12/17/2015
0001404598		SEMI-GLOSS ENAMEL WHITE BASE	1	gal	12/17/2015
0001355613		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001404698		PSX 700 CURE	1	qt	12/17/2015
0001404697		PSX 700 PART A(RESIN)	1	gal	12/17/2015
0001355595	67607-61-8	H-Trp-NH2.HCl	5	gm	12/17/2015
0001356186	1665-00-5	DICHLOROMETHANE-D2	7.5	ml	12/17/2015
0001404597		SEMI-GLOSS ENAMEL WHITE BASE	1	gal	12/17/2015
0001355604		Glucose Assay Reagent	50	ml	12/17/2015
0001404591		COTE ALL ALKYD OIL BASED GLOSS IND. ENAMEL SAFETY GREEN	1	gal	12/17/2015
0001404590		COTE ALL ALKYD OIL BASED GLOSS IND. ENAMEL SAFETY GREEN	1	gal	12/17/2015
0001355624	75-37-6	FALCON DUST-OFF (1,1-DIFLUOROETHANE)	10	oz	12/17/2015
0001355625	75-37-6	FALCON DUST-OFF (1,1-DIFLUOROETHANE)	10	oz	12/17/2015
0001385910	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/17/2015
0001385911	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/17/2015
0001355610		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001385913	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/17/2015
0001404595		COTE ALL NEUTRAL BASE	1	gal	12/17/2015
0001355605		Glucose Assay Reagent	50	ml	12/17/2015
0001355615		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001385458		SODIUM HYPOCHLORITE SOLUT	3.57	l	12/17/2015
0001352341		SYLGARD 184	1.1	lb	12/17/2015
0001355607		SILVER EPOXY	1	oz	12/17/2015
0001355608		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001355609		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001385912	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/17/2015
0001404700		COTE ALL SAFETY BLUE	1	gal	12/17/2015
0001355555	24964-91-8	TRIS(4-BROMOPHENYL)AMINIUM HEXACHLORO-ANTIMONATE	5	gm	12/17/2015
0001355554	2210-25-5	N-ISOPROPYLACRYLAMIDE	10	gm	12/17/2015
0001404708		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	12/17/2015
0001404707		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	12/17/2015
0001404706		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	12/17/2015
0001404705		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	12/17/2015
0001404704		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	12/17/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404592		COTE ALL ALKYD OIL BASED GLOSS IND. ENAMEL SAFETY GREEN	1	gal	12/17/2015
0001404701		COTE ALL SAFETY BLUE	1	gal	12/17/2015
0001404593		COTE ALL ALKYD OIL BASED GLOSS IND. ENAMEL SAFETY GREEN	1	gal	12/17/2015
0001289034		EPOXY RESIN	500	ml	12/17/2015
0001355601		Glucose Assay Reagent	50	ml	12/17/2015
0001355602		Glucose Assay Reagent	50	ml	12/17/2015
0001355603		Glucose Assay Reagent	50	ml	12/17/2015
0001404699		COTE ALL SAFETY BLUE	1	gal	12/17/2015
0001404596		COTE ALL NEUTRAL BASE	1	gal	12/17/2015
0001355606	7664-39-3	HYDROFLUORIC ACID OPTIMA	250	ml	12/17/2015
0001404703		PERMACRYL INTERIOR FLAT WHITE BASE DF-1531	5	gal	12/17/2015
0001355600	9002-98-6	Polyethylenimine Branched 250mL	100	ml	12/17/2015
0001355614		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001355616		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001355617		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001355618		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001355597	67-71-0	Dimethyl sulfone	1	gm	12/17/2015
0001355596	67-71-0	METHYL SULFONE	100	gm	12/17/2015
0001355598	67-71-0	Dimethyl sulfone	1	gm	12/17/2015
0001355599	9002-98-6	Polyethylenimine Branched 250mL	100	ml	12/17/2015
0001355612		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001385908	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	12/17/2015
0001385907		Nalco 22341	503	lb	12/17/2015
0001385906		NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	gal	12/17/2015
0001385905		NALCO 7408 CHLORINE SCAVENGER SOLUTION	55	gal	12/17/2015
0001355621	64-18-6	FORMIC ACID	1	l	12/17/2015
0001352344		SYLGARD 184	1.1	lb	12/17/2015
0001355611		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001206935		SCOTCHCAST ELECTRICAL RESIN 281 [PART B]	.5	lb	12/17/2015
0001352338		SYLGARD 184	1.1	lb	12/17/2015
0001355620	7787-70-4	COPPER(I) BROMIDE	50	gm	12/17/2015
0001352345		SYLGARD 184	1.1	lb	12/17/2015
0001355619		KRYTOX LVP HIGH-VACUUM GREASE	2	oz	12/17/2015
0001385909	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/17/2015
0001411026		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411025		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411024		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411023		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411022		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411021		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411020		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001356065	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356066	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001356068	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001398377		GREAT STUFF FOAM SEALANT	20	oz	12/18/2015
0001356067	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001398364		SILICONE CAULK	9.8	oz	12/18/2015
0001356052	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356054	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356055	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356056	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356057	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356058	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356059	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356060	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356061	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356062	7440-21-3	732 RTV SILICONE MULTI-PURPOSE SEALANT	4.7	oz	12/18/2015
0001398366		SILICONE CAULK	9.8	oz	12/18/2015
0001356064	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001398365		SILICONE CAULK	9.8	oz	12/18/2015
0001398363		SILICONE CAULK	9.8	oz	12/18/2015
0001148987	63231-67-4	SILICA GEL	100	gm	12/18/2015
0001411019		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001398378		GREAT STUFF FOAM SEALANT	20	oz	12/18/2015
0001398380		GREAT STUFF FOAM SEALANT	20	oz	12/18/2015
0001398381		GREAT STUFF FOAM SEALANT	20	oz	12/18/2015
0001398382		GREAT STUFF FOAM SEALANT	20	oz	12/18/2015
0001398383		GREAT STUFF FOAM SEALANT	20	oz	12/18/2015
0001411027		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001398384		GREAT STUFF FOAM SEALANT	20	oz	12/18/2015
0001398379		GREAT STUFF FOAM SEALANT	20	oz	12/18/2015
0001356063	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001411032		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411028		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411042		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411041		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411040		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411039		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411038		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411037		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411036		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411035		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001411034		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001356053	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001411029		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001398367		SILICONE CAULK	9.8	oz	12/18/2015
0001398371		SILICONE CAULK	9.8	oz	12/18/2015
0001398368		SILICONE CAULK	9.8	oz	12/18/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001411033		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001398370		SILICONE CAULK	9.8	oz	12/18/2015
0001411031		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001398372		SILICONE CAULK	9.8	oz	12/18/2015
0001398373		SILICONE CAULK	9.8	oz	12/18/2015
0001356051	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001398375		5ppm Hydrogen Choride/Balance Nitrogen	25	l	12/18/2015
0001398376		CSM-3 Degreaser	20	oz	12/18/2015
0001411030		SAE 30 MOTOR OIL	1	qt	12/18/2015
0001398369		SILICONE CAULK	9.8	oz	12/18/2015
0001407412		rust reformer	1	gal	12/18/2015
0001356069	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356070	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001148984	1344-28-1	ACTIVATED ALUMINA	200	gm	12/18/2015
0001356050	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001148985	554-13-2	LITHIUM CARBONATE	20	ml	12/18/2015
0001356074	7440-21-3	732 RTV SILICONE MULTI-PURPOSE SEALANT	4.7	oz	12/18/2015
0001356073	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001356072	7631-86-9	SILICON DIOXIDE	4.7	oz	12/18/2015
0001398374	7664-41-7	AMMONIA, ANHYDROUS	40	lb	12/18/2015
0001148988	63231-67-4	SILICA GEL	200	gm	12/18/2015
0001148986	7757-79-1	POTASSIUM NITRATE	20	ml	12/18/2015
0001398388	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	12/21/2015
0001398393	7440-59-7	HELIUM	220	cf	12/21/2015
0001398387	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	12/21/2015
0001398386	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	12/21/2015
0001398385	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	100	l	12/21/2015
0001398390	7440-59-7	HELIUM	220	cf	12/21/2015
0001398389	7440-59-7	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	500	l	12/21/2015
0001398391	7440-59-7	HELIUM	220	cf	12/21/2015
0001398392	7440-59-7	HELIUM	220	cf	12/21/2015
0001405000		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404811		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405023		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404810		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404960		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404806		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405025		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405024		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404807		VULKEM 116 BLACK	10.1	oz	12/21/2015

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Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404808		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404809		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405001		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404812		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404999		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404819		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405002		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405011		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404817		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405018		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405017		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404997		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404998		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405016		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405015		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405014		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405020		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405012		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405021		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405010		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405009		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405008		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405007		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405006		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405003		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404825		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405005		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405013		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404824		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404814		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404815		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404816		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405022		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404818		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405004		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404820		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404821		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405019		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404823		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404813		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404989		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404990		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404991		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404992		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404993		VULKEM 116 BLACK	10.1	oz	12/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404994		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404995		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404996		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404822		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404844		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404941		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404830		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404831		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404832		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404833		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404834		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404835		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404836		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404837		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404838		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404839		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404840		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404841		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404828		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404853		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001148989		LOCTITE 242 THREADLOCKER	2.5	ml	12/21/2015
0001404943		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404944		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404945		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404846		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404842		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404852		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404843		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404854		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404855		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404856		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404857		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404858		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404827		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404845		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404893		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404883		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404884		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404885		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404886		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404887		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404888		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404889		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404890		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404891		VULKEM 116 BLACK	10.1	oz	12/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404892		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001411046	67-56-1	METHANOL	1	gal	12/21/2015
0001355590	67-66-3	CHLOROFORM	500	ml	12/21/2015
0001355622	811-97-2	CANNED AIR, AIR-IT, AEROSOL DUSTER (1,1,1,2 TETRAFLUOROETHANE)	10	oz	12/21/2015
0001404829		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404900		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404826		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001148992		REFERENCE ELECTRODE INNER FILLING SOLUTION	60	ml	12/21/2015
0001404905		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404904		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404903		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001355626	330645-87-9	HCTU	500	gm	12/21/2015
0001404962		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001148990		ORION REFERENCE ELECTRODE FILLING SOLUTION	60	ml	12/21/2015
0001404898		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404897		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404896		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404895		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404894		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404940		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404902		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001355642	110-71-4	1,2-DIMETHOXYETHANE	1	l	12/21/2015
0001404942		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404912		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404911		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404910		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404909		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404908		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404907		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404906		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001355589	121-33-5	P-VANILLIN	100	gm	12/21/2015
0001355627	7782-40-3	DIAMOND DUST	10	mg	12/21/2015
0001355630	768-90-1	1-BROMOADAMANTANE	100	gm	12/21/2015
0001355631	74-94-2	BORANE-DIMETHYLAMINE COMPLEX	5	gm	12/21/2015
0001355633	110-86-1	PYRIDINE (PYRIDINE, ANHYDROUS)	100	ml	12/21/2015
0001404851		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001385914	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/21/2015
0001385921	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/21/2015
0001385920	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/21/2015
0001385919	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/21/2015
0001385918	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/21/2015
0001385917	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355634	110-86-1	PYRIDINE (PYRIDINE, ANHYDROUS)	100	ml	12/21/2015
0001385915	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/21/2015
0001355638	123-91-1	1,4-DIOXANE	1	l	12/21/2015
0001363807	67-71-0	METHYL SULFONE	5	gm	12/21/2015
0001363803	18162-48-6	TERT-BUTYLDIMETHYLSILYI CHLORIDE, 97%	100	gm	12/21/2015
0001363802		ULTIMA GOLD LLT	2.5	l	12/21/2015
0001363801		ULTIMA GOLD LLT	2.5	l	12/21/2015
0001363800		ULTIMA GOLD LLT	2.5	l	12/21/2015
0001404850		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001385916	1310-73-2	Sodium Hydroxide 25%	3400	lb	12/21/2015
0001404924		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404939		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404938		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404937		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404936		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404935		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404934		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404933		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404932		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404931		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404930		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404929		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404928		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404927		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404913		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404918		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404849		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404848		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404847		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404914		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404915		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404926		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404917		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404925		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404919		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404920		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404921		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404922		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404923		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404899		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404916		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404794		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404984		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404985		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405031		VULKEM 116 BLACK	10.1	oz	12/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404867		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404866		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404964		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404793		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404980		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404795		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404796		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404797		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404798		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001355586	100-41-4	KRAYDEN SYLGUARD 184 KIT	1.1	lb	12/21/2015
0001355587	1493-13-6	TRIFLUOROMETHANESULONIC ACID	50	ml	12/21/2015
0001404792		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404973		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404965		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404966		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404967		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404968		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404969		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404970		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404983		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404972		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404982		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404974		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404975		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404976		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404977		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404978		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001355629	10326-27-9	BARIUM CHLORIDE DIHYDRATE (Barium CMPDS)	100	gm	12/21/2015
0001404971		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001355641	75-77-4	CHLOROTRIMETHYLSILANE (TRIMETHYLCHLOROSILANE)	1	l	12/21/2015
0001355628	4165-56-4	1,4-DIBROMOBENZENE-D4	5	gm	12/21/2015
0001363806	1461-22-9	TRIBUTYLTIN CHLORIDE	100	gm	12/21/2015
0001363805	624-65-7	PROPARGYL CHLORIDE	5	gm	12/21/2015
0001363804	544-25-2	CYCLOHEPTATRIENE	100	ml	12/21/2015
0001363799		ULTIMA GOLD LLT	2.5	l	12/21/2015
0001355644	1344-58-7	URANIUM (VI)OXIDE	10	gm	12/21/2015
0001404864		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001355643	110-71-4	1,2-DIMETHOXYETHANE	1	l	12/21/2015
0001404863		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001355640	123-91-1	1,4-DIOXANE	1	l	12/21/2015
0001355639	123-91-1	1,4-DIOXANE	1	l	12/21/2015
0001355637	75-05-8	ACETONITRILE ANHYDROUS	100	ml	12/21/2015
0001355636	75-05-8	ACETONITRILE ANHYDROUS	100	ml	12/21/2015
0001355635	75-05-8	ACETONITRILE ANHYDROUS	100	ml	12/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355632	110-86-1	PYRIDINE (PYRIDINE, ANHYDROUS)	100	ml	12/21/2015
0001148991	7758-02-3	POTASSIUM BROMIDE	500	gm	12/21/2015
0001404859		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404979		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404799		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404800		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404801		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404802		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404803		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404865		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404805		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404901		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001411045	67-56-1	METHANOL	1	gal	12/21/2015
0001411044	67-56-1	METHANOL	1	gal	12/21/2015
0001411043	67-56-1	METHANOL	1	gal	12/21/2015
0001404860		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404861		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404862		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404804		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404873		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404952		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404951		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404950		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404949		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404948		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404947		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404946		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404868		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404869		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404963		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404953		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404981		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404870		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404874		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404875		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404876		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404877		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404878		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404879		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404880		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404881		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404882		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001148993		REFERENCE ELECTRODE OUTER FILLING SOLUTION	60	ml	12/21/2015
0001355588	877-24-7	BUFFER PH 4 (RED BUFFER)	500	ml	12/21/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001404871		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404986		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405030		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404958		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404959		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405029		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404872		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404961		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404954		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405028		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404957		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405026		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404987		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404988		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404955		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001404956		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001405027		VULKEM 116 BLACK	10.1	oz	12/21/2015
0001149001		platinum catalyst on alumina 1/32"	15	gm	12/22/2015
0001094676	1655-29-4	1,5-NAPHTHALENEDISULFONIC ACID, DISODIUM SALT	25	gm	12/22/2015
0001094677	1655-35-2	Na 2,7-Naphthalene	25	gm	12/22/2015
0001094679	532-02-5	SODIUM 2-NAPHTHALENE SULFONATE	25	gm	12/22/2015
0001363816		CLOROX	121	oz	12/22/2015
0001355658		EDWARDS ULTRA GRADE 19 PU	1	gal	12/22/2015
0001355659	7440-23-5	SODIUM LUMPS	100	gm	12/22/2015
0001355660	1664-40-0	N-PHENYLETHYLENEDIAMINE	25	gm	12/22/2015
0001355661	645-49-8	CIS-STILBENE	5	gm	12/22/2015
0001363808		CLOROX	121	oz	12/22/2015
0001363809		CLOROX	121	oz	12/22/2015
0001363810		CLOROX	121	oz	12/22/2015
0001363811		CLOROX	121	oz	12/22/2015
0001363812		CLOROX	121	oz	12/22/2015
0001363813		CLOROX	121	oz	12/22/2015
0001355656		HEAT SINK COMPOUND	2	oz	12/22/2015
0001363815		CLOROX	121	oz	12/22/2015
0001355648	1330-20-7	XYLENES	500	ml	12/22/2015
0001363817		CLOROX	121	oz	12/22/2015
0001363818		CLOROX	121	oz	12/22/2015
0001363819		CLOROX	121	oz	12/22/2015
0001363820	22560-21-0	POTASSIUM TRIETHYLBOROHYDRIDE	100	ml	12/22/2015
0001363825	110-89-4	PIPERIDINE	450	ml	12/22/2015
0001363826	7718-98-1	VANADIUM(III) CHLORIDE	25	gm	12/22/2015
0001363827	91-00-9	AMINODIPHENYLMETHANE	25	gm	12/22/2015
0001355650	1330-20-7	XYLENES	500	ml	12/22/2015
0001355649	1330-20-7	XYLENES	500	ml	12/22/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363814		CLOROX	121	oz	12/22/2015
0001355654	513-81-5	2,3-DIMETHYL-1,3-BUTADIENE	10	gm	12/22/2015
0001385922	7705-08-0	FERRIC CHLORIDE	3400	lb	12/22/2015
0001385923	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	12/22/2015
0001385924	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	12/22/2015
0001355645		NOVUS PLASTIC POLISH NO. 2	8	oz	12/22/2015
0001148994	1655-43-2	Sodium 1,6-naphthalene Disulfonate	250	gm	12/22/2015
0001355651	1330-20-7	XYLENES	500	ml	12/22/2015
0001149000	7550-35-8	LITHIUM BROMIDE	250	ml	12/22/2015
0001148997	20667-12-3	SILVER OXIDE	250	ml	12/22/2015
0001148995	10101-41-4	CALCIUM SULFATE, DIHYDRATE	500	ml	12/22/2015
0001246181	54-21-7	SODIUM SALICYLATE	250	gm	12/22/2015
0001355652	6224-91-5	1-TRIMETHYLSILYL-1-PROPYNE	5	gm	12/22/2015
0001355657		EDWARDS ULTRA GRADE 19 PU	1	gal	12/22/2015
0001355653	1111-97-3	3-Chloro-3-methyl-1-butyne	5	gm	12/22/2015
0001363831	7647-01-0	HYDROCHLORIC ACID (HCL, HYDROGEN CHLORIDE)	2.5	l	12/22/2015
0001148996	1309-48-4	MAGNESIUM OXIDE	1	l	12/22/2015
0001148998		ACTIVATED CARBON	1	l	12/22/2015
0001148999	12055-23-1	HAFNIUM OXIDE	100	ml	12/22/2015
0001363830	67-64-1	ACETONE	4	l	12/22/2015
0001355655	7337-45-3	BORANE-TERT-BUTYLAMINE COMPLEX	25	gm	12/22/2015
0001363829	3082-62-0	(S)-(-)-1-(2-Naphthyl)ethylamine	25	gm	12/22/2015
0001363828	91-00-9	AMINODIPHENYLMETHANE	25	gm	12/22/2015
0001355646	1330-20-7	XYLENES	500	ml	12/22/2015
0001355647	1330-20-7	XYLENES	500	ml	12/22/2015
0001363842	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363841	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363840	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363839	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363838	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363837	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363836	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363843	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363860	7697-37-2	NITRIC ACID	2.5	l	12/23/2015
0001363846	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363861	7697-37-2	NITRIC ACID	2.5	l	12/23/2015
0001363862	7697-37-2	NITRIC ACID	2.5	l	12/23/2015
0001363863	7697-37-2	NITRIC ACID	2.5	l	12/23/2015
0001363864	7697-37-2	NITRIC ACID	2.5	l	12/23/2015
0001363865	7697-37-2	NITRIC ACID	2.5	l	12/23/2015
0001363866	7697-37-2	NITRIC ACID	2.5	l	12/23/2015
0001363867	7697-37-2	NITRIC ACID	2.5	l	12/23/2015
0001363869	7697-37-2	NITRIC ACID	2.5	l	12/23/2015
0001363868	7697-37-2	NITRIC ACID	2.5	l	12/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001363850	7778-18-9	DRIERITE 10-20 MESH	500	gm	12/23/2015
0001363870	7697-37-2	NITRIC ACID	2.5	l	12/23/2015
0001355852	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	12/23/2015
0001363851	462-06-6	FLUOROBENZENE	500	gm	12/23/2015
0001363852	462-06-6	FLUOROBENZENE	500	gm	12/23/2015
0001363853	1310-58-3	POTASSIUM HYDROXIDE	1	kg	12/23/2015
0001363854	110-71-4	1,2-DIMETHOXYETHANE	1	l	12/23/2015
0001363855	7761-88-8	SILVER NITRATE	100	gm	12/23/2015
0001363835	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363834		Biolog Redox Dye Mix F (100x)	20	ml	12/23/2015
0001363859	7697-37-2	NITRIC ACID	2.5	l	12/23/2015
0001363849	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363848	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363847	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363833		Redox Dye Mix D	20	ml	12/23/2015
0001363832		Biolog Redox Dye Mix B (100x)	20	ml	12/23/2015
0001363845	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363844	7647-01-0	HYDROCHLORIC ACID OPTIMA-34%	2	l	12/23/2015
0001363856	10026-22-9	COBALT (II) NITRATE, HEXAHYDRATE	100	gm	12/23/2015
0001355069	70955-01-0	MOLECULAR SIEVES 8-12 MESH	5	kg	12/23/2015
0001355692	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	1	l	12/23/2015
0001355068	70955-01-0	MOLECULAR SIEVES 8-12 MESH	5	kg	12/23/2015
0001355685	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	1	l	12/23/2015
0001355686	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	1	l	12/23/2015
0001355690	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	1	l	12/23/2015
0001355689	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	1	l	12/23/2015
0001355855	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/23/2015
0001355070	70955-01-0	MOLECULAR SIEVES 8-12 MESH	5	kg	12/23/2015
0001355688	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	1	l	12/23/2015
0001355687	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	1	l	12/23/2015
0001355691	8042-47-5	Edwards Ultra Grade 70 Vacuum Pump Oil	1	l	12/23/2015
0001355679	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	12/23/2015
0001355669	7697-37-2	NITRIC ACID 70%	475	ml	12/23/2015
0001355670	65997-17-3	FIBERGLASS WOOL	10	gm	12/23/2015
0001355672	7601-90-3	PERCHLORIC ACID	500	ml	12/23/2015
0001355674	23582-03-8	TRIS(2-DIPHENYLPHOSPHINOETHYL)PHOSPHINE	5	gm	12/23/2015
0001355675	108-95-2	PHENOL	100	gm	12/23/2015
0001355676	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	12/23/2015
0001355862	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/23/2015
0001355678	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	12/23/2015
0001094678	130-14-3	Sodium 1-naphthalenesulfonate	25	gm	12/23/2015
0001355680	4165-56-4	1,4-DIBROMOBENZENE-D4	5	gm	12/23/2015
0001355681	4165-56-4	1,4-DIBROMOBENZENE-D4	5	gm	12/23/2015
0001355682	4165-56-4	1,4-DIBROMOBENZENE-D4	5	gm	12/23/2015
0001355683	4165-56-4	1,4-DIBROMOBENZENE-D4	5	gm	12/23/2015

Chemical Usage July - December 2015

Barcode	CAS #	Chemical Name	Container Size	Unit of Measure	Date
0001355853	7732-18-5	Hydrochloric Acid 30-31%	3000	lb	12/23/2015
0001355668	64065-08-3	BIS(DIMETHYLPHOSPHINO)METHANE	1	gm	12/23/2015
0001355677	110-54-3	HEXANE (HEXANE, ANHYDROUS)	1	l	12/23/2015
0001355864	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/23/2015
0001355072	70955-01-0	MOLECULAR SIEVES 8-12 MESH	5	kg	12/23/2015
0001355073	70955-01-0	MOLECULAR SIEVES 8-12 MESH	5	kg	12/23/2015
0001355074	70955-01-0	MOLECULAR SIEVES 8-12 MESH	5	kg	12/23/2015
0001355075	70955-01-0	MOLECULAR SIEVES 8-12 MESH	5	kg	12/23/2015
0001355076	70955-01-0	MOLECULAR SIEVES 8-12 MESH	5	kg	12/23/2015
0001355077	70955-01-0	MOLECULAR SIEVES 8-12 MESH	5	kg	12/23/2015
0001355667	23936-60-9	1,2-BIS(DIMETHYLPHOSPHINO)ETHANE	1	gm	12/23/2015
0001355663	14024-61-4	PALLADIUM(II) ACETYLACETONATE	5	gm	12/23/2015
0001355666	59163-91-6	IRON(II) TRIFLUOROMETHANE	25	gm	12/23/2015
0001355863	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/23/2015
0001355861	7786-30-3	MAGNESIUM CHLORIDE	3300	lb	12/23/2015
0001355854	120002-56-4	sodium bisulfite	2464	lb	12/23/2015
0001355684	4165-56-4	1,4-DIBROMOBENZENE-D4	5	gm	12/23/2015
0001355664		NM-91 Anti-Seize	16	oz	12/23/2015
0001355665		NM-91 Anti-Seize	16	oz	12/23/2015
0001355071	70955-01-0	MOLECULAR SIEVES 8-12 MESH	5	kg	12/23/2015
0001355662	15170-57-7	PLATINUM(II) ACETYLACETONATE	5	gal	12/23/2015

ATTACHMENT A907.B.a.

Chemical Usage

CMRR-CHEM Chemical Purchases

(From ChemDB)

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RLUOB-CHEM Chemical Purchases July - December 2015

Barcode	Cas #	Chemical Name	Container Size	Unit of Measure	Date
0001395785	811-97-2	AIR	220	cf	08/06/2015
0001395776	811-97-2	AIR	220	cf	08/06/2015
0001352242	7783-90-6	ION CHROMATOGRAPHY ICP MS	500	ml	08/31/2015

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ATTACHMENT A907.B.b.

Chemical Usage

CMRR-CHEM Chemical Quantity Total

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2015 CMRR-RLUOB HAPs Monthly Emission Rates (lbs)

Cas Number	Chemical Name	January	February	March	April	May	June	July	August	September	October	November	December
107-21-1	Ethylene Glycol	0	0	0	0	0	0	0	0	0	0	0	0
110-54-3	Hexane	0	0	0	0	0	0	0	0	0	0	0	0
7664-39-3	Hydrogen Fluoride	0	0	0	0	0	0	0	0	0	0	0	0
7647-01-0	Hydrochloric Acid	0	0	0	0	0	0	0	0	0	0	0	0
67-56-1	Methyl Alcohol	0	0	0	0	0	0	0	0	0	0	0	0
75-09-2	Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0
100-42-5	Styrene	0	0	0	0	0	0	0	0	0	0	0	0
108-88-3	Toluene	0	0	0	0	0	0	0	0	0	0	0	0
Nickel	Nickel Compounds	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
HAPs Monthly Total		0	0	0	0	0	0	0	0	0	0	0	0

2015 CMRR-RLUOB HAPS 12-Month Rolling Total (lbs)

Cas Number	Chemical Name	January	February	March	April	May	June	July	August	September	October	November	December
107-21-1	Ethylene Glycol	0	0	0	0	0	0	0	0	0	0	0	0
110-54-3	Hexane	0	0	0	0	0	0	0	0	0	0	0	0
7664-39-3	Hydrogen Fluoride	0	0	0	0	0	0	0	0	0	0	0	0
7647-01-0	Hydrochloric Acid	10.48	10.48	10.48	10.48	0	0	0	0	0	0	0	0
67-56-1	Methyl Alcohol	0	0	0	0	0	0	0	0	0	0	0	0
75-09-2	Methylene Chloride	0	0	0	0	0	0	0	0	0	0	0	0
100-42-5	Styrene	0	0	0	0	0	0	0	0	0	0	0	0
108-88-3	Toluene	0	0	0	0	0	0	0	0	0	0	0	0
Nickel	Nickel Compounds	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
TAPs 12 Month Rolling Total		10.48	10.48	10.48	10.48	0	0	0	0	0	0	0	0

2015 CMRR-RLUOB TAPs Monthly Emission Rates (lb)

	January	February	March	April	May	June	July	August	September	October	November	December
Total TAPs	0	0	0	0	0	0	0	0	0	0	0	0
TAPs 12 Month Rolling Total	19.47	19.47	19.47	19.47	10.59	10.59	10.31	10.31	10.31	10.31	10.09	0.00

2015 CMRR-RLUOB VOC Monthly Emission Rates (lb)

	January	February	March	April	May	June	July	August	September	October	November	December
Total VOC	0	0	0	0	0	0	0	0	0	0	0	0
VOC 12 Month Rolling Total	0.82	0.82	0.82	0.82	0.82	0	0	0	0	0	0	0

ATTACHMENT A1007.A.a.

Degreaser

Degreaser Solvent Usage

(From Tracking Database)

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Degreaser Solvent Usage
July – December, 2015

Emission Unit	TA/Building	Type of Degreaser	Solvent
TA-55-DG-1	TA-55	Cold Batch	Trichloroethylene

Date Measured	Initial Solvent Level (inches)	Volume Added (liters)	Level Added (inches)	Volume Removed (liters)	Level Removed (Inches)
July-28-2015	4.00	0.00	0.00	0.00	0.00
Aug-27-2015	4.00	0.00	0.00	0.00	0.00
Sep-30-2015	4.00	0.00	0.00	0.00	0.00
Oct-28-2015	4.00	0.00	0.00	0.00	0.00
Nov-24-2015	4.00	0.00	0.00	0.00	0.00
Dec-21-2015	3.50	0.00	0.00	0.00	0.00

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ATTACHMENT A1007.A.b.

Degreaser

Sample Work Practice Checklist

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MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 09/08/2015

Date of Action:	**Location of Source : (TA/BLDG/Room) TA-55-PF4-300 Area**

Monitoring Requirements(A1007.A[1]):	**Yes/No**	**Comments**
1. Does the operator monitor and record the amount of solvent added to the degreaser?		
Recordkeeping Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Are the actual emissions rate (pounds/month) of VOC and HAPS based on the quantity of solvent lost to evaporation calculated on a monthly basis?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
2. Are the semi-annual emissions rate (tons/year) calculated for this source category and added to the facility-wide emissions rates in Table 106.B (Facility-wide Allowable Emissions)?	Yes	Emissions are calculated using the Degreaser Compliance Database by air quality compliance personnel.
3. Does the operator maintain records of the degreaser solvent content?		
4. Does the operator maintain work practice checklists?		
5. Does the operator maintain records in accordance with Section B109, General Recordkeeping Requirements?		
Operational Requirements (A1007.A[1])	**Yes/No**	**Comments**
1. Does the operator ensure the degreaser is closed with a tight fitting cover whenever not in use?		
2. Does the operator maintain a freeboard ratio of 0.75 or greater?		Glove box is included in freeboard ratio determination.
3. Does the operator ensure that all collected and stored waste solvent and wipe rags are placed in closed containers?		
4. Does the operator ensure that flushing is performed only within the freeboard area only?		All rinsing is performed within the freeboard area.
5. Does the operator allow cleaned parts to drip for 15 seconds or until dripping stops (whichever is longer)?		
6. Does the operator ensure that the solvent level does not exceed the fill line on the solvent level?		
7. Does the operator ensure that all spills are wiped up immediately?		
8. Does the operator ensure that there is no creation of observable splashing with agitation device?	**N/A**	An air or pump agitated solvent bath is not used.

