LA-UR-24-30248

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Title:AI 856 NSR Permit No. 632-M1 Target Fabrication Facility Beryllium
Machining Lathe TA-35-213-2 Stack Test Report 9-2024

Author(s): Carretti, Vincent Anthony

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Memorandum

Environmental Protection and Compliance Division Compliance Programs Group

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 K490

 Through: Heather C. Seus, EPC-CP, HCS

 MS J978

 From: Vincent A. Carretti, EPC-CP, MS VAC

 J978

 Phone: 505-665-1658

 Symbol: EPC-DO: 24-274

 LA-UR: 24-30248

 Date: SEP 25 2024

Subject: AI 856 NSR Permit No. 632-M1 Target Fabrication Facility Beryllium Machining Lathe TA-35-213-2 Stack Test Report 9-2024

Los Alamos National Laboratory (LANL) is submitting the final report for the Target Fabrication Facility Beryllium Machining Lathe TA-35-213-2 Stack Test completed August 20-21, 2024. The testing was completed by a subcontractor, Compliance Services and Testing, LLC. The Emission Stack Test is required per NSR Permit No. 632-M1 Condition A600.B "Monitoring." The stack test results show that the emissions are below the permit limit. This report will be submitted through the NMED-AQB Secure Extranet Portal and in the Semi-Annual Monitoring Report for July-December 2024.

Attachment(s): Attachment 1 - AI 856 NSR Permit No. 632-M1 Target Fabrication Facility Beryllium Machining Lathe TA-35-213-2 Stack Test Report 9-2024

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ATTACHMENT 1

AI 856 NSR Permit No. 632-M1 Target Fabrication Facility Beryllium Machining Lathe TA-35-213-2 Stack Test Report 9-2024

EPC-DO: 24-274 LA-UR: 24-30248

Date: SEP 25 2024



New Mexico Environment Department 525 Camino de los Marquez, Suite 1 Santa Fe, NM 87505 Phone (505) 476-4300



Version 11/18/2022						
NMED USE ONLY						
DTS						
TEMPO						

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM

NMED USE ONLY					
Staff					
otan					
Admin					

Submit to: AQBCR

	I. DATABASE HEADER INFORMATION (drop down menus in bold)							
a. Al# 856	Test Report				Initial Compliance Test			
d. Company Name:				e. Facility Name:				
Los Alamos National Laboratory				TA-35-213 Target Fabrication Facility				
f. Emission Unit Nu	umbers:		g. Emission Unit De	Jnit Description (boiler, Waukesha 7042, etc)				
TA-35-213-2	2		Beryllium M	ryllium Machining Lathe				
h. Reports - Track	ina Number	ANT	•	i. F	Proposed Test Date:	j. Actual test date:		
from notification response:		Week of 6-24-24 8/20-21/24						
k. Reason for test (name permit requirement, NSPS, MACT, consent decree, etc. Indicate here is this notification is a revised test date only) NSR Permit No. 632-M1 Condition A600.B "Monitoring"								

II. GENERAL COMPANY AND FACILITY INFORMATION								
a.Company Address:						k Facility Address:		
P.O. Box 1663, MS K490						P.O. Box 1663, MS J97	8	
b. City:	c. State:	d. Zip:			Ī	I. City:	m. State:	n. Zip:
Los Alamos	NM	87	5	4	5	Los Alamos	NM	87545
e. Environmental Contact:	f. Title:					o. Facility Contact:	p. Title:	I
Sarah Holcomb	olcomb Group Leader			Heather Seus	Team Lo	eader		
g. Phone Number:	h. Cell Nur	h. Cell Number:			q. Phone Number:	r. Cell Nu	mber:	
(505) 396-0866 (505) 396-0866			(505) 412-8832	(505) 41	(505) 412-8832			
i. Email Address:						s. Email Address:		
sholcomb@lanl.gov						heatherseus@lanl.gov		
j. Title V Permit Number:	j. Title V Permit Number:				t. NSR Permit Number:			
P100-R2M5						632-M1		
u. Detailed driving directions from r	nearest New M	exico town:						

Enter Los Alamos National Laboratory from East Jemez Road. Turn Left on Diamond Drive. Turn left at Pajarito Road. Turn left on Pecos Drive. Building TA-35-213 is approximately 0.5 miles on the left.

III. TESTING FIRM							
a. Company:			g. Contact:				
Compliance Services & Testin	ng		Chris Spencer				
b. Address 1:			h. Title:				
7108 Washington St. NE, Ste. A			Director				
c. Address 2:			i. Office Phone: j. Cell Phone:				
PO Box 94191 - 87199			505-681-4909	505-681-4909			
d. City:	e. State:	f. Zip:	k. Email Address:				
Albuquerque NM 81709			cspencer@comptesting.cor	n			

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM



	V. POLLUTANTS AND PROPOSED TEST METHODS					
Pollutant or Parameter:		Proposed Test Methods (Deviations from approved methods require supporting documentation and prior authorization)	Deviation to Test Method Requested			
	Portable A	nalyzer Methods for NOx, CO, SO ₂				
	NOx	EPA Method 7E				
	со	EPA Method 10				
	SO2	EPA Method 6				
	VOCs	(Specify)				
	HAPs	(Specify)				
\square	PM (TSP)	EPA Method 5				
	PM10	EPA Method 201				
	PM2.5	(Specify)				
	Opacity	EPA Method 9				
	Visual E.	EPA Method 22				
\square	Stack Flow	EPA Methods 1 - 3				
\square	Moisture	EPA Method 4				
\square	Other	(Specify) EPA Method 29 for Metals - Beryllium				
	Other	(Specify)				
List Spec	ific VOC's and	HAP's: N/A				

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM

VI. PROPOSED TEST RUN AND TEST LOAD INFORMATION							
a. Number of Test Runs:	b. Run Duration	c. Required by	(regulation or permit number):	d. Specific Condition or Section:			
3	240	N/A		N/A			
PLEASE NOTE – Default run	duration is 60 minutes, un	less otherwise	specified by an applicable regulat	ion.			
e. Expected Load:	f. Percent of Permitted	Capacity:	g. Is this an opacity te	st?	h. If yes, no. of observation pts.:		
Maximum available	100%		Yes 🗌 🛛 No 🖄]	N/A		
i. If expected load during test is N/A	i. If expected load during test is less than 90% of capacity, explain: N/A						
NOTE – Failure to test at 90-7 conducted.	100% of permitted load v	will limit unit o	peration to 110% of tested load	until a new	initial compliance test is		
PLANT OR UNIT OPER	ATING PARAMETE	RS TO BE N	MONITORED				
j. List and explain the plant operating parameters that will be monitored and applicable permit conditions or regulatory standards.							
ΝΑ							

VII. ADDITIONAL DETAILS (where applicable)	VII. ADDITIONAL DETAILS (where applicable)					
RATA and INSTRUMENTAL ANALYZER CALIBRATION PROCEDURES						
a. Do any of the methods you are proposing utilize instrumental analyzers (i.e.; EPA Methods 3A, 6C, 7E, 10, 18, 25/25A, 320 etc.)? If yes, briefly describe analyzer calibration procedures and/or calibration standard procedures. Enter the highest pollutant concentration expected and the proposed concentrations of calibration gases.	Yes	No No				
No gaseous sampling of combustion or production byproducts.						
SAMPLING TRAIN LEAK CHECK PROCEDURES						
b. Do any of the methods you are proposing utilize the EPA Method 5 sampling train (i.e.; EPA Methods 1-4, 5, 17, 26/26A, 29, etc.)? If yes, briefly describe sampling train and pitot tube leak check procedures:	Yes	🗌 No				
As described in methods 2 (Pitot tube), 4 (moisture), and 5 (particulate matter).						
EPA METHOD 19 IN LIEU OF EPA METHODS 1-4						
c. Are you proposing to utilize EPA Method 19 in lieu of EPA Methods 1-4?	Yes	🛛 No				
PLEASE NOTE – EPA Method 19 may be utilized in lieu of EPA Methods 1-4, subject to the approval of the Department. If y to utilize EPA Method 19 in lieu of EPA Methods 1-4, you MUST include a recent fuel gas heating value analysis as well as meter calibration certificate, preferably conducted on the day of the test, but no earlier than three months prior to the test analyses have been conducted prior to the test date, you MUST append the certificates to the protocol. If conducted on the	you are prop a recent fuel date. If the ne day of the	oosing I flow test,				

you MUST append the certificates to the final test report.

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM

	VIII. ATTACHMENTS (as needed to support proposed test; check all that apply)							
NO	OTIFICATION/PROTOCOL ATTACHMENTS							
	Road Ma	ap Indicating Directions from Nearest New Mexico Town to Facility						
	Schemat	tic of process being tested showing emission points, sampling sites and stack cross-section						
	Copy of	proposed test methods (except for those promulgated test methods found in 40 CFR 51, 60, 61 and 63)						
	Fuel Heating Value Analysis							
	Fuel Flow Meter Calibration Certificate							
	Other:							
	Other:							
TES	EST REPORT ATTACHMENTS							
\boxtimes	Sectio	Section 2. Tables of Results						
\boxtimes	Suppo	rting Documents (Specify) Test Report						

Retain Report Section 3 - Test Procedures, Data, Calculations, Appendices – 2 years NSR permits, 5 years TV

NEW MEXICO ENVIRONMENT DEPARTMENT AIR QUALITY BUREAU NSR PERMIT NUMBER 632-M1

COMPLIANCE TEST REPORT ON: EXHAUST EMISSIONS

FROM A: LATHE MACHINE (UNIT #1 AND 2)

> LOCATED AT THE: TA-35-213 BUILDING

PREPARED FOR: LOS ALAMOS NATIONAL LABORATORY

TEST DATE: **AUGUST 20-21, 2024**

PREPARED BY: COMPLIANCE SERVICES AND TESTING, LLC

PROJECT NUMBER: 2634



P.O. Box 94191-87199 7108 Washington St. NE Suite A Albuquerque, NM 87109 (505) 681-4909 Phone www.comptesting.com

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- C: Example Calculations
- D: QA/QC Activities and Equipment Calibration Results
- E: Laboratory Analysis Report and Chain of Custody

Introduction

Los Alamos National Laboratory (LANL) contracted Compliance Services and Testing (CST) to perform an emissions test on the existing lathe (#1) and a new lathe (#2) in service at Building TA-35-213. The building is located within the boundary of LANL, located in Los Alamos, New Mexico in Los Alamos County.

The testing was to show compliance with the NSR permit issued to this facility and followed procedures with the NMED protocol. The testing procedures are found in the Code of Federal Regulations, Title 40, Part 60, Appendix A, Method 1 for sampling locations, Method 2 for velocity determination, Method 4 for moisture content (H₂O), Method 5 for Isokinetic Sampling, and Method 29 for Metals Emissions, in particular, beryllium emissions. The diluent concentrations for oxygen (O₂) and carbon dioxide (CO₂) were considered ambient in lieu of Method 3A due to the source being a non-combustion type.

The information contained in this report has been reviewed and approved as being truthful, accurate, and complete.