MONTHLY WORK PRACTICE CHECK LIST
TA-55-DG-1 DEGREASER

R 09/08/2015

Operational Requirements (A1007.A[1]) continued	Yes/No	Comments
9. Does the operator ensure that the degreaser is not exposed to drafts greater than 40 meters per minute (132 feet per minute)?		Glove box air flow rates based on system design descriptions average between 5 acfm (normal operating) up to 40 acfm maximum for a single glove box.
10. Does the operator ensure that no sponges, fabric, wood or paper products are cleaned in the degreaser?		

Notification Requirements: If any of the boxes were checked with "No", please contact Air Quality Compliance Personnel at 665-1338.

Comments:

Form completed by:

Signature	Name (print)	Z number	Date

The permit section or condition noted at the end of each requirement is from the following reference:

[1] Title V Operating Permit No: P100-R2

All required documentation must be kept for a minimum of 5 years from the date it was gathered or from the date of the operating permit issuance (February 27, 2015).

At the end of each assessment period this form must be filed as an official record.

ATTACHMENT A1104.A.

Internal Combustion

TA-33-G-1-P Daily Operating Logs

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Daily TA-33-G-1-P Cummins/ONAN/DFHD 1000 kW Generator Hour Log

This generator has the following air quality permit requirements:

This generator engine is authorized to operate **no more than eight (8) hours per day**.

This unit can **operate only between the hours of 7:00 AM and 5:00 PM**

The permittee shall monitor the time(s) of operation each day.

The permittee shall monitor and keep records of the time(s) of operation each day, and the daily, monthly, and the monthly rolling 12-month total hours of operation of the genset (LANL ENV-CP will maintain this)

Date	Time of operation		Hour Meter Reading		Hours of operation	Purpose	Operator/User Name
	Start Time	End Time	Start Reading	End Reading			
3/23/2015	10:00		676.5	677	0.5	Maintenance	Paul Sanchez
7/22/2015	13:36	14:39	677	678	1	Maintenance	Paul Sanchez
10/13/2015			678	680.7	2.7	Maintenance	Paul Sanchez
12/18/2015			680.7	683	2.3	Maintenance	Paul Sanchez

Version Jan 2016 | Air Quality Permit P100-R2, Section A1104

Asked operators to note time of operation.

Contact: Paul Sanchez, 505-231-4342

TA-33-G-1-P Generator hours and rolling total |1000 kW Cummins/ONAN Model - DFHD
2015 Data

Date	Start	End	Hours of operation	Monthly rolling hours	12-month rolling hours
3/23/2015	676.5	677.0	0.5	0.5	0.5
7/22/2015	677.0	678.0	1.0	1.0	1.5
10/3/2015	678.0	680.7	2.7	2.7	4.2
12/18/2015	680.7	683.0	2.3	2.3	6.5

Enter Data in these cells

ATTACHMENT A1104.B.

Internal Combustion

Permitted Generator Hours

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YEAR **2015**

Permitted Generators

Permit ID	Location	ID #	Engine Make	Engine Model	Engine Serial #	gen kWe	engine kWm	Reading 2nd half of previous year		First Half: 6 Month Reading Date	First Half: Reading	First Half: Hours Run	Second Half: 12 Month Reading Date	Second Half: Reading	Second Half: Hours Run	* Total Run Hours
TA-33-G-1	33-290	G-0012	Kohler	1600ROZD	375801	1500		Dec-14	355.0	Jun-15	355.0	0.0	Dec-15	355.0	0.0	0.0
TA-33-G-1P	33-Port	G-0053	Cummins	QST30-G5	37199764	1000		Dec-14	675.5	Jun-15	677.0	1.5	Dec-15	678.0	1.0	2.5
TA-33-G-2	33-209	G-0008	Kohler/Yanmar	4TNE84T	52993	20		Dec-14	440.3	Jun-15	465.0	24.7	Dec-15	465.2	0.2	24.9
TA-33-G-3	33-280	G-0010	Kohler/Yanmar	4TNE84T	52992	20		Dec-14	230.3	Jun-15	230.4	0.1	Dec-15	231.2	0.8	0.9
TA-33-G-4	33-151	G-0007	Caterpillar	3306	8JJ00615	225		Dec-14	3453.0	Jun-15	3591.0	138.0	Dec-15	3761.0	170.0	308.0
RLUOB-GEN-1	55-440	G-0058	Cummins	KTA50G9	25314401	1500	1656.1	Dec-14	170.3	Jun-15	183.2	12.9	Dec-15	194.0	10.8	23.7
RLUOB-GEN-2	55-440	G-0059	Cummins	KTA50G9	25314399	1500	1656.1	Dec-14	116.4	Jun-15	120.8	4.4	Dec-15	138.0	17.2	21.6
RLUOB-GEN-3	55-440	G-0060	Cummins	KTA50G9	33165566	1500	1656.1	Dec-14	110.0	Jun-15	122.0	12.0	Dec-15	132.0	10.0	22.0
TA-48-GEN-1	TA-48-1	G-00XX	Cummins	QSB7-G3 NR3	73176927	150	186	Dec-14		Jun-15		0.0	Dec-15		0.0	0.0
TA-55-GEN-1	TA-55-PF10	G-0065	Isuzu	BZ-4LE2T	4LE2-298868	30	40.2	Dec-14	12.8	Jun-15	12.8	0.0	Dec-15	12.8	0.0	0.0
TA-55-GEN-2	TA-55-PF11	G-0066	Isuzu	BZ-4LE2T	4LE2-299432	30	40.2	Dec-14	12.7	Jun-15	12.7	0.0	Dec-15	12.7	0.0	0.0
TA-55-GEN-3	TA-55-371	G-0064	Caterpillar	C32	SYCO5263	900	1335	Dec-14	47.4	Jun-15	57.7	10.3	Dec-15	67.0	9.3	19.6

* The TA-33 225 kW & two 20 kW generators have limits of 500 hrs/yr.

RLUOB-GENs, TA-48 GEN, TA-55-GENs are subject to NSPS IIII regulation; nonemergency operation limited to 100 hr/yr

TA-48-GEN-1 has not been installed as of December 2015

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ATTACHMENT A1106.A.

Internal Combustion

Method 9 Opacity Reports

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Los Alamos NATIONAL LABORATORY Est. 1943 — The World's Greatest Science Protecting America

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: NSR-Permit 2195-P Unit 1 #2025460

Source Location: Los Alamos National Laboratory

Type of Source: Diesel Generator

Type of Control Equipment: N/A

Describe Emission Point (Top of stack, etc.): End of hose from tail pipe

Height Above Ground Level: ~2 Feet

Height Relative to Observer: -5 Feet

Distance From Observer: 8 Feet

Direction of Source From Observer: NW

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

Emission Color: Clear

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

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

At what point in the plume was opacity determined? 6" from end of hose

Describe Background (i.e. blue sky, trees, etc.): Grey white gravel/asphalt

Background Color: Grey/White

Sky Conditions: Partly Cloudy

Wind Speed: 7.6 mph

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

Ambient Temperature: 50.9 °F

Relative Humidity: 61 %

Additional Comments/Information: Readings done at steady state.

Observation Date	Start Time	End Time
10/26/15	9:41am	9:51am

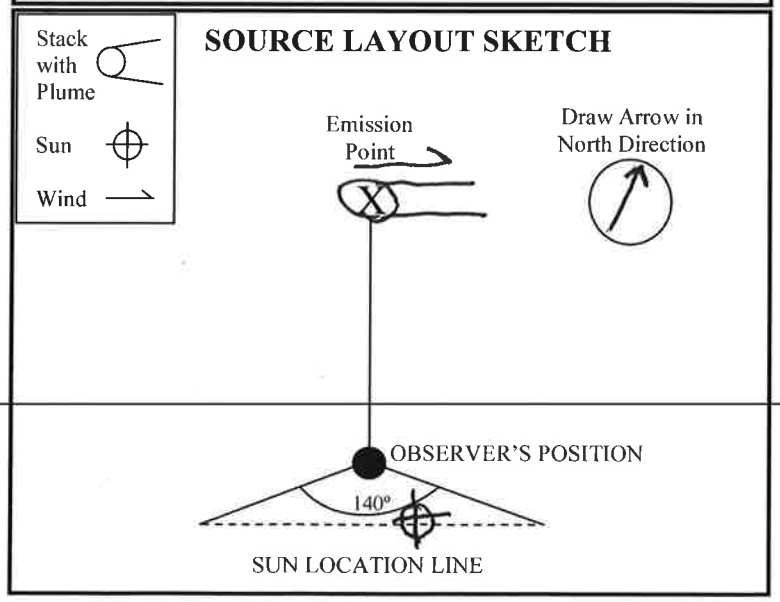
Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Average 10-Minute Opacity: 0

Range of Opacity Readings: Min. 0 Max. 0

OBSERVER (please print)
Name: Marc R. Gallegos
Title: Environmental Professional
Signature: Marc R. Gallegos
Date: 10/26/15
Observer Organization: Los Alamos National Laboratory
Certified by: Eastern Technical Associates
Certification Date: 8/26/15

SOURCE LAYOUT SKETCH



Form ENV-CP-Form-1004 04/2015

Los Alamos NATIONAL LABORATORY EST. 1943 The World's Greatest Science Protecting America

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: NSR Permit 2195-P Unit #2 #2025461

Source Location: Los Alamos National Laboratory

Type of Source: Diesel Generator

Type of Control Equipment: N/A

Describe Emission Point (Top of stack, etc.): End of hose from tail pipe

Height Above Ground Level: ≈ 2 Feet

Height Relative to Observer: -6.5 Feet

Distance From Observer: 10 Feet

Direction of Source From Observer: W

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

Emission Color: Clear

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

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

At what point in the plume was opacity determined? 6" from end of hose

Describe Background (i.e. blue sky, trees, etc.): Green Weeds

Background Color: Green / White

Sky Conditions: Partly Cloudy

Wind Speed: 10.7 mph

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

Ambient Temperature: 52.5 °F

Relative Humidity: 58 %

Additional Comments/Information: Readings done at steady state.

Observation Date: 10/26/15 Start Time: 9:57 am End Time: 10:07 am

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

Average 10-Minute Opacity: 0

Range of Opacity Readings Min. 0 Max. 0

OBSERVER (please print) Name: Marc R. Gallegos Title: Environmental Professional

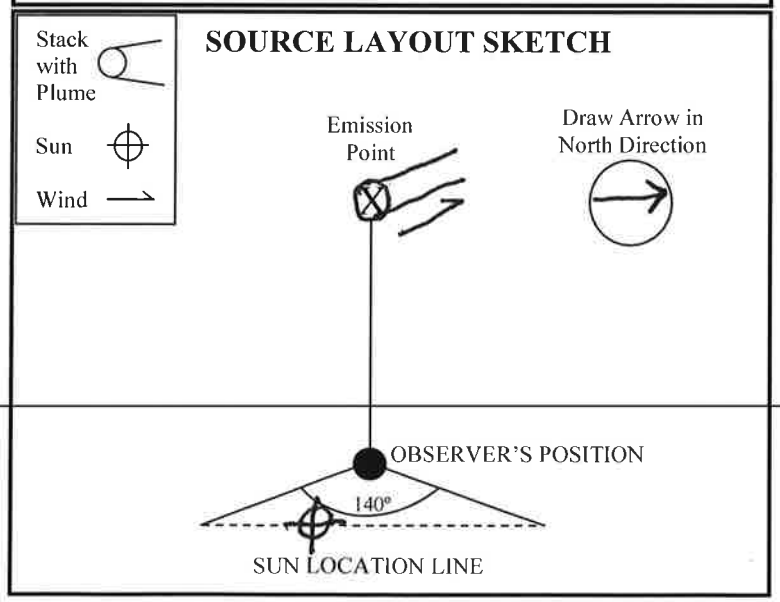
Signature: Marc R. Gallegos Date: 10/26/15

Observer Organization: Los Alamos National Laboratory

Certified by: Eastern Technical Associates Certification Date: 8/26/15

Form ENV-CP-Form-1004 04/2015

SOURCE LAYOUT SKETCH



Los Alamos NATIONAL LABORATORY Est. 1943 — The World's Greatest Science Protecting America

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: NSR-Permit-2195-P Unit #3 #6PK01065

Source Location: Los Alamos National Laboratory

Type of Source: Diesel Generator

Type of Control Equipment: N/A

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

Height Above Ground Level: 9 Feet

Height Relative to Observer: 4 Feet

Distance From Observer: 20 Feet

Direction of Source From Observer: NW

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

Emission Color: Black

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

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

At what point in the plume was opacity determined? 6" from top of generator

Describe Background (i.e. blue sky, trees, etc.): Grey cloud

Background Color: Grey/white

Sky Conditions: Partly cloudy

Wind Speed: 13 mph

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

Ambient Temperature: 52.9 °F

Relative Humidity: 57 %

Additional Comments/Information: Readings were done at steady state.

Observation Date: 10/26/15 Start Time: 10:23am End Time: 10:33am

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

Average 10-Minute Opacity: 0.25

Range of Opacity Readings: Min. 0 Max. 5

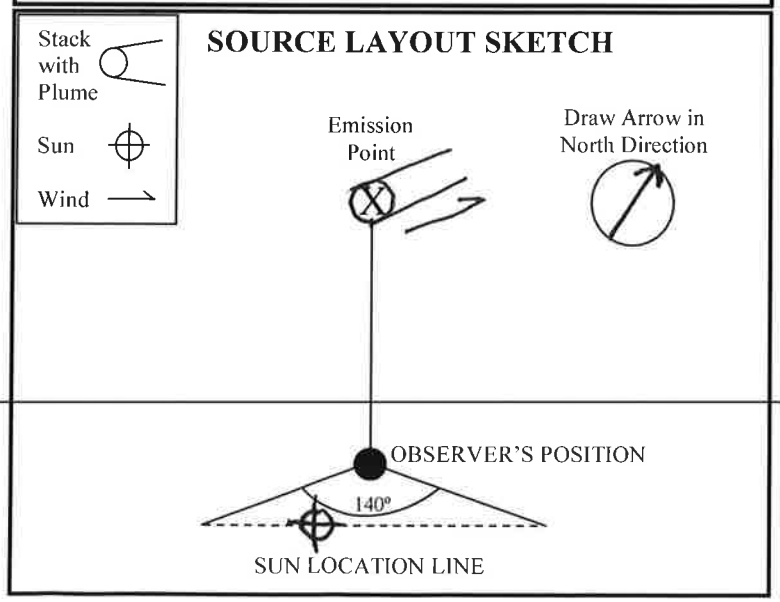
OBSERVER (please print) Name: Marc R. Gallegos Title: Environmental Professional

Signature: Marc R. Gallegos Date: 10/26/15

Observer Organization: Los Alamos National Laboratory

Certified by: Eastern Technical Associates Certification Date: 8/26/15

SOURCE LAYOUT SKETCH



Form ENV-CP-Form-1004 04/2015

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ATTACHMENT A1207.A.

Data Disintegrator

Operating Logs

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Data Disintegrator Operating Logs
July – December, 2015

2015 TA-52 Data Disintegrator (EQPT 89)

	Data Entry		Data Entry
Month	Boxes[c] Shredded	**Month**	Boxes[c] Shredded
January	185	**July**	110
February	138	**August**	89
March	137	**September**	206
April	105	**October**	145
May	108	**November**	97
June	123	**December**	43
6 mo. Total:	796	**6 mo. Total:**	690

Annual Boxes:	**1,486**

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ATTACHMENT A1207.B.

Data Disintegrator

Maintenance Performed

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Data Disintegrator at TA-52-0011
Regular Maintenance and Repair
July – December 2015

July - December 2015							
TA/BLDG	Work Order	Task	Job Type	Task Title	Task Status	Actual Start Date	Completion Date
52/0011	00529737	01	PM	520011 6M CYCLONE SEPERATOR/ SHAKER LUBE.	CLOSED	11/25/2015	11/25/2015

A1207.B Data Disintegrator - Control Equipment Maintenance Performed

Facility: F07 **Unit:** 520011 **Proj:**
Task Title: 520011 6M CYCLONE SEPERATOR/ SHAKER LUBE/INSP.
W/O Type: PM W/O Group: 3PM MOD Task Priority: 4
Planner : 106941 MAESTAS M A
W/O Title: 520011 6M CYCLONE SEPERATOR/ SHAKER LUBE
Written To: CYCLONE SHAKER (SEPERATOR PARTICULATE)
Task Dspln: M Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00529737 01

Date: 12/01/2015
Page: 1

Work Order Task Written To

Facility : **F07** **Unit** : **520011** **Op Sys** : **BLDG**
Room : **BLDG** **Area** : **Sys/Cls:** **R** **ML4**
Equipment : **UNIT SPP** **Component:**
Location :
Job Type : **PM**
Tag 1 : Tag 2 :
Work Item : Ops Review Reqd: N

Authorization

Start Permission :
Complete Notice :
Start Date: 11/25/2015
Complete Date: 11/25/2015

NOTE:

*** Refer to attached Form 2101 - Non-Tenant Activity Form - or Form 2102- Tenant Activity Form - for a description of site specific training or escort and access requirements.**

Work Order Task Instructions

M/L:4
TEXT DESCRIPTION
Install Lock-Out/Tag Out to the local disconnect at the Cyclone Unit
Requires 3 lockout/tag out cdd-6, 7 & 8
Verify Zero energy to the unit.
Lubricate and inspect the chains on the rotary air lock valve and shaker.
Lubrication of Rotor Bearings: Using an EP type grease quality grade 2 grease the existing fittings located on the lubrication manifolds mounted on the pillow blocks.
Lubricating Motor Bearings: Remove the drain plug and then inject new grease at the fill hole. Replace the drain plug. Recommended grease should be Polyrea based bearing lubricant.
Lubricate, inspect and repair the gear box and chain bearings in gear box.
Verify proper operation oil level and add as needed.
Change the Air lock valve gear box oil following every

Facility: F07 Unit: 520011 Proj:
Task Title: 520011 6M CYCLONE SEPERATOR/ SHAKER LUBE/INSP.
W/O Type: PM W/O Group: 3PM MOD Task Priority: 4
Planner : 106941 MAESTAS M A
W/O Title: 520011 6M CYCLONE SEPERATOR/ SHAKER LUBE
Written To: CYCLONE SHAKER (SEPERATOR PARTICULATE)
Task Dspln: M Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00529737 01

Date: 12/01/2015
Page: 2

5000 hours of operation.
Check and lubricate all bearings associated with the Cyclone-Shaker unit as required.
Complete any lubrication, adjustments or replacement of any components associated with the conveyor unit, to include bearings, belts, rollers and all other associated components
Complete lubrication of the shaker flange bearings following a 3 year recommended schedule.
Complete any maintenance, as needed, on all motors per manufacturers recommendations.
Remove the Lock OUt from the local disconnect.
.
POC: Melissa Metcalf

NOTE: ASSIGNED CRAFTS SHALL FOLLOW ALL APPLICABLE STATE, FEDERAL AND LANL CODES AND STANDARDS.
INTO SECURITY AREAS.
ORIGINATOR: TELEPHONE#:
CONFIGURATION MANAGEMENT REVIEW REQUIRED] [ ] YES [X] NO
CHECK CRAFTS REQUIRED:

[ ] CUSTODIAL	[ ] ELECTRICIANS	[ ] LABORERS
[ ] TEAMSTERS	[ ] OPERATING ENGINEERS	[ ] PAINTERS
[ ] FITTERS	[ ] CEMENT MASONS	[ ] CARPENTERS
[ ] ROOFERS	[ ] IRON WORKERS	[ ] INSULATORS
[ ] SHEETMETAL	[ ] MECHANICS	[ ] ENGINEERING

[ ] OTHER (SPECIFY) :
.
AUTHORIZED FUNDING LEVEL:
.
FUNDING APPROVED BY: ( ) N/A
Z# DATE:
LOG-IN REQUIRED: [X] YES [ ] NO LOG-OUT REQUIRED: [X] YES [ ] NO
LOCATION OF LOG-IN: TA-3-142
Weekly Schedule or Plan of the Day
.
CHECK-IN REQUIRED: [X] YES [ ] NO CHECK-OUT REQUIRED: [X] YES [ ] NO
LOCATION OF CHECK-IN/CHECK-OUT:

Facility: F07 Unit: 520011 Proj:
Task Title: 520011 6M CYCLONE SEPERATOR/ SHAKER LUBE/INSP.
W/O Type: PM W/O Group: 3PM MOD Task Priority: 4
Planner : 106941 MAESTAS M A
W/O Title: 520011 6M CYCLONE SEPERATOR/ SHAKER LUBE
Written To: CYCLONE SHAKER (SEPERATOR PARTICULATE)
Task Dspln: M Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

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Date: 12/01/2015
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.
PLANT ENGINEERING REVIEW:
PE REVIEW REQUIRED [ ] YES [X] NO
PE INSPECTION APPROVAL [ ] YES [X] NO
.
All debris/trash created by this work will be removed prior to completion of job or work day.
.

QC Requirements/Comments

Rework Reason/Cause

		(Y/N)
CDSG	CUSTOMER DESIGN	
IMCW	IMPROPER CONSTRUCTION/WORKMANSHIP	
IMDN	IMPROPER DESIGN	
PDMS	PARTS/MATERIAL DID NOT MEET SPECIFICATIONS	
WR	WARRANTY REWORK/REPAIR	

Date: Hours: Crew: Shift:
Comments:

Rework/Approval

Deficiency Tag No.: Loc: Tag Removed:
ReWork Job : N Comments:

Trouble Found/Work Performed

Facility: F07 Unit: 520011 Proj:
Task Title: 520011 6M CYCLONE SEPERATOR/ SHAKER LUBE/INSP.
W/O Type: PM W/O Group: 3PM MOD Task Priority: 4
Planner : 106941 MAESTAS M A
W/O Title: 520011 6M CYCLONE SEPERATOR/ SHAKER LUBE
Written To: CYCLONE SHAKER (SEPERATOR PARTICULATE)
Task Dspln: M Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

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Work Order Task

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Continued on Additional Sheets? : _____

Work Delay Reason

				(Y/N)
A ACCESS				
Date:	Hours:	Crew:	Shift:	
EQPT EQUIPMENT				
Date:	Hours:	Crew:	Shift:	
MISC MISCELLANEOUS				
Date:	Hours:	Crew:	Shift:	
OPS OPERATIONS				
Date:	Hours:	Crew:	Shift:	
P POOR PLANNING				
Date:	Hours:	Crew:	Shift:	
S SAFETY				
Date:	Hours:	Crew:	Shift:	
SCH SCHEDULING				
Date:	Hours:	Crew:	Shift:	
T TRAVEL				
Date:	Hours:	Crew:	Shift:	
W WEATHER				
Date:	Hours:	Crew:	Shift:	

Comments:

Major Failure/Action Taken

Major Failure :
Deficiency Tag Loc:
Deficiency Tag No.:
Action Taken :
Removed (Y/N):
Limited Cond Operation:

Facility: F07 Unit: 520011 Proj:
Task Title: 520011 6M CYCLONE SEPERATOR/ SHAKER LUBE/INSP.
W/O Type: PM W/O Group: 3PM MOD Task Priority: 4
Planner : 106941 MAESTAS M A
W/O Title: 520011 6M CYCLONE SEPERATOR/ SHAKER LUBE
Written To: CYCLONE SHAKER (SEPERATOR PARTICULATE)
Task Dspln: M Due Date: 11/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

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Work Completion Signatures

Name	Function/Dept.	Date

Comments:
(rework?)

***** E N D O F R E P O R T *****

Cost Center: 8S010A Activity : 640CL000 User Def:
Percentage : 100.000 Acct No : WL2300 00000000

ATTACHMENT A1307.A.

TA-03 Power Plant

Emission Rate Calculations

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Monthly Emission Calculation (Natural Gas) 2015

Average Hourly Emissions Rates (pph) for each Emission Unit
(Meets condition A1307.A, monitoring condition 1, of Title V Permit P100-R1-M3 and P100-R2)

Unit TA-3-22-1 (Boiler 1) pph

	Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Allowable Emissions[a]
NOx	0.00	0.00	2.80	0.00	2.01	1.54	1.53	1.22	1.22	1.99	0.00	0.00	10.2
SOx	0.00	0.00	0.03	0.00	0.02	0.02	0.02	0.01	0.01	0.02	0.00	0.00	1.1
PM	0.00	0.00	0.37	0.00	0.26	0.20	0.20	0.16	0.16	0.26	0.00	0.00	1.3
PM-10	0.00	0.00	0.37	0.00	0.26	0.20	0.20	0.16	0.16	0.26	0.00	0.00	1.3
PM-2.5	0.00	0.00	0.37	0.00	0.26	0.20	0.20	0.16	0.16	0.26	0.00	0.00	1.3
CO	0.00	0.00	1.93	0.00	1.39	1.06	1.06	0.84	0.84	1.37	0.00	0.00	7.0
VOC	0.00	0.00	0.27	0.00	0.19	0.15	0.15	0.12	0.12	0.19	0.00	0.00	1.0

Unit TA-3-22-2 (Boiler 2) pph

	Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Allowable Emissions[a]
NOx	4.07	3.64	3.32	0.00	0.00	1.50	1.42	1.37	1.31	1.76	3.37	4.05	10.2
SOx	0.04	0.04	0.03	0.00	0.00	0.02	0.01	0.01	0.01	0.02	0.03	0.04	1.1
PM	0.53	0.48	0.44	0.00	0.00	0.20	0.19	0.18	0.17	0.23	0.44	0.53	1.3
PM-10	0.53	0.48	0.44	0.00	0.00	0.20	0.19	0.18	0.17	0.23	0.44	0.53	1.3
PM-2.5	0.53	0.48	0.44	0.00	0.00	0.20	0.19	0.18	0.17	0.23	0.44	0.53	1.3
CO	2.80	2.51	2.29	0.00	0.00	1.03	0.98	0.94	0.90	1.21	2.32	2.79	7.0
VOC	0.39	0.34	0.32	0.00	0.00	0.14	0.13	0.13	0.12	0.17	0.32	0.38	1.0

Unit TA-3-22-3 (Boiler 3) pph

	Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Allowable Emissions[a]
NOx	3.01	4.20	2.59	2.48	2.26	0.00	0.00	0.00	0.00	2.62	2.51	0.00	10.2
SOx	0.03	0.04	0.03	0.03	0.02	0.00	0.00	0.00	0.00	0.03	0.03	0.00	1.1
PM	0.39	0.55	0.34	0.32	0.30	0.00	0.00	0.00	0.00	0.34	0.33	0.00	1.3
PM-10	0.39	0.55	0.34	0.32	0.30	0.00	0.00	0.00	0.00	0.34	0.33	0.00	1.3
PM-2.5	0.39	0.55	0.34	0.32	0.30	0.00	0.00	0.00	0.00	0.34	0.33	0.00	1.3
CO	2.08	2.90	1.78	1.71	1.56	0.00	0.00	0.00	0.00	1.81	1.73	0.00	7.0
VOC	0.29	0.40	0.25	0.23	0.21	0.00	0.00	0.00	0.00	0.25	0.24	0.00	1.0

(a) Allowable Emissions are from table A1302A of permit P100-R1-M3 and Permit P100-R2
Condition A1307.A, monitoring condition 3, can't be calculated because the units are based on the emission factor. The emission factor for NOx is in lbs/MMscf, which is converted to lbs/MMBtu by dividing by 1020 (standard number of MMBtu in a MMscf). The NOx emission rate will always be 0.057 lbs/MMBtu unless the Btu value of the fuel changes significantly. The average Btu value for natural gas can be found in the GHG emission calculations in this spreadsheet.

Monthly Emission Calculation (Fuel Oil) 2015

Average Hourly Emissions Rates (pph) for each Emission Unit

(Meets condition A1307.A, monitoring condition 1, of Title V Permit P100-R1-M3 and P100-R2)

Unit TA-3-22-1 (Boiler 1)

	Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Allowable Emissions[a] Oil
NOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.3
SOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.6
PM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.3
PM-10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.0
PM-2.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.0
CO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.5
VOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.3

Unit TA-3-22-2 (Boiler 2)

	Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Allowable Emissions[a] Oil
NOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.3
SOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.6
PM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.3
PM-10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.0
PM-2.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.0
CO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.5
VOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.3

Unit TA-3-22-3 (Boiler 3)

	Jan.	Feb.	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Allowable Emissions[a] Oil
NOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.3
SOx	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.6
PM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.3
PM-10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.0
PM-2.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.0
CO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.5
VOC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.3

12 Month Rolling Emissions 2015 (Tons)
All Three Boilers Combined

Pollutant	TSP	PM10	NOx	CO	VOC	SO_2
Permit Limit (tons/yr)	**8.4**	**8.2**	**60.2**	**41.3**	**5.6**	**7.9**
12-Month Rolling Total						
January	1.430	1.430	10.912	7.525	1.035	0.113
February	1.422	1.422	10.849	7.482	1.029	0.112
March	1.408	1.408	10.745	7.410	1.019	0.111
April	1.393	1.393	10.630	7.331	1.008	0.110
May	1.400	1.400	10.682	7.367	1.013	0.111
June	1.415	1.415	10.800	7.448	1.024	0.112
July	1.427	1.427	10.893	7.513	1.033	0.113
August	1.417	1.417	10.813	7.457	1.025	0.112
September	1.420	1.420	10.838	7.474	1.028	0.112
October	1.429	1.429	10.904	7.520	1.034	0.113
November	1.426	1.426	10.885	7.507	1.032	0.113
December	1.433	1.433	10.933	7.540	1.037	0.113

Meets permit condition A1307.A, Monitoring Condition 2.

Monthly Emission Totals (Tons)

Pollutant	TSP	PM10	NOx	CO	VOC	SO_2
January	0.198	0.198	1.512	1.043	0.143	0.016
February	0.160	0.160	1.224	0.844	0.116	0.013
March	0.150	0.150	1.143	0.788	0.108	0.012
April	0.117	0.117	0.892	0.615	0.085	0.009
May	0.103	0.103	0.789	0.544	0.075	0.008
June	0.072	0.072	0.549	0.379	0.052	0.006
July	0.069	0.069	0.528	0.364	0.050	0.005
August	0.048	0.048	0.366	0.252	0.035	0.004
September	0.061	0.061	0.462	0.319	0.044	0.005
October	0.100	0.100	0.762	0.525	0.072	0.008
November	0.156	0.156	1.189	0.820	0.113	0.012
December	0.199	0.199	1.518	1.047	0.144	0.016
Annual Totals	1.433	1.433	10.933	7.540	1.037	0.113

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ATTACHMENT A1307.B.