Table 1 - Background Data

Source Operator:	Los Alamos National Laboratory (LANL) Attn: Vincent Carretti P.O. Box 1663, MS J978 Los Alamos, NM 87545
Test Contractor:	Compliance Services and Testing (CST) Attn: Chris Spencer 7108 Washington NE Ste. A Albuquerque, New Mexico 87109 Phone: (505) 681-4909
Test Participants:	CST Chris Spencer – Director Matt Magee – Environmental Scientist
	LANL Derek Schmidt – Engineering Team Leader
Test Dates:	August 20-21, 2024
Location:	TA-35 is located within Los Alamos National Laboratory, Los Alamos, New Mexico
Test Methods:	Title 40 of the Code of Federal Regulations, Part 60, Appendix A Methods 1,2,4,5 for Isokinetic Sampling Methods Method 29 for Metals Emissions
Regulatory Permit:	NMED-AQB NSR Permit #632-M1

Summary of Results

The beryllium particulate emissions emitted from two lathes were tested to demonstrate initial compliance with the permit in place for this facility. Even though the calculated beryllium removal rates indicate each lathe was operating at 50% of the permit limit (0.030 gm/hr actual vs 0.060 gm/hr permitted), the lathe operators indicated that the lathes were processing the maximum amount of beryllium achievable, and at a maximum rate achievable, during the testing. As such, it has been determined that the lathes were operating at 100% load/maximum production. The lathes could not operate at a higher amount and rate without risking the beryllium breaking. Additionally, both lathes operated during the entire 4-hour test without downtime. The results of the testing show the particulate matter emissions are below the permit limit. A summary of the test results is listed below.

]	Table 2 – Su	mma	rize	d Emi	ssion	Resi	ilts

	Beryllium (Be)	% Load
Lathe Unit #	gm/hr	%
Limits	6.25E-5	<u>>90%</u>
1 & 2	^2.55E-5	100.0

*gm/hr = grams per hour

[^]Value based on minimum detection limit.

Example calculations are included in Appendix C to give examples of how raw data was used to determine stack conditions.

Process Description and Sampling Location

The emissions pass through a 99.95% efficient HEPA associated with the fume hood used to capture the particulate matter and vent the emissions through the exhaust stack to the atmosphere. The exhaust temperature is at room temperature so neither the probe nor filter were heated. An ice-bathed cooled impinger train was used to collect the gaseous sample content that passed through the filter.

This diagram represents a general process description and is not to scale. This representation is the equipment being utilized and the placement order of that equipment. The values presented are not of stack conditions during the testing event.



The sampling took place from two exhaust stack ports, separated by 90° and placed 18 feet and 21 feet downstream and upstream from the nearest flow disturbances in the exhaust stack. A Method 1 Sampling Traverse Point worksheet is included in Appendix A along with the results of the cyclonic flow test recorded during the preliminary stack flow test.

Analytical Technique

An emissions test was performed from an exhaust stack associated with the vent of two lathes in use at Los Alamos National Laboratory. The test procedures utilized are outlined in the Code of Federal Regulations, Title 40, Part 60, Appendix A, Methods 1-5 and 29. The sampling time was 240 minutes for each of the three test runs.

EPA Method 1--Sample and Velocity Traverses for Stationary Sources: The sampling locations and traverse points met Method 1 distance requirements to enhance the quality of the data obtained. A cyclonic flow check was performed during the preliminary investigation by measuring the yaw angle at each sampling point. The results of that test found no cyclonic flow in the stack, therefore there is no stratification present.

EPA Method 2--Determination of Stack Gas Velocity and Volumetric Flow Rate (Standard Pitot Tube): The velocity of the stack gas was constantly measured using a S-type Pitot tube at the sampling points. The Pitot tube is a component of the Method 5 probe assembly probe and is located on the sampling pane along with the thermometer and sampling nozzle. The Pitot measures the velocity of the stack gas by measuring the impact and wake-side pressures and creating a differential reading measured in inches water. The values obtained were factors in calculating the exhaust flow rate and sampling rates.

EPA Method 4--Determination of Moisture Content in Stack Gases: The moisture content measurements were made per EPA Method 4 (gravimetric) by pulling stack gas through an impinger train emerged in an ice bath. The impinger train acts as a moisture knockout. The sample then went through a separate stainless steel/Teflon® diaphragm pump and calibrated dry gas meter. The weights of the impingers (four total) were measured using a calibrated scale accurate to 0.1 grams. One moisture sample was collected over a 240-minute period from the stack concurrent with each test run. 100 mL of acidic hydrogen peroxide (5% HNO₃/10% H₂O₂) was placed in the first two impinges and acted as the primary collection media per Method 29.

EPA Method 5--Determination of Particulate Matter Emissions from Stationary Sources: The sampling techniques outlined in Method 5 Isokinetic Sampling were used to collect a gaseous sample at the same flow rate as the exhaust flow rate. To avoid over- or under-sampling of particulate matter, the gas needs to be metered in a manner that captures particulates in a representative manner. The nozzle diameter, the diluent concentrations, stack and meter box temperatures, along with the sample pump flow rate are all factors in determining the isokinetic rate of sampling. The diluent concentration was ambient air.

EPA Method 29--Determination of Metals Emissions from Stationary Sources: The sampling techniques outlined in Method 5 were used to collect particulate matter on a filter and gaseous emissions are collected in an aqueous acidic solution of hydrogen peroxide. The recovered samples are digested and analyzed for the target compounds by atomic absorption spectroscopy (AA) or inductively coupled argon plasma optical emission spectrometry (ICAP). The aqueous acidic solution is gravimetrically analyzed to determine the moisture content of the stack before being segregated for analysis. The filters and front-half fractions are collected, desiccated, and weighed before and after the tests in the same manner if TSP emissions are to be determined.

Figure 1. Method 5 Console Sampling System



Quality Assurance Activities

The console sampling system was leak checked before and after each test run by demonstrating that a vacuum (10-15" Hg) greater than sampling conditions (0-5" Hg) could be pulled and held for a minute. A leak test was then conducted on each leg of the Pitot tube before use and after use at a pressure greater than 3" for 15 seconds. These tests were conducted to ensure that ambient air had not diluted the sample. If any leaks were found during the pre-test inspection, they were resolved and re-tested until acceptable checks were obtained (<0.02 cf/min). No leaks greater than the allowed were detected on the sampling system during the post-test checks. The dry gas meter incorporated into the metering console was calibrated before the test and verified after per method requirements to ensure that an accurate sample volume was recorded. The console temperature gauges were checked for acceptable tolerance (<2%) prior to and after field use.

The sampling nozzle was measured at three traverse lines before testing to verify nozzle diameter. A stack cyclonic flow check was performed before testing to ensure the gas flow was laminar. The results from that test showed the average of the absolute yaw angle at each sampling point was under 20%, therefore, the stack did not exhibit cyclonic flow. The scale used to weigh the impinges was checked in triplicate with a 1 kg weight and showed variance less than tolerance (<1%). Each filter used was checked for tears or holes by holding each up to a light source to verify integrity. None were found that would comprise the sample collection.

All calibration data and verification checks are contained in Appendix D.

Appendix A: Tabular Results and Stack Diagram

Summary of Results LANL, TA35-213 Lathe #1 and Lathe #2

Company: Los Alamos National Laboratory				
Location: TA-35-213				
Technician: CS, MM				
Source: Lathe #1 and Lathe #2				
Model: 350 UPL (Lathe #1) and 650FGV2 (Lathe #2)				
Source: Ambient				r
Test Run Number	1	2	3	1
Date	8/20/24	8/20/24	8/21/24	
Sampling Time (min)	240.0	240.0	240.0	
Fume Hood Operating Parameters				Average
Load (%)	100.0	100.0	100.0	100.0
Constants				
Constant K1A (L/g)	1.336	1.336	1.336	1.336
Constant K3 (°R-L / "Hg-cf)	499.7	499.7	499.7	499.7
Conversion Factor ("Hg / "H2O)	0.07355	0.07355	0.07355	0.07355
Pitot Tube Constant K _p ($\sqrt{(lb/lb.mol-"Hg/^{\circ}R-"H20)}$	5129.4	5129.4	5129.4	5129.4
STP / Time Constant K _v (°R-min / "Hg-hr)	1058.8	1058.8	1058.8	1058.8
Ambient Conditions	100010	100010	100010	100010
Pressure Altitude (MSL)	7260	7260	7260	7260
A tmospheric Pressure ("H σ)	22.88	22.88	22.88	22.88
A verage Dry Bulb Temperature (°F)	75	95	90	86.7
A verage Wet Bulb Temperature (°F)	70	83	80	77.7
Humidity (lb/lb air)	0.0190	0.0282	0.0258	0.0244
Stack Parameters	010190	010202	010200	010211
Static Stack Pressure (Pg - "H2O)	-0.16	-0.16	-0.16	-0.16
Absolute Stack Pressure (Ps - "Hg)	22.87	22.87	22.87	22.87
Average Stack Temperature (Ts - °R)	534.9	535.5	536.9	535.8
Stack Moisture (Bws - %)	1.1866	1.2655	1.3209	1.2576
Dry Gas Fraction (1-Bws)	0.9881	0.9873	0.9868	0.9874
Dry Stack Gas Molecular Wt. (MD - lbs/lb-mole)	28.842	28.842	28.842	28.842
Wet Stack Gas Molecular Wt. (Ms - lbs/lb-mole)	28.714	28.705	28.699	28.706
Stack Velocity and Flow Rate via Pitot Tube			•	
Stack Velocity (Vs - ft/sec)	32.04	32.90	33.22	32.72
Stack Velocity (Vs - ft/min)	1922.32	1973.94	1993.04	1963.10
Stack Flow, wet (Qa - acf/sec)	25.16	25.84	26.09	25.70
Stack Flow, wet (Qa - acf/min)	1,509.78	1,550.32	1,565.33	1541.81
Stack Flow, dry (Qs - scf/min)	1,125.62	1,153.48	1,161.10	1146.73
Stack Flow, dry (Qs - scf/hr)	67,537	69,209	69,666	68,804
Dry Gas Meter Sampling Data				
Corrected Metered Volume (Vmcorrected - CF)	176.700	182.135	189.922	182.919
Volume of DGM Sample (Vmstd - L)	3681.938	3803.847	3921.707	3802.498
Corrected Metered Volume (DSCF)	130.593	134.872	139.075	134.846
Nozzle Diameter (ft^2)	3.88E-04	3.88E-04	3.88E-04	3.88E-04
Isokinetic Rate (%) $\{90 \le I \le 110\}$	97.95	98.71	101.12	99.26
Beryllium Data				
^Sample Mass Collected - Front Half (µg)	0.20	0.20	0.20	0.200
Sample Mass Collected - Back Half (μg)	0.00	0.00	0.00	0.000
*Total Mass Collected (µg)	0.20	0.20	0.20	0.200
Be Concentration (g/DSCF)	1.53E-09	1.48E-09	1.44E-09	1.48E-09
<i>Be (g/hr) {Permit Limit = 6.25E-5}</i>	2.59E-05	2.57E-05	2.50E-05	2.55E-05

g=grams; µg=micrograms

^Sample concentration used is the method detection limit.

*Back-half fraction is non-detect, equal to zero. Front-half fraction less than blank, therefore equal to zero.