TA-03 Power Plant

Boiler Fuel Use and Hours of Operation

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TA-3 Power Plant Fuel Use Totals 2015 (Data Entry)

	DATA ENTRY							
	TA-3-22 Power Plant[b] Boiler # 1 (Edgemoor Iron Works, 210 mmBtu/hr)		TA-3-22 Power Plant[b] Boiler # 2 (Edgemoor Iron Works, 210 mmBtu/hr)		TA-3-22 Power Plant[b] Boiler # 3 (Union Iron Works, 210 mmBtu/hr)		Monthly Totals	
Month	Natural Gas (mscf)[a]	Fuel Oil (gallons)[a]	Natural Gas (mscf)[a]	Fuel Oil (gallons)[a]	Natural Gas (mscf)[a]	Fuel Oil (gallons)[a]	Natural Gas (mmscf)[a]	Fuel Oil (gallons)[a]
January	0	0	52,022	0	109	0	52.131	0
February	0	0	41,976	0	217	0	42.193	0
March	3,622	0	26,367	0	9,429	0	39.418	0
April	15	0	14	0	30,737	0	30.766	0
May	14,640	0	30	0	12,536	0	27.206	0
June	11,696	0	7,232	0	0	0	18.928	0
July	423	0	17,797	0	0	0	18.220	0
August	6,768	0	5,841	0	0	0	12.609	0
September	3,714	0	12,228	0	0	0	15.942	0
October	2,268	0	13,630	0	10,363	0	26.261	0
November	0.2	0	38,536	0	2,479	0	41.015	0
December	392	0	51,937	0	1	0	52.329	0
Annual Totals:	43,538	0	267,609	0	65,871	0	377.017	0
Jan. - June	29,973	0	127,640	0	53,028	0	210.641	0
July - Dec.	13,564	0	139,969	0	12,843	0	166.375	0

Month	12-Mo. Rolling Total Natural Gas (mmscf)	12-Mo. Rolling Total Fuel Oil (gallons)	Hours of Operation Nat Gas Boiler 1	Hours of Operation Nat Gas Boiler 2	Hours of Operation Nat Gas Boiler 3	Hours of Operation Fuel Oil Boiler 1	Hours of Operation Fuel Oil Boiler 2	Hours of Operation Fuel Oil Boiler 3	*12-Month Rolling Total Hours (All Boilers)
January	376.3	0	0.0	742.1	2.1	0.0	0.0	0.0	9503.0
February	374.1	0	0.0	669.6	3.0	0.0	0.0	0.0	10175.6
March	370.5	0	74.9	460.1	211.4	0.0	0.0	0.0	10177.5
April	366.5	0	0.0	0.0	719.9	0.0	0.0	0.0	10224.7
May	368.3	0	422.6	0.0	321.2	0.0	0.0	0.0	10223.1
June	372.4	0	440.4	279.9	0.0	0.0	0.0	0.0	10222.6
July	375.6	0	16.0	727.9	0.0	0.0	0.0	0.0	10222.3
August	372.9	0	322.6	247.5	0.0	0.0	0.0	0.0	10072.7
September	373.7	0	176.8	541.1	0.0	0.0	0.0	0.0	10046.7
October	376.0	0	66.1	449.7	229.3	0.0	0.0	0.0	10055.0
November	375.3	0	0.0	663.0	57.3	0.0	0.0	0.0	10055.3
December	377.0	0	0.0	744.0	0.0	0.0	0.0	0.0	8588.5
Permit Limits:	1000 MMscf	500,000 gal							

* The requirement to calculate a 12 month rolling total of hours became effective on June 15, 2012.

Data Reviewed By: _____

12 Month Rolling Fuel Totals For Each TA-3 Power Plant Boiler - 2015

	Boiler 1		Boiler 2		Boiler 3	
Month	Natural Gas (mmscf)	Fuel Oil (gal.)	Natural Gas (mmscf)	Fuel Oil (gal.)	Natural Gas (mmscf)	Fuel Oil (gal.)
January	40	0	280	0	56	0
February	1	0	318	0	56	0
March	4	0	302	0	65	0
April	4	0	291	0	72	0
May	19	0	280	0	69	0
June	31	0	272	0	69	0
July	31	0	275	0	69	0
August	37	0	266	0	69	0
September	41	0	268	0	65	0
October	43	0	257	0	75	0
November	43	0	254	0	78	0
December	44	0	268	0	66	0

ATTACHMENT A1307.C.

TA-03 Power Plant

Combustion Turbine Fuel Use and Hours of Operation

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CY2015 Daily Turbine Gas Use (Mscf), 12 Month Rolling Total Gas Use, & Hours of Operation

Day	Jan		Feb		Mar		Apr		May		Jun		July		Aug		Sept		Oct		Nov		Dec	
	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs	Gas Use	Hrs
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	502	2.1	0	0.0	3549	16.0
2	0	0.0	0	0.0	0	0.0	1057	4.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3589	16.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4303	18.1	0	0.0	3590	16.0
4	0	0.0	12	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3190	16.1	0	0.0	0	1.3
5	12	0.3	1067	4.2	902	4.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1800	9.0	0	0.0	0	0.0
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	215	0.2	0	0.0	0	0.0
7	0	0.0	1099	5.1	0	0.0	0	0.0	15	0.0	0	0.0	0	0.0	0	0.0	0	0.0	769	6.1	0	0.0	0	0.0
8	1016	4.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	179	0.3	0	0.0	0	0.0
9	0	0.0	0	0.0	0	0.0	1067	4.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3289	16.3	0	0.0	0	0.0
10	0	0.0	0	0.0	0	0.0	0	0.0	13	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3322	16.1	0	0.0	1003	4.3
11	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	82	1.5	0	0.0	0	0.0	0	0.0	1256	7.5	0	0.0	0	0.0
12	0	0.0	1068	4.1	75	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	370	0.2	0	0.0	0	0.0
14	0	0.0	0	0.0	0	0.0	0	0.0	108	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	21	0.3
15	1295	5.2	0	0.0	0	0.0	23	0.3	0	0.0	47	1.0	24	0.5	0	0.0	0	0.0	0	0.0	0	0.0	290	1.0
16	0	0.0	0	0.0	2	0.0	1013	4.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	85	1.1	47	1.3	0	0.0	0	0.0	833	3.1
18	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	19	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19	0	0.0	1074	4.1	60	0.2	0	0.0	0	0.0	0	0.0	0	0.0	74	1.6	0	0.0	0	0.0	0	0.0	0	0.0
20	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	184	2.6	0	0.0
21	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	11	0.2
22	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6	0.2	0	0.0	0	0.0	85	1.0
23	1249	5.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	66	0.2	0	0.0	2	0.0	284	0.2
24	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	46	0.2	0	0.0	0	0.0	0	0.0
25	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	910	5.0	0	0.0
26	0	0.0	1095	4.0	1063	4.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
27	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.0	0	0.0	0	0.0
28	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
29	1049	4.2			0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	152	0.3	0	0.0	0	0.0	0	0.0
30	0	0.0			0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
31	0	0.0			0	0.0			0	0.0			0	0.0	0	0.0			0	0.0			0	0.0
SUM	4621	18.7	5415	21.75	2102	8.4	3160	12.7	136	0	129	2.5	24	0.5	178	2.7	317	2.15	19198	91.9	1096	7.6	13255	59.4
Mscf	41,302		43,484		41,365		41,406		37,840		35,972		33,696		31,939		22,534		40,822		39,969		49,631	
MMscf	41.3		43.5		41.4		41.4		37.8		36.0		33.7		31.9		22.5		40.8		40.0		49.6	
Hrs.	196		200		188		188		170		162		149		141		98		185		184		228	

First Half Gas Use: 15.56 MMscf | **Second Half Gas Use:** 34.1 MMscf | **Annual Gas Use:** 49.63 MMscf

Permit Limit (12 mo rolling): 1400 MMscf

Total Annual Hours: 228.2 Hour

High Heat Value (HHV) for natural gas[k] = **1020** MMBtu/MMscf

Reviewed by/date: _____

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ATTACHMENT A1307.D.

TA-03 Power Plant

Combustion Turbine Operating Logs

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CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** CGTG GAS TURBINEour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	1509		200	575		0.5 hrs																							
19	Turbine on line. (When BKR Closes)																													
20	Turbine off line. (When BKR Opens)																													
21	Time of No Gas Flow	1541																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE JULY 15, 2015 SIGNATURE MM

UI-LOG-033-R0
February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	1450																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE	7-15-15 ~~7-15-15~~
SIGNATURE	
Mid Shift	
Days Shift	MPale

Notes

UI-LOG-034-R0
February 9, 2015

CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** CGTG GAS TURBINEour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013) hourly																												
2	NOTE Blowdown Wet Receiver Tank	(BVT-007) hourly																												
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	1446		200	575			1.1 hour																						
19	Turbine on line. (When BKR Closes)	1550																												
20	Turbine off line. (When BKR Opens)	1559																												
21	Time of No Gas Flow	1559																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE 8-17-2015 SIGNATURE GOMEZ UNIT WAS RAMPED TO FULL POWER THEN SHUT DOWN

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February 9, 2015

CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** CGTG GAS TURBINE Hour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013) hourly																12:01												
2	NOTE Blowdown Wet Receiver Tank	(BVT-007) hourly																												
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85												72												
13	Combustible Gas Detector monitor		% LEL		0%	20%												0												
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)			200	575												11:31						1.6 hours							
19	Turbine on line. (When BKR Closes)																11:55													
20	Turbine off line. (When BKR Opens)																													
21	Time of No Gas Flow																													
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%											16%	16%												
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%											0%	0%												
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																✓	✓												
22	Power Management Page Generator Current	A54A-01	Amps			1200											70.8	70.8												
23	Power Management Page Mw Output		Mw			21											16.9	16.9												
24	Power Management Page 80 % Base Min Load																18.4	18.4												
25	Running Hours/ Unit Overview Page																24.78	24.78												
26	Ambient Temperature	T1															66	66												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%											56%	56%												

DATE 08-18-2015 SIGNATURE Paul A. Montoya

PM 8-19-15

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME															10:50														
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2ndStage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 8-18-15	
SIGNATURE	
Mid Shift	
Days Shift	

Notes
10:50 - Gas Compressor Start
10:58 - Gas Comp. trip No flow left.
11:02 - Gas Comp Start

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINE Hour Beginnning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)			200	575															1534				1.25 hrs						
19	Turbine on line. (When BKR Closes)																			1459	1554									
20	Turbine off line. (When BKR Opens)																			1655										
21	Time of No Gas Flow																			1605										
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																		24[illegible]	24[illegible]		24[illegible]								
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE 9-17-15 SIGNATURE [illegible]

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CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** CGTG GAS TURBINEour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	1418, 1434		200	575			0.2 hours																						
19	Turbine on line. (When BKR Closes)																													
20	Turbine off line. (When BKR Opens)																													
21	Time of No Gas Flow	1419, 1444																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE CGTG GAS TURBINEour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		**Units**	**Low**	**Norm**	**Max**																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		**Units**	**Low**	**Norm**	**Max**																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)			200	575											1040							0.2 hours							
19	Turbine on line. (When BKR Closes)																1116		1315											
20	Turbine off line. (When BKR Opens)																	1042	1321											
21	Time of No Gas Flow																		1321											
22	**Entronic Control System**		**Units**	**Low**	**Norm**	**Max**																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME															1023														
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

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SIGNATURE

Mid Shift

Days Shift

Notes

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINE Hour Beginnning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		**Units**	**Low**	**Norm**	**Max**																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		**Units**	**Low**	**Norm**	**Max**																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0905		200	575																									
19	Turbine on line. (When BKR Closes)	0917				0.2 hours																								
20	Turbine off line. (When BKR Opens)	0928																												
21	Time of No Gas Flow	0928																												
22	**Entronic Control System**		**Units**	**Low**	**Norm**	**Max**																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE CGTG GAS TURBINE Hour Beginnning MST (MDT) (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0711, 1130, 1345, 1430		200	575																									
19	Turbine on line. (When BKR Closes)	0802, 1143, 1356				0.3 hours																								
20	Turbine off line. (When BKR Opens)	0807, 1157, 1408																												
21	Time of No Gas Flow	0807, 1203, 1416, 1438																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

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CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** CGTG GAS TURBINE Hour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																		/	/								
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																		/	/								
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120															110	107								
4	Instrument Temperature	TI-001	deg C		20	50															29	29								
5	**Fin Fan Cooler**		**Units**	**Low**	**Norm**	**Max**																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	190	190	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120															104	106								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL															1/2	1/2								
9	Coolant Return Differential from GG	FI-001	In WC		60	80															63	63								
10	Coolant Return Differential from	FI-002	In WC		37	50															36	36								
11	**Control Room**		**Units**	**Low**	**Norm**	**Max**																								
12	Room Temperature		deg F		72	85															70	70								
13	Combustible Gas Detector monitor		% LEL		0%	20%															0	0								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No															yes	Y								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No															yes	Y								
18	Time gas was first introduced into the Turbine (Turbine Rolling)			200	575															1415					2.1 hours					
19	Turbine on line. (When BKR Closes)																			1457										
20	Turbine off line. (When BKR Opens)																					1657								
21	Time of No Gas Flow																						1704							
22	**Entronic Control System**		**Units**	**Low**	**Norm**	**Max**																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%															15	15								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%															0	0								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																				/	✓								
22	Power Management Page Generator Current	A54A-01	Amps			1200															845	845								
23	Power Management Page Mw Output		Mw			21															19.9	19.9								
24	Power Management Page 80 % Base Min Load																				17.3	17.4								
25	Running Hours/ Unit Overview Page																				2484	2485								
26	Ambient Temperature	T1																			79	77								
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%															55	56								

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CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																		1359											
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																B	B								
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY															E	E								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL															5/8	5/8								
Oil Day Tank Level	LI-1562	GAL	10		FULL															35	35								
Lubricator Bulls eye		LEVEL	1/2	FULL																F	F								
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY															E	E								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY															E	E								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																B	B								
1st Stage Inlet Press.	PI-2100	psig		88	140															76	77								
Stage Disch. Press	PI-2101	psig		238	285															240	241								
2nd Stage Inlet Press	PI-2200	psig		267	285															237	237								
2nd Stage Disch. Press	PI-2201	psig		575	600															578	579								
Final Discharge Pressure	PI-2108	psig		575	600															575	575								
Lube Oil Pressure	PI-1572	psig	40	60																60	59								
Lube Oil Temp	TE-1584	deg		150	170															162	164								
Final Discharge Temp	TE-2120	deg		110	150															114	113								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297															243	242								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283															253	252								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297															241	239								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283															252	251								
Motor Frame Vibration	VT-1015	IPS			0.15															.03	.03								
Compresser Frame Vibration	VT-1512	IPS			0.35															.05	.05								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																					575								
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																571								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																561								

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Mid Shift

Days Shift

Notes

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CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** CGTG GAS TURBINE Hour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly										yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	✓	✓	✓	✓	✓	✓
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly										yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	✓	✓	✓	✓	✓	✓
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120							108	105	106	104	106	105	104	105	106	110	105	106	106	106	106	100	109	109
4	Instrument Temperature	TI-001	deg C		20	50							19	19	19	19	19	20	20	19	19	20	20	20	18	18	18	16	16	18
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	19.5	19.5	18.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120							108	107	98	100	103	105	101	108	110	110	103	105	109	109	110	110	110	109
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL							1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80							63	63	63	63	63	64	64	60	59	65	64	64	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50							35	35	35	35	35	37	37	35	35	37	34	35	35	35	35	35	35	35
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85							72	72	72	72	72	72	72	73	73	73	73	73	74	73	73	72	73	73
13	Combustible Gas Detector monitor		% LEL		0%	20%							0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No							yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	✓	✓	✓	✓	✓	✓
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No							yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	✓	✓	✓	✓	✓	✓
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0423		200	575																									
19	Turbine on line. (When BKR Closes)	0652				18.1 hours																								
20	Turbine off line. (When BKR Opens)																													
21	Time of No Gas Flow																													
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%							16%	16%	17%	17%	17%	17%	17	16	16	16	16	16	16	16	16	16	16	16
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%							0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly												yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	✓	✓	✓	✓	✓	✓
22	Power Management Page Generator Current	AS4A-01	Amps			1200							855	854	859	858	856	852	856	857	848	857	853	850	859	853	855	854	855	854
23	Power Management Page Mw Output		Mw			21							19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	20.0	19.9	18.9	19.9	20	20	20	20	20	20
24	Power Management Page 80 % Base Min Load												19.8	19.3	19.2	18.9	18.7	18.7	18.6	19.3	19.1	18.8	18.8	18.8	19.2	19.5	19.5	19.5	19.5	19.5
25	Running Hours/ Unit Overview Page												2846	2847	2848	2849	2849	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884
26	Ambient Temperature	T1											54.1	54.1	55.8	59	61.7	62.4	61.1	59.1	56	61.7	61.8	47.7	57	55	55	53	51	51
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%							58%	58%	58%	58%	59	57%	58	58	58%	58	58%	58%	58	58	58	58	58	58

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CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0530																												
Combustible Gas Detector	AAH-303	%		0%	20%							N/A												NA					
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK								B	B	D	B	B	B	B	B	B	B	B	B	✓	✓	✓	✓	✓	✓
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL							1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL							34	34	34	34	34	35	35	35	35	35	35	35	35	35	35	35	35	35
Lubricator Bulls eye		LEVEL	1/2	FULL								F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK								B	B	B	B	B	B	B	B	B	B	B	B	✓	✓	✓	✓	✓	✓
1st Stage Inlet Press.	PI-2100	psig		88	140							77	77	77	77	77	77	77	77	77	77	77	77	78	78	78	78	78	78
Stage Disch. Press	PI-2101	psig		238	285							238	238	238	238	239	239	239	239	239	239	240	239	240	240	240	239	240	240
2nd Stage Inlet Press	PI-2200	psig		267	285							235	235	235	235	236	236	235	235	236	236	237	237	237	237	236	236	236	237
2nd Stage Disch. Press	PI-2201	psig		575	600							578	578	578	578	578	578	578	578	578	578	578	578	579	579	579	580	579	579
Final Discharge Pressure	PI-2108	psig		575	600							574	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575	575
Lube Oil Pressure	PI-1572	psig	40	60								59	59	59	59	60	60	59	59	59	59	59	59	60	60	60	59	59	60
Lube Oil Temp	TE-1584	deg		150	170							167	167	165	164	163	163	164	165	167	165	164	167	164	164	164	166	167	167
Final Discharge Temp	TE-2120	deg		110	150							90	91	93	97	101	101	89	89	94	97	97	97	93	94	94	92	89	90
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297							234	235	235	237	237	237	235	231	233	235	238	238	232	232	236	236	237	237
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283							233	234	235	239	241	242	232	232	236	239	231	234	234	233	240	230	228	229
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297							232	233	233	234	234	234	228	229	231	232	232	231	230	226	227	227	225	226
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283							232	234	235	238	241	242	232	232	234	237	238	230	235	233	240	228	229	230
Motor Frame Vibration	VT-1015	IPS			0.15							.03	.03	.03	.03	.03	.03	.03	.03	.04	.04	.04	.04	.03	.03	.03	.03	.03	.03
Compresser Frame Vibration	VT-1512	IPS			0.35							.04	.04	.05	.04	.04	.04	.04	.04	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.	575 PSIG																												
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8						510	0	.03																
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20						21	0	.05																

DATE 10-03-2015

SIGNATURE Ramon Vigil

Mid Shift

Days Shift

Notes

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINEour Beginnning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly										Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y	Y	Y	Y		
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly										Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y	Y	Y	Y		
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120							106	110	106	102	104	102	104	108	105	103	105	109	110	108	110	108		
4	Instrument Temperature	TI-001	deg C		20	50							20	19	18	19	18	18	18	18	19	19	19	19	18	18	16	16		
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	18	18	18	18	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120							104	111	111	107	108	110	108	105	105	102	104	106	108	105	100	100		
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL							1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2		
9	Coolant Return Differential from GG	FI-001	In WC		60	80							63	62	63	63	63	63	63	64	61	61	61	61	61	61	61	61		
10	Coolant Return Differential from	FI-002	In WC		37	50							36	34	35	35	35	35	35	36	35	35	35	35	35	35	35	35		
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85							72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72		
13	Combustible Gas Detector monitor		% LEL		0%	20%							0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0	0	0	0		
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No							Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y	Y	Y	Y		
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No							Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y	Y	Y	Y		
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0619		200	575	16.1 hrs																								
19	Turbine on line. (When BKR Closes)	0653																												
20	Turbine off line. (When BKR Opens)																													
21	Time of No Gas Flow																													
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%							17%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17	17	17	17		
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%							0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0	0	0	0		
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly												Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y	Y	Y	Y		
22	Power Management Page Generator Current	A54A-01	Amps			1200							831	831	836	831	832	837	839	839	839	843	840	842	839	836	838	838		
23	Power Management Page Mw Output		Mw			21							19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	20	20	20	20		
24	Power Management Page 80 % Base Min Load												19.6	19.6	19.6	19.6	19.6	19.6	19.5	19.5	19.3	19.1	19.2	19.2	19.5	19.5	19.5	19.5		
25	Running Hours/ Unit Overview Page												2504	2506	2507	2508	2509	2510	2511	2512	2513	2514	2516	2515	2516	2517	2518	2519		
26	Ambient Temperature	T1											50.7	50.0	50.0	50.0	50.0	51	51	54	54	57.6	58.3	58	54	54	53	54		
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%							56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	55	55	55	55	55		

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%							V/R																	
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK								B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B		
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL							1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2		
Oil Day Tank Level	LI-1562	GAL	10		FULL							34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34		
Lubricator Bulls eye		LEVEL	1/2	FULL								F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F		
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK								B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B		
1st Stage Inlet Press.	PI-2100	psig		88	140							77	77	77	77	77	77	77	77	77	77	77	77	77	78	78	78		
Stage Disch. Press	PI-2101	psig		238	285							238	238	238	238	238	238	237	238	239	239	240	240	240	239	239	239		
2nd Stage Inlet Press	PI-2200	psig		267	285							234	234	235	235	235	235	235	235	236	236	236	236	235	236	236	235		
2nd Stage Disch. Press	PI-2201	psig		575	600							578	578	579	579	578	579	579	579	579	578	579	579	579	578	579	578		
Final Discharge Pressure	PI-2108	psig		575	600							575	575	575	575	575	575	575	575	575	575	575	574	574	575	575	575		
Lube Oil Pressure	PI-1572	psig	40	60								58	58	58	58	59	59	59	59	59	59	59	59	59	59	59	59		
Lube Oil Temp	TE-1584	deg		150	170							169	167	167	167	167	167	167	167	165	165	165	169	168	167	167	167		
Final Discharge Temp	TE-2120	deg		110	150							86	87	87	87	87	88	88	89	91	94	95	95	96	91	90	92		
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297							227	227	225	226	225	226	226	226	226	227	227	227	226	226	224	224		
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283							227	228	226	227	227	228	228	228	230	232	233	232	230	231	228	229		
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297							226	225	224	225	224	224	224	224	224	224	224	224	224	222	222	223		
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283							227	227	226	227	226	227	228	228	230	232	232	232	229	230	228	229		
Motor Frame Vibration	VT-1015	IPS			0.15							.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.04	.04	.04	.04	.04		
Compresser Frame Vibration	VT-1512	IPS			0.35							.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05		
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8							567.1																	
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20							558.4																	

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SIGNATURE [illegible]

Mid Shift

Days Shift

Notes

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CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

501163

Natural Gas Compressor OS30		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%							N/A																	
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK								B	B	B	B	B	B	B	B	B									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E									
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL							1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2									
Oil Day Tank Level	LI-1562	GAL	10		FULL							33	34	34	34	34	34	34	34	34									
Lubricator Bulls eye		LEVEL	1/2	FULL								F	F	F	F	F	F	F	F	F									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E									
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E									
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK								B	B	B	B	B	B	B	B	B									
1st Stage Inlet Press.	PI-2100	psig		88	140							77	77	77	77	77	77	77	77	77									
Stage Disch. Press	PI-2101	psig		238	285							237	238	238	238	239	239	240	240	240									
2nd Stage Inlet Press	PI-2200	psig		267	285							234	234	234	235	235	236	236	236	236									
2nd Stage Disch. Press	PI-2201	psig		575	600							578	578	578	578	579	578	579	578	578									
Final Discharge Pressure	PI-2108	psig		575	600							574	575	574	575	575	571	575	575	575									
Lube Oil Pressure	PI-1572	psig	40	60								59	58	58	58	59	59	59	59	59									
Lube Oil Temp	TE-1584	deg		150	170							168	168	168	167	167	165	164	164	164									
Final Discharge Temp	TE-2120	deg		110	150							85	86	86	88	93	97	99	102	99									
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297							223	223	223	224	225	227	228	227	231									
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283							224	225	225	227	230	234	236	236	239									
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297							221	221	222	222	223	224	225	225	229									
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283							224	224	225	227	230	234	236	237	239									
Motor Frame Vibration	VT-1015	IPS			0.15							.04	.04	.04	.04	.04	.04	.04	.04	.04									
Compresser Frame Vibration	VT-1512	IPS			0.35							.05	.05	.00	.04	.05	.05	.05	.05	.05									
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.												575																	
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8							558.5																	
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20							548.2																	

TRIP OFF LOT

DATE MONDAY OCT 0 5 2015	
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Mid Shift	
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Notes	

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CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** CGTG GAS TURBINE Hour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly										YES	YES	YES	YES	YES	YES	YES	YES	YES									
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly										YES	YES	YES	YES	YES	YES	YES	YES	YES									
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120							102	101	106	110	108	110	111	100	104									
4	Instrument Temperature	TI-001	deg C		20	50							18	18	18	18	18	19	20	20	20									
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	19.2	19.5	19.5	19.5	19.4	19.5	19.5	19.5	19.5	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120							110	101	105	110	106	102	106	108	110									
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL							1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2									
9	Coolant Return Differential from GG	FI-001	In WC		60	80							63	60	60	60	60	65	62	62	63									
10	Coolant Return Differential from	FI-002	In WC		37	50							35	34	34	35	35	35	36	36	37									
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85							72	72	72	72	72	72	72	72	72									
13	Combustible Gas Detector monitor		% LEL		0%	20%							0%	0%	0%	0%	0%	0%	0%	0%	0%									
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No							YES	YES	YES	YES	YES	YES	YES	YES	YES									
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No							YES	YES	YES	YES	YES	YES	YES	YES	YES									
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0620		200	575																			9 hours						
19	Turbine on line. (When BKR Closes)	0650																												
20	Turbine off line. (When BKR Opens)	1544																												
21	Time of No Gas Flow	1548																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%							17%	17%	17%	17%	17%	17%	17%	17%	17%									
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%							0%	0%	0%	0%	0%	0%	0%	0%	0%									
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20								~~759~~ N.V																	
21	Acknowledge Alarms hourly												YES	YES	YES	YES	YES	YES	YES	YES	YES									
22	Power Management Page Generator Current	A54A-01	Amps			1200							759	833	839	833	841	841	843	837	837									
23	Power Management Page Mw Output		Mw			21							19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9									
24	Power Management Page 80 % Base Min Load												19.7	19.7	19.7	19.6	19.4	18.9	18.7	18.6	18.7									
25	Running Hours/ Unit Overview Page												2522	2523	2524	2525	2526	2527	2528	2529	2530									
26	Ambient Temperature	T1											50	49.1	49.1	50.9	53.2	59.2	61.7	63.3	62.4									
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%							55%	55%	55%	55%	55%	54%	54%	53%	55%									

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINE Hour Beginnning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	1455		200	575			0.2	hours																					
19	Turbine on line. (When BKR Closes)	1505																												
20	Turbine off line. (When BKR Opens)	1525																												
21	Time of No Gas Flow	1533																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21															199									
24	Power Management Page 80 % Base Min Load																				197									
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE 10·06·2015 SIGNATURE [illegible]

FOR TEST 10 minutes

UI-LOG-033-R0
February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	1440																												
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 10-6-2015
SIGNATURE [illegible]
Mid Shift
Days Shift [illegible]

FOR TEST 10 MINUTES Run

Notes FOR TEST 10 MINUTES

UI-LOG-034-R0
February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINE Hour Beginnning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly										yes	yes	yes			yes												
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly										yes	yes	yes			yes												
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120							105	109	110			110												
4	Instrument Temperature	TI-001	deg C		20	50							18	19	18			20												
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	19.5	19.5	19.5	/	/	19.8		/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120							99	98	103			103												
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL							1/2	1/2	1/2			1/2												
9	Coolant Return Differential from GG	FI-001	In WC		60	80							60	60	60			63												
10	Coolant Return Differential from	FI-002	In WC		37	50							35	35	35			36												
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85							72	72	72			72												
13	Combustible Gas Detector monitor		% LEL		0%	20%							0%	0%	0%			0%												
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No							yes	yes	yes			yes												
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No							yes	yes	yes			yes												
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0622		200	575																									
19	Turbine on line. (When BKR Closes)	0657				6.1 hrs																								
20	Turbine off line. (When BKR Opens)	1204																												
21	Time of No Gas Flow	1313																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%							18%	18%	18%	18%		18%												
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%							0%	0%	0%	0%		0%												
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly												yes	yes	yes	yes		yes												
22	Power Management Page Generator Current	A54A-01	Amps			1200							840	839	852	854		854												
23	Power Management Page Mw Output		Mw			21							19.9	19.9	19.9	20.2		20.0												
24	Power Management Page 80 % Base Min Load												19.7	19.7	19.6	19.0		19.0												
25	Running Hours/ Unit Overview Page												2532	2533	2534			2534												
26	Ambient Temperature	T1											48.4	49.1	50.0			51.6												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%							58%	57%	57%			57%												

DATE 10-07-15 SIGNATURE Randy Kyzil

GCTC OFF TRIP.