Sampling Traverse Point Layout TA-35-213 - Lathe #1 and Lathe #2



Traverse Point Layout Calculations TA-35-213 - Lathe #1 and Lathe #2

Use Method 1 or Method 20 For the Non-Particulate Traverse? 1 = use M-1 Min. Traverse Pts. 20 = use M-20 Min. Traverse Pts.	Method 1/7E/PS-2 - Enter the required inform the required number of the Stack Layout	Traverse Point nation in the approp raverse points and the Stack + Port (in)	Layout Calcula oriate row/columns heir locations on th Port (in)	tions and the spread e probe/pitot i Stack ID (in)	dsheet will calculate tube. Stack Radius (ft)	Stack Area (sq ft)	Distance from flow disturbance upstream to ports. Distance (ft) Upstream (A)	Distance from flow disturbance downstream to ports. Distance (ft) Downstream (B)	Distance from flow disturbance upstream to ports. Duct Diameters Upstream (A)	Distance from flow disturbance downstream to ports. Duct Diameters Downstream (B)	Meets Method 1 Min. Distance Criteria?	Method 1 Calculated Min. No. of Traverse Points	Total # of DIAMETERS Traversed	Traverse Points per DIAMETER
Method	CIRCULAR					<u> (1)</u>	see Flow Disturb	ance Diagram below	v <u>v</u>					
1	Non-Particulate Particulate	16	4	12	0.50	0.785	21.00	18.00	21.00	18.0	YES	8	2	4
1	RECTANGULAR Non-Particulate	Port (in)	**Length (in)	Width (in)	Eq. Diameter (in)		Distan	ces in feet					Rectangular	Matrix Layout
NON-PARTICULATE MATTER ONLY!	Particulate			Met	hod 1									

Circular Traverse Point Layout NOTE: If needed, you can override the Non-Particulate Particulate calculation of # of traverse points for rectangular stacks in order to achieve an Traverse Pt. *Distance Traverse Pt. Traverse Pt. *Distance Traverse Pt appropriate matrix. Traverse Point Location Location + Port from Location Location + Port from Stack Wall Stack Wall Number (in) (in) (in) (in) 0.80 4.80 1 2 3.00 7.00 3 9.00 13.00 4 11.20 15.20 5 Flow Disturbance Diagram 8 9 10 11 12 А 13 Port 14 15 В 16 17 18 19 20 20 *Correct traverse point distances that are too close to stack wall. Select a minimum of 1.0" or

0.5" for stack IDs of >24" and ≤ 24 ", respectively.

Note: If traversing large diameter, 4-port stacks with a short probe, simply mark the probe with the first half of the traverse points and traverse each of the 4 ports (which equals the total # of traverse pts.).

Appendix B: Sampling Data Sheets

Pre-Lim Sampling Time, K Factor, Isokinetic Rates TA-35-213 - Lathe #1 and Lathe #2

Stack Moisture & Molecular Wt.	Predicted		
CO2 (%)	0		
O2 (%)	20.90		
N2 (%)	79.10		
DGM Sample Volume (ft3)	180.000		
Ending Impinger Wt. (g)	25.0		
Dry Gas Meter Factor (Kd)	0.993		
Average Dry Gas Meter Temperature (oF)	85		
Atmospheric Pressure (in Hg, abs.)	22.88		
Stack Gas Moisture (% volume)	0.8828		
Dry Gas Fraction	0.991		
Stack Gas Molecular Wt (lbs/lb-mole)	28 74		
Stack Parameters	20.71	Temn	Yaw Angle
AP #1	0.27	73	10.00
$\Delta I \# I$	0.27	73	8.00
$\Delta P \# 2$	0.31	75	8.00 5.00
$\Delta P \# 3 \text{ (Static Pressure = -0.17)}$	0.28	74	-5.00
ΔP #4	0.27	74	-12.00
ΔΡ #5	0.18	76	-4.00
ΔΡ #6	0.26	74	-1.00
$\Delta P \#7$ (Static Pressure = -0.15)	0.31	74	-1.00
ΔP #8	0.25	74	-11.00
Average	0.266	74.0	-2.00
Pitot Tube Factor	0.84		
Sum of Square Root of Vertical Component	4.116		
Number of Traverse Points	8		
Average Square Root of ΔP 's	0.515		
Average Temperature (°F)	74.0		
Static Pressure (in. H2O)	-0.16		
Stack Diameter (in.)	12		
Stack Area (ft?)	0 785		
Stack Velocity	0.705		
Stack Velocity (ft/200 @ stack conditions)	22 200		
	33.300		
Stack velocity (it/min @ stack conditions)	1,998.02		
Stack Velocity (Std ft/min)	1,496.62		
Stack Flow			
Stack Flow, wet (CF/Min)	1,569.24		
Stack Flow, wet (Std CF/Hr)	71,154.95		
Stack Flow, dry (Std CF/Min)	1,175.45		
Stack Flow, dry (Std CF/Hr)	70,526.83		
Isokinetic Nozzle Selection & K Factor Calculation	1		
Stack Velocity (ft/min @ stack conditions)	1998.02		
Target Sampling Rate (CFM)	0.70		
Target Nozzle Area (Ft2)	3.50E-04		
Selected Nozzle Number (xx/32")	0.27		
Actual Measured Nozzle Area (Ft2)	3.88E-04		
No. of M-5 Traverse Pts	8		
Minutes per point (min.)	30.00		
Sampling Time (min.) (>60 min)	240.00		
Sampling Time (hr)	4.00		
Expected Total Sample Vol. (CF)	185.984		
Expected Sample Vol. (SCF/Hr) (>30 SCF)	33,105		
Sampling Rate (CFM) (using actual nozzle)	0.775		
AH ("H2O)(see Meter Box Calib Curve)	1 624		
K-Factor (AH/AP)	6.13		
Γ-Γανινί (Δ11/Δ1)	0.15		
Permit Limit (g/hr)	6.25E.05	Nozzla N	leasurements
Secondo Dete (ft2/min)	0.25E-05		inches
Sample Rate (Its/min)	0.775	0.26	inches
Minimum catch size (mg)	0.0001	0.27	inches
Stack Flow Rate (SCF/hr)	/0,527	0.27	inches
Minimum Sample Time (min)	145.62	0.000388	π^2
Minimum Sample Time (hr)	2.43		

In-Stack Detection Limit and Test Time Determination LANL - TA-35-213 Lathe #1 and Lathe #2

TIME =	Stack 1	Flow x Cat	tch Amnt	<u>sef - mg - 1</u>	min - hr - g	L
_	Sample R	late x PL y	Conv Fact	hr - sef	- g - mg	
Permit Limit	6.25E-05	g/hr	Catch (mg)	Min	Hr	
Permit Limit	1.38E-07	lb/hr	0.0001	157	2.6	Instrument MDL
ISCL	9.13E-04	ng/scf				
Sample Rate	0.70	cf/min	0.001	1,565	26.8	Reportable Limit
ISCL	0.91271	mg				
Stack Flow Rate	68,483	scf/hr	0.8896	1,392,514	23,208.6	ISCL (mg/scf)
Stack Flow Rate	1,141	scf/min				$= PL \div SFR \times 2.67 \times 10^5$
Conv Fact	1000	mg/g				

In-Stack Detection Limits & Sample Times (NJDEQ)

1) If the in-stack detection limit is higher than the level of the standard, compliance cannot be demonstrated.

2) Actual in-stack method detection limits (ISDL) are based on actual source sampling parameters and analytical results. Actual detection limits can be improved through increased stack gas sampled (sample time), reducing the total volume of the digested samples, improving the analytical detection limits or any combination of the three.

3) The goal of the sample program will be to have the in-stack detection limit at 1/10 the Permit Allowable expressed as the in-stack concentration limit (ISCL). The ratio of ISCL to the ISDL should be >10. The following will detail these determinations and will establish the sampling time.

***Based on the preceding, each sample run will be 180 minutes.

In-Stack Concentration Limit (ISCL): ISCL (ug/scm) = E / F x 2.67E8

Where:

$$\begin{split} E &= \text{Permit allowable (lb/hr)} = 1.38\text{E-07} = 6.25\text{E-5 (g/hr)} \div 453.6 \text{ (g/lb)} \\ F &= \text{stack flow rate (dscfm)} = -1,141 \end{split}$$

In-stack De	tectio	n Lim	it: ISE)L (ug/	'scm) = [A	. (mg/mL) x	x B (mL) ÷	C (scf)]
Where:								
	1	1 1 /	1	• •,		0.0001	/ Τ	

A = analytical detection limit:	A=	0.0001	mg/mL
B = volume of analyte collected:	B=	400	mL
C = volume of stack gas sampled:	C=	41.664	scf

		1 x ISCL	2 x ISCL	5 x ISCL	10 x ISCL	Sample
ISCL (ug/scm) =	9.13E-04	> ISDL	> ISDL	> ISDL	> ISDL	Hours
ISDL $(ug/scm) =$	9.60E-04	FALSE	FALSE	FALSE	FALSE	1
ISDL $(ug/scm) =$	4.80E-04	TRUE	FALSE	FALSE	FALSE	2
ISDL $(ug/scm) =$	3.20E-04	TRUE	TRUE	FALSE	FALSE	3
ISDL $(ug/scm) =$	2.40E-04	TRUE	TRUE	FALSE	FALSE	4
ISDL $(ug/scm) =$	1.92E-04	TRUE	TRUE	FALSE	FALSE	5
ISDL $(ug/scm) =$	1.60E-04	TRUE	TRUE	TRUE	FALSE	6
ISDL $(ug/scm) =$	1.37E-04	TRUE	TRUE	TRUE	FALSE	7
ISDL $(ug/scm) =$	1.20E-04	TRUE	TRUE	TRUE	FALSE	8
ISDL $(ug/scm) =$	1.07E-04	TRUE	TRUE	TRUE	FALSE	9
ISDL $(ug/scm) =$	9.60E-05	TRUE	TRUE	TRUE	FALSE	10
ISDL $(ug/scm) =$	8.73E-05	TRUE	TRUE	TRUE	TRUE	11
ISDL $(ug/scm) =$	8.00E-05	TRUE	TRUE	TRUE	TRUE	12
ISDL $(ug/scm) =$	7.39E-05	TRUE	TRUE	TRUE	TRUE	13
ISDL $(ug/scm) =$	6.86E-05	TRUE	TRUE	TRUE	TRUE	14
ISDL $(ug/scm) =$	6.40E-05	TRUE	TRUE	TRUE	TRUE	15
ISDL $(ug/scm) =$	6.00E-05	TRUE	TRUE	TRUE	TRUE	16

PARAMETERS 22.88 ATM at MSL 75 Stack Temp 1.25E-04 Permit limit (20% overage) 1.04E-04 estimated g/hr per Lathe 400 Approx. mL of sample 28.3168 L/CF 0.0001 mg/mL ICAP MDL 124.991 SCF / 3 Hr 41.66 SCF / Hr of Sample 1.471 Sample Vol (scm/hr)