UI-LOG-033-R0
February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE 503178

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0530																												
Combustible Gas Detector	AAH-303	%		0%	20%							N/A																	
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK								B	B	B			B												
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY							E	E	E			E												
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL							1/2	1/2	1/2			1/2												
Oil Day Tank Level	LI-1562	GAL	10		FULL							30	30	30			29												
Lubricator Bulls eye		LEVEL	1/2	FULL								F	F	F			F												
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY							E	E	E			E												
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY							E	E	E			E												
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK								B	B	B			B												
1st Stage Inlet Press.	PI-2100	psig		88	140							82	82	82			81												
Stage Disch. Press	PI-2101	psig		238	285							249	249	249			250												
2nd Stage Inlet Press	PI-2200	psig		267	285							245	245	246			246												
2nd Stage Disch. Press	PI-2201	psig		575	600							578	578	578			578												
Final Discharge Pressure	PI-2108	psig		575	600							575	574	575			575												
Lube Oil Pressure	PI-1572	psig	40	60								58	58	58			59												
Lube Oil Temp	TE-1584	deg		150	170							169	169	168			165												
Final Discharge Temp	TE-2120	deg		110	150							86	86	88			97												
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297							225	226	227			232												
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283							221	221	223			234												
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297							224	224	225			230												
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283							221	221	223			233												
Motor Frame Vibration	VT-1015	IPS			0.15							.03	.03	.03			.03												
Compresser Frame Vibration	VT-1512	IPS			0.35							.05	.05	.05			.05												
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.												575 PSIG																	
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8							571.0																	
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20							561.3																	

DATE 10-07-15

SIGNATURE Randy Vigil

Mid Shift

Days Shift ✓

Notes

SECURE CCTG AS PER PRALO CO VACA. ECTG TRIP OFF LINE

UI-LOG-034-R0
February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	1230																	/											
Combustible Gas Detector	AAH-303	%		0%	20%													/											
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK														B											
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY													E											
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL													1/2											
Oil Day Tank Level	LI-1562	GAL	10		FULL													30											
Lubricator Bulls eye		LEVEL	1/2	FULL														F											
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY													E											
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY													E											
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK														B											
1st Stage Inlet Press.	PI-2100	psig		88	140													85											
Stage Disch. Press	PI-2101	psig		238	285													256											
2nd Stage Inlet Press	PI-2200	psig		267	285													252											
2nd Stage Disch. Press	PI-2201	psig		575	600													576											
Final Discharge Pressure	PI-2108	psig		575	600													576											
Lube Oil Pressure	PI-1572	psig	40	60														64											
Lube Oil Temp	TE-1584	deg		150	170													149											
Final Discharge Temp	TE-2120	deg		110	150													82											
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297													229											
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283													223											
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297													227											
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283													[illegible]											
Motor Frame Vibration	VT-1015	IPS			0.15													.03											
Compresser Frame Vibration	VT-1512	IPS			0.35													.05											
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE OCT 8 - 2015

SIGNATURE

Mid Shift

Days Shift M Pol

Notes

UI-LOG-034-R0
February 9, 2015

CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** CGTG GAS TURBINE Hour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	1317		200	575				0.25 hours																					
19	Turbine on line. (When BKR Closes)	1333																												
20	Turbine off line. (When BKR Opens)	1348																												
21	Time of No Gas Flow	1354																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE 10-08-15 SIGNATURE [signature]

UI-LOG-033-R0
February 9, 2015

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME 0335	Diff PSI																				.5	.5	.5	.5		.5	.5		
Combustible Gas Detector	AAH-303	%		0%	20%								✓																
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK									B	B	B	B	B	B		B	B	B	B	B		B	B		
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY								E	E	E	E	E	E		E	E	E	E	E		E	E		
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL								1/2	1/2	1/2	1/2	1/2	1/2		1/2	1/2	1/2	1/2	1/2		1/2	1/2		
Oil Day Tank Level	LI-1562	GAL	10		FULL								30	30	30	30	30	30		29	29	29	29	28		28	28		
Lubricator Bulls eye		LEVEL	1/2	FULL									F	F	F	F	F	F		F	F	F	F	F		F	F		
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY								E	E	E	E	E	E		E	E	E	E	E		E	E		
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY								E	E	E	E	E	E		E	E	E	E	E		E	E		
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK									B	B	B	B	B	B		B	B	B	B	B		B	B		
1st Stage Inlet Press.	PI-2100	psig		88	140								82	82	82	82	82	82		82	82	82	82	82		82	82		
Stage Disch. Press	PI-2101	psig		238	285								249	249	249	249	250	251		251	251	252	252	252		251	251		
2nd Stage Inlet Press	PI-2200	psig		267	285								245	246	245	245	246	247		246	248	248	248	248		248	248		
2nd Stage Disch. Press	PI-2201	psig		575	600								578	578	578	578	579	579		579	579	579	579	579		579	579		
Final Discharge Pressure	PI-2108	psig		575	600								575	574	574	575	575	575		575	575	575	575	575		575	575		
Lube Oil Pressure	PI-1572	psig	40	60									59	58	59	59	59	60		60	60	60	60	59		59	59		
Lube Oil Temp	TE-1584	deg		150	170								169	169	166	167	166	165		164	163	163	162	164		164	167		
Final Discharge Temp	TE-2120	deg		110	150								85°	94	94	94	96	99		103	102	102	101	97		92	90		
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297								227	227	231	232	232	233		233	233	233	232	229		227	227		
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283								222	222	230	231	234	236		238	237	237	237	232		227	226		
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297								226	225	230	230	230	231		231	231	230	230	227		224	224		
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283								222	221	230	231	233	236		236	237	237	236	232		227	226		
Motor Frame Vibration	VT-1015	IPS			0.15								.03	.03	.03	.03	.03	.03		.03	.03	.03	.03	.03		.03	.03		
Compresser Frame Vibration	VT-1512	IPS			0.35								.05	.05	.05	.05	.05	.05		.05	.05	.05	.05	.05		.05	.05		
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.														575								575					575		
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8									570								570					571		
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20									561								561					561		

DATE 10-9-2015

SIGNATURE

Mid Shift

Days Shift MG Pair

Notes

504126 0900 GAS READING

UI-LOG-034-R0
February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINE Hour Beginnning — MST/MDT (circle one)

			Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	Instrument Air Compressor		Units	Low	Norm	Max																								
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly										✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly										✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120							108	107		105	107	110	101	109		102	106	104	106	113	113	110		
4	Instrument Temperature	TI-001	deg C		20	50							16	16		19	21	22	23	23		22	23	22	21	21	18	18		
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	19.0	19.0	/	19.0	19	19	19.0	19.0	/	19	19	19	19	19	19	19	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120							103	105		100	103	108	101			102	106	105	111	11	111	101		
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL							3/8	3/8		3/8	3/8	3/8	3/8			3/8	3/8	3/8	3/8	3/8	3/8	3/8		
9	Coolant Return Differential from GG	FI-001	In WC		60	80							60	60		60	60	60	60			60	61	61	63	63	63	63		
10	Coolant Return Differential from	FI-002	In WC		37	50							34	34		35	36	36	36			36	36	36	36		36	36		
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85							70	70		71	71	70	71			72	71	70	70	70	70	70		
13	Combustible Gas Detector monitor		% LEL		0%	20%							0	0		0	0	0	0			0	0	0	0	0	0	0		
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No							yes	✓		✓						✓			yes		yes	Y		
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No							yes	✓		✓									yes		Y	Y		
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0606	0900	200	575			16.25 hours																						
19	Turbine on line. (When BKR Closes)	0654	0912																											
20	Turbine off line. (When BKR Opens)																										2256			
21	Time of No Gas Flow																											2303		
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%							18	18		18	18	18	18	17		17	17	17	17		17	17		
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%							0	0		0	0	0	0	0		0	0	0	0		0	0		
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly												✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓		
22	Power Management Page Generator Current	A54A-01	Amps			1200							844	837		837	844	844	848	837		845	844	845	853		854	844		
23	Power Management Page Mw Output		Mw			21							20.0	20.1		20	20	20	20	20		20	20	20	20.2		20.3	20.3		
24	Power Management Page 80 % Base Min Load												19.7	19.8		19.2	19.2	18.7	18.6	18.6		18.5	18.6	18.6	18.9		19.2	19.4		
25	Running Hours/ Unit Overview Page												2538	2539		2540	2541	2542	2543	2544		2546	2547	2548	2549		2551	2552		
26	Ambient Temperature	T1											49	48		57	60	63	63	64		64	65	64	60		55	53		
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%							61	61		61	61	61	61	61		61	61		60		60	60		

DATE Oct 9, 2015 SIGNATURE M G Pa[illegible] J Pa[illegible] MIDSHIFT

Rev 10-9-15

UI-LOG-033-R
February 9, 201

CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** CGTG GAS TURBINE Hour Beginning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120							102	105	104	104	110	106	106	102	105	105	114	110	106		107	104		
4	Instrument Temperature	TI-001	deg C		20	50							17	18	18	20	21	22	24	25	25	24	25	24	21		21	21		
5	**Fin Fan Cooler**		**Units**	**Low**	**Norm**	**Max**																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	19	19	19	19	19	19	19	19	19	19	19.0	19.0	19		19	19	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120							111	105	104	106	101	102	110	104	102	106	109	101	106		104	111		
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL							3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8		3/8	3/8		
9	Coolant Return Differential from GG	FI-001	In WC		60	80							60	61	61	61	61	61	61	62	61	61	60	61	62		62	62		
10	Coolant Return Differential from	FI-002	In WC		37	50							34	35	35	35	35	35	34	35	36	36	37	37	37		36	36		
11	**Control Room**		**Units**	**Low**	**Norm**	**Max**																								
12	Room Temperature		deg F		72	85							70	69	71	71	70	71	72	70	71	70	72	72	70	70	70	70		
13	Combustible Gas Detector monitor		% LEL		0%	20%							0	0	0	0	0	0	0	0	0	0	0	0	0		0	0		
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No							Yes	✓	✓										Yes	Y	Y	Y		
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No							Yes	✓	✓										Yes	Y	Y	Y		
18	Time gas was first introduced Into the Turbine (Turbine Rolling)	0609		200	575																									
19	Turbine on line. (When BKR Closes)	0656						16.1 hours																						
20	Turbine off line. (When BKR Opens)																											2257		
21	Time of No Gas Flow																											2303		
22	**Entronic Control System**		**Units**	**Low**	**Norm**	**Max**																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%							18	18	18	18	18	17	17	17	17	17	17	17	17	17	17	17		
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
22	Power Management Page Generator Current	A54A-01	Amps			1200							843	844	846	845	853	862	858	857	859	867	862	857	860	852	853	848		
23	Power Management Page Mw Output		Mw			21							20	20	20	20	20	20	20	20	20	20	20	20	20	19.9	19.9	19.9		
24	Power Management Page 80 % Base Min Load												18.8	18.6	18.3	18.0	18.6	18.4	18.2	18.2	18.1	18.2	18.1	18.2	18.6	18.6	18.7	18.7		
25	Running Hours/ Unit Overview Page												2534	2555	2556	2557	2562	2564	2566	2568	2572	2573	2561	2565	2566	2567	2568	2569		
26	Ambient Temperature	T1											48	51	55	58	62	67	68	68	69	69	70	69	63	64	63	62		
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%							58	56	57	56	56	56	56	57	56	56	56	56	59		60	60		

DATE OCT. 10, 2015 SIGNATURE Ms. Parrish

UI-LOG-033-R0
February 8, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0530	DIFF.	Pressure									.5	.5	.5	.5	.5	.7	1.0	.5	.6	.8	1.1	.6	.3		.3	.3		
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK								B	B	B	B	B	B	B	B	B	B	B	B	B		B	B		
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E	E	E	E	E		E	E		
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL							1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2		1/2	1/2		
Oil Day Tank Level	LI-1562	GAL	10		FULL							27	27	27	27	27	27	27	27	27	27	27	27	27		27	26		
Lubricator Bulls eye		LEVEL	1/2	FULL								F	F	F	F	F	F	F	F	F	F	F	F	F		F	F		
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E	E	E	E	E		E	E		
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY							E	E	E	E	E	E	E	E	E	E	E	E	E		E	E		
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK								B	B	B	B	B	B	B	B	B	B	B	B	B		B	B		
1st Stage Inlet Press.	PI-2100	psig		88	140							83	83	83	82	82	82	82	82	82	82	82	82	82		82	82		
Stage Disch. Press	PI-2101	psig		238	285							250	250	251	251	251	252	252	252	252	252	252	252	252		253	253		
2nd Stage Inlet Press	PI-2200	psig		267	285							246	246	247	247	247	248	248	248	249	249	248	247	248		249	249		
2nd Stage Disch. Press	PI-2201	psig		575	600							574	574	574	574	574	574	574	574	574	574	574	579	578		578	579		
Final Discharge Pressure	PI-2108	psig		575	600							575	575	575	575	575	575	575	576	576	575	575	575	575		575	575		
Lube Oil Pressure	PI-1572	psig	40	60								58	59	59	59	59	60	60	60	60	60	60	60	59		60	60		
Lube Oil Temp	TE-1584	deg		150	170							170	168	166	166	165	165	165	165	164	164	163	162	164		163	164		
Final Discharge Temp	TE-2120	deg		110	150							85	90	93	96	99	103	107	105	108	108	107	107	99		101	100		
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297							219	219	223	224	226	227	228	228	229	229	227	233	228		227	226		
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283							217	220	222	226	229	233	236	232	235	237	236	236	232		231	230		
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297							217	220	221	222	224	232	226	226	226	226	226	225	227		225	224		
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283							216	218	222	226	229	233	236	236	237	237	236	236	232		231	230		
Motor Frame Vibration	VT-1015	IPS			0.15							.04	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03		.03	.03		
Compresser Frame Vibration	VT-1512	IPS			0.35							.05	.05	.05	.04	.04	.05	.05	.05	.04	.05	.04	.04	.05		.05	.05		
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.															576									574					
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8										571									570					
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20										563									561					

BULGES WITH PLANT IN BUSY

DATE	10-10-15
SIGNATURE	
Mid Shift	
Days Shift	MS Pauly

Notes

507415 0730 GAS PEAK U.G.

UI-LOG-034-R0
February 9, 2015

CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** CGTG GAS TURBINE Hour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013) hourly											✓	✓	✓	✓	✓	✓	✓											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007) hourly											✓	✓	✓	✓	✓	✓	✓											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120							106	101	109	108	110	105	104											
4	Instrument Temperature	TI-001	deg C		20	50							19	20	21	22	23	24	26											
5	**Fin Fan Cooler**		**Units**	**Low**	**Norm**	**Max**																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	19	19	19	19	19	19	19	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120							110	106	108	103	111	108	110											
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL							3/4	3/4	3/4	3/4	3/4	3/4	3/4											
9	Coolant Return Differential from GG	FI-001	In WC		60	80							61	61	61	61	61	61	61											
10	Coolant Return Differential from	FI-002	In WC		37	50							35	35	36	36	36	36	36											
11	**Control Room**		**Units**	**Low**	**Norm**	**Max**																								
12	Room Temperature		deg F		72	85							72	71	71	70	72	71	70											
13	Combustible Gas Detector monitor		% LEL		0%	20%							0	0	0	0	0	0	0											
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No							✓	✓	✓	✓														
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No							✓	✓	✓	✓														
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0613		200	575																		7.5 hours							
19	Turbine on line. (When BKR Closes)	0655																												
20	Turbine off line. (When BKR Opens)																													
21	Time of No Gas Flow																													
22	**Entronic Control System**		**Units**	**Low**	**Norm**	**Max**																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%							18	18	18	18	16	17	17											
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%							0	0	0	0	0	0	0											
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly												✓	✓	✓	✓	✓	✓	✓											
22	Power Management Page Generator Current	A54A-01	Amps			1200							849	846	846	845	650	848	844											
23	Power Management Page Mw Output		Mw			21							20	20	20	20	20	20	20											
24	Power Management Page 80 % Base Min Load												19.4	19.0	18.7	18.6	18.4	18.1	17.9											
25	Running Hours/ Unit Overview Page												2571	2572	2573	2574	2575	2576	2577	2578										
26	Ambient Temperature	T1											53	60	63	64	67	70	72											
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%							59	59	58	58	58	58	58											

UNIT TAKEN 1325

DATE 10-11-2015 SIGNATURE [illegible]

UI-LOG-033-R0
February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0535			Diff	Psi							.5	.5	.5	.5	1.2	1.2	1.2											
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK								B	B	B	B	B	B	B											
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY							E	E	E	E	E	E	E											
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL							1/2	1/2	1/2	1/2	1/2	1/2	1/2											
Oil Day Tank Level	LI-1562	GAL	10		FULL							26	26	26	26	26	26	26											
Lubricator Bulls eye		LEVEL	1/2	FULL								F	F	F	F	F	F	F											
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY							E	E	E	E	E	E	E											
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY							E	E	E	E	E	E	E											
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK								B	B	B	B	B	B	B											
1st Stage Inlet Press.	PI-2100	psig		88	140							83	82	82	82	82	82	82											
Stage Disch. Press	PI-2101	psig		238	285							251	251	251	252	252	252	252											
2nd Stage Inlet Press	PI-2200	psig		267	285							247	247	247	246	249	248	249											
2nd Stage Disch. Press	PI-2201	psig		575	600							578	578	579	579	579	579	579											
Final Discharge Pressure	PI-2108	psig		575	600							574	574	575	575	575	575	574											
Lube Oil Pressure	PI-1572	psig	40	60								59	59	60	60	60	60	60											
Lube Oil Temp	TE-1584	deg		150	170							167	166	164	164	165	165	165											
Final Discharge Temp	TE-2120	deg		110	150							93	99	102	103	105	107	110											
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297							221	223	225	225	226	228	230											
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283							222	226	229	231	233	235	235											
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297							220	222	224	224	225	227	228											
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283							222	223	228	231	233	235	237											
Motor Frame Vibration	VT-1015	IPS			0.15							.04	.03	.03	.03	.03	.03	.03											
Compresser Frame Vibration	VT-1512	IPS			0.35							.05	.05	.04	.04	.05	.05	.04											
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.														575															
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8									571															
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20									563															

DATE OCT. 11, 2015

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Mid Shift

Days Shift MG Porish

Notes

510737 Gas 0730

UI-LOG-034-R0
February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE

CGTG GAS TURBINE Hour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	1624		200	575																									
19	Turbine on line. (When BKR Closes)	1636				Estimate 0.2 hrs																								
20	Turbine off line. (When BKR Opens)	?																												
21	Time of No Gas Flow	?																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE 10-13-15 SIGNATURE GOMEZ

UI-LOG-033-R0
February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINEour Beginnning — (MST)/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0915		200	575			2.6 hours																						
19	Turbine on line. (When BKR Closes)	1147																												
20	Turbine off line. (When BKR Opens)	1205																												
21	Time of No Gas Flow	1211																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE 11-20-2015 SIGNATURE [illegible] GOMEZ GAS COMPRESSOR START AT 0847. CGTG RAN IDLE FOR 2 HOURS DUE TO PROBLEM WITH BREAKER 1959

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February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINEour Beginnning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly															✓	✓	✓	✓	✓								
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly															✓	✓	✓	✓	✓								
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120												108	101	104	102	103								
4	Instrument Temperature	TI-001	deg C		20	50												28	27	27	27	27								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	19	19	19	19	19	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120												99	101	105	110	106								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL												1/2	1/2	1/2	1/2	1/2								
9	Coolant Return Differential from GG	FI-001	In WC		60	80												62	62	62	62	62								
10	Coolant Return Differential from	FI-002	In WC		37	50												35	35	35	35	35								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85												70	73	74	73	76								
13	Combustible Gas Detector monitor		% LEL		0%	20%												0	0	0	0	0								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No												yes	✓	✓	✓									
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No												yes	✓	✓	✓									
18	Time gas was first introduced into the Turbine (Turbine Rolling)	////		200	575		5.0 hours																							
19	Turbine on line. (When BKR Closes)	1155																	•											
20	Turbine off line. (When BKR Opens)	1559																												
21	Time of No Gas Flow	1605																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%												29	29	29	29	29								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%												0	0	0	0	0								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																	✓	✓	✓	✓	✓								
22	Power Management Page Getting Reading Generator Current GEN. PROTECTION-OSLAGEN		Amps			1200												863	860	857	864	852								
23	Power Management Page Mw Output		Mw			21												20.1	20.1	20.1	20.1	19.8								
24	Power Management Page 80 % Base Min Load																	19.5	19.4	19.3	19.3	19.5								
25	Running Hours/ Unit Overview Page																	2583	2587	2595	2596	2597								
26	Ambient Temperature	T1																52.5	54.1	54.2	54.1	52.9								
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%												62	62	62	62	62								
DATE	NOV 25 2015	SIGNATURE																Ventilator Air Diff. Pressure	.4	.5	.5	.6								

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME 1045																													
Combustible Gas Detector	AAH-303	%		0%	20%																								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK												B	B	B	B	B									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY											E	E	E	E	E									
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL											½	½	½	½	½									
Oil Day Tank Level	LI-1562	GAL	10		FULL											55	58	59	55	59									
Lubricator Bulls eye		LEVEL	1/2	FULL												F	F	F	F	F									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY											E	E	E	E	E									
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY											E	E	E	E	E									
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK												B	B	B	B	B									
1st Stage Inlet Press.	PI-2100	psig		88	140											82	82	81	81	82									
Stage Disch. Press	PI-2101	psig		238	285											251	251	251	251	252									
2nd Stage Inlet Press	PI-2200	psig		267	285											247	242	242	247	249									
2nd Stage Disch. Press	PI-2201	psig		575	600											576	579	578	578	578									
Final Discharge Pressure	PI-2108	psig		575	600											575	575	576	575	575									
Lube Oil Pressure	PI-1572	psig	40	60												60	60	59	59	59									
Lube Oil Temp	TE-1584	deg		150	170											166	165	166	166	166									
Final Discharge Temp	TE-2120	deg		110	150											89	89	91	93	91									
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297											219	218	218	219	216									
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283											223	222	229	225	223									
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297											216	216	216	217	214									
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283											223	223	225	226	223									
Motor Frame Vibration	VT-1015	IPS			0.15											.04	.04	.04	.04	.04									
Compresser Frame Vibration	VT-1512	IPS			0.35											.05	.05	.05	.05	.05									
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																		525											
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8													521											
Fuel Gas Supply Pressure	A63FTGSY	50-49=psid			20													523											

DATE NOV 25 2015

SIGNATURE

Mid Shift

Days Shift M Pant

Notes SUPPLY LINE TO PT-1512 COMP. OIL PRS - LEAKING slightly at bushing.

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINE Hour Beginnning — MST/MDT (circle one)

DEC 01 2015

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	yes	yes	yes	yes	
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	yes	yes	yes	yes	
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120									104	104	102	105	105	105	105	104	105	105	106	105	106	105	104	
4	Instrument Temperature	TI-001	deg C		20	50									12	12	14	18	18	18	18	18	18	18	18	18	18	18	18	
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	18	18	18	18	18	18	18	18	18	18	19.5	19.5	19.5	19.5	19.5	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120									106	106	111	108	108	108	109	110	109	109	110	107	106	105	109	
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL									1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	
9	Coolant Return Differential from GG	FI-001	In WC		60	80									65	65	65	65	65	65	65	65	65	65	65	65	63	63	63	
10	Coolant Return Differential from	FI-002	In WC		37	50									35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85									66	68	69	70	70	70	70	70	70	70	70	70	70	70	70	
13	Combustible Gas Detector monitor		% LEL		0%	20%									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No									Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	yes	yes	yes	yes	yes	
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No									Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	yes	yes	yes	yes	yes	
18	Time gas was first introduced into the Turbine (Turbine Rolling)			200	575																									
19	Turbine on line. (When BKR Closes)	0755				16 hours																								
20	Turbine off line. (When BKR Opens)	2358																												
21	Time of No Gas Flow	00:02																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%									30	30	30	30	30	30	30	30	30	30	29	29	29	29	29	
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly														✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	yes	yes	yes	yes	yes	
22	Power Management Page Generator Current	A54A-01	Amps			1200									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23	Power Management Page Mw Output		Mw			21									20	20	20	20	20	20	20	20	20	20	20	20.1	20.1	20.1	20.1	
24	Power Management Page 80 % Base Min Load														21.0	21.0	21.0	20.4	20.6	20.6	20.6	20.8	21.0	21.0	20.9	21.23	21.3	21.3	21.5	
25	Running Hours/ Unit Overview Page														2591	2592	2593	2594	2595	2596	2596	2597	2598	2599	2600	2601	2602	2603	2604	
26	Ambient Temperature	T1													27.3	27.2	32.4	38	38	38	39	37	34	39	34.2	34.7	34.1	34.1	27.3	
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%									62	62	62	62	62	62	62	62	62	62	63	63	63	63	61	

DATE 12-01-2015 SIGNATURE

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE DEC 0 1 2015

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0534																												
Combustible Gas Detector	AAH-303	%		0%	20%									NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/A	N/A	N/A	N/A	N/A	
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	B	B	B	D	B	
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL									1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	
Oil Day Tank Level	LI-1562	GAL	10		FULL									F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
Lubricator Bulls eye		LEVEL	1/2	FULL										1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	B	B	B	B	B	
1st Stage Inlet Press.	PI-2100	psig		88	140									82	82	82	82	82	82	82	82	82	82	82	81	82	82	82	
Stage Disch. Press	PI-2101	psig		238	285									249	250	249	250	251	250	251	250	251	251	250	250	250	250	250	
2nd Stage Inlet Press	PI-2200	psig		267	285									245	245	245	246	247	248	247	247	248	248	248	247	247	247	246	
2nd Stage Disch. Press	PI-2201	psig		575	600									578	577	579	578	579	577	579	577	579	578	578	577	578	578	578	
Final Discharge Pressure	PI-2108	psig		575	600									575	575	575	575	575	575	575	575	575	575	575	575	574	574	574	
Lube Oil Pressure	PI-1572	psig	40	60										58	58	58	58	58	58	58	58	58	58	58	58	57.4	57.4	57	
Lube Oil Temp	TE-1584	deg		150	170									170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	
Final Discharge Temp	TE-2120	deg		110	150									71	70	71	74	75	75	74	74	75	74	74	74	70.5	70	69	
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297									206	206	206	207	207	207	205	207	205	205	203	206	204	204	203	
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283									205	205	206	208	208	208	208	208	208	208	208	207	202	205	201	
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297									204	204	204	205	205	205	204	204	205	204	204	204	202	202	201	
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283									204	204	206	208	209	208	207	207	209	208	208	202	202	202	202	
Motor Frame Vibration	VT-1015	IPS			0.15									.04	.04	.04	.04	.04	.04	.03	.03	.03	.04	.04	.04	.04	.04	.04	
Compresser Frame Vibration	VT-1512	IPS			0.35									.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.														285															
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 12-01-2015
SIGNATURE [signature]
Mid Shift ✓
Days Shift ~~[illegible]~~

Notes

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CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** — CGTG GAS TURBINE Hour Beginnning (MST/MDT (circle one))

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120									105	105	105	104	104	104	104	105	104	104	105		105	104	108	
4	Instrument Temperature	TI-001	deg C		20	50									16	18	18	18	20	18	18	20	20	20	20		15	18	16	
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	18	18	18	18	18	18	18	18	18	18	18	/	18	18	18	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120									107	102	101	101	102	107	106	105	105	101	100		105	104	101	
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL									1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2		1/2	1/2	1/2	
9	Coolant Return Differential from GG	FI-001	In WC		60	80									60	60	60	60	60	60	60	60	60	60	60		63	63	63	
10	Coolant Return Differential from	FI-002	In WC		37	50									35	35	35	35	35	35	35	35	35	35	35		37	37	37	
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85									67	68	70	70	72	73	73	73	73	73	73		73	73	73	
13	Combustible Gas Detector monitor		% LEL		0%	20%									0	0	0	0	0	0	0	0	0	0	0		0	0	0	
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No									Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No									Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0657		200	575																									
19	Turbine on line. (When BKR Closes)	0754				16 hours																								
20	Turbine off line. (When BKR Opens)	2309																												
21	Time of No Gas Flow	2345																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%									30	30	30	30	30	30	30	30	30	30	30		29	29	29	
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%									0	0	0	0	0	0	0	0	0	0	0		0	0	0	
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly														✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
22	Power Management Page Generator Current	A54A-01	Amps			1200									0	0	0	0	0	0	0	0	0	0	0		850	860	850	
23	Power Management Page Mw Output		Mw			21									20.1	20.1	20.0	20.0	20.1	20.1	20.1	20.1	20.1	20.1	20.1		20.1	20.1	20.1	
24	Power Management Page 80 % Base Min Load														20.93	20.77	20.54	20.55	20.55	20.11	20.11	20.17	20.16	20.04	21.01		21.09	21.12	21.13	
25	Running Hours/ Unit Overview Page	2606	7621																											
26	Ambient Temperature	T1													56.2	56.7	57.2	60.1	60.3	61.1	61.1	61.1	56.8	56.2	61.1		33.3	31	30	
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%									62	62	62	62	62	62	62	62	62	62	62		62	62	62	

DATE 12-2-12 SIGNATURE [signature] 2000: SHIFT TURNOVER

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CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%									NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		005	005	005	
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E	E		E	E	E	
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL									1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2		1/2	1/2	1/2	
Oil Day Tank Level	LI-1562	GAL	10		FULL									F	F	F	F	F	F	F	F	F	F	F		F	F	F	
Lubricator Bulls eye		LEVEL	1/2	FULL										1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2		F	F	F	
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E	E		E	E	E	
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E	E		E	E	E	
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
1st Stage Inlet Press.	PI-2100	psig		88	140									82	82	82	82	82	82	82	82	82	82	82		82	82	82	
Stage Disch. Press	PI-2101	psig		238	285									249	249	251	250	251	252	251	252	252	251	252		252	252	252	
2nd Stage Inlet Press	PI-2200	psig		267	285									245	246	247	248	248	248	248	249	250	250	251		248	249	248	
2nd Stage Disch. Press	PI-2201	psig		575	600									579	579	578	578	579	579	578	579	578	579	578		578	578	579	
Final Discharge Pressure	PI-2108	psig		575	600									575	575	575	575	575	575	575	575	575	575	575		575	575	575	
Lube Oil Pressure	PI-1572	psig	40	60										58	58	58	58	58	58	58	58	58	58	58		58	58	58	
Lube Oil Temp	TE-1584	deg		150	170									170	171	170	170	169	169	169	170	170	170	170		170	170	170	
Final Discharge Temp	TE-2120	deg		110	150									71	73	77	77	79	80	80	79	80	80	86		70	79	78	
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297									206	206	207	207	207	206	206	204	206	207	206		200	200	200	
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283									203	205	208	208	210	211	210	209	209	210	210		201	201	201	
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297									204	204	205	205	205	203	205	203	205	205	204		199	200	200	
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283									204	206	208	208	210	211	211	209	209	209	210		201	200	200	
Motor Frame Vibration	VT-1015	IPS			0.15									.03	.04	.03	.03	.04	.04	.04	.04	.04	.04	.04		.04	.04	.05	
Compresser Frame Vibration	VT-1512	IPS			0.35									.05	.05	.05	.05	.05	.05	.05	.06	.06	.06	.06		.05	.05	.06	
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																					575			
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																					571			
																										563			

DATE DEC 0 2 2015

SIGNATURE

Mid Shift 2000: SHIFT TURNOVER

Days Shift

Notes

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINE Hour Beginnning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly												✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly												✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120									108	105	105	105	106	108		110	108	110	108	107	101	106	105	101
4	Instrument Temperature	TI-001	deg C		20	50									18	18	18	19	18	20		24	22	22	22	22	20	20	19	19
5	Fin Fan Cooler		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
7	Coolant PLC Temperature	TI-002	deg F	100	110	120									108	111	112	101	100	111	103	103	102	101	104	110	106	112	107	106
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL									1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
9	Coolant Return Differential from GG	FI-001	In WC		60	80									60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
10	Coolant Return Differential from	FI-002	In WC		37	50									35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	34
11	Control Room		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85									67	69	69	72	72	77		74	72	72	71	72	74	73	74	72
13	Combustible Gas Detector monitor		% LEL		0%	20%									0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
15	WECC Log		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No									Y	Y	Y	Y	Y	Y		Y	Y	Y	✓	✓	✓	✓	✓	✓
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No									Y	Y	Y	Y	Y	Y		Y	Y	Y	✓	✓	Y	✓	✓	✓
18	Time gas was first introduced into the Turbine (Turbine Rolling)		0725	200	575		16 hours																							
19	Turbine on line. (When BKR Closes)		0800																											
20	Turbine off line. (When BKR Opens)		0115																											
21	Time of No Gas Flow		0121																											
22	Entronic Control System		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%									30	30	30	30	30	30		30	30	30	30	30	29	29	29	29
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%									0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly														✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
22	Power Management Page Generator Current	A54A-01	Amps			1200									0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
23	Power Management Page Mw Output		Mw			21									20.1	21.0	21.0	21.1	21.0	21.1		21.1	21.0	21.1	21.1	21.1	21.1	21.1	21.1	21.1
24	Power Management Page 80 % Base Min Load														20.8	20.8	20.8	19.7	19.8	19.7		19.8	20.0	20.8	20.9	20.3	20.4	20.6	20.6	20.7
25	Running Hours/ Unit Overview Page	2621.15																							2632	2633	2634	2635	2636	2637
26	Ambient Temperature	T1													36	37	38	40	41	40	X	46	41	41	41	41	40	39	38	37
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%									62	62	62	62	62	62		62	62	62	62	63	63	63	63	63
DATE	DEC 0 3 2015	SIGNATURE																												

524055

PUT RO #1 IN SERVICE

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE

DEC 0 3 2015

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%									NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL									1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Oil Day Tank Level	LI-1562	GAL	10		FULL									F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
Lubricator Bulls eye		LEVEL	1/2	FULL										1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY									E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK										✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1st Stage Inlet Press.	PI-2100	psig		88	140									82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
Stage Disch. Press	PI-2101	psig		238	285									250	250	250	252	251	253	252	251	252	251	251	251	252	252	252	252
2nd Stage Inlet Press	PI-2200	psig		267	285									246	246	246	249	248	249	249	248	249	248	248	248	249	249	249	249
2nd Stage Disch. Press	PI-2201	psig		575	600									579	579	579	579	579	579	579	579	579	579	579	579	579	579	579	578
Final Discharge Pressure	PI-2108	psig		575	600									575	575	575	575	575	575	574	575	575	575	575	575	575	575	575	575
Lube Oil Pressure	PI-1572	psig	40	60										58	58	58	58	58	59	58	58	58	58	58	57	58	58	58	58
Lube Oil Temp	TE-1584	deg		150	170									170	170	169	169	170	168	170	170	169	170	169	171	171	170	169	169
Final Discharge Temp	TE-2120	deg		110	150									71	75	75	85	85	86	82	82	82	84	83	80	77	78	74	72
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297									205	206	208	210	210	210	208	208	210	210	209	202	206	206	205	202
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283									203	206	206	216	215	217	214	214	216	216	215	210	209	208	204	204
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297									203	204	203	207	205	207	206	206	205	205	207	204	207	204	203	202
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283									203	207	205	216	208	219	214	216	215	216	213	211	209	209	206	203
Motor Frame Vibration	VT-1015	IPS			0.15									.03	.04	.04	.04	.04	.03	.03	.03	.04	.04	.03	.04	.04	.04	.04	.04
Compresser Frame Vibration	VT-1512	IPS			0.35									.04	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.06
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																								575					
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																			571					
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																			561					

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SIGNATURE

Mid Shift

Days Shift

Notes

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINE Hour Beginnning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	SEE 12/3/15		200	575																									
19	Turbine on line. (When BKR Closes)	SEE 12/3/15				1.25 hrs																								
20	Turbine off line. (When BKR Opens)	0115																												
21	Time of No Gas Flow	0121																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE 12-4-15 SIGNATURE [illegible]

UI-LOG-033-R0
February 9, 2015

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINE Hour Beginnning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly												✓	✓	✓	✓												
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly												✓	✓	✓	✓												
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120									104	104	105	105												
4	Instrument Temperature	TI-001	deg C		20	50									23	24	25	25												
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	18	18	18	18	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120									107	103	101	102												
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL									2/3	2/3	2/3	2/3												
9	Coolant Return Differential from GG	FI-001	In WC		60	80									60	60	60	60												
10	Coolant Return Differential from	FI-002	In WC		37	50									35	35	36	36												
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85									70	70	72	72												
13	Combustible Gas Detector monitor		% LEL		0%	20%									0	0	0	0												
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No									Y	Y	Y	Y												
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No									0	0	0	0												
18	Time gas was first Introduced into the Turbine (Turbine Rolling)	0722		200	575				4.3 hours																					
19	Turbine on line. (When BKR Closes)	0757																												
20	Turbine off line. (When BKR Opens)	1216 - TRIP																												
21	Time of No Gas Flow	1216																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%									29	29	29	29												
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%									0	0	0	0												
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly														✓	✓	✓	✓												
22	Power Management Page Generator Current	A54A-01	Amps			1200									0	0	0	0												
23	Power Management Page Mw Output		Mw			21									20.1	20.3	24.1	29.1												
24	Power Management Page 80 % Base Min Load														19.66	19.6	19.47	19.52												
25	Running Hours/ Unit Overview Page	2659.01																												
26	Ambient Temperature	T1													50	50	52	53												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%									64	64	64	64												

DATE 12-10-15 SIGNATURE WILLIAMS

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME	0708																												
Combustible Gas Detector	AAH-303	%		0%	20%									NA	NA	NA	NA	NA	NA	NA	NA								
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK										✓	✓	✓	✓												
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY									E	E	E	E												
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL									½	½	½	½												
Oil Day Tank Level	LI-1562	GAL	10		FULL									F	F	F	F												
Lubricator Bulls eye		LEVEL	1/2	FULL										½	½	½	½												
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY									E	E	E	E												
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY									E	E	E	E												
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK										✓	✓	✓	✓												
1st Stage Inlet Press.	PI-2100	psig		88	140									85	82	81	82												
Stage Disch. Press	PI-2101	psig		238	285									252	251	252	256												
2nd Stage Inlet Press	PI-2200	psig		267	285									269	267	268	266												
2nd Stage Disch. Press	PI-2201	psig		575	600									579	579	579	579												
Final Discharge Pressure	PI-2108	psig		575	600									575	575	575	575												
Lube Oil Pressure	PI-1572	psig	40	60										59	59	59	59												
Lube Oil Temp	TE-1584	deg		150	170									169	168	167	168												
Final Discharge Temp	TE-2120	deg		110	150									87	89	90	90												
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297									214	213	213	213												
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283									218	222	222	221												
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297									212	211	210	211												
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283									219	222	222	222												
Motor Frame Vibration	VT-1015	IPS			0.15									.04	.04	.04	.04												
Compresser Frame Vibration	VT-1512	IPS			0.35									.05	.05	.05	.05												
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 12-10-15
SIGNATURE WILLIAMS
Mid Shift
Days Shift

Notes OFF @ 1225 - TURBINE TRIP

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CGTG TURBINE **UTILITIES AND INFRASTRUCTURE** **CGTG GAS TURBINE** Hour Beginnning MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																					
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																					
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																		
4	Instrument Temperature	TI-001	deg C		20	50																		
5	**Fin Fan Cooler**		Units	Low	Norm	Max																		
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																		
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																		
9	Coolant Return Differential from GG	FI-001	In WC		60	80																		
10	Coolant Return Differential from	FI-002	In WC		37	50																		
11	**Control Room**		Units	Low	Norm	Max																		
12	Room Temperature		deg F		72	85																		
13	Combustible Gas Detector monitor		% LEL		0%	20%																		
15	**WECC Log**		operational			Not operational																		
16	Operation of the PSS/on at 6.3MW		Yes			No																		
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																		
18	Time gas was first introduced into the Turbine (Turbine Rolling)	1516		200	575		0.3 hrs																	
19	Turbine on line. (When BKR Closes)																							
20	Turbine off line. (When BKR Opens)																							
21	Time of No Gas Flow	1541																						
22	**Entronic Control System**		Units	Low	Norm	Max																		
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																		
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																		
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																			
21	Acknowledge Alarms hourly																							
22	Power Management Page Generator Current	A54A-01	Amps			1200																		
23	Power Management Page Mw Output		Mw			21																		
24	Power Management Page 80 % Base Min Load																							
25	Running Hours/ Unit Overview Page																							
26	Ambient Temperature	T1																						
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																		

DATE 12-14-2015 SIGNATURE WILLIAMS

CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINEour Beginnning — (MST) MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0924		200	575				1.0 hr																					
19	Turbine on line. (When BKR Closes)	0957																												
20	Turbine off line. (When BKR Opens)	1103																												
21	Time of No Gas Flow	1109																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21										25														
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE 12-15-2015 SIGNATURE WILLIAMS

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CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINEour Beginnning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly												✓	✓	✓													
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly												✓	✓	✓													
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120									112	106	106													
4	Instrument Temperature	TI-001	deg C		20	50									14	14	14													
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	19/4	19/0	19/0	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120									69	110	99													
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL									½	½	½													
9	Coolant Return Differential from GG	FI-001	In WC		60	80									58	61	61													
10	Coolant Return Differential from	FI-002	In WC		37	50									33	35	35													
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85									66	65	65													
13	Combustible Gas Detector monitor		% LEL		0%	20%									0%	0%	0%													
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No									Yes	Yes	Yes													
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)			200	575								07:32								3.1	hrs								
19	Turbine on line. (When BKR Closes)													08:55																
20	Turbine off line. (When BKR Opens)																	11:59												
21	Time of No Gas Flow																	11:59												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%									30%	30	30%													
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%									0%	0%	0%													
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20												✓													
21	Acknowledge Alarms hourly														✓	✓														
22	Power Management Page Generator Current	A54A-01	Amps			1200									1063	1072	1065													
23	Power Management Page Mw Output		Mw			21									25	2.52	2.51													
24	Power Management Page 80 % Base Min Load														2.67	2.66	2.6													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1													22°	27°	27°													
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%									64%	63	63%													

DATE 12-17-2015 SIGNATURE Paul A Martinez

UI-LOG-033-R0
February 9, 2015

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME											06:57																		
Combustible Gas Detector	AAH-303	%		0%	20%									Ø															
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK										B	B	B													
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY									E	E	E													
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL									1/2	1/2	1/2													
Oil Day Tank Level	LI-1562	GAL	10		FULL									49	49	49													
Lubricator Bulls eye		LEVEL	1/2	FULL										F	F	F													
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY									E	E	E													
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY									E	E	E													
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK										B	B	B													
1st Stage Inlet Press.	PI-2100	psig		88	140									81	81	81													
Stage Disch. Press	PI-2101	psig		238	285									247	247	247													
2nd Stage Inlet Press	PI-2200	psig		267	285									243	243	249													
2nd Stage Disch. Press	PI-2201	psig		575	600									578	578	578													
Final Discharge Pressure	PI-2108	psig		575	600									574	574	578													
Lube Oil Pressure	PI-1572	psig	40	60										56	57	57													
Lube Oil Temp	TE-1584	deg		150	170									171	169	170													
Final Discharge Temp	TE-2120	deg		110	150									70	70	70													
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297									203	208	203													
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283									205	205	205													
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297									202	202	201													
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283									204	204	205													
Motor Frame Vibration	VT-1015	IPS			0.15									.03	.03	.03													
Compresser Frame Vibration	VT-1512	IPS			0.35									.05	.05	.05													
Take Once per Shift / at Full Load		psig		Max psid	When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																								
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 12-17-2015

SIGNATURE Paul A. Montoya

Mid Shift

Days Shift

Notes 12:57 - Unit trip

UI-LOG-034-R0
February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINEour Beginnning — MST/MDT (circle one) — 12-21-15

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	in WC		60	80																								
10	Coolant Return Differential from	FI-002	in WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	1517		200	575		0.2	hrs																						
19	Turbine on line. (When BKR Closes)	TEST RUN																												
20	Turbine off line. (When BKR Opens)	1528																												
21	Time of No Gas Flow	1535																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page	2660.40																												
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE 12-21-15 SIGNATURE [illegible]

UI-LOG-033-R0
February 9, 2015

CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINE Hour Beginnning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)			200	575									09:02				1.0 hr												
19	Turbine on line. (When BKR Closes)													09:59																
20	Turbine off line. (When BKR Opens)													14:05																
21	Time of No Gas Flow													14:12																
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE 12-22-2015 SIGNATURE Paul A. Montoya

UI-LOG-033-R0
February 9, 2015

CGTG TURBINE

UTILITIES AND INFRASTRUCTURE

Natural Gas Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
GAS COMPRESSOR START TIME																													
Combustible Gas Detector	AAH-303	%		0%	20%								08:56																
Packing Lube Oil Flow Indicator Left Side	FSL-1501B	LIGHT		BLINK																									
Liquid Level Coalescing	LI-7721	LIQID		EMPTY	ANY																								
Crankcase Bulls eye	LC-1574	LEVEL	1/4	1/2	FULL																								
Oil Day Tank Level	LI-1562	GAL	10		FULL																								
Lubricator Bulls eye		LEVEL	1/2	FULL																									
1st Stage Scrubber Liquid Level	LI-7416	LIQID		EMPTY	ANY																								
2nd Stage Scrubber Liquid Level	LI-7466	LIQID		EMPTY	ANY																								
Packing Lube Oil Flow Indicator Right Side	FSL-1501A	LIGHT		BLINK																									
1st Stage Inlet Press.	PI-2100	psig		88	140																								
Stage Disch. Press	PI-2101	psig		238	285																								
2nd Stage Inlet Press	PI-2200	psig		267	285																								
2nd Stage Disch. Press	PI-2201	psig		575	600																								
Final Discharge Pressure	PI-2108	psig		575	600																								
Lube Oil Pressure	PI-1572	psig	40	60																									
Lube Oil Temp	TE-1584	deg		150	170																								
Final Discharge Temp	TE-2120	deg		110	150																								
1st Stage Cylinder Disch. Temperature A	TE-2054 A	deg		226	297																								
2nd Stage Cylinder Disch. Temperature A	TE-2062 A	deg		258	283																								
1st Stage Cylinder Disch. Temperature B	TE-2054 B	deg		226	297																								
2nd Stage Cylinder Disch. Temperature B	TE-2062 B	deg		258	283																								
Motor Frame Vibration	VT-1015	IPS			0.15																								
Compresser Frame Vibration	VT-1512	IPS			0.35																								
Take Once per Shift / at Full Load		psig		Max psid		When the differential pressure exceeds Max psid the filter should be changed out. Notify System Engineer																							
Natural Gas Comp.Discharge Press.																													
Double Block and Bleed Pressure	A63FGDT	49-48=psid			8																								
Fuel Gas Supply Pressure	A63FTGST	50-49=psid			20																								

DATE 12.22-2015

SIGNATURE Paul A. Martinez

Mid Shift

Days Shift

Notes Unit Start up for unit reliability, Testing.

UI-LOG-034-R0
February 9, 2015

12-23-15

CGTG TURBINE UTILITIES AND INFRASTRUCTURE — CGTG GAS TURBINE Hour Beginning — MST/MDT (circle one)

	Instrument Air Compressor		Units	Low	Norm	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	NOTE Blowdown Dry Receiver Tank	(BVT-013)	hourly																											
2	NOTE Blowdown Wet Receiver Tank	(BVT-007)	hourly																											
3	Wet Reciever Air Pressure	PI-002	psig	90	105	120																								
4	Instrument Temperature	TI-001	deg C		20	50																								
5	**Fin Fan Cooler**		Units	Low	Norm	Max																								
6	Coolant Pressure	PI-250	psig		25		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	Coolant PLC Temperature	TI-002	deg F	100	110	120																								
8	Sight glass Level Expansion Tank	LI-001	LEVEL	1/3	2/3	FULL																								
9	Coolant Return Differential from GG	FI-001	In WC		60	80																								
10	Coolant Return Differential from	FI-002	In WC		37	50																								
11	**Control Room**		Units	Low	Norm	Max																								
12	Room Temperature		deg F		72	85																								
13	Combustible Gas Detector monitor		% LEL		0%	20%																								
15	**WECC Log**		operational			Not operational																								
16	Operation of the PSS/on at 6.3MW		Yes			No																								
17	Operation of the AVR Voltage Mode @13.6 KV		Yes			No																								
18	Time gas was first introduced into the Turbine (Turbine Rolling)	0722		200	575				0.2 hrs																					
19	Turbine on line. (When BKR Closes)																													
20	Turbine off line. (When BKR Opens)																													
21	Time of No Gas Flow	0732 - TURBINE TRIP - GG BEARING AIR PRESSURE HI SD.																												
22	**Entronic Control System**		Units	Low	Norm	Max																								
18	Air Diagram 2000 gal Oily Water Tank Level	LI-231	%			70%																								
19	Air Diagram Page 10 gal Gas TG Drain Tank	LI-230	%			70%																								
20	Air Diagram Page/Record on hard S/D trip over 4500 rpm NL Compressor (on line trip)	A63GGD 5T-01	psig	35	20																									
21	Acknowledge Alarms hourly																													
22	Power Management Page Generator Current	A54A-01	Amps			1200																								
23	Power Management Page Mw Output		Mw			21																								
24	Power Management Page 80 % Base Min Load																													
25	Running Hours/ Unit Overview Page																													
26	Ambient Temperature	T1																												
27	Gas Fuel System/Waste Oil Tank	LI-120	%			70%																								

DATE 12-23-15 SIGNATURE [illegible]

UI-LOG-033-R0
February 9, 2015

ATTACHMENT A1307.E.

TA-03 Power Plant

FGR Fan Inspection and Maintenance Records

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Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 VID/VFD/FGR FILTERS

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 VID/VFD/FGR FILTERS
Written To: TA03-0022 VARIABLE FREQUENCY DRIVES VID/
Task Dspln: Due Date: 07/31/2015

7/16-7/17

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00520041 01

MASTER

Date: 04/20/2015
Page: 1

Work Order Task Written To

Facility : F08 **Unit : 030022** **Op Sys :**
Room : **Area :** **Sys/Cls:**
Equipment : **Component:**
Location :
Job Type : PM
Tag 1 : Tag 2 :
Work Item : SM22VID Ops Review Reqd:

Authorization

Start Permission : Start Date: 5-2015
Complete Notice : Complete Date: 7-15-15

NOTE:

*** Refer to attached Form 2101 - Non-Tenant Activity Form - or Form 2102- Tenant Activity Form - for a description of site specific training or escort and access requirements.**

Work Order Task Instructions

CRAFT: UICS ELECTRICIANS
.
FURTHER INSTRUCTIONS/DETAILS
LOTO OF EACH UNIT TO CLEAN INTERNALLY THE INSIDE OF EACH VFD PANEL.
TASK IS TO BE DONE THE USE OF COMPRESSED AIR AND A VACUUM CLEANER. REMOVE ALL DUST AND DEBRIS FROM THE ENCLOSURES.
.
.
.

QC Requirements/Comments

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 VID/VFD/FGR FILTERS

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 VID/VFD/FGR FILTERS
Written To: TA03-0022 VARIABLE FREQUENCY DRIVES VID/
Task Dspln: Due Date: 07/31/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00520041 01

MASTER

Date: 04/20/2015
Page: 3

SCH SCHEDULING
Date: Hours: Crew: Shift:
T TRAVEL
Date: Hours: Crew: Shift:
W WEATHER
Date: Hours: Crew: Shift:
Comments:

Major Failure/Action Taken

Major Failure : Action Taken :
Deficiency Tag Loc: Removed (Y/N):
Deficiency Tag No.: Limited Cond Operation:

Work Completion Signatures

Name	Function/Dept.	Date
[illegible]	UCS Elec.	7-15-15

Comments: None
(rework?) No

Equipment List Exceptions

Equip List	Rev	Equip List Description
SM22VID	000	TA03-0022 VARIABLE FREQUENCY DRIVES VID/VFD/FGR

Fac	Unit	Op Sys	Division	Area	System	Class
F08	030022	BL1	B1BSWT		U	ML4

Equipment: FAN FGR-001

Name : FAN, FLUE GAS RECIRCULATING
Equip Tag:
Loc Desc : 03-0022
Exception Reason:

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 VID/VFD/FGR FILTERS

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 VID/VFD/FGR FILTERS
Written To: TA03-0022 VARIABLE FREQUENCY DRIVES VID/
Task Dspln: Due Date: 07/31/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00520041 01

MASTER

Date: 04/20/2015
Page: 5

Fac	Unit	Op Sys	Division	Area	System	Class
F08	030022	BL3	B3BSNO		U	ML4

Equipment: FAN FGR-003
Name : FLUE GAS RECIRCULATING FAN
Equip Tag:
Loc Desc : 03-0022
Exception Reason:

Fac	Unit	Op Sys	Division	Area	System	Class
F08	030022	BL3	B3MNSO		U	ML4

Equipment: FAN VID-003
Name : VARIABLE FREQUENCY DRIVE
Equip Tag:
Loc Desc : 03-0022 ID FAN #3
Exception Reason:

***** E N D O F R E P O R T *****

Cost Center: P2030A Activity : 640CL000 User Def:
Percentage : 100.000 Acct No : XU5000 7E2P0000

LOTO HOLD POINT INSERT

WO #: 520041-01

1. Which of the following critical life safety steps requires the hold point? (Check all that apply)

Course of action: Review task scope, sequence, location, and individuals involved.

- ☐ Fall Protection
- ☐ Crane or lifting device operation
- ☐ Excavation and trenching or Class 2 Penetrations
- ☐ Permitted Confined Space
- ☐ Aerial Lift/Scaffold
- ☒ Lock Out Tag Out
- ☐ Electrical Work >600V
- ☐ Adding/transporting hazardous chemicals

LOTO HANG TAGS/LOCKS HOLD POINT (Step 2)

This effort will be observed by a full time, non-working PIC. Once the effort is completed the PIC is no longer required at the job site. Be aware that the PIC may not hang tags when observing this effort and consequently cannot be covered under the LO/TO which was observed.

Verify compliance with the following requirements:

- ✓ Visually observe the placement or removal of the LO/TO.
- ✓ Visually observe performance of the zero energy check process.
- ✓ Verify workers performing the LO/TO are qualified to the level necessary to perform the required LO/TO.

PIC: Carlos Chacon Z# 120931 Date: 7-10-15

Carlos Chacon Z# 120931 Date: 7-9-15

LOTO REMOVE TAGS/LOCKS HOLD POINT (Step 5)

The LOTO has been removed and the work is complete.

PIC: Carlos Chacon Z# 120931 Date: 7-9-15

* 7-9-15 Multiple LO/TO points Locks will be removed and placed multiple times. CC.

Form 2100-WC

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision # 0			Activity/Task Title: PP 1M VID/VFD/FGR FILTERS
Work Document #: (WO # / Task) 5 20 H 1-21			Planner/Preparer (Name/Z#/Date) Robert Simpson/240725 9/19/2011
TA: 03	Building: 0022	Room: N/A	Additional Location Description: VARIABLE FREQUENCY DRIVES VID/VFD/FGR

Activity Description/Overview UICS ELECTRICIANS

WORK DESCRIPTION:
LOTO OF EACH UNIT TO CLEAN INTERNALLY THE INSIDE OF EACH VFD PANEL. TASK IS TO BE DONE WITH THE USE OF COMPRESSED AIR AND A VACUUM CLEANER. REMOVE ALL DUST AND DEBRIS FROM THE ENCLOSURES.

FOLLOW ALL POSTINGS AND REQUIREMENTS FOR WORK.

POC: JOE BAUGHMAN @ 699-0207

PRECAUTIONS/LIMITATIONS/PREREQUISITES:

1. If steps cannot be completed as described, or if unforeseen situations occur, **STOP WORK**, stabilize the situation, contact your supervisor, and await further instructions before proceeding.
2. The following trainings are required for the General Hazard Section:
   - **MSS Maintenance Worker, TP 10968**
   - **LOTO** **P101-3.1**
   - **CPR**
   - **ELECTRICAL SAFETY PROGRAM** **P101-13**
3. Training to perform zero energy / pressure verification is:
   - **LOTO FOR HAZARDOUS ENERGY CONTROL**
4. Training to perform work in power plant for cleaning of filters:
   - **OJT**
   - **SITE SPECIFIC**
5. Contact shift head and communicate with control room attendant on job status.
   - **NOTIFY SHIFT HEAD OPERATOR OF ANY LOTO TO BE PERFORMED.**
6. Ensure permits required for the project have been obtained and are in the work package.
   - **LO/TO ATTACHMENT "B"**
7. Contact Safety for any safety concerns:
   - **ANTHONY MARTINEZ @ 412-8378**
8. **ENSURE WORK IS ON PLAN OF THE DAY, CHECK IN WITH AREA WORK CONTROL.**
9. **ALL FACILITY RELATED WORK DESCRIBED IN THIS WORK ORDER PACKAGE SHALL BE PERFORMED IN ACCORDANCE WITH P200 SAFEGUARDS AND SECURITY.**

Form 2100-WC

Los Alamos NATIONAL LABORATORY

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # 0			**Activity/Task Title:** PP 1M VID/VFD/FGR FILTERS
Work Document #: (WO # / Task) 520041-01			**Planner/Preparer (Name/Z#/Date)** Robert Simpson/240725 9/19/2011
TA: 03	**Building:** 0022	**Room:** N/A	**Additional Location Description:** VARIABLE FREQUENCY DRIVES VID/VFD/FGR

NOTE:

LO /TO DEVICES SHALL BE REMOVED IN ACCORDANCE WITH THE REQUIREMENTS OF P101-3.1 SECTION 1.1 "LOCKOUT / TAGOUT FOR HAZARDOUS ENERGY CONTROL, RED LOCK LOCKOUT / TAGOUT PROCEDURE. ATTACHMENT "B".

6. **RELEASE LOTO** and **RETURN** equipment to its normal operational configuration.
   - Class 1.3b, **Mode "0"**
   - Utilize LO/TO attachment "B"
   - Nonmelting or Untreated Natural Fiber
   - Shirt (long sleeve)
   - Pants (long)
   - Safety Glasses
   - Hearing Protection (ear canal inserts)

7. **NOTIFY OPERATIONS SHIFTHEAD** that the work is complete.

8. **VERIFY** proper operation.

9. **CLEAN** the work area and dispose of all work generated debris.

10. **CONTACT** the Superintendent / Supervisor and inform them the work is completed. Complete all the required documentation and return the Master Work Package to the Work Control Center Office.

Form 2100-WC

Los Alamos National Laboratory	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision # 0			Activity/Task Title: PP 1M VID/VFD/FGR FILTERS
Work Document #: (WO # / Task) 520041-01			Planner/Preparer (Name/Z#/Date) Robert Simpson/240725 9/19/2011
TA: 03	Building: 0022	Room: N/A	Additional Location Description: VARIABLE FREQUENCY DRIVES VID/VFD/FGR

Insert Rows above for additional Tasks/Steps or attach pages to clearly communicate ESH&Q/S&S hazards and associated controls.	The RLM and FOD or Representative approve work based upon confidence that this IWD has been properly prepared, that the work will be performed within ESH&Q/S&S requirements, facility requirements and capabilities, and will be performed in accordance with this IWD.	**RLM** (Signature/Z#/Date) **Required** 104341 2-5-14 **FOD or Representative** (Signature/Z#/Date) **Required** 090208 2-7-14 **SME Review** (Signature/Z#/Date) **If Required** **ESO Review** (Signature/Z#/Date) **If Required** 038569 2/11/2014

IWD Type ☒ Moderate-Hazard ☐ High-Hazard/Complex ☐ Standing IWD	Date when RLM re-approval is required_____ Other Conditions for RE-Approval_____ (Print) Name of Primary PIC Carlos Chacon Name of Alternate PIC_____ Name of Alternate PIC_____	Any required classification review completed, Signature/Date

Safety: 191891 2/5/14

Los Alamos NATIONAL LABORATORY EST 1943

PRINT CLEARLY SO NAMES AND NUMBERS CAN BE READ

Suggested Source: WAREHOUSE ISSUE COPY

Requestor: Gregory Donnelly

Requestor's Z #: 179352

Requestor's Phone # 664 - 1628

Work order-Task# 520041-01

ML level: (Check) 1 ☐ 2 ☐ 3 ☐ 4 ☑

Priority: (Check) 1 ☐ 2 ☐ 3 ☐ 4 ☑

Requisition Type:

☑ WAREHOUSE ISSUE
☐ CMA/GRACELAND

	QTY	U.O.M.	ITEM#	DESCRIPTION	ISSUE COMPLETE
1.	10	EA	291918181	18x18x1 Filters	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

PICKED UP BY SIGNATURE & Z# Greg Donnelly 179352

DATE: 7/8/15

WAREHOUSE PERSONNEL NAME: GT 300743

Attachment B, LO/TO Orders

Record Number 034558

Lock Coordinator Name/Z#	Phone #	Alternate Lock Coordinator Name/Z#	Phone #
176653	667-4842	SHIFT HEAD ON-DUTY	

Section 1: General Information

1. Work Document Number (i.e., Package/Procedure #): 520041-01
2. LO/TO (Parent) Record # 034558
3. Date: 7/8/2015

Location: 4. TA: 3 5. Bldg: 22 6. Rm:

7. Equipment/Machinery/Name/Number: ID, FD, & FGR fan VFD's FOR BOILERS #1, 2, 3

8. Reason for LO/TO: Monthly P.M.

9. Name of Equipment Owner/Operator:

10. Energy Type to be Isolated (check all that apply)
☑ Electrical ☐ Mechanical ☐ Hydraulic ☐ Pneumatic ☐ Steam ☐ Capacitors ☐ Compressed Energy ☐ Gravity ☐ Other (specify):

11. Group LO/TO: ☑ Yes ☐ No
If Yes, Name of Lead Authorized Worker: Gregory Donnelly Z# 179352

12. Group Lock Box used: ☐ Yes ☑ No If yes, enter ID# of Lock Box
Lock Box ID:

13. Sequencing Required for LO/TO *Installation*
If Yes, enter the required sequence in column 20 below. If No, place N/A in column 20 below.
☑ Yes ☐ No

14. Sequencing Required for LO/TO *Removal*
If Yes, enter the required sequence in column 28 below. If No, place N/A in column 28 below.
☐ Yes ☑ No

Section 2: LO/TO Installation & Removal

LO/TO Installation

15. Approval to Install LO/TO (signature & Z#) 176653

16. Verification required for LO/TO Installation Verification ☐ No ☐ Peer Concurrent Dual ☑ Independent

17. Verification Determination Approved by FOD/Designee (signature) Z# 090208 Date 7-9-15

LO/TO Removal / Return to Service

24. Approval to Remove LO/TO (signature & Z#). Call # 176653

25. Verification required for LO/TO Removal ☑ No ☐ Peer Concurrent Dual ☐ Independent Verification

26. Verification Determination Approved by Shift Head Z# Date

18. Specific Energy Isolation Device/ID	19. Location of locking Device	20. LO/TO Installation Sequence	21. Required Position/Alignment for LO/TO	22. LO/TO Installation verified By:	27. Required Position/Alignment following Removal	28. LO/TO Removal Sequence	29. LO/TO Removal Verified By:	30. As-Left Position
ID Fan 1	Pwr cntrl, circuit 9	Breaker	Off	CC.	closed	NA	CC	closed
FD Fan 1	mech, cub. 1A	Breaker	off	CC.	closed	NA	CC	closed
FGR Fan 1	mech, cub. 2B	Breaker	off	CC.	closed	NA	CC	closed

23. LO/TO Points Positioned and First Lock installed by Signature Z# 179352 Date 2/9/15

31. LO/TO Removed, Positioned and Verified by Signature Z# 120831 Date 7-15-15

23. [illegible] 170722 2/10/15

Page 1 of 5
Rev 1.