Isokinetic Worksheet TA 35-213 - Lathe #1 and Lathe #2, Run 1

	Date:	8/20/24		<i>c</i>	ritical Isokii	tetic Test Da	ta		Pre-Te	st Calibration	Check		1	Dry Gas Meter	r Leak Check	3	Pitot Tube	Leak Check
	Client:	LANL			Atmosph.	Press.("Hg)	22.88	Static P	Vi	635.094	cf		pre-test	0.000 cf @	15"		+/-	4.8/4.7
	Plant:	TA-35-213			Pitot Tub	e Factor. Cn	0.84	В	Vf	643.901	cf		post-test	0.002 cf @	10"		+/-	
Emicei	Sources	Lothe #1 on	1 Latha #2	Sta	tio Proceura	(in H2O) Pg	0.16	0.17	Vt	8 807	of		Freedom		Moietu	ro Doto		
Lini331			I Laure #2		1 11 14	(III 1120),1 g	-0.10	-0.17		0.007					Moista	IC Data		
16	chnicians:	CS, MM		M _S - Mole	cular weight	(ID/ID-mole)	28.71	A	ΔH	1.60	"H20		Kun I	Imp I	Imp 2	Imp 3	Imp 4	Total Wt
	DGM No:	Console 2		1	Dry Gas Fra	ction, 1-Bws	0.9881	-0.15	Time	10	min		Beginning	713.7	689.2	596.9	971.6	2971.4
DGM	Factor, Y:	0.993			Nozzle	Diamter (in)	0.267	Nozzle (in.)	Tm	540	R		Ending	714.8	693.0	599.7	997.0	3004.5
	ΔH@:	1.624			Nozzle	e Area (ft^2)	3.88E-04	0.26	Pbar	22.88	"Hg		Total	1.1	3.8	2.8	25.4	33.1
Stack Dia	meter ("):	12		[Total Sample	e Time (min)	240	0.27	constant	0.0319	"Hg-cfm/R				Gaseous	Data (%)		
Stack A	rea (ft^2):	0.785			Num	per of Points	8	0.27	Yc	0.9852			02	20.90	CO2	0.04	N2	79.1
						Filter #	OF-15	0.267	AH@	1.5750		Sc	ale Prelim Ch	leck (1000g):	1000.0	999.9	1000.0	999.97
							Q. 11							(****g):				
Start Vol	644 322	Ston Vol	822.268	Actual	Volume	177 946	Taraet	180.000	ACEXV	176 700	SCE	130 593	1					
Start Time	8.26	Stop Time	12:27	Sample Tim	a nar Point	20	K Eastor	4.5	T AP	2 055	Avg A P	0.240				Isokinetic	Rate (%):	97.95
Surrrune	0.20	Stop Time	12.27	Sumple Tun	ie per 1 out	50	A Tucior	4.5		5.755	Avg vill	0.24)	1					
Comula	Cánná	Observed	Observed	Naut Baint	I		Designed		Camala	DCM	Inst	Ellen	Ducha	Cinal	Doint Val		Ctack	4
Sample	Suri	Observea	Observea Mater Bardia	Next Foint	4.0		Destrea	011	Sample	DGM	Lasi	r mer	Trobe	Зшек	Foint Voi	T de D	Suck	Average
Point per	Meter	Clock	Meter Reaaing	Target		Δ H	AH	Observea	Vacuum	Temp.	Imp.	Temp.	Temp.	Temp.	Samplea		Velocity	150
Port	Time	Time	(ft^3)	$(ft^{\wedge}3)$	("H2O)	("H2O)	("H2O)	K Factor	("Hg)	(°F)	(°F)	(°F)	(°F)	(°F)	(DSCF)	("H2O)	(ft/s)	(%)
1	0.00	8:26	644.322	661.627	0.150	0.913	0.68	6.04	0.50	72.0	43.7	72.7		73.7	15.101	0.387	25.07	115.4
2	30.00	1	664.300	687.085	0.250	1.533	1.13	5.96	1.50	83.3	39.7	77.0		73.0	18.932	0.500	32.35	113.5
3	60.00	1	689.830	715.413	0.310	1.900	1.40	5.89	2.00	89.0	42.0	78.7		74.0	21.272	0.557	36.06	113.4
4	90.00		718.780	744.218	0.303	1.600	1.37	5.05	1.67	91.3	43.0	78.7		74.0	19.627	0.551	35.67	111.2
5	120.00	10:27	745.631	762.941	0.140	0.700	0.63	4.78	0.50	92.0	42.0	79.3		76.7	12.761	0.374	24.29	109.7
6	150.00		763.160	786.022	0.243	0.887	1.10	3.48	1.00	93.0	40.7	80.0		76.0	14.564	0.493	32.00	105.9
7	180.00		783.190	808,776	0.303	0.900	1.37	2.83	0.63	94.3	42.7	80.0		76.0	14.326	0.551	35.73	101.3
8	210.00	+	802.940	828,128	0.293	0.850	1.32	2.76	0.63	94.7	44.3	80.7		75.7	14.010	0.542	35.13	97.9
Finish	240.00	12.27	822.268												Sum	Sum		
1 111511	Total	Total	177.946	Avaraga	0.249	1 160	1 1 2 1	4 500	1.054	99.71	42.25	79.39		74 99	130 5027	3.0546	32.039	108 54
	Totai	Totai	1//.940	Average	0.249	1.100	1.121	4.377	1.034	00./1	42.23	/8.38		/4.00	130.3927	3.3340	32.038	100.34
							,	-	,	-	1							
		BG	Nozzle Number	1	2	3	4	3	0	7		* meter box le	ak check = less	than 0.02 cfm a	at 15 in. Hg or	greatest vacuu	n observed dur	ing test.
		Noz	zle Diameter (in.)	0.125	0.187	0.250	0.312	0.375	0.437	0.500		† pitot tube le	ak check = hole	d 3 in. H ₂ O for	at least 15 sec.			
	No	zzle Cross Se	ectional Area (ff2)	0.000085	0.000101	0.000241	0.000531	0.000767	0.001042	0.001364		$\Delta H = \Delta P x$	K factor x	I(T + 460)/4	5281			
	110	2210 01033 50	cuonai Area (112)	0.000005	0.000191	0.000341	0.000551	0.000707	0.001042	0.001504				l(dgm · 400)	20]			
I	110	2210 01033 50	cuonal Area (112)	0.000085	0.000191	0.000341	0.000551	0.000707	0.001042	0.001304				I(* dgm · 400)	20]			
	Point	Clock	Meter Reading	K	Δ P	Δ H	Desired AH	0.000707	Vacuum	DGM T	Exit T	Filter T	Probe T	Stack T	20]			
PORT A	Point 1-A	Clock 8:26	Meter Reading 644.322	K 6.0	Δ P 0.15	Δ H 0.90	Desired ΔH	0.000707	Vacuum 0.5	DGM T 66	Exit T 50	Filter T	Probe T	Stack T 74				
PORT A	Point 1-A 1-B	Clock 8:26 8:36	Meter Reading 644.322 651.200	K 6.0 6.0	Δ P 0.15 0.15	ΔH 0.90 0.92	Desired ∆H 0.90 0.90	0.000707	0.5 0.5	DGM T 66 73	Exit T 50 41	Filter T 72 72	Probe T 	Stack T 74 73				
PORT A	Point 1-A 1-B 1-C	Clock 8:26 8:36 8:46	Meter Reading 644.322 651.200 657.610	K 6.0 6.0 6.0	Δ P 0.15 0.15 0.15	ΔH 0.90 0.92 0.92	Desired ∆H 0.90 0.90 0.90	0.000707	0.5 0.5 0.5	DGM T 66 73 77	Exit T 50 41 40	Filter T 72 72 74	Probe T	Stack T 74 73 74				
PORT A	Point 1-A 1-B 1-C	Clock 8:26 8:36 8:46	Meter Reading 644.322 651.200 657.610	K 6.0 6.0 6.0 6.0	ΔP 0.15 0.15 0.15 0.15 0.15	ΔH 0.90 0.92 0.92 0.92	Desired Δ H 0.90 0.90 0.90 0.90	0.000707	Vacuum 0.5 0.5 0.5	DGM T 66 73 77 72 0	Exit T 50 41 40 43 7	Filter T 72 72 74 72 7	Probe T	Stack T 74 73 74 73 74				
PORT A	Point 1-A 1-B 1-C 2-A	Clock 8:26 8:36 8:46	Meter Reading 644.322 651.200 657.610 664 300	K 6.0 6.0 6.0 6.0 6.0 6.00	ΔP 0.15 0.15 0.15 0.15 0.150 0.25	ΔH 0.90 0.92 0.92 0.913 1.50	Desired ΔH 0.90 0.90 0.90 0.900 1.50	0.000707	Vacuum 0.5 0.5 0.5 0.5 0.50 1.5	DGM T 66 73 77 72.0 81	Exit T 50 41 40 43.7 40	Filter T 72 72 74 7 2.7 76	Probe T 	Stack T 74 73 74 73.7 73.7				
PORT A	Point 1-A 1-B 1-C 2-A 2-B	Clock 8:26 8:36 8:46 8:56 9:06	Meter Reading 644.322 651.200 657.610 664.300 677.750	•	ΔP 0.15 0.15 0.15 0.25 0.25	ΔH 0.90 0.92 0.92 0.913 1.50	Desired ΔH 0.90 0.90 0.90 0.900 1.50	0.000707	Vacuum 0.5 0.5 0.5 0.5 0.50 1.5	DGM T 66 73 77 72.0 81 83	Exit T 50 41 40 43.7 40 39	Filter T 72 72 74 72.7 74 72.7 76 77	Probe T 	Stack T 74 73 74 73.7 73.7 73				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C	Clock 8:26 8:36 8:46 8:56 9:06 9:16	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0	ΔP 0.15 0.15 0.15 0.25 0.25 0.25	ΔH 0.90 0.92 0.92 0.913 1.50 1.50	Desired Δ H 0.90 0.90 0.90 0.900 1.50 1.50	0.000707	Vacuum 0.5 0.5 0.5 0.5 1.5 1.5 1.5	DGM T 66 73 77 72.0 81 83 86	Exit T 50 41 40 43.7 40 39 40	Filter T 72 74 72.7 74 72.7 76 77 78	Probe T	Stack T 74 73 74 73.7 73 73 73				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C	Clock 8:26 8:36 8:46 8:56 9:06 9:16	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	ΔP 0.15 0.15 0.15 0.25 0.25 0.25 0.25	ΔH 0.90 0.92 0.92 0.913 1.50 1.50 1.60	Desired ΔH 0.90 0.90 0.90 0.90 1.50 1.50	0.000707	Vacuum 0.5 0.5 0.5 0.5 0.5 1.5 1.5 1.5	DGM T 66 73 77 72.0 81 83 86 83	Exit T 50 41 40 43.7 40 39 40 39 7	Filter T 72 74 72.7 74 72.7 76 77 78	Probe T	Stack T 74 73 74 73.7 73 73 73 73 73				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 2-A	Clock 8:26 8:36 8:46 8:56 9:06 9:16	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	ΔP 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.250	ΔH 0.90 0.92 0.92 0.92 0.913 1.50 1.50 1.50 1.60	0.000331 Desired ΔH 0.90 0.90 0.90 0.900 1.50 1.50 1.50 1.500 1.800	0.000707	Vacuum 0.5 0.5 0.5 0.5 1.5 1.5 1.5 1.5 1.5 0.50	DGM T 66 73 77 72.0 81 83 86 83.3 86	Exit T 50 41 40 43.7 40 39 40 39.7 42	Filter T 72 74 72.7 76 77 78 77.0 70	Probe T	Stack T 74 73 74 73.7 73 73 73 73.0				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 2-D	Clock 8:26 8:36 8:46 8:56 9:06 9:16	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 (00 200	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0	ΔP 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.25 0.25	ΔH 0.90 0.92 0.92 0.92 0.913 1.50 1.50 1.50 1.60 1.533 1.90	0.000331 Desired ΔH 0.90 0.90 0.90 1.50 1	0.000707	Vacuum 0.5 0.5 0.5 0.5 1.5 1.5 1.5 1.5 1.5 2.0 2.0	DGM T 66 73 77 72.0 81 83 86 83.3 88 80	Exit T 50 41 40 43.7 40 39 40 39.7 42 42 42	Filter T 72 74 72.7 76 77 78 77.0 79 70	Probe T	Stack T 74 73 74 73.7 73 73 73 73 73.0 74				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-B	Clock 8:26 8:36 8:46 8:56 9:06 9:16 9:26 9:36	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 600.000	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0	ΔP 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31	ΔH 0.90 0.92 0.92 0.913 1.50 1.60 1.533 1.90 1.90	0.000551 Desired ΔH 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.50 1.50 1.50	0.000707	Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.5 1.5 1.5 2.0 2.0 2.0	DGM T 66 73 77 72.0 81 83 86 83.3 88 89 80	Exit T 50 41 40 43.7 40 39 40 39.7 42 42 42	Filter T 72 74 72.7 74 72.7 76 77 78 77.0 79 79 79	Probe T	Stack T 74 73 74 73.7 73 73 73 73 73 73.0 74 74 74				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C	Clock 8:26 8:36 8:46 9:06 9:16 9:26 9:36 9:46	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0	ΔP 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.25 0.31 0.31 0.31	ΔH 0.90 0.92 0.92 0.913 1.50 1.50 1.50 1.50 1.50 1.50 1.90 1.90	0.0000000 Desired △H 0.90 0.90 0.900 1.50 1.50 1.50 1.50 1.55 1.55 1.55 1.55	0.000707	Vacuum 0.5 0.5 0.5 0.5 1.