Attachment B, LO/TO Orders

Attachment B, LO/TO Orders (Cont.)

1. Work Document Number (i.e., Package/Procedure #): 520091 - 01 | 2. LO/TO (Parent) Record # | 3. Date: 7/8/2015

32. Zero Energy Checks have been completed ☑ Yes ☐ No

33. Completed by Signature [signature] Z# 120931 Date 7-15-15

Section 3: Lead Authorized Worker and Authorized Workers (anyone applying a lock for this activity)

34. Authorized Workers Name(s)	Z#	35. Date workers lock is hung	36. Date workers lock is removed
1. Gregory L. Donnelly	179352	7-9-15	7-9-15
2. John Hobbs	153680	7-10-15	
3. Jose Crespin	093923	7-9-15	7-9-15
4. Baudilio Baca	170722	7-10-15	
5. JEFF Sisneros	101408	7-10-15	
6.			
7.			
8.			
9.			
10.			

Section 4: Return of Lock(s)/Tag(s) and Locking Devices

All Lock(s)/Tag(s) and Locking Devices have been removed and returned to the Lock Coordinator or Designee

37. Signature of Lock Coordinator or Designee [signature] Z# 176653 Date 07-09-2015

*If you have questions with regards to filling out the Attachment B, *LO/TO Orders* form, see the directions associated with the form.

*Take the completed forms back to the Lock Coordinator or Designee for closeout.

Attachment B, LO/TO Orders

Continuation Page (print as needed)

18. Specific Energy Isolation Device/ID	19. Location of locking Device	20. LO/TO Installation Sequence	21. Required Position/Alignment for LO/TO	22. LO/TO Installation verified By:	27. Required Position/Alignment following Removal	28. LO/TO Removal Sequence	29. LO/TO Removal Verified By:	30. As-Left Position
ID Fan 2	Pwr Cntr 1 ckt 9	Breaker	off	cc	Closed	NA	cc.	closed
FD Fan 2	Pwr cntr 2, ckt 10	Breaker	off	cc	Closed	NA	cc	closed
FGR Fan 2	mcc-2, cub 2-13	Breaker	off	cc	closed	NA	cc	closed
ID Fan 3	Pwr cntr 3, ckt 9	Breaker	off	cc	closed	NA	cc	closed
FD Fan 3	mcc-3 cub 1A	Breaker	off	cc.	closed	NA	cc	closed
FGR Fan 3	mcc-3, cub 2B	Breaker	off	cc	closed	NA	cc	closed

23. LO/TO Points Positioned and First Lock installed by Signature [signature] Z# 177352 Date 7/9/15

31. LO/TO Removed, Positioned and Verified by Signature [signature] Z# 120931 Date 7-13-15

Attachment B, LO/TO Orders

16. Is verification required for this LO/TO. Determine if this is Peer Verification (see P101-3, Section 3.15), Concurrent Dual verification (see P315, Attachment 10, Section 10.3.6) or Independent Verification. For Independent Verification see P315, Attachment 10, Independent Verification, The Operations Manager (OM) prepares and maintains a facility-specific list of systems and components requiring Independent Verification.
17. The FOD/Designee must sign after determining if verification is required. If Independent Verifier is identified at this time then it must be entered into the Remedy database.
18. Enter the specific Energy isolation device/ID, (example, MCC-A, A4)
19. Location of locking device, this is the location of where the lock is applied (example, MCC-A, A4 TA-XX, Bld. XXX, rm. 123)
20. If the LO/TO needs to be installed in a particular order, number the order in which the locks need to be installed. If the "No" box is checked in #13, then place N/A in this column.
21. Required Position/alignment for LO/TO, open, closed, connected, disconnected, on, off, etc..
22. LO/TO installation verified by – Has the equipment /system/component being locked out, been identified by the FOD as requiring verification, see line #16. If verification is required the person who performed the verification initials here.
23. The Lead Authorized worker positions the LO/TO points and installs his/her lock and signs that this has been completed.
24. This is the person, who authorized the LO/TO to be removed, signs and places his/her Z# in this box. This signature authority may place a phone number here for the Lead Authorized worker to call for authorization to remove the LO/TO. When verbal authorization is given, it must be documented in this section. Example: John Smith per telecom, 8/13/14 and your initials. Note: It is also permissible to pre-authorize the removal of the lock by pre-signing.
25. Depending on the verification type required for LO/TO removal, check the appropriate verification type box, otherwise check the "No" box.
26. If verification is required, the FOD/Designee must sign. Independent Verifier is identified at this time and entered into the database.
27. Write the required position/alignment the system/component will be placed in following the removal of the lock(s).
28. If the isolation device needs to be positioned in a particular order/sequence, (per Post Maintenance) number the order/sequence in which the isolation device is to be position. If not, place N/A in the box(s).
29. LO/TO removal verified by Lead Authorized Worker – the lock(s) have been removed and the As-Left position is documented in column 30.
30. Enter the As-Left Position. For Nuclear Facilities see the NOTE after #14.
31. If the removal of the lock has been identified as needing to be verified, the verifier writes name and Z# after verifying the lock has been removed.
32. The authorized worker must verify that the steps utilized in the energy control procedure have effectively isolated the machine or equipment from the hazardous energy.
33. The authorized worker signs after zero energy checks have been completed.
34. All authorized workers applying a lock for this activity names/Z# and the Date must be entered.
35. Enter the date the authorized worker hangs lock.
36. Enter the date the authorized worker removes lock.
37. The Lock Coordinator or designee signs once locks, tags, and locking devices have been removed and returned. If a lock and/or tag are found to be contaminated then that will be noted by the Lock Coordinator or designee and the Lock Coordinator or designee will sign.

Attachment B, LO/TO Orders

The following are directions for filling out Attachment B.

1. Enter the Work Document Number, this will be the number from the IWD or the procedure number (i.e., TA88-DOP-0001)
2. Enter the LO/TO Parent Record number, this is obtained from the Lock Coordinator when the HEC lock(s) are issued. The Remedy LO/TO database issues this number.
3. Enter the date of when the locks will be applied.
4. Enter the TA where the lock(s) will be hung.
5. Enter the Building number of where the lock(s) will be hung.
6. Enter the Room number where the equipment is located/where work is being performed.
7. Enter the Equipment/Machinery/Name/Number (example, HVA-001)
8. Write a brief description of the reason for LO/TO (example, Removing and replacing belts)
9. Enter the Name of the Equipment Owner/Operator. Each FOD is different in the assigning of Equipment Owner/Operators. There are also programmatic Equipment Owner/Operators.
10. Check the appropriate energy type to be isolated, check all that apply. Make sure you have considered all energy sources, if other you will need to specify what "other" is.
11. Check applicable box to identify if a group LO/TO (A LO/TO where two or more authorized workers, regardless of their occupation or craft, lock out and tag out the same equipment to perform servicing or maintenance).
12. Check applicable box if lock box is used for the job. Enter the lock box ID#. Each organization that issues locks will be required to uniquely number and track lock boxes in their possession.
13. When installing the lock(s)/tag(s), is there a specific sequence in which the isolation devices are to be positioned. If a specific sequence must be followed, THEN number the sequence order in column 20. If there is not a specific sequence to follow then place N/A in column 20. This needs to be an operations type person (Operator) who understands the equipment/system/component.
14. When removing the lock(s)/tag(s), is there a specific sequence in which the isolation devices are positioned after lock/tag removal? If a specific sequence must be followed, THEN number the sequence order in column 28. If not, place N/A in the box(s).

NOTE: Section 2, *LO/TO Installation & Removal* – In some of the nuclear facilities, the operations personnel will identify the required position(s) for credited equipment/machinery depending on operational requirements for return to service. In most cases when workers remove locks, the "As-Left" Position will be different then the final position the operations personnel will place the equipment in.

15. The Equipment Owner/Operator signs and enters their Z#, authorizing the installation of the LO/TO. With some FODs this will be the maintenance coordinators.

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-002: Attachment 11
Maintenance and Site Services Work Completion Form

Work Order/Task: 520041-01

Start Date: 7/8/15	Completion Date: 7-15-15

SUMMARIZE THE WORK PERFORMED

Date 7/8/15	Begin LO/TO paperwork, picked up filters from warehouse.
7/9/15	Recieved completed LO/TO orders. Performed P.M. on ID, FD, & FGR VFD's for boilers 1 & 3
7/10/2015	Finished up VFD PM / working on Restoring Power to #2 ID Fan When Display Drive Modual Would not Show Any Indication of Coming

FOR CORRECTIVE WORK – WHAT FAILED AND WHAT WAS FIXED

on line. Paused Work for Facility Evaluation. Scope of Work Was Reevaluated ~~At~~ And deemed A priority 1 By FOD. locked & tagged System for A Troubleshooting

FOR PMs – SUMMARIZE AS FOUND AND AS LEFT CONDITIONS BELOW

As found	Inspection. After further Review of the
As left	Electronic Portion of System found
Parts/Repairs	that the Main Mother Board of the
	System Drive ~~Sy~~ Modual had Some
Read/meas.	damage to Several Resistors In that
Post test info.	on Portion of the Controler.
	Replaced Mother Board With the last

Problems Encountered (delays, safety, etc.): one on site that was located In A Spare Scrap VFD Which was Been Used to Salvage obsolete parts

Lessons Learned/Recommendations:

Invest In Some New Units Obsolete parts And No future Replacements

Name: Claudio P. Rivera Carlos Chacon **Signature:** Carlos Chacon **Date:** 7/10/15 7-15-15

TIMM611 - WORK ORDER/TASK COST SUMMARY

Select to view audit detail. Use Execute to recalculate percent complete.

W/O No.	00520041	**Task**	
W/O Status	AWAIT/C	**W/O Type**	PM
Desc	PP 1M TA3-22 VID/VFD/FGR FILTERS		
%Complete			

Execute

Loaded Cost

Component	Est Hrs	Est Cost	Act Hrs	Act Cost	Cmpl Hours	Cmpl Cost
Comp Lbr	26.00	$1,466.20	59.00	$3,500.27		
Cont Lbr						
In Svcs						
Out Svcs						
Stocked						
Direct				$98.73		
Equip/Veh						
Misc						
Sub Total		$1,466.20		$3,599.00		
Salvage						
Total		$1,466.20		$3,599.00		

WO#: 580041-01

Moderate and High hazard IWD's

This IWD has been reviewed to confirm actions to eliminate, mitigate or minimize hazards, have been executed in accordance with the Work Control requirements related to moderate and high hazard scope which includes, evaluation against Life Critical definitions and requirements.

Life Critical scope is defined as follows:

- Fall protection required
- Confined space work
- Crane or lifting device operations
- Elevated work platforms
- Excavation and trenching
- Lock out / Tag out
- Electrical work >600V
- Hazardous material usage

Reviewed by PIC, RLM, Superintendent or FOD Representative:

Signature: Carlos Chacon Z#: 120931

Date: 6-30-15

Form 2103

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD # 520041 Revision #: _____

Work Release

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Ops Mgr or other facility point-of-contact for work area

Signature/Z#/Date (**If required by FOD**): _____

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, required initial conditions and other prerequisites are in-place.
- The assigned workers are authorized and are qualified to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers (including support workers) have been briefed.
- I have ensured coordination with any required FOD work area representatives (*e.g., area work coordinators*). 7-10-15

Primary PIC (Signature/Z#/Date) **Required**: [signature] 120931 7-8-15, 7-9-15

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff).*

Alternate PIC (Signature/Z#/Date) **Required**: _____

Alternate PIC (Signature/Z#/Date) **Required**: _____

Pre-Job Brief Content

- What are the critical steps or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g. for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

Pre-Job Brief Attendance Roster

By signing below **as required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) [signature] 179352 7/8/15	Worker (Signature/Z#/Date) [signature] 179352 7/8/15
Worker (Signature/Z#/Date) [signature] 153680 7-10-15 7-8-15	Worker (Signature/Z#/Date) [signature] 170722 7/10/2015
Worker (Signature/Z#/Date) [signature] 093923 7-9-15	Worker (Signature/Z#/Date) [signature] 7/9/15 101408 7/10/15
Worker (Signature/Z#/Date) [signature] 170722 7/9/2015	Worker (Signature/Z#/Date)

Los Alamos NATIONAL LABORATORY EST. 1943

Ma' enance and Site Services
Safety Compensatory Work Order Traveler

Safety Compensatory Work Order Traveler

WO #: 520041-01 Craft/Supt UVCS EVEC

Date: 7-1-15 OR

Planner: _____

1. What are the critical life safety steps?

Course of action: Review task scope, sequence, location, and individuals involved.

- ☐ Fall Protection
- ☐ Crane or lifting device operation
- ☐ Excavation / trenching or Class 2 Penetrations
- ☐ Permitted Confined Space
- ☐ Aerial Lift/Scaffold Assembly/Disassembly
- ☒ Lock Out Tag Out
- ☐ Electrical Work >600V
- ☐ Adding/transporting hazardous chemicals

2. **Identify hold points in the IWD (for example: IWD Steps 4 and 10, etc.) using the *critical life safety above.***

Step 2 + Step 5

3. ***What kind of defenses should the work team consider for review?***

- ☒ Barriers to be used
- ☒ Head bumps/falling objects
- ☐ Can we eliminate the hazard
- ☒ What can we interfere with near the job site

4 Describe what barriers and where

Flag off Area using caution tape
Hard Hats, Safety shoes, safety glasses, And Hearing
Check in with PP operation to have them shut down unit

APPROVALS

The life critical safety steps have been addressed

WORK CONTROL TEAM LEAD _____ Z# 180622 Date 7-1-15

WAR ROOM MANAGER Ben Martinez Z# 166938 Date 7/2/15

WAR ROOM MANAGER Manuel Rodriguez Z# 087290 Date 7-2-15

MSS-UI Safety Compensatory Action Check Sheet

The purpose of this check sheet is to aid in the processes defined by MSS-DO and which are applicable to pre-war room review. A copy of this check list will become a permanent portion of every work package (PM, CM, Planned, Unplanned, etc). It must be filled out prior to work execution.

- Is this a Low Hazard job with no Life Critical scope content? Yes ___ No ✓
  (If "Yes" the package does not need to be reviewed by the War Room)

- Verify the job scope has been walked down by work planning and/or qualified craft person and that all needed revisions have been incorporated in the work package.

  Signature _____ Date 7-1-15

- Verify identification of all Life Critical Scope content in the package.

  Signature _____ Date 7-1-15

- Verify mandatory signature hold points for each Life Critical step have been included in the work package.

  Signature _____ Date 7-1-15

- Submit Work Package to the War Room

  Signature _____ Date 7-1-15

R

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To: TA03-0022 FAN, FLUE GAS RECIRCULING (FGR
Task Dspln: Due Date: 08/31/2015

8/6-8/7

Hazard: LOW IWD Reqmt: N/A LOW HZRD

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00522429 01

MASTER

Date: 05/07/2015
Page: 1

Work Order Task Written To

Facility : F08 **Unit : 030022** **Op Sys :**
Room : **Area :** **Sys/Cls:**
Equipment : **Component:**
Location :
Job Type : PM
Tag 1 : Tag 2 :
Work Item : TA03-0022 FGR Ops Review Reqd:

Authorization

Start Permission : [signature] Start Date: 7-31-15
Complete Notice : [signature] Complete Date: 8-10-15

NOTE:

*** Refer to attached Form 2101 - Non-Tenant Activity Form - or Form 2102- Tenant Activity Form - for a description of site specific training or escort and access requirements.**

Work Order Task Instructions

FURTHER INSTRUCTIONS/DETAILS
PERFORM UMI AS PER UM 76-39-014

QC Requirements/Comments

Rework Reason/Cause

		(Y/N)
CDSG	CUSTOMER DESIGN	
IMCW	IMPROPER CONSTRUCTION/WORKMANSHIP	
IMDN	IMPROPER DESIGN	
PDMS	PARTS/MATERIAL DID NOT MEET SPECIFICATIONS	

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To: TA03-0022 FAN, FLUE GAS RECIRCULING (FGR
Task Dspln: Due Date: 08/31/2015

Hazard: LOW IWD Reqmt: N/A LOW HZRD

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00522429 01

MASTER

Date: 05/07/2015
Page: 3

W WEATHER
Date: Hours: Crew: Shift:
Comments:

Major Failure/Action Taken

Major Failure :
Deficiency Tag Loc:
Deficiency Tag No.:
Action Taken :
Removed (Y/N):
Limited Cond Operation:

Work Completion Signatures

Name	Function/Dept	Date
	LOG-CS/PP Mech WT	8-6-15

Comments:
(rework?)

Equipment List Exceptions

Equip List	Rev	Equip List Description
SM22 FGR	000	TA03-0022 FAN, FLUE GAS RECIRCULATING

Fac	Unit	Op Sys	Division	Area	System	Class
F08	030022	BL1	B1BSWT		U	ML4

Equipment: FAN FGR-001

Name : FAN, FLUE GAS RECIRCULATING
Equip Tag:
Loc Desc : 03-0022
Exception Reason:

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To: TA03-0022 FAN, FLUE GAS RECIRCULING (FGR
Task Dspln: Due Date: 08/31/2015

Hazard: LOW IWD Reqmt: N/A LOW HZRD

Los Alamos NATIONAL LABORATORY

Work Order Task

00522429 01

MASTER

Date: 05/07/2015
Page: 5

Work Order Task Written To

Facility : F08 **Unit : 030022** **Op Sys :**
Room : **Area :** **Sys/Cls:**
Equipment : **Component:**
Location :
Job Type : PM
Tag 1 : Tag 2 :
Work Item : TA03-0022 FGR Ops Review Reqd:

Print Request - Work Order Documents

Facility	Type/Subtype		Document Number	Sheet	Image Addr
F08	PROC	PMI	76-39-014		
			SERVICING INDUCED & FORCED DRAFT & FLUE GAS		

References/Document Information

Type/Subtyp: PROC PMI Number: 76-39-014 Sheet:
Title/Desc : SERVICING INDUCED & FORCED DRAFT & FLUE GAS Image: N

***** E N D O F R E P O R T *****

522429-01

Los Alamos NATIONAL LABORATORY EST. 1943

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____ Revision #: _____

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD	TA	Bldg.	Room	Other Location
8	03	22	N/A	Power Plant Bldg - Inside
FOD Designated Facility Point-of-Contact	Name Pavlo C de Vaca	Phone 699-8226	Pager n/a	Email pfc@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☐ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ Other Bounding Conditions _____
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☐ Work-Area Training Required
- ☒ Work must be Scheduled
- ☒ Check in Daily
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Check out Daily
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

All work must be approved by the Utilities FOD or OM or OS. POD/POTW – 2:30pm Mon. thru Friday. No Smoking around Natural Gas Systems. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Check in with Plant Operations Manager/Specialist or Operations Shift Head for final approval to proceed with tasks. All personnel entering area must view the site specific training video in room 116 (Boiler Control Room), one time requirement. Observe safety signs and floor markings in all buildings and areas. No safety shoes required for visitors if escorted by Operations or UI Engineering personnel. **The west end front lobby and office areas of Bldg 22 are considered a no hazard area.**

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	Work Area Hazard Present	Facility Controls/ Preventive Measures/ Bounding Conditions Specify preventive measures, controls and bounding conditions for each site hazard	Reference Documents List permits, operating manuals, and other reference procedures	Training and Qualification List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				

IWD No./Work Request No: _____ Revision #: _____

Form 2101 (4/12)

5 22429-01

Mandatory Questions for All Pre-Job Briefs

The purpose of this document is to demonstrate compliance with the Release of Craft requirements directed by MSS-DO on 17 June 15. Until a formal document is institutionalized by the Work Control Group this document will be included in **all** work control packages (CM, PM, Planned, Unplanned, etc). Each of the questions listed below will be discussed at each Pre Job Brief with all affected personnel. Compliance will be demonstrated by the signature from the person performing the Pre Job Brief on the bottom of this document. This document is a permanent part of **all** work packages until further notice.

Topic	Completed (X)
Assume we are going to have an accident on this job. How did it happen? How can we prevent it?	X
What is the worst thing that can happen on this job? How can we keep it from happening?	X
What hazards will you encounter in performing this work?	X
Is there a better way to address the hazards you will encounter?	X
Have all safety issues concerning this task been addressed to your satisfaction?	X

Signature (Person Performing Pre-Job)

8/6/2015

Date

522429-01

UTILITIES AND INSTITUTIONAL FACILITIES

Los Alamos

UI-PROC-76-39-014-R1

Maintenance Procedure

TA-03 Power Plant – Servicing Flue Gas Recirculating Fan Bearings

Review frequency: 1 yr ☐ 2 yr ☐ 3 yr ☒

Process Owner	Signature	Date
Armond Standley	Armond Standley	5-19-2014
Power Plant Maintenance Engineer		

Reviewed by	Signature	Date
Phil Romero	Phil Romero	6/9/14
ESH Manager		

Approved by	Signature	Date
Scott McBride		6/20/14
Maintenance Manager		

Reviewed by	Signature	Date
Harold Salazar	H. Salazar	6/24/14
Derivative Classifier	Unclassified	

UNCLASSIFIED

Table of Contents

1 Purpose 5
2 Scope/Applicability 5
3 Prerequisites 5
4 Precautions and Limitations 5
5 Equipment, Supplies, etc. 6
6 Responsibilities 6
7 Procedural Steps 6
7.1 Lubricate Bearings 6
7.2 Follow-on Tasks 7
8 Records 8
9 Abbreviations, Acronyms, and Terms 8
10 References 8
11 Appendices and Attachments 8

522429-01

Utilities & Institutional Facilities
Maintenance Procedure

TA-03 Power Plant – Servicing Flue Gas Recirculating Fan Bearings

1 Purpose

The purpose of this procedure is to provide instructions for lubricating the bearings on the Flue Gas Recirculating (FGR) Fans (FGR-001, -002, -003) located at the TA-03-22 Power Plant.

2 Scope/Applicability

1. This maintenance procedure, UI-PROC-76-39-014-R1, Servicing Flue Gas Recirculating Fan Bearings, may only be worked in conjunction with a work control package that has been processed in accordance with the requirements contained in AP-WORK-002 R10, Work Planning. The procedure may not be used as a stand-alone work control document.
2. Affected Personnel: Power Plant Maintenance Personnel

3 Prerequisites

1. Required training and qualifications:
   a. Utilities & Institutional Facilities (UI) procedures and work control processes
   b. The current procedure and equipment
   c. On-the-job training (OJT)
   d. P101-3, Lockout/Tagout for Hazardous Energy Control
   e. P101-18, Procedure for Pause/Stop Work
2. Pre-job briefing

4 Precautions and Limitations

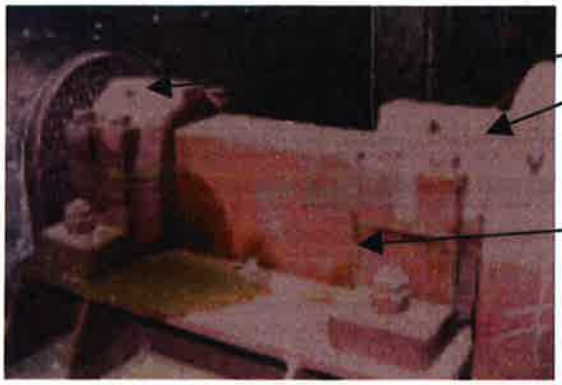
1. Required Personal Protective Equipment (PPE):
   - Hardhat
   - Steel-toe safety shoes
   - Safety glasses with side shields

522429-01

There are two bearings on the fan, each with its own zerk plug. See Figure 1.

1. Use grease gun with the Ultralube headphones to insert the correct amount of Mobilith SHC 100 grease into zerk fitting.
   a. Refer to UI-PROC-76-21-500, Lubricating Grease-Lubed Motor Bearings.
   b. Apply grease while fan is running and stop when you hear the grease enter the running bearing.

Figure 1. FGR Fan Drive. Remove the shaft guard located in the middle of the drive. The two zerk plugs are located on each of the two bearings.



7.2 Follow-on Tasks

1. If problems are found, immediately notify Foreman and Superintendent so corrective action can be taken.

   Will corrective action be required?

   ☐ Yes ☑ No

2. ☒ All tasks in this procedure have been completed.

Signature	Z-number 195149
Print name BRIAN ORTIZ	Date 8/6/15

This procedure is complete. Include the procedure number on the Work Documentation Form and attach signed copy of procedure to the Work Package.

PP scanned

522429 -

8/15

MSS-UI Safety Compensatory Action Check Sheet

MO - 395262-03

The purpose of this check sheet is to aid in the processes defined by MSS-DO and which are applicable to pre-war room review. A copy of this check list will become a permanent portion of every work package (PM, CM, Planned, Unplanned, etc). It must be filled out prior to work execution.

- Is this a Low Hazard job with no Life Critical scope content? Yes ✓ No ____
  (If "Yes" the package does not need to be reviewed by the War Room)

- Verify the job scope has been walked down by work planning and/or qualified craft person and that all needed revisions have been incorporated in the work package.

  Signature _____ Date 7/13/15

- Verify identification of all Life Critical Scope content in the package.

  Signature _____ Date _____

- Verify mandatory signature hold points for each Life Critical step have been included in the work package. N/A

  Signature _____ Date _____

- Submit Work Package to the War Room

  Signature _____ Date _____

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-002: Attachment 11
Maintenance and Site Services
Work Completion Form

Work Order/Task: 522429-01

Start Date: 8/6/2015	Completion Date: 8-6-15

SUMMARIZE THE WORK PERFORMED

Date 8/6/2015 Held Pre-Job Briefing, Discussed work tasks and hazards. Covered mandatory questions for all Pre Job Briefs.
Informed operations of what to be done had them line up FGR FANS using SCH 100 grease and ultrasonic Head Phones, Add Grease to Bearings as needed. #3 FGR FAN Not Done. It is locked out for Annual Maintenance

FOR CORRECTIVE WORK – WHAT FAILED AND WHAT WAS FIXED

FOR PMs – SUMMARIZE AS FOUND AND AS LEFT CONDITIONS BELOW

As found	
As left	
Parts/Repairs	
Read/meas.	
Post test info.	

Problems Encountered (delays, safety, etc.):

NONE

Lessons Learned/Recommendations:

NONE

Name: BRIAN ORTIZ **Signature:** [signature] **Date:** 8-6-15
CHRIS SALAZAR Chris Salazar 8-6-15

TIMM611 - WORK ORDER/TASK COST SUMMARY

Select to view audit detail. Use Execute to recalculate percent complete.

W/O No.	00522429	Task	
W/O Status	AWAIT/C	W/O Type	PM
Desc	PP 1M TA3-22 FGR BEARINGS, LUBRICATE		
%Complete			

Execute

Loaded Cost

Component	Est Hrs	Est Cost	Act Hrs	Act Cost	Cmpl Hours	Cmpl Cost
Comp Lbr	7.30	$401.53	6.00	$345.78		
Cont Lbr						
In Svcs						
Out Svcs						
Stocked						
Direct						
Equip/Veh						
Misc						
Sub Total		$401.53		$345.78		
Salvage						
Total		$401.53		$345.78		

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 VID/VFD/FGR FILTERS

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 VID/VFD/FGR FILTERS
Written To: TA03-0022 VARIABLE FREQUENCY DRIVES VID/
Task Dspln: Due Date: 09/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00525084 01

MASTER

Date: 06/16/2015
Page: 1

Work Order Task Written To

Facility : F08 **Unit : 030022** **Op Sys :**
Room : **Area :** **Sys/Cls:**
Equipment : **Component:**
Location :
Job Type : PM
Tag 1 : Tag 2 :
Work Item : SM22VID Ops Review Reqd:

Authorization

Start Permission : Start Date: 8-26-15
Complete Notice : Complete Date: 9-24-15

NOTE:

*** Refer to attached Form 2101 - Non-Tenant Activity Form - or Form 2102- Tenant Activity Form - for a description of site specific training or escort and access requirements.**

Work Order Task Instructions

CRAFT: UICS ELECTRICIANS
.
FURTHER INSTRUCTIONS/DETAILS
LOTO OF EACH UNIT TO CLEAN INTERNALLY THE INSIDE OF EACH VFD PANEL.
TASK IS TO BE DONE THE USE OF COMPRESSED AIR AND A VACUUM CLEANER. REMOVE ALL DUST AND DEBRIS FROM THE ENCLOSURES.
.
.
.

QC Requirements/Comments

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 VID/VFD/FGR FILTERS

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 VID/VFD/FGR FILTERS
Written To: TA03-0022 VARIABLE FREQUENCY DRIVES VID/
Task Dspln: Due Date: 09/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00525084 01

MASTER

Date: 06/16/2015
Page: 3

SCH SCHEDULING
Date: Hours: Crew: Shift:
T TRAVEL
Date: Hours: Crew: Shift:
W WEATHER
Date: Hours: Crew: Shift:
Comments:

Major Failure/Action Taken

Major Failure :
Deficiency Tag Loc:
Deficiency Tag No.:
Action Taken :
Removed (Y/N):
Limited Cond Operation:

Work Completion Signatures

Name	Function/Dept.	Date
Carlos Chacon	UICS Elec.	9-11-15

Comments: NONE
(rework?) NO

Equipment List Exceptions

Equip List	Rev	Equip List Description
SM22VID	000	TA03-0022 VARIABLE FREQUENCY DRIVES VID/VFD/FGR

Fac	Unit	Op Sys	Division	Area	System	Class
F08	030022	BL1	B1BSWT		U	ML4

Equipment: FAN FGR-001

Name : FAN, FLUE GAS RECIRCULATING
Equip Tag:
Loc Desc : 03-0022
Exception Reason:

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 VID/VFD/FGR FILTERS

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 VID/VFD/FGR FILTERS
Written To: TA03-0022 VARIABLE FREQUENCY DRIVES VID/
Task Dspln: Due Date: 09/30/2015

Hazard: MODERATE IWD Reqmt: TASK SPECIFC

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00525084 01

MASTER

Date: 06/16/2015
Page: 5

Fac	Unit	Op Sys	Division	Area	System	Class
F08	030022	BL3	B3BSNO		U	ML4

Equipment: FAN FGR-003
Name : FLUE GAS RECIRCULATING FAN
Equip Tag:
Loc Desc : 03-0022
Exception Reason:

Fac	Unit	Op Sys	Division	Area	System	Class
F08	030022	BL3	B3MNSO		U	ML4

Equipment: FAN VID-003
Name : VARIABLE FREQUENCY DRIVE
Equip Tag:
Loc Desc : 03-0022 ID FAN #3
Exception Reason:

***** E N D O F R E P O R T *****

Cost Center: P2030A Activity : 640CL000 User Def:
Percentage : 100.000 Acct No : XU5000 7E2P0000

Form 2100-WC

Los Alamos NATIONAL LABORATORY

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # 0			Activity/Task Title: PP 1M VID/VFD/FGR FILTERS
Work Document #: (WO # / Task) 525084-01			Planner/Preparer (Name/Z#/Date) Robert Simpson/240725 9/19/2011
TA: 03	Building: 0022	Room: N/A	Additional Location Description: VARIABLE FREQUENCY DRIVES VID/VFD/FGR

Activity Description/Overview UICS ELECTRICIANS

WORK DESCRIPTION:
LOTO OF EACH UNIT TO CLEAN INTERNALLY THE INSIDE OF EACH VFD PANEL. TASK IS TO BE DONE WITH THE USE OF COMPRESSED AIR AND A VACUUM CLEANER. REMOVE ALL DUST AND DEBRIS FROM THE ENCLOSURES.

FOLLOW ALL POSTINGS AND REQUIREMENTS FOR WORK.

POC: JOE BAUGHMAN @ 699-0207

PRECAUTIONS/LIMITATIONS/PREREQUISITES:

1. If steps cannot be completed as described, or if unforeseen situations occur, **STOP WORK**, stabilize the situation, contact your supervisor, and await further instructions before proceeding.
2. The following trainings are required for the General Hazard Section:
   - **MSS Maintenance Worker, TP 10968**
   - **LOTO** **P101-3.1**
   - **CPR**
   - **ELECTRICAL SAFETY PROGRAM** **P101-13**
3. Training to perform zero energy / pressure verification is:
   - **LOTO FOR HAZARDOUS ENERGY CONTROL**
4. Training to perform work in power plant for cleaning of filters:
   - **OJT**
   - **SITE SPECIFIC**
5. Contact shift head and communicate with control room attendant on job status.
   - **NOTIFY SHIFT HEAD OPERATOR OF ANY LOTO TO BE PERFORMED.**
6. Ensure permits required for the project have been obtained and are in the work package.
   - **LO/TO ATTACHMENT "B"**
7. Contact Safety for any safety concerns:
   - **ANTHONY MARTINEZ @ 412-8378**
8. **ENSURE WORK IS ON PLAN OF THE DAY, CHECK IN WITH AREA WORK CONTROL.**
9. **ALL FACILITY RELATED WORK DESCRIBED IN THIS WORK ORDER PACKAGE SHALL BE PERFORMED IN ACCORDANCE WITH P200 SAFEGUARDS AND SECURITY.**

Form 2100-WC

Los Alamos NATIONAL LABORATORY	Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)		
Revision # 0			Activity/Task Title: PP 1M VID/VFD/FGR FILTERS
Work Document #: (WO # / Task) 525084-01			Planner/Preparer (Name/Z#/Date) Robert Simpson/240725 9/19/2011
TA: 03	Building: 0022	Room: N/A	Additional Location Description: VARIABLE FREQUENCY DRIVES VID/VFD/FGR

WARNING

Possible contact with energized systems

NOTE:

LO /TO DEVICES SHALL BE APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF P101-3.1 SECTION 1.1 "LOCKOUT / TAGOUT FOR HAZARDOUS ENERGY CONTROL, RED LOCK LOCKOUT TAGOUT PROCEDURE. ATTACHMENT "B".

2. **LO/TO** circuit for VID-001, VID-002, VID-003, VFD-002, FGR-001, FGR-002 & FGR-003 per the work order checklist.
   - Class 1.3b, **Mode "0"**
   - Utilize LO/TO attachment "B"
   - Nonmelting or Untreated Natural Fiber
   - Shirt (long sleeve)
   - Pants (long)
   - Safety Glasses
   - Hearing Protection (ear canal inserts)
   - Leather Gloves

3. **VERIFY "zero"** voltage at the Control Panel.

   240V to 600V Zero Voltage check requirements:

   - Class 1.3b
   - **Mode "1"**, establishing an electrically safe work condition.
   - Two Man Rule
   - Nonmelting or Untreated Natural Fiber
   - Shirt (long sleeve)
   - Pants (long)
   - Safety Glasses
   - Hearing Protection (ear canal inserts)
   - Leather Gloves
   - Class "0" Dielectric Gloves
   - Dielectric Glove Expiration Date:____
   - Ensure that voltage meters have been properly tolerance tested prior to use. Expiration Date ____ .

4. **CLEAN** internals of VID-001, VID-002, VID-003, VFD-002, FGR-001, FGR-002 & FGR-003.

5. **CHECK** all wiring.

Form 2100-WC

Los Alamos NATIONAL LABORATORY

Facilities Maintenance IWD – (Facility Maintenance Activity Specific Information)

Revision # 0			**Activity/Task Title:** PP 1M VID/VFD/FGR FILTERS
Work Document #: (WO # / Task) 525084-01			**Planner/Preparer (Name/Z#/Date)** Robert Simpson/240725 9/19/2011
TA: 03	**Building:** 0022	**Room:** N/A	**Additional Location Description:** VARIABLE FREQUENCY DRIVES VID/VFD/FGR

Insert Rows above for additional Tasks/Steps or attach pages to clearly communicate ESH&Q/S&S hazards and associated controls.	The RLM and FOD or Representative approve work based upon confidence that this IWD has been properly prepared, that the work will be performed within ESH&Q/S&S requirements, facility requirements and capabilities, and will be performed in accordance with this IWD.	**RLM** (Signature/Z#/Date) **Required** 104341 2-5-14 **FOD or Representative** (Signature/Z#/Date) **Required** 090208 2-7-14 **SME Review** (Signature/Z#/Date) **If Required** **ESO Review** (Signature/Z#/Date) **If Required** 038504 2/11/2014

IWD Type ☒ Moderate-Hazard ☐ High-Hazard/Complex ☐ Standing IWD	Date when RLM re-approval is required_____ Other Conditions for RE-Approval_____ (Print) Name of Primary PIC Carlos Chacon Name of Alternate PIC_____ Name of Alternate PIC_____	Any required classification review completed, Signature/Date

Safety: 191891 2/5/14

Form 2101

Los Alamos NATIONAL LABORATORY EST.1943

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____ Revision #: _____

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD	TA	Bldg.	Room	Other Location
8	03	22	N/A	Power Plant Bldg - Inside
FOD Designated Facility Point-of-Contact	Name	Phone	Pager	Email
	Pavlo C de Vaca	699-8226	n/a	pfc@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☐ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ Other Bounding Conditions _____
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☐ Work-Area Training Required
- ☒ Work must be Scheduled
- ☒ Check in Daily
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☐ Check out Daily
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

All work must be approved by the Utilities FOD or OM or OS. POD/POTW – 2:30pm Mon. thru Friday. No Smoking around Natural Gas Systems. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Check in with Plant Operations Manager/Specialist or Operations Shift Head for final approval to proceed with tasks. All personnel entering area must view the site specific training video in room 116 (Boiler Control Room), one time requirement. Observe safety signs and floor markings in all buildings and areas. No safety shoes required for visitors if escorted by Operations or UI Engineering personnel. **The west end front lobby and office areas of Bldg 22 are considered a no hazard area.**

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				

525084-01

Attachment B, LO/TO Orders

Lock Coordinator Name/Z#	Phone #	Alternate Lock Coordinator Name/Z#	Phone #

Section 1: General Information

1. Work Document Number (i.e., Package/Procedure #):
2. LO/TO (Parent) Record #
3. Date:

Location

4. TA:
5. Bldg:
6. Rm:
7. Equipment/Machinery/Name/Number:

8. Reason for LO/TO:

9. Name of Equipment Owner/Operator:

10. Energy Type to be Isolated (check all that apply)
☐ Electrical ☐ Mechanical ☐ Hydraulic ☐ Pneumatic ☐ Steam ☐ Capacitors ☐ Compressed Energy ☐ Gravity ☐ Other (specify):

11. Group LO/TO: ☐ Yes ☐ No
If Yes, Name of Lead Authorized Worker:

12. Group Lock Box used: ☐ Yes ☐ No If yes, enter ID# of Lock Box
Lock Box ID:

13. Sequencing Required for LO/TO ***Installation***
If Yes, enter the required sequence in column 20 below. If No, place N/A in column 20 below.
☐ Yes ☐ No

14. Sequencing Required for LO/TO ***Removal***
If Yes, enter the required sequence in column 28 below. If No, place N/A in column 28 below.
☐ Yes ☐ No

Section 2: LO/TO Installation & Removal

LO/TO Installation

15. Approval to Install LO/TO (signature & Z#)

16. Verification required for LO/TO Installation ☐ No ☐ Peer Concurrent Dual ☐ Independent Verification

17. Verification Determination Approved by FOD/Designee (signature) Z# Date

18. Specific Energy Isolation Device/ID	19. Location of locking Device	20. LO/TO Installation Sequence	21. Required Position/Alignment for LO/TO	22. LO/TO Installation verified By:

23. LO/TO Points Positioned and First Lock installed by Signature Z# Date

LO/TO Removal / Return to Service

24. Approval to Remove LO/TO (signature & Z#). Call # _____

25. Verification required for LO/TO Removal ☐ No ☐ Peer Concurrent Dual ☐ Independent Verification

26. Verification Determination Approved by Z# Date

27. Required Position/Alignment following Removal	28. LO/TO Removal Sequence	29. LO/TO Removal Verified By:	30. As-Left Position

31. LO/TO Removed, Positioned and Verified by Signature Z# Date

Page **1** of **5**
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Attachment B, LO/TO Orders

Continuation Page (print as needed)

18. Specific Energy Isolation Device/ID	19. Location of locking Device	20. LO/TO Installation Sequence	21. Required Position/Alignment for LO/TO	22. LO/TO Installation verified By:	27. Required Position/Alignment following Removal	28. LO/TO Removal Sequence	29. LO/TO Removal Verified By:	30. As-Left Position
23. LO/TO Points Positioned and First Lock installed by Signature		Z#	Date		31. LO/TO Removed, Positioned and Verified by Signature		Z#	Date

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Attachment B, LO/TO Orders

16. Is verification required for this LO/TO. Determine if this is Peer Verification (see P101-3, Section 3.15), Concurrent Dual verification (see P315, Attachment 10, Section 10.3.6) or Independent Verification. For Independent Verification see P315, Attachment 10, Independent Verification, The Operations Manager (OM) prepares and maintains a facility-specific list of systems and components requiring Independent Verification.
17. The FOD/Designee must sign after determining if verification is required. If Independent Verifier is identified at this time then it must be entered into the Remedy database.
18. Enter the specific Energy isolation device/ID, (example, MCC-A, A4)
19. Location of locking device, this is the location of where the lock is applied (example, MCC-A, A4 TA-XX, Bld. XXX, rm. 123)
20. If the LO/TO needs to be installed in a particular order, number the order in which the locks need to be installed. If the "No" box is checked in #13, then place N/A in this column.
21. Required Position/alignment for LO/TO, open, closed, connected, disconnected, on, off, etc..
22. LO/TO installation verified by – Has the equipment /system/component being locked out, been identified by the FOD as requiring verification, see line #16. If verification is required the person who performed the verification initials here.
23. The Lead Authorized worker positions the LO/TO points and installs his/her lock and signs that this has been completed.
24. This is the person, who authorized the LO/TO to be removed, signs and places his/her Z# in this box. This signature authority may place a phone number here for the Lead Authorized worker to call for authorization to remove the LO/TO. When verbal authorization is given, it must be documented in this section. Example: John Smith per telecom, 8/13/14 and your initials. Note: It is also permissible to pre-authorize the removal of the lock by pre-signing.
25. Depending on the verification type required for LO/TO removal, check the appropriate verification type box, otherwise check the "No" box.
26. If verification is required, the FOD/Designee must sign. Independent Verifier is identified at this time and entered into the database.
27. Write the required position/alignment the system/component will be placed in following the removal of the lock(s).
28. If the isolation device needs to be positioned in a particular order/sequence, (per Post Maintenance) number the order/sequence in which the isolation device is to be position. If not, place N/A in the box(s).
29. LO/TO removal verified by Lead Authorized Worker – the lock(s) have been removed and the As-Left position is documented in column 30.
30. Enter the As-Left Position. For Nuclear Facilities see the NOTE after #14.
31. If the removal of the lock has been identified as needing to be verified, the verifier writes name and Z# after verifying the lock has been removed.
32. The authorized worker must verify that the steps utilized in the energy control procedure have effectively isolated the machine or equipment from the hazardous energy.
33. The authorized worker signs after zero energy checks have been completed.
34. All authorized workers applying a lock for this activity names/Z# and the Date must be entered.
35. Enter the date the authorized worker hangs lock.
36. Enter the date the authorized worker removes lock.
37. The Lock Coordinator or designee signs once locks, tags, and locking devices have been removed and returned. If a lock and/or tag are found to be contaminated then that will be noted by the Lock Coordinator or designee and the Lock Coordinator or designee will sign.

Form 210

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 3
Validation and Work Releas

IWD #525084 Revision #:

Work Release

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Ops Mgr or other facility point-of-contact for work area

Signature/Z#/Date (If required by FOD):

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, required initial conditions and other prerequisites are in-place.
- The assigned workers are authorized and are qualified to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers (including support workers) have been briefed.
- I have ensured coordination with any required FOD work-area representatives (*e.g., area work coordinators*).

Primary PIC (Signature/Z#/Date) Required: [signature] 120931 9-8-15

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff).*

Alternate PIC (Signature/Z#/Date) Required:

Alternate PIC (Signature/Z#/Date) Required:

Pre-Job Brief Content

- What are the critical steps or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g. for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

Pre-Job Brief Attendance Roster

By signing below as **required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) [signature] 153680 9-8-15	Worker (Signature/Z#/Date)
Worker (Signature/Z#/Date) [signature] 179352 9/8/15	Worker (Signature/Z#/Date)
Worker (Signature/Z#/Date) [signature] 305382 8 Sept 16	Worker (Signature/Z#/Date)
Worker (Signature/Z#/Date)	Worker (Signature/Z#/Date)

Form 2103 (3/14)

Los Alamos NATIONAL LABORATORY

Ma nance and Site Services
Safety Compensatory Work Order Traveler

/M VID/VFD/FGR
Model

Safety Compensatory Work Order Traveler

WO #: 395-262-01 Craft/Supt Art Sparks

Date: 8/12/15 OR

Planner: _____

1. What are the critical life safety steps?

Course of action: Review task scope, sequence, location, and individuals involved.

- ☐ Fall Protection
- ☐ Crane or lifting device operation
- ☐ Excavation / trenching or Class 2 Penetrations
- ☐ Permitted Confined Space
- ☐ Aerial Lift/Scaffold Assembly/Disassembly
- ☒ Lock Out Tag Out
- ☐ Electrical Work >600V
- ☐ Adding/transporting hazardous chemicals

2. Identify hold points in the IWD (for example: IWD Steps 4 and 10, etc.) using the *critical life safety* above. LO/TO Step 2 Apply locks, Step 6 Removal
Page 3 of 5 Page 4 of 5

3. ***What kind of defenses should the work team consider for review?***

- ☒ Barriers to be used
- ☒ Head bumps/falling objects
- ☐ Can we eliminate the hazard
- ☐ What can we interfere with near the job site

4 Describe what barriers and where
Barricade are using caution tape. Standard PPE to be worn within Power Plant. Contact PP Operators to isolate equipment and for LO/TO.

APPROVALS

WORK CONTROL TEAM LEAD: Robert Simpson 240725 8/12/15

WAR ROOM MANAGER: Ben May 166938 8-12-15

WAR ROOM MANAGER: 238531 8-12-15

Los Alamos NATIONAL LABORATORY

PRINT CLEARLY SO NAMES AND NUMBERS CAN BE READ!

Suggested Source: WAREHOUSE ISSUE

Requestor: JOHN HOBBS

Requestor's Z #: 153680

Requestor's Phone # 412-7327

Work order-Task# 525084-01

ML level: (Check) 1 ☐ 2 ☐ 3 ☐ 4 ☒

Priority: (Check) 1 ☐ 2 ☐ 3 ☐ 4 ☒

Requisition Type:

☒ WAREHOUSE ISSUE
☐ CMA/GRACELAND

	QTY	U.O.M.	ITEM#	DESCRIPTION	ISSUE COMPLETE
1.	12	EG	291918181	18X18X1" (PLT LIHZ)	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

PICKED UP BY SIGNATURE & Z# John Hobbs 153680

DATE: 9/8/15

WAREHOUSE PERSONNEL NAME: Chan Sanchez 176445

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-002: Attachment 11
Maintenance and Site Services Work Completion Form

Work Order/Task: 525084-01

Start Date: 9-8-15	Completion Date: 9-8-15

SUMMARIZE THE WORK PERFORMED

Date 9-8-15	CHANGED FILTER AND CLEAN EXTERIOR OF DEVICES
	* Un-able to clean interiors
	due to restriction (UFD)

FOR CORRECTIVE WORK – WHAT FAILED AND WHAT WAS FIXED

	N/A

FOR PMs – SUMMARIZE AS FOUND AND AS LEFT CONDITIONS BELOW

As found	Dirty
As left	Clean
Parts/Repairs	Filters
Read/meas.	
Post test info.	

Problems Encountered (delays, safety, etc.): None

Lessons Learned/Recommendations: None

Name: John Hobbs Carlos Chacon **Signature:** [signature] [signature] **Date:** 9-8-15 9-8-5

TIMM611 - WORK ORDER/TASK COST SUMMARY

Select to view audit detail. Use Execute to recalculate percent complete.

W/O No.	00525084	Task	
W/O Status	AWAIT/C	W/O Type	PM
Desc	PP 1M TA3-22 VID/VFD/FGR FILTERS		
%Complete			

Execute

Loaded Cost

Component	Est Hrs	Est Cost	Act Hrs	Act Cost	Cmpl Hours	Cmpl Cost
Comp Lbr	26.00	$1,505.20	14.00	$823.55		
Cont Lbr						
In Svcs						
Out Svcs						
Stocked						
Direct				$98.17		
Equip/Veh						
Misc						
Sub Total		$1,505.20		$921.72		
Salvage						
Total		$1,505.20		$921.72		

TIMM611 - WORK ORDER/TASK COST SUMMARY

Select to view audit detail. Use Execute to recalculate percent complete.

W/O No.	00525084	Task	
W/O Status	COMPLETE	W/O Type	PM
Desc	PP 1M TA3-22 VID/VFD/FGR FILTERS		
%Complete			

Execute

Loaded Cost

Component	Est Hrs	Est Cost	Act Hrs	Act Cost	Cmpl Hours	Cmpl Cost
Comp Lbr	26.00	$1,505.20	14.00	$823.55		
Cont Lbr						
In Svcs						
Out Svcs						
Stocked						
Direct				$98.17		
Equip/Veh						
Misc						
Sub Total		$1,505.20		$921.72		
Salvage						
Total		$1,505.20		$921.72		

10-1-10-2

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To: TA03-0022 FAN, FLUE GAS RECIRCULING (FGR
Task Dspln: Due Date: 10/31/2015

Hazard: LOW IWD Reqmt: N/A LOW HZRD

Los Alamos NATIONAL LABORATORY

Work Order Task

00527617 01

MASTER

Date: 08/05/2015
Page: 1

Work Order Task Written To

Facility : F08 **Unit : 030022** **Op Sys :**
Room : **Area :** **Sys/Cls:**
Equipment : **Component:**
Location :
Job Type : PM
Tag 1 : Tag 2 :
Work Item : TA03-0022 FGR Ops Review Reqd:

Authorization

Start Permission : Start Date: 9-28-15
Complete Notice : Complete Date: 10-13-15

NOTE:

*** Refer to attached Form 2101 - Non-Tenant Activity Form - or Form 2102- Tenant Activity Form - for a description of site specific training or escort and access requirements.**

Work Order Task Instructions

FURTHER INSTRUCTIONS/DETAILS
PERFORM UMI AS PER UM 76-39-014

QC Requirements/Comments

Rework Reason/Cause

		(Y/N)
CDSG	CUSTOMER DESIGN	
IMCW	IMPROPER CONSTRUCTION/WORKMANSHIP	
IMDN	IMPROPER DESIGN	
PDMS	PARTS/MATERIAL DID NOT MEET SPECIFICATIONS	

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To: TA03-0022 FAN, FLUE GAS RECIRCULING (FGR
Task Dspln: Due Date: 10/31/2015

Hazard: LOW IWD Reqmt: N/A LOW HZRD

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00527617 01

MASTER

Date: 08/05/2015
Page: 2

WR WARRANTY REWORK/REPAIR
Date: Hours: Crew: Shift:
Comments:

Rework/Approval

Deficiency Tag No.: Loc: Tag Removed:
ReWork Job : N Comments:

Trouble Found/Work Performed

Continued on Additional Sheets? : _____

Work Delay Reason

(Y/N)

A ACCESS
Date: Hours: Crew: Shift:
EQPT EQUIPMENT
Date: Hours: Crew: Shift:
MISC MISCELLANEOUS
Date: Hours: Crew: Shift:
OPS OPERATIONS
Date: Hours: Crew: Shift:
P POOR PLANNING
Date: Hours: Crew: Shift:
S SAFETY
Date: Hours: Crew: Shift:
SCH SCHEDULING
Date: Hours: Crew: Shift:
T TRAVEL
Date: Hours: Crew: Shift:

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To: TA03-0022 FAN, FLUE GAS RECIRCULING (FGR
Task Dspln: Due Date: 10/31/2015

Hazard: LOW IWD Reqmt: N/A LOW HZRD

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00527617 01

MASTER

Date: 08/05/2015
Page: 3

W WEATHER
Date: Hours: Crew: Shift:
Comments:

Major Failure/Action Taken

Major Failure : Action Taken :
Deficiency Tag Loc: Removed (Y/N):
Deficiency Tag No.: Limited Cond Operation:

Work Completion Signatures

Name	Function/Dept.	Date
Chris Sabazar	Log-CS / MAINT.	10-1-15

Comments:
(rework?)

Equipment List Exceptions

Equip List	Rev	Equip List Description
SM22 FGR	000	TA03-0022 FAN, FLUE GAS RECIRCULATING

Fac	Unit	Op Sys	Division	Area	System	Class
F08	030022	BL1	B1BSWT		U	ML4

Equipment: FAN FGR-001

Name : FAN, FLUE GAS RECIRCULATING
Equip Tag:
Loc Desc : 03-0022
Exception Reason:

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To: TA03-0022 FAN, FLUE GAS RECIRCULING (FGR
Task Dspln: Due Date: 10/31/2015

Hazard: LOW IWD Reqmt: N/A LOW HZRD

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00527617 01

MASTER

Date: 08/05/2015
Page: 4

Fac	Unit	Op Sys	Division	Area	System	Class
F08	030022	BL2	B2BSNO		U	ML4

Equipment: FAN FGR-002
Name : FLUE GAS RECIRCULATING FAN
Equip Tag:
Loc Desc : 03-0022
Exception Reason:

Fac	Unit	Op Sys	Division	Area	System	Class
F08	030022	BL3	B3BSNO		U	ML4

Equipment: FAN FGR-003
Name : FLUE GAS RECIRCULATING FAN
Equip Tag:
Loc Desc : 03-0022
Exception Reason:

Cost Center: P2030A Activity : 640CL000 User Def:
Percentage : 100.000 Acct No : XU5000 7E2P0000

Facility: F08 Unit: 030022 Proj:
Task Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE

W/O Type: PM W/O Group: UTIL Task Priority: 4
Planner : 170621 SANCHEZ K F
W/O Title: PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To: TA03-0022 FAN, FLUE GAS RECIRCULING (FGR
Task Dspln: Due Date: 10/31/2015

Hazard: LOW IWD Reqmt: N/A LOW HZRD

Los Alamos NATIONAL LABORATORY EST. 1943

Work Order Task

00527617 01

MASTER

Date: 08/05/2015
Page: 5

Work Order Task Written To

Facility : F08 **Unit : 030022** **Op Sys :**
Room : **Area :** **Sys/Cls:**
Equipment : **Component:**
Location :
Job Type : PM
Tag 1 : Tag 2 :
Work Item : TA03-0022 FGR Ops Review Reqd:

Print Request - Work Order Documents

Facility	Type/Subtype		Document Number	Sheet	Image Addr
F08	PROC	INS	76-39-014	76-39-014	
			TA03 PP SERVICING FLUE GAS RECIRC FAN BEARINGS		

References/Document Information

Type/Subtyp: PROC INS Number: 76-39-014 Sheet: 76-39-014
Title/Desc : TA03 PP SERVICING FLUE GAS RECIRC FAN BEARINGS Image: N

***** E N D O F R E P O R T *****

5276(7-0)

Form 2101

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____ Revision #: _____

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD	TA	Bldg.	Room	Other Location
8	03	22	N/A	Power Plant Bldg - Inside
FOD Designated Facility Point-of-Contact	Name Pablo C de Vaca	Phone 699-8226	Pager n/a	Email pfc@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☐ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☐ Work-Area Training Required
- ☒ Work must be Scheduled
- ☒ Check in Daily
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☒ Check out Daily
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Other Bounding Conditions PIC is responsible to conduct a pre-job brief for work activities to ensure that work conditions and worker communications are adequate. A pre job briefing shall be conducted at the job site. UI-OPS will determine if onsite ESH representation is required during work activities.

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

All work must be approved by the Utilities FOD or UI-OPS. POD/POTW-contact Facility POC. No Smoking around Natural Gas Systems. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Check in with Plant Operations Manager/Specialist or Operations Shift Head for final approval to proceed with tasks. All personnel entering area must view the site specific training video in room 116 (Boiler Control Room), one time requirement. Observe safety signs and floor markings in all buildings and areas. No safety shoes required for visitors if escorted by Operations or UI Engineering personnel. The West end front lobby and office areas of Bldg 22 are considered a no hazard area.

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				

52761701

IWD No./Work Request No: _____ Revision #: _____

ESH/S&S WORK AREA HAZARDS & CONTROLS				
Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
Ionizing Radiation Work in posted radiological areas, work with radioactive materials or work on or near radiation producing devices. **Specify Hazards:**	☐ Yes ☒ No			
Worker Exposure Working near chemicals, asbestos, temperature/humidity extremes: High temperature boiler equipment, High temperature Water/Steam, Boiler Water Treatment Chemicals, Asbestos.	☒ Yes ☐ No	Required PPE: Hard hat, safety shoes, safety glasses. Hearing protection (noise > 85 dba). Avoid hot surfaces and piping. **Long sleeve shirt or Ansell sleeves or coveralls. Gloves when operating valves or contacting pipe/fitting openings where there is potential for hot water/steam release.** **Be aware of encapsulated asbestos. Follow LANL Asbestos program/rqmts if PACM identified outside containment.** **Be aware of chemical containers and check labeling. Be aware of piping, associated systems for any leaks. If chemical leak is noticed contact operations manager, IH&S Rep during regular working hrs. Over100 gallons of a chemical spill leave area, and control access. Call Serf Operators 667-8982 or by Radio Lanl 2 Util 6 For mitigation cleanup process.** **For after-hours contact the UI Duty Officer, 699-7452 to re-assess any abnormal situation**	• P101-6 PPE • P101-23 Asbestos • P101-31 Hearing Conservations/Noise Program	• LANL PPE or equivalent • Hearing protection • Site specific training • Asbestos awareness
Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations.	☒ Yes ☐ No	Stay within established walking areas. Observe safety signage alarm lights and horns. Identify explosive hazards and follow task specific IWD if working on plant equipment or components. **Note: All**	**P101-13 Electrical Safety** **P101-3 LOTO** **P101-34 Pressure, Vacuum, Cryogenic**	**Site Specific Training video.** **Electrical Safety LOTO if applicable to task.**

527617-01

Specify Hazards: Energized/rotating equipment, High Temperature, High Pressure Water and Steam equipment.		**TA3-22 LOTOs require independent verification and written specific procedure. If questions consult with UI system engineer, Operation Mgr. Designee, or Safety rep.**	**System**	
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards**: Confined Space	☒ Yes ☐ No	Observe confined space signs or markings and follow LANL Confined Space Requirements if task requires confined space entry.	P101-27 Confined Space	Confined Space Traning
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☒ Yes ☐ No	Stay within established walking areas, stairways and paths. Observe safety signage. Follow LANL Fall Protection Requirements if task on roofs or work above 4 feet.	P101-20.0	Fall Protection
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:**	☐ Yes ☒ No			
Security Requirements **Specify:**	☐ Yes ☒ No			
Other Hazards Look-alike Equipment in the vicinity of work site may contain un-controlled hazardous energy.	☒ Yes ☐ No	Adequette barriers and controls will be established to prevent unauthorized personnel/workers from entering job site and encounter uncontrolled hazards.	IWD	Pre-job briefing emphasis. Worker confirmation of look-alike potential hazards, locations and barriers set in place to identify those potential hazards.

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** [signature] 088584 6/25/2015

Date Approval Expires 12/31/2015

Form 2103

Los Alamos NATIONAL LABORATORY EST. 1943

Integrated Work Document (IWD) Part 3, Validation and Work Release

IWD #:_____ Revision #:_____ **Work Release**

By signing below, I verify this activity is compatible with current facility configuration and operating conditions.

FOD designated Ops Mgr or other facility point-of-contact for work area

Signature/Z#/Date **(If required by FOD)**: _____

Note: For Standing IWD, release may be given concurrently with signatures on Part 2.

By signing below, I have verified the following:

- I have verified authorization by ensuring approval signatures of the RLM and FOD.
- I have jointly conducted a validation walkdown with workers to confirm the IWD can be performed as written, required initial conditions and other prerequisites are in-place.
- The assigned workers are authorized and are qualified to perform the work in a safe, secure, and environmentally responsible manner.
- I have conducted the pre-job briefing, and all workers have been briefed.
- I have ensured coordination with any required FOD work-area representatives (*e.g., area work coordinators*).

Primary PIC (Signature/Z#/Date) **Required:** [signature] 171769 10/1/2015

Alternate PIC Signatures **acknowledges** PIC authority is assumed for the first time *(Note: Alternate PICs are required to sign only once, but formal handoff includes conferring with previous PIC to obtain all required information associated with the handoff).*

Alternate PIC (Signature/Z#/Date) **Required:** _____

Alternate PIC (Signature/Z#/Date) **Required:** _____

Pre-Job Brief Content

- What are the critical steps or phases of this activity?
- How can we make a mistake at that point?
- What is the worst thing that can go wrong?
- What controls, preventive measures, and bounding conditions are needed?
- What work permits are required and how will we meet their requirements?
- What are the handoffs and coordination requirements among workers and multiple PICs?
- Are there hold-points including those that require sign-offs?
- What are the pause/stop work responsibilities and expectations (e.g. for unanticipated conditions or hazards)?
- How would we respond to alarms and emergencies?
- Are there lessons learned from previous similar work?
- Is other information needed to perform this activity in a safe, secure, and environmentally responsible manner?
- Does everyone agree to the work tasks/steps, hazards, and controls and commit to follow them?

Pre-Job Brief Attendance Roster

By signing below **as required**, I agree to the following:

- I agree to follow the work steps and implement the controls as written as applicable to my work assignments.
- I agree to pause/stop work when conditions or hazards change or when I encounter unexpected conditions during the execution of work, or when work cannot be performed as written, or instructions become unclear during execution.
- I confirm that I am authorized, qualified, and fit to perform the work.