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0	DGM T 66 73 77 72.0 81 83 86 83.3 88 89 90 90	Exit T 50 41 40 40 39 40 39,7 42 42 42 42 42	Filter T 72 72 74 72.7 76 77 78 77.0 79 79 79 78	Probe T	Stack T 74 73 74 73 73 73 73 73 73 73 73 73 73 73 73 73				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C	Clock 8:26 8:36 8:46 9:06 9:16 9:26 9:36 9:46	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0 5.0 5.0 5.33 5.0 5.33 5.0 <td>ΔP 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.25 0.25 0.31 0.31 0.31 0.310</td> <td>ΔH 0.90 0.92 0.92 0.92 0.913 1.50 1.50 1.50 1.50 1.50 1.90 1.90 1.90 1.90</td> <td>0.000551 Desired △H 0.90 0.90 0.900 1.50 1.50 1.50 1.50 1.50 1.55 1.653 1.653</td> <td>0.000707</td> <td>Vacuum 0.5 0.5 0.5 0.5 1.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0</td> <td>DGM T 66 73 77 72.0 81 83 86 83.3 86 83.3 88 89 90 89.0 89.0</td> <td>Exit T 50 41 40 43.7 40 39 40 39.7 42 42 42 42.0</td> <td>Filter T 72 72 74 72.7 76 77 78 77.0 79 79 79 78 78.7 78.7</td> <td>Probe T</td> <td>Stack T 74 73 74 73.7 73 73 73.0 74 74.0</td> <td></td> <td></td> <td></td> <td></td>	ΔP 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.25 0.25 0.31 0.31 0.31 0.310	ΔH 0.90 0.92 0.92 0.92 0.913 1.50 1.50 1.50 1.50 1.50 1.90 1.90 1.90 1.90	0.000551 Desired △H 0.90 0.90 0.900 1.50 1.50 1.50 1.50 1.50 1.55 1.653 1.653	0.000707	Vacuum 0.5 0.5 0.5 0.5 1.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0	DGM T 66 73 77 72.0 81 83 86 83.3 86 83.3 88 89 90 89.0 89.0	Exit T 50 41 40 43.7 40 39 40 39.7 42 42 42 42.0	Filter T 72 72 74 72.7 76 77 78 77.0 79 79 79 78 78.7 78.7	Probe T	Stack T 74 73 74 73.7 73 73 73.0 74 74.0				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A	Clock 8:26 8:36 8:46 9:06 9:16 9:26 9:26 9:46 9:56	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920 718.780	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0	ΔP 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.31 0.30	ΔH 0.90 0.92 0.92 0.913 1.50 1.50 1.60 1.533 1.90 1.90 1.90 1.80	Desired ∆H 0.90 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.55 1.55 1.653 1.50	0.000707	Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 1.5 1.5 2.0 2.0 2.0 2.0	DGM T 66 73 77 72.0 81 83 86 83.3 88 89 90 89.0 91	Exit T 50 41 40 43.7 40 39 40 39,7 42 42 42 42 42 42 42 43	Filter T 72 72 74 72.7 76 77 78 77.0 79 79 79 79 78 78.7 78 78.7 78	Probe T	Stack T 74 73 74 73.7 73 73.7 73.7 73.0 74 74 74 74.0 74				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B	Clock 8:26 8:36 8:46 8:46 9:16 9:26 9:36 9:46 9:56 10:06	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920 718.780 727.860	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0	ΔP 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.25 0.25 0.31 0.31 0.31 0.30 0.30 0.31	ΔH 0.90 0.92 0.913 1.50 1.50 1.50 1.60 1.633 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.80 1.50 1.50	Desired ∆H 0.90 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.55 1.653 1.50		Vacuum 0.5 2.0 2.0 1.5	DGM T 66 73 77.0 81 83 86 83.3 88 89 90 89.0 91 92	Exit T 50 41 40 43.7 40 39 40 39.7 42 42 42 42 42 42 42 43 43	Filter T 72 72 74 72.7 76 77 78 77.0 79 79 79 78 78.7 78 79 79 78 79 78 79 79 78 79 79 78 78 78 78 78 78 79 79 79 79 79 79 79 79 79 79	Probe T	Stack T 74 73 74 73,7 73 73,7 73,7 73,7 73,0 74 74 74 74 74,0 74 74 74				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C	Clock 8:26 8:36 8:56 9:16 9:26 9:26 9:36 9:46 9:55 10:06 10:16	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920 718.780 727.860 726.980	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0	ΔP 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.31 0.31 0.31 0.30	ΔH 0.90 0.92 0.92 0.913 1.50 1.50 1.50 1.533 1.90 1.90 1.90 1.900 1.50 1.50	Desired ΔH 0.90 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.55 1.55 1.55 1.55 1.55 1.55 1.55		Vacuum 0.5 0.5 0.5 0.5 1.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0 2.0 0 1.5 1.5	DGM T 66 73 77 72.0 81 83 86 83.3 88 89 90 90 89.0 91 92 91 91	Exit T 50 41 40 43.7 40 39 40 39.7 42 42 42 42 42 42 42 43 43	Filter T 72 74 72.7 76 77 78 77.0 79 79 78 78.7 78 78.7 78 79 79 79 79	Probe T	Stack T 74 73 73 73 73 73 73 73 73 73 73 73 73 73				
PORT A	Point 1-A 1-B 1-C 2-A 2-C 3-A 3-B 3-C 4-A 4-B 4-C	Clock 8:26 8:36 8:46 9:16 9:16 9:26 9:36 9:36 9:46 9:56 10:06 10:16	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920 718.780 727.860 736.980	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.00 5.00	ΔP 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.31 0.30 0.30 0.303	∆H 0.90 0.92 0.913 1.50 1.60 1.533 1.90 1.90 1.90 1.90 1.90 1.90 1.50 1.60	Desired ΔH 0.90 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.55 1.55 1.55 1.50 1.50 1.50 1.50 1.51 1.55 1.55 1.55 1.50 1.50 1.51 1.50		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0 1.5 1.5 1.5 1.5 1.67	DGM T 66 73 77 72.0 81 83 86 83,88 89 90 91 92 91 92 91 91,3	Exit T 50 41 40 43.7 40 39 40 39 40 39 40 39 42 42 42 42 42 42 42 43 43 43 43.0	Filter T 72 72 74 72.7 76 77 78 77.0 79 79 79 79 79 78 78 78 79 79 78 78 79 79 78.7	Probe T	Stack T 74 73 74 73,7 73 73 73 74 74,00 74,00 74,00 74,00 74,00 74,00 74,00 74,00 74,00 74,00 74,00				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A	Clock 8:26 8:36 8:36 8:46 9:06 9:16 9:26 9:26 9:26 9:26 9:46 9:46 10:16 10:16	Meter Reading 644.322 651.200 657.610 664.300 672.750 689.830 699.700 708.920 718.780 727.860 736.980 745.631	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0	ΔP 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.25 0.31 0.31 0.31 0.30 0.30 0.30 0.30 0.30	ΔH 0.90 0.92 0.913 1.50 1.60 1.533 1.90 1.90 1.90 1.90 1.90 1.60	Desired ΔH 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.50 1.55 1.55 1.55 1.55 1.50 1.55 1.51 1.50		Vacuum 0.5 0.5 0.5 0.5 0.5 1.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0 1.5 1.5 1.5 1.5 1.5 1.67 0.5	DGM T 66 73 77 72.0 81 83 86 90 91 91 91 92 92	Exit T 50 41 40 39 40 39 40 39,7 42 42 42 42 42 42 43 43 43 43 43 43 45	Filter T 72 74 72, 74 76 77 76 77 78 77.0 79 79 79 78 78.7 78 79 79 79 79 79 79 79 79 79 79	Probe T	Stack T 74 73 73 73 73 73 73 73 73 73 74 76				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-B	Clock 8:26 8:36 8:36 8:46 9:16 9:16 9:26 9:36 9:46 9:46 9:46 10:06 10:16 10:27 10:27	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920 718.780 727.860 727.860 736.980 745.631 751.460	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0	ΔP 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.31 0.31 0.31 0.31 0.30 0.30 0.31 0.30 0.31	AH 0.90 92 0.92 0.92 0.92 0.913 1.50 1.60 1.50 1.60 1.90 1.90 1.90 1.90 1.80 1.50 1.600 0.70	Desired AH 0.90 0.90 0.90 0.90 0.90 0.50 1.50 1.50 1.55 1.653 1.55 1.50 1.50 1.55 1.653 1.50 1.50 1.51 0.70		Vacuum 0.5 0.5 0.5 0.5 0.5 1.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0 2.0 1.5 1.5 1.5 0.5 0.5 0.5	DGM T 66 73 77 72.0 81 83 86 83.3 88 89 90 91 91 92 91 91.3 92 92 92	Exit T 50 41 40 39 40 39 40 39 40 39 42 42 42 42 42 42 43 43 43 43 43 43 43 43 43	Filter T 72 72 74 72.7 74 72.7 76 77 78 79 79 78 78 78 79 79 79 78 78 79 79 79 79 79	Probe T	Stack T 74 73 73 73 73 73 73 73 73 74				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C	Clock 8:26 8:36 8:46 8:56 9:06 9:16 9:26 9:36 9:46 9:46 10:06 10:16 10:27 10:27 10:37 10:47	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920 718.780 727.860 736.980 745.631 751.460 757.310	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0	ΔP 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.310 0.30 0.31 0.31 0.31 0.31 0.30 0.31 0.310 0.303 0.14 0.14	AH 0.90 0.92 0.92 0.92 0.92 1.50 1.50 1.50 1.50 1.50 1.60 1.90 1.90 1.90 1.90 1.90 1.50 1.60 1.50 1.600 0.70 0.70	Desired ΔH 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 0.70		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0 2.0 1.5 1.5 1.5 0.5 0.5 0.5	DGM T 66 73 77 72.0 81 83 86 83.3 88 89 90 89.0 91 92 91 92 91 91.3 92 92 92	Exit T 50 41 40 39 40 39.7 42 42 42 42 42 42 42 43 43 43 43 43.0 45 41 40	Filter T 72 74 72, 74 76 77 78 77, 76 79 79 78 78 78 78 78 78 79 79 79 79 79 79 79 79 79 80	Probe T	Stack T 74 73 73 73 73 73 73 73 73 74.0 76 77				
PORT A	Point 1-A 1-B 1-C 2-A 2-A 2-A 3-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C	Clock 8:26 8:36 8:36 8:46 9:16 9:16 9:26 9:36 9:36 9:36 9:36 9:36 9:36 10:06 10:16 10:27 10:37 10:47	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 708.920 708.920 708.920 718.780 727.860 725.631 751.460 757.310	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.310 0.31 0.303 0.14 0.14	AH 0.90 0.92 0.92 0.92 0.92 0.913 1.50 1.50 1.60 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 0.700 0.70	Desired ΔH 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.50 1.55 1.55 1.5		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 1.5 1.5 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 66 73 77.0 81 83 86 83.3 86 83.3 88 89 90 91 91 92 91 91 92 92 92 92 92 92 92 92 92 92 92 92 92	Exit T 50 41 40 39 40 39,7 42 42 42 42 42 42 43 43 43 43 43 43 43 43 43 43 45 41 40 42.0	Fiter T 72 72 74 72.7 76 77.0 78 79 79 78 78 78 79 78 78 79 79 78 79 79 79 79 79 79 79 79 79 79 79 79 79	Probe T	Stack T 74 73 73.7 73.7 73.7 73.7 73.7 73.7 74 74 74 74 74 74 74 74 74 74 74 74 74 74 74 76 76 76 76 76 76.7 76.7				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A	Clock 8:26 8:36 8:46 8:56 9:16 9:26 9:26 9:36 9:46 9:56 10:06 10:16 10:27 10:37 10:47 10:57	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920 718.780 727.860 736.980 745.631 751.460 757.310 763.160	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0	ΔP 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.31 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.31 0.30 0.30 0.30 0.303 0.14 0.14 0.14 0.14 0.14	∆H 0.90 0.92 0.92 0.92 0.91 1.50 1.50 1.60 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.60 0.70 0.70 0.70 0.70 0.70 0.70	Desired ΔH 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.55 1.55 1.55 1.55 1.50 1.55 1.50 1.50 1.50 1.50 1.50 1.55 1.50 1.50 1.50 1.50 1.50 1.50 1.50 0.70 0.70 0.70 0.70		Vacuum 0.5	DGM T 66 73 77 81 83 86 83.3 88 90 91 92 91 92 92 92 92 92 92 92 92 92 92 92 92 93	Exit T 50 41 40 43 40 39,7 42 42 42 43 43 43 43.0 45.0 42.0 42.0	Filter T 72 74 77.0 78 77.0 78 78.7 78 78.7 79 79 78 78.7 79 79 78 78.7 79 79 78.3 80	Probe T	Stack T 74 73.7 73.7 73.7 73.7 73.0 74 74 74 74.0 76 77 76.7 76				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-B 5-C 6-A 6-B	Clock 8:26 8:36 8:46 9:06 9:16 9:26 9:36 9:36 9:36 9:36 9:36 9:36 9:36 10:06 10:16 10:27 10:37 10:47 10:57 11:07	Meter Reading 644.322 651.200 657.610 664.300 672.750 689.830 699.700 708.920 718.780 727.860 736.980 745.631 751.460 757.310 763.160 770.250	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 4.0	ΔP 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.2	∆H 0.90 0.92 0.92 0.92 0.913 1.50 1.50 1.60 1.90 1.90 1.90 1.90 1.50 1.50 1.50 1.50 1.50 1.50 0.70 0.70 0.70 0.70 0.70 0.700 0.93	Desired ΔH 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.50 1.55 1.55 1.55 1.55 1.50 1.51 1.55 0.70 0.70 0.70 0.700 1.000		Vacuum 0.5 0.5 0.5 0.5 0.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.50 1.0	Bigs Bigs <th< td=""><td>Exit T 50 41 40 39,7 40 39,40 39,7 42 42 42 42 42 42 42 43 43 43,0 45 41 40 40 40 40 41 42 42 42 42 42 42 43,7 40 40 40 40 40 40 40 40 40 40</td><td>Filter T 72 72 74 72.7 76 77 78 77.0 79 79 79 78 78.7 78 79 79 79 78 78 79 79 78 78 79 79 78 78 70 79 78 78 79 79 79 78 78 78 79 79 79 78 78 78 78 79 79 78 78 78 78 78 78 78 78 78 78 78 78 78</td><td>Probe T</td><td>Stack T 74 73.7 73.7 73.7 73.7 73.7 73.7 73.7 74.74 74.77 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7</td><td></td><td></td><td></td><td></td></th<>	Exit T 50 41 40 39,7 40 39,40 39,7 42 42 42 42 42 42 42 43 43 43,0 45 41 40 40 40 40 41 42 42 42 42 42 42 43,7 40 40 40 40 40 40 40 40 40 40	Filter T 72 72 74 72.7 76 77 78 77.0 79 79 79 78 78.7 78 79 79 79 78 78 79 79 78 78 79 79 78 78 70 79 78 78 79 79 79 78 78 78 79 79 79 78 78 78 78 79 79 78 78 78 78 78 78 78 78 78 78 78 78 78	Probe T	Stack T 74 73.7 73.7 73.7 73.7 73.7 73.7 73.7 74.74 74.77 76.7 76.7 76.7 76.7 76.7 76.7 76.7 76.7				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-C	Clock 8:26 8:36 8:36 8:36 8:46 9:16 9:16 9:26 9:36 9:26 9:36 9:46 9:56 10:06 10:27 10:37 10:47 10:57 11:17	Meter Reading 644.322 651.200 657.610 664.300 672.750 689.830 699.700 708.920 718.780 727.860 745.631 751.460 757.310 763.160 706.960	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0	ΔP 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.30 0.30 0.30 0.31 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.31 0.32 0.32 0.34 0.14 0.14 0.25 0.24	→H 0.90 0.92 0.92 0.92 0.91 1.50 1.50 1.60 1.533 1.90 1.90 1.90 1.90 1.90 1.90 1.50 1.600 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.73	Desired ΔH 0.90 0.90 0.90 0.90 0.900 1.50 1.50 1.50 1.50 1.50 1.55 1.55 1.		Vacuum 0.5	DGM T 66 73 77 72.0 81 83 86 83.3 88 89.0 91 92 91 91.3 92 92 92 93 93	Exit T 50 41 40 39 40 39 ,7 42 42 42 42 43 43 43 43 43 43 43 43 43 43 43 43 43	Filter T 72 74 72.7 76 77.0 79 78 78.7 78 78.7 78 78 79 79 78 78.7 79 79 79 79 70 79 79 78 78 78 78 78 78 78 78 78 78	Probe T	Stack T 74 73 73 73 73 73 73 73 73 74 76 76 76 76 76 76				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 2-C 3-A 3-B 3-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-B 5-C 6-A 6-B 6-C	Clock 8:26 8:36 8:46 9:06 9:16 9:26 9:36 9:46 9:46 10:06 10:16 10:27 10:37 10:37 10:37 10:57 11:07 11:17	Meter Reading 644.322 651.200 657.610 664.300 672.750 689.830 699.700 708.920 718.780 727.860 736.980 745.631 751.460 757.310 763.160 776.960	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 3.67	△P 0.15 0.15 0.150 0.25 0.25 0.25 0.25 0.25 0.31 0.31 0.310 0.303 0.14 0.14 0.140 0.24 0.24	→H 0.90 0.92 0.92 0.92 0.92 0.913 1.50 1.50 1.60 1.90 1.90 1.90 1.90 1.90 1.90 1.50 1.50 1.50 1.50 0.70 0.70 0.70 0.700 1.00 0.93 0.73 0.887	Desired ΔH 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.50 1.55 1.55 1.5		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGRT T 66 73 77.0 81 83 86 83.3 86 89.0 91 91.3 92 91.3 92 92 92 92 92 92 92 92 92 92 93 93 93.0	Exit T 50 41 40 39,7 40 39,7 40 39,7 42 42 42 42 42 42 43 43 43 43 43 43 43 43 43 43	Filter T 72 72 74 72,7 76 77 78 77.0 79 79 78 78,7 78 78,7 78 79 79 79 79 78,7 78 79 79 79 79 78,7 78 70 80 80 80 80 80 80 80 80.0	Probe T	Stack T 74 73 73.7 73.7 73.7 73.7 73.7 73.7 74 74 74 74 74 74 74 74.0 74.0 76 76 76 76 76.0				
PORT A	Point 1-A 1-B 1-C 2-A 3-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-C 7-A	Clock 8:26 8:36 8:36 8:46 9:16 9:16 9:26 9:36 9:36 9:36 9:36 9:36 9:36 10:16 10:16 10:27 10:37 10:47 10:57 11:07 11:17	Meter Reading 644.322 651.200 657.610 664.300 672.750 689.830 699.700 708.920 718.780 727.860 723.980 745.631 751.460 757.310 763.160 776.960 783.190	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 3.0 3.67 3.0 <td>ΔP 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.30 0.30 0.30 0.30 0.30 0.30 0.44 0.140 0.24 0.24 0.30</td> <td>∆H 0.90 0.92 0.92 0.92 0.92 0.913 1.50 1.50 1.50 1.60 1.533 1.90 1.90 1.90 1.80 1.50 1.50 1.50 1.50 0.70 0.70 0.70 0.93 0.73 0.887</td> <td>Desired ΔH 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.55 1.55 1.55 1.50 1.50 1.50 1.55 1.55 1.55 1.50 1.51 0.70 0.70 0.70 0.70 0.70 0.70 0.90 0.96 0.72 0.893</td> <td></td> <td>Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 2.0 2.0 2.0 2.0 2.0 2.0 1.5 1.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5</td> <td>DGM T 66 73 77 72.0 81 83 86 83.3 88 89 90 91 91 92 91 91 92 92 92 92 92 92 92 92 92 92 92 92 93 93 93 93 93 93 93</td> <td>Exit T 50 41 40 39,7 42 42 42 43 43 43 43 43 43 43 43 43 43 43 43 44 40 40 41 40 41 41 42</td> <td>Fiter T 72 72 74 72.7 76 77.0 78 79 79 78 78 79 79 78 78 79 79 78 77 78 79 79 79 79 79 79 79 79 79 79 79 79 79</td> <td>Probe T</td> <td>Stack T 74 73 73.7 73.7 73.7 73.7 73.7 73.7 74 74 74 74 74 74 74 74 74 76 76 </td> <td></td> <td></td> <td></td> <td></td>	ΔP 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.30 0.30 0.30 0.30 0.30 0.30 0.44 0.140 0.24 0.24 0.30	∆H 0.90 0.92 0.92 0.92 0.92 0.913 1.50 1.50 1.50 1.60 1.533 1.90 1.90 1.90 1.80 1.50 1.50 1.50 1.50 0.70 0.70 0.70 0.93 0.73 0.887	Desired ΔH 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.55 1.55 1.55 1.50 1.50 1.50 1.55 1.55 1.55 1.50 1.51 0.70 0.70 0.70 0.70 0.70 0.70 0.90 0.96 0.72 0.893		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 2.0 2.0 2.0 2.0 2.0 2.0 1.5 1.