Worker (Signature/Z#/Date) Chris Salazar 202847 10-1-15	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date) [signature] 195149 10-1-15	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)
Worker (Signature/Z#/Date)	**Worker** (Signature/Z#/Date)

527617-01

UTILITIES AND INSTITUTIONAL FACILITIES

Los Alamos

UI-PROC-76-39-014-R1

Maintenance Procedure

TA-03 Power Plant – Servicing Flue Gas Recirculating Fan Bearings

Review frequency: 1 yr ☐ 2 yr ☐ 3 yr ☒

Process Owner	Signature	Date
Armond Standley	Armond Standley	5-19-2014
Power Plant Maintenance Engineer		

Reviewed by	Signature	Date
Phil Romero	Phil Romero	6/9/14
ESH Manager		

Approved by	Signature	Date
Scott McBride	[illegible]	6/20/14
Maintenance Manager		

Reviewed by	Signature	Date
Harold Shearer	[illegible]	6/24/14
Derivative Classifier	Unclassified	

UNCLASSIFIED

History of Revisions

Document Number	Issue Date	Action
UI-PROC-76-39-014-R1	6/24/14	Review and reissue with changes.
UI-PROC-76-39-014-R0	01/25/11	Convert from KSL to U&I procedure. Minor changes, including title.
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2 Scope/Applicability 5
3 Prerequisites 5
4 Precautions and Limitations 5
5 Equipment, Supplies, etc. 6
6 Responsibilities 6
7 Procedural Steps 6
7.1 Lubricate Bearings 6
7.2 Follow-on Tasks 7
8 Records 8
9 Abbreviations, Acronyms, and Terms 8
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Utilities & Institutional Facilities
Maintenance Procedure

TA-03 Power Plant – Servicing Flue Gas Recirculating Fan Bearings

1 Purpose

The purpose of this procedure is to provide instructions for lubricating the bearings on the Flue Gas Recirculating (FGR) Fans (FGR-001, -002, -003) located at the TA-03-22 Power Plant.

2 Scope/Applicability

1. This maintenance procedure, UI-PROC-76-39-014-R1, Servicing Flue Gas Recirculating Fan Bearings, may only be worked in conjunction with a work control package that has been processed in accordance with the requirements contained in AP-WORK-002 R10, Work Planning. The procedure may not be used as a stand-alone work control document.
2. Affected Personnel: Power Plant Maintenance Personnel

3 Prerequisites

1. Required training and qualifications:
   a. Utilities & Institutional Facilities (UI) procedures and work control processes
   b. The current procedure and equipment
   c. On-the-job training (OJT)
   d. P101-3, Lockout/Tagout for Hazardous Energy Control
   e. P101-18, Procedure for Pause/Stop Work
2. Pre-job briefing

4 Precautions and Limitations

1. Required Personal Protective Equipment (PPE):
   - Hardhat
   - Steel-toe safety shoes
   - Safety glasses with side shields

- Hearing protection
- Leather gloves

2. *When in operation, the FGR fan bearings should be lubricated on a biweekly basis.*

   When the FGR is not in operation, DO NOT lubricate the bearings.

5 Equipment, Supplies, etc.

1. Equipment, tools, instruments
   - Grease gun with Ultralube headphones
   - Strap wrench
2. Supplies, materials, parts
   - Grease – Mobilith SHC 100

6 Responsibilities

1. Persons performing this procedure are responsible for—
   - Complying with its requirements
   - Notifying Foreman or Superintendent of equipment damage or other conditions that could require corrective action
   - Issuing a PAUSE/STOP Work Order whenever warranted by conditions related to health or safety in accordance with P101-18, Procedure for Pause/Stop Work
2. Managers are responsible for ensuring procedure compliance.

7 Procedural Steps

7.1 Lubricate Bearings

DO NOT lubricate the bearings if the FGR fan is NOT in operation or in service so that proper amount of grease can be applied using headphones.

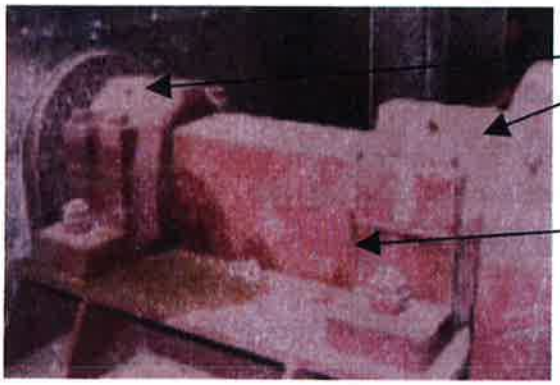
You can hear when grease reaches the bearing rolling element. At this point, stop adding grease to prevent bearing damage from overheating, per UI-PROC-76-21-500, Lubricating Grease-Lubed Motor Bearings.

527617-01

There are two bearings on the fan, each with its own zerk plug. See Figure 1.

1. Use grease gun with the Ultralube headphones to insert the correct amount of Mobilith SHC 100 grease into zerk fitting.
   a. Refer to UI-PROC-76-21-500, Lubricating Grease-Lubed Motor Bearings.
   b. Apply grease while fan is running and stop when you hear the grease enter the running bearing.

Figure 1. FGR Fan Drive. Remove the shaft guard located in the middle of the drive. The two zerk plugs are located on each of the two bearings.



7.2 Follow-on Tasks

1. If problems are found, immediately notify Foreman and Superintendent so corrective action can be taken.

   Will corrective action be required?

   ☐ Yes ☒ No

2. ☒ All tasks in this procedure have been completed.

Chris Salazar — Signature
202847 — Z-number
CHRIS SALAZAR — Print name
10-1-15 — Date

This procedure is complete. Include the procedure number on the Work Documentation Form and attach signed copy of procedure to the Work Package.

527617-01

8 Records

Not applicable

9 Abbreviations, Acronyms, and Terms

Abbreviation, Acronym, or Term	Definition
ESH	Environment, Safety, and Health
FGR	Flue Gas Recirculating
OJT	On-the-job-training
PPE	Personal Protective Equipment
UI	Utilities & Institutional Facilities

10 References

AP-WORK-002 R10, Work Planning

P101-3, Lockout/Tagout for Hazardous Energy Control

P101-18, Procedure for Pause/Stop Work

Robinson Industries, Inc., Operating & Maintenance Instructions

UI-PROC-76-21-500, Lubricating Grease-Lubed Motor Bearings

11 Appendices and Attachments

None

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-002: Attachment 11
Maintenance and Site Services Work Completion Form

Work Order/Task: 527617-01

Start Date: 10/1/2015	Completion Date: 10-1-15

SUMMARIZE THE WORK PERFORMED

Date	
10/1/2015	Hold Pre Job Briefing, Discussed work Tasks & hazards
10-1-15	Informed operations of work to be completed. Had operations line up FGR fan #1 & #2 greased fan using SCH100, cleaned motor & bearing. Informed operations when work was completed

FOR CORRECTIVE WORK – WHAT FAILED AND WHAT WAS FIXED

FOR PMs – SUMMARIZE AS FOUND AND AS LEFT CONDITIONS BELOW

As found	
As left	
Parts/Repairs	
Read/meas.	
Post test info.	

Problems Encountered (delays, safety, etc.):

Could not grease FGR Fan #3 do to power center #3 is down. Check fan bearing grease is still good from boiler maintenance fan has not been on.

Lessons Learned/Recommendations:

None

Name: BRIAN ORTIZ **Signature:** [signature] **Date:** 10-1-15

CHRIS SALAZAR Chris Salazar 10-1-15

J. Milton [signature] 10/1/2015

TIMM611 - WORK ORDER/TASK COST SUMMARY

Select to view audit detail. Use Execute to recalculate percent complete.

W/O No.	00527617	**Task**	
W/O Status	AWAIT/C	**W/O Type**	PM
Desc	PP 1M TA3-22 FGR BEARINGS, LUBRICATE		
%Complete			

Execute

Loaded Cost

Component	Est Hrs	Est Cost	Act Hrs	Act Cost	Cmpl Hours	Cmpl Cost
Comp Lbr	7.30	$412.48	6.00	$345.78		
Cont Lbr						
In Svcs						
Out Svcs						
Stocked						
Direct						
Equip/Veh						
Misc						
Sub Total		$412.48		$345.78		
Salvage						
Total		$412.48		$345.78		

Nov. 2015

UTILITIES AND INSTITUTIONAL FACILITIES

Los Alamos NATIONAL LABORATORY

UI-PROC-76-39-014-R1

Maintenance Procedure

TA-03 Power Plant – Servicing Flue Gas Recirculating Fan Bearings

Review frequency: 1 yr ☐ 2 yr ☐ 3 yr ☒

Process Owner	Signature	Date
Armond Standley	Armond Standley	5-19-2014
Power Plant Maintenance Engineer		

Reviewed by	Signature	Date
Phil Romero	Phil Romero	6/9/14
ESH Manager		

Approved by	Signature	Date
Scott McBride	[illegible]	6/20/14
Maintenance Manager		

Reviewed by	Signature	Date
Harold Salazar	[illegible]	6/24/14
Derivative Classifier	Unclassified	

UNCLASSIFIED

History of Revisions

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UI-PROC-76-39-014-R1	6/24/14	Review and reissue with changes.
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Utilities & Institutional Facilities
Maintenance Procedure

TA-03 Power Plant – Servicing Flue Gas Recirculating Fan Bearings

1 Purpose

The purpose of this procedure is to provide instructions for lubricating the bearings on the Flue Gas Recirculating (FGR) Fans (FGR-001, -002, -003) located at the TA-03-22 Power Plant.

2 Scope/Applicability

1. This maintenance procedure, UI-PROC-76-39-014-R1, Servicing Flue Gas Recirculating Fan Bearings, may only be worked in conjunction with a work control package that has been processed in accordance with the requirements contained in AP-WORK-002 R10, Work Planning. The procedure may not be used as a stand-alone work control document.
2. Affected Personnel: Power Plant Maintenance Personnel

3 Prerequisites

1. Required training and qualifications:
   a. Utilities & Institutional Facilities (UI) procedures and work control processes
   b. The current procedure and equipment
   c. On-the-job training (OJT)
   d. P101-3, Lockout/Tagout for Hazardous Energy Control
   e. P101-18, Procedure for Pause/Stop Work
2. Pre-job briefing

4 Precautions and Limitations

1. Required Personal Protective Equipment (PPE):
   - Hardhat
   - Steel-toe safety shoes
   - Safety glasses with side shields

- Hearing protection
- Leather gloves

2. *When in operation, the FGR fan bearings should be lubricated on a biweekly basis.*

   When the FGR is not in operation, DO NOT lubricate the bearings.

5 Equipment, Supplies, etc.

1. Equipment, tools, instruments
   - Grease gun with Ultralube headphones
   - Strap wrench
2. Supplies, materials, parts
   - Grease – Mobilith SHC 100

6 Responsibilities

1. Persons performing this procedure are responsible for—
   - Complying with its requirements
   - Notifying Foreman or Superintendent of equipment damage or other conditions that could require corrective action
   - Issuing a PAUSE/STOP Work Order whenever warranted by conditions related to health or safety in accordance with P101-18, Procedure for Pause/Stop Work
2. Managers are responsible for ensuring procedure compliance.

7 Procedural Steps

7.1 Lubricate Bearings

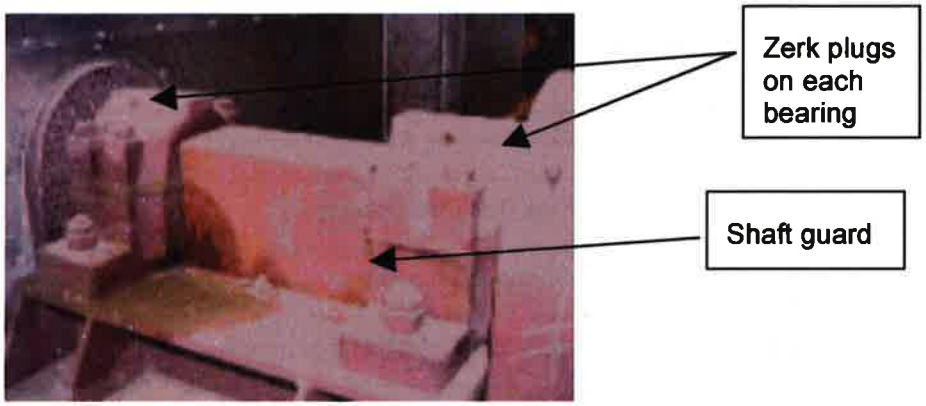
DO NOT lubricate the bearings if the FGR fan is NOT in operation or in service so that proper amount of grease can be applied using headphones.

You can hear when grease reaches the bearing rolling element. At this point, stop adding grease to prevent bearing damage from overheating, per UI-PROC-76-21-500, Lubricating Grease-Lubed Motor Bearings.

There are two bearings on the fan, each with its own zerk plug. See Figure 1.

1. Use grease gun with the Ultralube headphones to insert the correct amount of Mobilith SHC 100 grease into zerk fitting.
   a. Refer to UI-PROC-76-21-500, Lubricating Grease-Lubed Motor Bearings.
   b. Apply grease while fan is running and stop when you hear the grease enter the running bearing.

Figure 1. FGR Fan Drive. Remove the shaft guard located in the middle of the drive. The two zerk plugs are located on each of the two bearings.



7.2 Follow-on Tasks

1. If problems are found, immediately notify Foreman and Superintendent so corrective action can be taken.

   Will corrective action be required?

   ☐ Yes ☒ No

2. ☒ All tasks in this procedure have been completed.

Signature: Brian Ortiz Z-number: 195149

Print name: BRIAN ORTIZ Date: 11/4/15

This procedure is complete. Include the procedure number on the Work Documentation Form and attach signed copy of procedure to the Work Package.

8 Records

Not applicable

9 Abbreviations, Acronyms, and Terms

Abbreviation, Acronym, or Term	Definition
ESH	Environment, Safety, and Health
FGR	Flue Gas Recirculating
OJT	On-the-job-training
PPE	Personal Protective Equipment
UI	Utilities & Institutional Facilities

10 References

AP-WORK-002 R10, Work Planning

P101-3, Lockout/Tagout for Hazardous Energy Control

P101-18, Procedure for Pause/Stop Work

Robinson Industries, Inc., Operating & Maintenance Instructions

UI-PROC-76-21-500, Lubricating Grease-Lubed Motor Bearings

11 Appendices and Attachments

None

Dec. 2015

Facility : F08 **Unit** : **Proj** :
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group** : UTIL **Task Priority** : 4
Planner : 189099 LOPEZ THERESA M
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date** : 12/31/2015
Superintendant :
Hazard : LOW **IWD Reqmt** : N/A LOW HZRD

Work Order Task

00532479 01

MASTER

Date: 10/08/2015

Work Order Task Written To

Facility : F08 **Unit** : **Op Sys** :
Room : **Area** : **Sys/Cls** :
Equipment : **Component** :
Location :
Job Type : PM
Tag 1 : **Tag 2** :
Work Item : TA03-0022 FGR **Ops Review Reqd** :

Authorization

Start Permission : **Start Date** :

Complete Notice : **Complete Date** :

Work Order Task Instructions

FURTHER INSTRUCTIONS/DETAILS
PERFORM UMI AS PER UM 76-39-014

QC Requirements / Comments

Facility : F08 **Unit** : **Proj** :
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group** : UTIL **Task Priority** : 4
Planner : 189099 LOPEZ THERESA M
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date** : 12/31/2015
Superintendant :
Hazard : LOW **IWD Reqmt** : N/A LOW HZRD

Work Order Task

00532479 01

MASTER

Date: 10/08/2015

Work Completion Signatures

Name	Function/Dept.	Date

Comments

(rework?)

Cost Accounting

Cost Center : P2030A **Activity** : 640CL000

Percentage : 100 **Acct No** : XU5000 **Sub Acct** : 7E2P0000

Facility : F08 **Unit** : **Proj** :
Task Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
W/O Type : PM **W/O Group** : UTIL **Task Priority** : 4
Planner : 189099 LOPEZ THERESA M
W/O Title : PP 1M TA3-22 FGR BEARINGS, LUBRICATE
Written To : TA03-0022 FAN, FLUE GAS RECIRCULING (FGR-001, FGR-002, FGR-003)
Task Dspln : **Due Date** : 12/31/2015
Superintendant :
Hazard : LOW **IWD Reqmt** : N/A LOW HZRD

Work Order Task

00532479 01

MASTER

Date: 10/08/2015

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-002: Attachment 11
Maintenance and Site Services Work Completion Form

Work Order/Task: _____

Start Date:	Completion Date:

SUMMARIZE THE WORK PERFORMED	
Date	

FOR CORRECTIVE WORK – WHAT FAILED AND WHAT WAS FIXED	

FOR PMs – SUMMARIZE AS FOUND AND AS LEFT CONDITIONS BELOW	
As found	
As left	
Parts/Repairs	
Read/meas.	
Post test info.	

Problems Encountered (delays, safety, etc.):	

Lessons Learned/Recommendations:	

Name: Chris Salazar **Signature:** **Date:**

Los Alamos NATIONAL LABORATORY EST. 1943

AP-WORK-002: Attachment 11
Maintenance and Site Services Work Completion Form

PIC/SUPT

☒ PM has been completed in its entirety and ready for closure.

IF A PM COULD NOT BE COMPLETED:

☐ Percentage complete is _____%

☐ Sections that did not work and need to be rescheduled

_____

Reasons why:

MAINTENANCE COORDINATOR/AREA WORK COORDINATOR

Work Package is Complete and may be closed out: YES ☒ NO ☐

IF no: State Reason

Additional Work Needed? ☐ YES ☒ NO

Document UP/WO/FSR Number: _____

ENGINEERING (FOR MD and CD Work Orders)

IF a configuration baseline has been changed, THEN indicate the changes are to be incorporated into the following documents and/or configuration baseline:

☐ Drawings ☐ FDD/SDD

☐ Procedures ☐ Master Equipment List

☐ Permits ☐ Checklists

SE Name: Signature: Date:

WORK CONTROL

Moderate/High Hazard – WMC/Planner reviewed for Lessons Learned/Feedback

☐ YES ☐ NO N/A ☐

☐ Review of the completed work package is complete per AP-WORK-005, and the work package is ready to be set to complete in CMMS.

UTILITIES AND INSTITUTIONAL FACILITIES

Los Alamos NATIONAL LABORATORY

UI-PROC-76-39-014-R1

Maintenance Procedure

TA-03 Power Plant – Servicing Flue Gas Recirculating Fan Bearings

Review frequency: 1 yr ☐ 2 yr ☐ 3 yr ☒

Process Owner	Signature	Date
Armond Standley	Armond Standley	5-19-2014
Power Plant Maintenance Engineer		

Reviewed by	Signature	Date
Phil Romero	Phil Romero	6/9/14
ESH Manager		

Approved by	Signature	Date
Scott McBride	[illegible]	6/20/14
Maintenance Manager		

Reviewed by	Signature	Date
HAROLD SHAFER	[illegible]	6/24/14
Derivative Classifier	UNCLASSIFIED	

UNCLASSIFIED

History of Revisions

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Utilities & Institutional Facilities
Maintenance Procedure

TA-03 Power Plant – Servicing Flue Gas Recirculating Fan Bearings

1 Purpose

The purpose of this procedure is to provide instructions for lubricating the bearings on the Flue Gas Recirculating (FGR) Fans (FGR-001, -002, -003) located at the TA-03-22 Power Plant.

2 Scope/Applicability

1. This maintenance procedure, UI-PROC-76-39-014-R1, Servicing Flue Gas Recirculating Fan Bearings, may only be worked in conjunction with a work control package that has been processed in accordance with the requirements contained in AP-WORK-002 R10, Work Planning. The procedure may not be used as a stand-alone work control document.
2. Affected Personnel: Power Plant Maintenance Personnel

3 Prerequisites

1. Required training and qualifications:
   a. Utilities & Institutional Facilities (UI) procedures and work control processes
   b. The current procedure and equipment
   c. On-the-job training (OJT)
   d. P101-3, Lockout/Tagout for Hazardous Energy Control
   e. P101-18, Procedure for Pause/Stop Work
2. Pre-job briefing

4 Precautions and Limitations

1. Required Personal Protective Equipment (PPE):
   - Hardhat
   - Steel-toe safety shoes
   - Safety glasses with side shields

- Hearing protection
- Leather gloves

2. *When in operation, the FGR fan bearings should be lubricated on a biweekly basis.*

   When the FGR is not in operation, DO NOT lubricate the bearings.

5 Equipment, Supplies, etc.

1. Equipment, tools, instruments
   - Grease gun with Ultralube headphones
   - Strap wrench
2. Supplies, materials, parts
   - Grease – Mobilith SHC 100

6 Responsibilities

1. Persons performing this procedure are responsible for—
   - Complying with its requirements
   - Notifying Foreman or Superintendent of equipment damage or other conditions that could require corrective action
   - Issuing a PAUSE/STOP Work Order whenever warranted by conditions related to health or safety in accordance with P101-18, Procedure for Pause/Stop Work
2. Managers are responsible for ensuring procedure compliance.

7 Procedural Steps

7.1 Lubricate Bearings

DO NOT lubricate the bearings if the FGR fan is NOT in operation or in service so that proper amount of grease can be applied using headphones.

You can hear when grease reaches the bearing rolling element. At this point, stop adding grease to prevent bearing damage from overheating, per UI-PROC-76-21-500, Lubricating Grease-Lubed Motor Bearings.

There are two bearings on the fan, each with its own zerk plug. See Figure 1.

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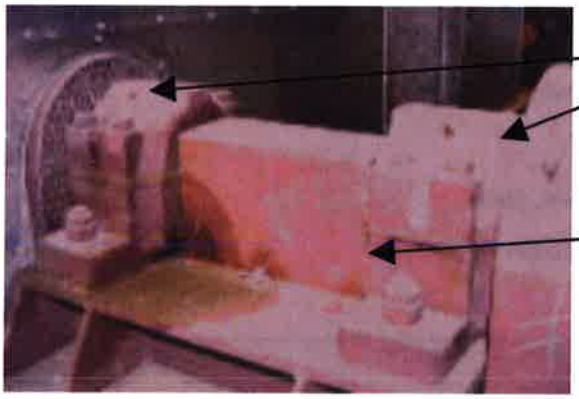
Figure 1. FGR Fan Drive. Remove the shaft guard located in the middle of the drive. The two zerk plugs are located on each of the two bearings.



7.2 Follow-on Tasks

1. If problems are found, immediately notify Foreman and Superintendent so corrective action can be taken.

   Will corrective action be required?

   ☐ Yes ☒ No

2. ☒ All tasks in this procedure have been completed.

Chris Salazar — Signature
202847 — Z-number
CHRIS SALAZAR — Print name
12/8/15 — Date

This procedure is complete. Include the procedure number on the Work Documentation Form and attach signed copy of procedure to the Work Package.

8 Records

Not applicable

9 Abbreviations, Acronyms, and Terms

Abbreviation, Acronym, or Term	Definition
ESH	Environment, Safety, and Health
FGR	Flue Gas Recirculating
OJT	On-the-job-training
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UI	Utilities & Institutional Facilities

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P101-18, Procedure for Pause/Stop Work

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UI-PROC-76-21-500, Lubricating Grease-Lubed Motor Bearings

11 Appendices and Attachments

None

Los Alamos NATIONAL LABORATORY EST. 1943

Form 2101

Integrated Work Document (IWD) Part 2, FOD Requirements and Approval for Entry and Area Hazards and Controls

Non-Tenant Activity Form

IWD No./Work Request No: _____ Revision #: _____

Facility Operation Director (FOD) must determine the facility entry and coordination requirements and identify the Environment, Safety, Health (ESH)/Security and Safeguards (S&S) hazards and controls associated with the activity location.

FOD	TA	Bldg.	Room	Other Location
8	03	22	N/A	Power Plant Bldg - Inside
FOD Designated Facility Point-of-Contact	Name Pablo C de Vaca	Phone 699-8226	Pager n/a	Email pfc@lanl.gov

Entry and Coordination Requirements (*Check one or more of the following*)

- ☐ No Entry/Coordination Requirements
- ☒ Plan of the Day/Plan of the Week (POTD/POTW)
- ☐ Security Clearance Requirements
- ☐ Co-located Hazards/Concerns
- ☒ Check out at End of Work
- ☐ Escort Required
- ☐ FOD-designated facility Point-of-Contact must sign IWD Part 3
- ☒ Check in at Start of Work
- ☐ Work-Area Training Required
- ☒ Work must be Scheduled
- ☒ Check in Daily
- ☐ Other Security Requirements (ex.: Cellphone, No Foreign Nationals, etc.)
- ☐ Quality Issues
- ☒ Check out Daily
- ☐ Review under Authorization Basis (AB)/Safety Basis/Unreviewed Safety Question (USQ)
- ☒ Other Bounding Conditions PIC is responsible to conduct a pre-job brief for work activities to ensure that work conditions and worker communications are adequate. A pre job briefing shall be conducted at the job site. UI-OPS will determine if onsite ESH representation is required during work activities.

Additional Comments (refer to Job Hazard Analysis [JHA] Tool Facility Notes)

All work must be approved by the Utilities FOD or UI-OPS. POD/POTW-contact Facility POC. No Smoking around Natural Gas Systems. Evaluate inside floor and housekeeping conditions to safely proceed with activities. Check in with Plant Operations Manager/Specialist or Operations Shift Head for final approval to proceed with tasks. All personnel entering area must view the site specific training video in room 116 (Boiler Control Room), one time requirement. Observe safety signs and floor markings in all buildings and areas. No safety shoes required for visitors if escorted by Operations or UI Engineering personnel. The West end front lobby and office areas of Bldg 22 are considered a no hazard area.

Instructions: In the block below, identify work-area hazards that could potentially affect the worker(s) or others. Specify the facility controls and preventive measures that must be implemented by the worker(s) to protect against the site hazards as well as any special training required.

ESH/S&S WORK AREA HAZARDS & CONTROLS

Work Area Hazards/Concerns Identify site hazards and concerns that could potentially affect the worker(s) or others.	**Work Area Hazard Present**	**Facility Controls/ Preventive Measures/ Bounding Conditions** Specify preventive measures, controls and bounding conditions for each site hazard	**Reference Documents** List permits, operating manuals, and other reference procedures	**Training and Qualification** List training requirements (P300, Integretated Work Management, Section 6.1)
☐ **No Work Area Hazards**				

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Ionizing Radiation Work in posted radiological areas, work with radioactive materials or work on or near radiation producing devices. **Specify Hazards:**	☐ Yes ☒ No			
Worker Exposure Working near chemicals, asbestos, temperature/humidity extremes: High temperature boiler equipment, High temperature Water/Steam, Boiler Water Treatment Chemicals, Asbestos.	☒ Yes ☐ No	Required PPE: Hard hat, safety shoes, safety glasses. Hearing protection (noise > 85 dba). Avoid hot surfaces and piping. **Long sleeve shirt or Ansell sleeves or coveralls. Gloves when operating valves or contacting pipe/fitting openings where there is potential for hot water/steam release.** **Be aware of encapsulated asbestos. Follow LANL Asbestos program/rqmts if PACM identified outside containment.** **Be aware of chemical containers and check labeling. Be aware of piping, associated systems for any leaks. If chemical leak is noticed contact operations manager, IH&S Rep during regular working hrs. Over100 gallons of a chemical spill leave area, and control access. Call Serf Operators 667-8982 or by Radio Lani 2 Util 6 For mitigation cleanup process.** **For after-hours contact the UI Duty Officer, 699-7452 to re-assess any abnormal situation**	• P101-6 PPE • P101-23 Asbestos • P101-31 Hearing Conservations/Noise Program	• LANL PPE or equivalent • Hearing protection • Site specific training • Asbestos awareness
Energized and Operative Systems Working near energized electrical parts, pressure systems, steam lines; near unprotected belts, pulleys, chains or rotating equipment; fuel fired equipment other than vehicles; or spark or flame producing operations.	☒ Yes ☐ No	Stay within established walking areas. Observe safety signage alarm lights and horns. Identify explosive hazards and follow task specific IWD if working on plant equipment or components. **Note: All**	**P101-13 Electrical Safety** **P101-3 LOTO** **P101-34 Pressure, Vacuum, Cryogenic**	**Site Specific Training video.** **Electrical Safety LOTO if applicable to task.**

Specify Hazards: Energized/rotating equipment, High Temperature, High Pressure Water and Steam equipment.		**TA3-22 LOTOs require independent verification and written specific procedure. If questions consult with UI system engineer, Operation Mgr. Designee, or Safety rep.**	**System**	
Confined Spaces Entry into tanks, manholes, cooling towers, sumps, or any other area with potentially low oxygen concentration or other hazards such as toxic vapors or engulfment. **Specify Hazards:** Confined Space	☒ Yes ☐ No	Observe confined space signs or markings and follow LANL Confined Space Requirements if task requires confined space entry.	P101-27 Confined Space	Confined Space Traning
Elevated Work Surface Elevated work when fall protection is not provided by conventional handrail systems or required per P101-20, *Fall Protection Program*	☒ Yes ☐ No	Stay within established walking areas, stairways and paths. Observe safety signage. Follow LANL Fall Protection Requirements if task on roofs or work above 4 feet.	P101-20.0	Fall Protection
Environmental Impact Activities conducted in areas containing potential release site, contaminated soil, sensitive species, watercourse wetlands, floodplain, historical/archeological sites, or other work area condition that can be impacted by or can impact the environment. **Specify Hazards:**	☐ Yes ☒ No			
Security Requirements **Specify:**	☐ Yes ☒ No			
Other Hazards Look-alike Equipment in the vicinity of work site may contain un-controlled hazardous energy.	☒ Yes ☐ No	Adequette barriers and controls will be established to prevent unauthorized personnel/workers from entering job site and encounter uncontrolled hazards.	IWD	Pre-job briefing emphasis. Worker confirmation of look-alike potential hazards, locations and barriers set in place to identify those potential hazards.

I have verified that the hazards identified above adequately identify the area hazards and that the IWM process has been applied appropriately.

FOD or Representative (Signature/Z #/Date) **Approval Required** [signature] 088584 6/25/2015

Date Approval Expires 12/31/2015

Mandatory Questions for All Pre-Job Briefs

The purpose of this document is to demonstrate compliance with the Release of Craft requirements directed by MSS-DO on 17 June 15. Until a formal document is institutionalized by the Work Control Group this document will be included in **all** work control packages (CM, PM, Planned, Unplanned, etc). Each of the questions listed below will be discussed at each Pre Job Brief with all affected personnel. Compliance will be demonstrated by the signature from the person performing the Pre Job Brief on the bottom of this document. This document is a permanent part of **all** work packages until further notice.

Topic	Completed (X)
Assume we are going to have an accident on this job. How did it happen? How can we prevent it?	X
What is the worst thing that can happen on this job? How can we keep it from happening?	X
What hazards will you encounter in performing this work?	X
Is there a better way to address the hazards you will encounter?	X
Have all safety issues concerning this task been addressed to your satisfaction?	X

Signature (Person Performing Pre-Job) 12/8/15 Date

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ATTACHMENT A1307.H.

TA-03 Power Plant

Combustion Turbine Emission Stack Test Report

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Attachment A1307.H

TA-3 Power Plant – Combustion Turbine Emission Stack Test Report

The most recent annual emission stack test for the TA-3 Combustion Turbine was conducted on December 16, 2014. An emission stack test is not required during this reporting period because the combustion turbine operated less than 25% of the monitoring period (July-December 2015).