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 66 73 77 72.0 81 83 86 83.3 88 89 90 91 91 92 91 91 92 92 92 92 92 92 92 92 92 92 92 92 93 93 93 93 93 93 93	Exit T 50 41 40 39,7 42 42 42 43 43 43 43 43 43 43 43 43 43 43 43 44 40 40 41 40 41 41 42	Fiter T 72 72 74 72.7 76 77.0 78 79 79 78 78 79 79 78 78 79 79 78 77 78 79 79 79 79 79 79 79 79 79 79 79 79 79	Probe T	Stack T 74 73 73.7 73.7 73.7 73.7 73.7 73.7 74 74 74 74 74 74 74 74 74 76 76				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-A 5-C 6-A 6-B 6-C 7-A 7-B	Clock 8:26 8:36 8:36 8:46 9:16 9:16 9:26 9:26 9:36 9:46 9:56 10:06 10:16 10:27 10:37 10:47 10:57 11:17 11:27 11:37	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920 718.780 727.860 736.980 745.631 751.460 757.310 763.160 776.960 789.680	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 3.0	ΔP 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.31 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.25 0.25 0.24 0.24 0.30 0.30	∆H 0.90 0.92 0.92 0.92 0.91 1.50 1.50 1.60 1.90 1.50 1.60 0.70 0.70 0.70 0.70 0.90 0.90	Desired ΔH 0.90 0.90 0.90 0.90 0.900 1.50 1.50 1.50 1.50 1.50 1.50 1.55 1.55		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 2.0 2.0 2.0 2.0 2.0 2.0 1.5 1.67 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.7	DGM T 66 73 77 72.0 81 83 86 83.3 88 90 90 91 91 92 91 91.3 92 92 92 92 93 93 93 93.0 94	Exit T 50 41 40 39 40 39,7 42 42 42 42 43 43 43.0 45 41 40 40 41 41 41 41 40 40 41 42 42	Filter T 72 74 72,74 72,74 72,76 77,76 77,78 77,0 79 78 78,7 79 78 78,7 79 79 78,7 79 79 78,7 80 80 80 80 80 80 80 80 80 80 80 80 80	Probe T	Stack T 74 73 73.0 74 74 74.0 74.0 74.0 76 76.7				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-C	Clock 8:26 8:36 8:36 9:06 9:16 9:26 9:36 9:36 9:36 9:36 9:36 9:36 9:36 10:16 10:27 10:37 10:47 10:37 10:47 11:37 11:47	Meter Reading 644.322 651.200 657.610 664.300 672.750 689.830 699.700 708.920 718.780 727.860 736.980 745.631 751.460 757.310 763.160 776.960 783.190 783.190 783.632	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 3.0 3.0 3.0 3.0 3.0	ΔP 0.15 0.15 0.150 0.25 0.25 0.25 0.25 0.25 0.25 0.310 0.310 0.303 0.31 0.30 0.31 0.32 0.24 0.24 0.30 0.30 0.30 0.30 0.31	∆H 0.90 0.92 0.92 0.92 0.913 1.50 1.50 1.50 1.60 1.533 1.90 1.90 1.90 1.50 1.50 1.50 1.50 0.70 0.70 0.70 0.70 0.70 0.73 0.87 0.90	Desired ΔH 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.51 1.55 1.55 1.55 1.55 1.50 1.55 1.50 1.55 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.72 0.83		Vacuum 0.5 0.5 0.5 0.5 0.5 1.5 1.5 1.5 2.0 2.0 2.0 2.0 2.0 2.0 2.0 1.5 1.5 0.7	000000000000000000000000000000000000	Exit T 50 41 40 39,7 40 39,7 40 39,7 42 42 42 42 42 43 43.0 43.0 45 41 40 40 40 40 40.7 42 42 42	Filter T 72 72 74 72.7 76 77 78 77.0 79 79 79 79 78 78 79 79 79 78 78 79 79 79 78 78 70 79 79 78 78 70 79 79 79 78 70 79 79 79 79 70 70 79 70 70 70 70 70 70 70 70 70 70 70 70 70	Probe T	Stack T 74 74 74 74 74 74 74 74 74 74 74 74 76				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 3-A 3-B 3-C 4-A 4-B 4-C 5-B 5-C 6-A 6-C 7-A 7-C	Clock 8:26 8:36 8:36 8:36 9:06 9:16 9:26 9:36 9:36 9:36 9:46 9:56 10:06 10:16 10:27 10:37 10:37 10:37 10:47 10:57 11:17 11:27 11:37 11:47	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920 718.780 727.860 727.860 757.310 763.160 770.960 783.190 789.680 796.320	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 3.0 3.67 3.0 3.0 3.0	ΔP 0.15 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.30 0.30 0.30 0.30 0.30 0.25 0.25 0.25 0.25 0.25 0.25 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30	△H 0.90 0.92 0.92 0.92 0.92 0.93 1.50 1.50 1.50 1.60 1.533 1.90 1.90 1.90 1.90 1.90 1.50 1.600 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.90 0.90	Desired ΔH 0.90 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.50 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.55 1.50 0.70 0.90		Vacuum 0.5 0.7 0.7 0.7 0.63	DGM T 66 73 77 72.0 81 83 86 83.3 88 89 90 91 92 91 91.3 92 92 93 93 93.0 94 95 94.3	Exit T 50 41 40 39,7 42 42 42 42 42 43 43 43 43 43 43 43 43 43 43	Filter T 72 72 74 72.7 76 77 78 77.0 79 79 78 78.7 78 79 79 78 78.7 78 79 80 80 80 80 80 80 80 80 80 80 80 80 80	Probe T 	Stack T 74 73 74 73,7 73 73 73 73 74 74 74 74 74 74 74 74 74 74 74 74 74.0 76.0				
PORT A	Point 1-A 1-B 1-C 2-A 3-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-B 8-A	Clock 8:26 8:36 8:46 9:06 9:16 9:26 9:36 9:46 9:46 9:46 10:16 10:27 10:37 10:37 10:37 10:37 10:47 10:57 11:17 11:27 11:37	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 708.920 708.920 718.780 727.860 736.980 745.631 751.460 757.310 763.160 776.960 783.190 783.20 786.20 802.940	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.00 3.0	△P 0.15 0.15 0.15 0.150 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.31 0.30 0.30 0.31 0.30 0.31 0.30 0.44 0.24 0.24 0.31 0.30 0.31 0.32	→H 0.90 0.92 0.92 0.92 0.92 0.92 0.913 1.50 1.50 1.60 1.90 0.70 0.70 0.700 1.00 0.93 0.90 0.90 0.90 0.90 0.90	Desired ΔH 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.55 1.55 1.55 1.50 1.55 1.50 1.55 1.50 1.55 1.50 1.55 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.70 0.90 0.93 0.90 0.93 0.91 0.90 0.93 0.91		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 1.67 0.5 0.50 1.0 1.0 1.0 0.7 0.6	DGM T 66 73 77.0 81 83 86 83.3 86 89.0 91 92 91 92 92 92 92 92 92 92 92 92 92 92 92 93 93 93 93 93.0 94 94 94 94 94 94 94 94 94 94 94 94 94	Exit T 50 41 40 39,7 42 42 42 43,30 43,43 43,0 43,0 43,0 42,0 43 43 43 43 43 43,0 45 41 40 40,7 42 42 44 44,4	Filter T 72 72 74 76 77 78 77.0 79 79 79 78 78.7 78 79 79 79 78 78.7 78 79 79 79 79 79 78 80 80 80 80 80 80 80 80 80 80 80 80 80	Probe T	Stack T 74 73 73.7 73.7 73.7 73.7 73.7 73.7 74.74 74.74 74.0 74.0 76.7				
PORT A	Point 1-A 1-B 1-C 2-A 3-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-C 7-A 7-B 7-C 8-A 8-B	Clock 8:26 8:36 8:36 8:36 9:16 9:16 9:26 9:36 9:36 9:36 9:36 9:36 9:36 9:36 10:16 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:47	Meter Reading 644.322 651.200 657.610 664.300 672.750 689.830 699.700 708.920 718.780 727.860 723.980 745.631 751.460 757.310 763.160 783.190 783.290 783.190 783.290 783.280	K 6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 3.0 3.0 3.0 3.0 3.0	ΔP 0.15 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.140 0.24 0.24 0.30	△H 0.90 0.92 0.92 0.92 0.92 0.913 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.90 1.90 1.90 1.80 1.50 1.50 1.50 0.70 0.70 0.70 0.73 0.887 0.90 0.900 0.83	Desired ΔH 0.90 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.55 1.55 1.55 1.55 1.50 1.50 1.50 1.51 1.653 1.50 1.51 0.70 0.70 0.70 0.70 0.70 0.70 0.90 0.96 0.92 0.893 0.90 0.93 0.910 0.87		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 1.5 1.5 1.5 1.5 1.5 0.5 0.5 0.5 0.5 0.5 0.5 0.7 0.63 0.6	DGM T 66 73 77 72.0 81 83 86 83.3 88 89 90 91 91 92 91 92 92 92 92 92 92 92 92 92 92 92 92 92	Exit T 50 41 40 39,7 42 42 42 43 43 43 43 43 43 43 43 43 43 43 43 44 40 41 40 41 41 42 42 44 42 44	Filter T 72 72 74 72.7 76 77 78 79 79 79 78 78 79 79 78 78 79 79 78 79 79 78 79 79 78 79 79 78 79 79 70 80 80 80 80 80 80 80 80 80 80 80 80 80	Probe T	Stack T 74 73 73.7 73.7 73.7 73.7 73.7 73.7 73.7 74 74 74 74 74 74 74 76 <td></td> <td></td> <td></td> <td></td>				
PORT A	Point 1-A 1-B 1-C 2-A 3-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-B 7-C 8-A 8-C	Clock 8:26 8:36 8:36 8:46 9:16 9:26 9:26 9:26 9:26 9:36 9:46 9:26 10:27 10:37 10:47 10:57 11:47 11:27 11:37 11:47 11:57 12:17 12:17	Meter Reading 644.322 651.200 657.610 664.300 672.750 681.320 689.830 699.700 708.920 718.780 727.860 736.980 745.631 751.460 757.310 763.160 776.960 786.680 796.320 802.940 809.280	K 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	ΔP 0.15 0.15 0.15 0.15 0.25 0.25 0.25 0.25 0.31 0.31 0.31 0.30 <	→H 0.90 0.92 0.92 0.92 0.92 0.91 1.50 1.50 1.50 1.60 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.90 1.00 0.70 0.70 0.70 0.70 0.70 0.70 0.90 0.90 0.90 0.90 0.90 0.83 0.82 0.90	Desired ΔH 0.90 0.90 0.90 0.90 1.50 1.50 1.50 1.50 1.50 1.55 1.55 1.5		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.67 0.5 0.50 1.0 1.0 1.0 1.00 0.5 0.63 0.64 0.7	Bigs Bigs <thbigs< th=""> Bigs Bigs <thb< td=""><td>Exit T 50 41 40 39,7 40 39,7 40 39,7 40 39,7 40 42 42 42 43 43 43 43 43 43 43 43 43 43 43 43 44 44 45</td><td>Filter T 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7</td><td>Probe T</td><td>Reg Stack T 74 73 73 73 73 73 73 73 73 73 74 74 74 74 74 74 74 74 74 74.0 74 74.0 76 76</td><td></td><td></td><td></td><td></td></thb<></thbigs<>	Exit T 50 41 40 39,7 40 39,7 40 39,7 40 39,7 40 42 42 42 43 43 43 43 43 43 43 43 43 43 43 43 44 44 45	Filter T 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Probe T	Reg Stack T 74 73 73 73 73 73 73 73 73 73 74 74 74 74 74 74 74 74 74 74.0 74 74.0 76 76				

Isokinetic Worksheet TA 35-213 - Lathe #1 and Lathe #2, Run 2

												-						
	Date:	8/20/24		С	ritical Isokii	tetic Test Da	ta		Pre-Te	st Calibration	Check		1	Dry Gas Mete	r Leak Check	is	Pitot Tube	Leak Check
	Client:	LANL			Atmosph.	Press.("Hg)	22.88	Static P	Vi	635.094	cf		pre-test	0.003 cf @	12"		+/-	4.8/4.7
	Plants	TA 25 212			Ditot Tub	a Factor Cn	0.84	D	Vf	642 001	of		post test	0.000 of @	0"			
E	C.	1.4.41	11.4.40		C D	C H2O) P	0.04	0.17		045.701			post-test	0.000 (1 @		D.t.		
Emissi	on Source:	Lathe #1 and	1 Lathe #2	Sta	nc Pressure	(m H2O),Pg	-0.10	-0.17	vt	8.807	ст				NIOISTU	re Data		
Te	chnicians:	CS, MM		M _s - Mole	cular Weight	(lb/lb-mole)	28.71	A	ΔH	1.60	"H20		Run 1	Imp 1	Imp 2	Imp 3	Imp 4	Total Wt
	DGM No:	Console 2		I	Dry Gas Fra	ction, 1-Bws	0.9881	-0.15	Time	10	min		Beginning	708.3	703.4	572.2	929.3	2913.2
DGM	Factor, Y:	0.993			Nozzle	Diamter (in)	0.267	Nozzle (in.)	Tm	540	R		Ending	707.9	705.2	574.2	962.4	2949.7
	AH@:	1.624			Nozzle	Area (ft^2)	3.88E-04	0.26	Phar	22.88	"Hø		Total	-0.4	1.8	2.0	33.1	36.5
Stock Die	motor ("):	12			Total Sample	Time (min)	240	0.27	constant	0.0210	"Ug ofm/P				Casaans	Data (%)		
Stack Di	(f()).	0.705			Total Salipi	CD	240	0.27	V	0.0017	iig-ennik		01	20.00	Gascous	Data (70)	N/2	70.1
Stack A	rea (11~2):	0.785			Num	ber of Points	8	0.27	YC	0.9852			02	20.90	02	0.04	N2	/9.1
						Filter #	QF-17	0.267	ΔHa	1.5750		Sc	ale Prelim Ch	reck (1000g):	1000.0	999.9	1000.0	999.97
													_					
Start Vol	824.996	Stop Vol	1008.415	Actual	Volume	183.419	Target	180.000	ACF x Y	182.135	SCF	134.872				To dia di	D-4-(0/)	00.71
Start Time	13:00	Stop Time	10:07	Sample Tim	e per Point	30	K Factor	5.0	$\Sigma \sqrt{\Delta P}$	4.058	Avg $\sqrt{\Delta P}$	0.262				Isokinenc	: Kate (%):	98.71
					-				•				-					
Sampla	Start	Observed	Observed	Next Point			Desired		Sample	DGM	Last	Filter	Prohe	Stack	Point Vol		Stack	Average
Daint non	Matan	Clash	Matan Banding	Tangat	A D	A.11	AII	Observed	Vannpie	Tom	Lusi	Tama	Trove	Tama	Campled	T JAB	Valacity	ISO
Foint per	Meler	Сюск	Meler Reduing	Target				Observea	vacuum	Temp.	Imp.	Temp.	Temp.	Temp.	Samplea		velocity	130
Port	Time	Time	(ft^3)	(ft^3)	("H2O)	("H2O)	("H2O)	K Factor	("Hg)	(°F)	(°F)	(°F)	(°F)	(°F)	(DSCF)	("H2O)	(ft/s)	(%)
1	0.00	13:00	824.996	843.537	0.160	0.733	0.80	4.37	0.40	94.0	59.7	85.0		78.3	12.814	0.400	26.01	95.3
2	30.00	1	842.660	866.189	0.257	1.175	1.28	4.36	0.47	95.0	47.3	79.3		76.7	16.171	0.507	32.89	95.0
3	60.00	T	864.960	889.732	0.283	1.273	1.42	4.26	0.50	96.7	49.0	77.7		77.3	17.104	0.532	34.58	95.2
4	90.00	1	888.610	913.177	0.277	1.257	1.38	4.29	0.50	99.0	53.0	78.3		78.0	16.934	0.526	34.19	95.3
5	120.00	8:07	912.125	930.051	0.163	0.733	0.82	4.49	0.40	68.0	47.0	66.3		74.0	13,195	0.404	26.17	95.5
6	150.00		929.460	952 839	0.270	1 383	1.35	5.04	0.70	76.7	45.3	70.0	·····	74.0	18 242	0.520	33.65	97.1
·····	190.00		929.400	080.205	0.270	1.365	1.55	4.97	1.00	0.7	47.0	71.2	·····	72.2	20.245	0.520	27.70	97.1
····· <u>/</u> ·····	180.00	+	955.770	980.295	0.540	1.700	1.70	4.8/	1.00	82.3	47.0	/1.3	·····	12.5	20.375	0.585	37.70	98.1
8	210.00		981.180	1008.078	0.343	1.717	1.72	4.82	1.00	88.0	48.0	72.3		73.7	20.036	0.586	37.93	98.6
Finish	240.00	10:07	1008.415												Sum	Sum		
	Total	Total	183.419	Average	0.262	1.246	1.308	4.562	0.621	87.458	49.542	75.042		75.542	134.8719	4.0577	32.890	96.27
		BG	Nozzle Number	1	2	3	4	5	6	7		* meter box le	ak check = less	than 0.02 cfm	at 15 in Hg or	greatest vacuu	m observed dur	ing test
		Do	ala Diamatan (in.)	0.105	2	0.050	4	0.275	0 427	, ,		hieler box le	ak check – less	12: HOG	at 15 m. 11g of	greatest vacuu	in observed dur	ing test.
		INOZ	zie Diameter (in.)	0.125	0.187	0.250	0.312	0.375	0.437	0.500		T pitot tube le	ak cneck = noi	a 3 m. H ₂ O for	at least 15 sec.			
	No	zzle Cross Se	ctional Area (ft2)	0.000085	0.000191	0.000341	0.000531	0.000767	0.001042	0.001364		$\Delta \mathbf{H} = \Delta \mathbf{P} \mathbf{x}$	K factor x	$[(T_{4},, + 460)]$	528]			
the second se														it ugm	,			
														to ugm	,			
	Point	Clock	Meter Reading	K	ΔP	Δ H	Desired AH		Vacuum	DGM T	Exit T	Filter T	Probe T	Stack T	_			
PORT A	Point 1-A	Clock 13:00	Meter Reading 824.996	<u>К</u> 4.5	Δ P 0.15	Δ H 0.70	Desired ∆H		Vacuum 0.4	DGM T 94	Exit T 78	Filter T 89	Probe T	Stack T 80	•			
PORT A	Point 1-A 1-B	Clock 13:00 13:10	Meter Reading 824.996 830.670	K 4.5 4.5	Δ P 0.15 0.17	Δ H 0.70 0.77	Desired ∆ H 0.68 0.77		Vacuum 0.4 0.4	DGM T 94 94	Exit T 78 53	Filter T 89 84	Probe T	Stack T 80 78	•			
PORT A	Point 1-A 1-B 1-C	Clock 13:00 13:10 13:20	Meter Reading 824.996 830.670 836.765	K 4.5 4.5 4.5	Δ P 0.15 0.17 0.16	Δ H 0.70 0.77 0.73	Desired Δ H 0.68 0.77 0.72		Vacuum 0.4 0.4 0.4	DGM T 94 94 94	Exit T 78 53 48	Filter T 89 84 82	Probe T	Stack T 80 78 77	•			
PORT A	Point 1-A 1-B 1-C	Clock 13:00 13:10 13:20	Meter Reading 824.996 830.670 836.765	K 4.5 4.5 4.5 4.5	Δ P 0.15 0.17 0.16 0.16	ΔH 0.70 0.77 0.73 0.73	Desired ΔH 0.68 0.77 0.72 0.72		Vacuum 0.4 0.4 0.4	DGM T 94 94 94 94	Exit T 78 53 48	Filter T 89 84 82 85 0	Probe T	Stack T 80 78 77 78 3				
PORT A	Point 1-A 1-B 1-C	Clock 13:00 13:10 13:20	Meter Reading 824.996 830.670 836.765 842.660	K 4.5 4.5 4.5 4.5 4.50 4.50	Δ P 0.15 0.17 0.16 0.160 0.25	ΔH 0.70 0.77 0.73 0.733 1.13	Desired Δ H 0.68 0.77 0.72 0.720 1.13		Vacuum 0.4 0.4 0.4 0.40 0.40	DGM T 94 94 94 94 94 94	Exit T 78 53 48 59.7 47	Filter T 89 84 82 85.0 81	Probe T	Stack T 80 78 77 78.3 76	- -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B	Clock 13:00 13:10 13:20	Meter Reading 824.996 830.670 836.765 842.660 840.810	K 4.5 4.5 4.5 4.5 4.5	Δ P 0.15 0.17 0.16 0.160 0.25 0.26	ΔH 0.70 0.77 0.73 0.733 1.13 1.20	Desired Δ H 0.68 0.77 0.72 0.720 1.13		Vacuum 0.4 0.4 0.4 0.4 0.40 0.4	DGM T 94 94 94 94 94 94 94	Exit T 78 53 48 59.7 47 47	Filter T 89 84 82 85.0 81 70	Probe T	Stack T 80 78 77 78.3 76 77 77	- -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-G	Clock 13:00 13:10 13:20 13:30 13:40	Meter Reading 824.996 830.670 836.765 842.660 849.810 853.300	K 4.5 4.5 4.5 4.5 4.5 4.5	Δ P 0.15 0.17 0.16 0.25 0.26 0.26	ΔH 0.70 0.77 0.73 0.733 1.13 1.20	Desired ∆H 0.68 0.77 0.72 0.720 1.13 1.17		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5	DGM T 94 94 94 94.0 94 96 95	Exit T 78 53 48 59.7 47 47 47	Filter T 89 84 82 85.0 81 79 79	Probe T	Stack T 80 78 77 78.3 76 77	- -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C	Clock 13:00 13:10 13:20 13:30 13:40 13:50	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300	K 4.5 4.5 4.5 4.5 4.5 4.5 4.5	Δ P 0.15 0.17 0.16 0.25 0.26 0.26	ΔH 0.70 0.77 0.73 0.733 1.13 1.20 1.20	Desired Δ H 0.68 0.77 0.72 0.720 1.13 1.17 1.17		Vacuum 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5	DGM T 94 94 94 94.0 94 96 95	Exit T 78 53 48 59.7 47 47 47 47	Filter T 89 84 82 85.0 81 79 78	Probe T	Stack T 80 78 77 78.3 76 77 77 77 77				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C	Clock 13:00 13:10 13:20 13:30 13:40 13:50	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300	K 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	Δ P 0.15 0.17 0.16 0.25 0.26 0.26 0.26	ΔH 0.70 0.77 0.73 0.733 1.13 1.20 1.20 1.175	Desired △H 0.68 0.77 0.72 0.720 1.13 1.17 1.17 1.155		Vacuum 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.47	DGM T 94 94 94 94 94 94 96 95 95 95.0	Exit T 78 53 48 59.7 47 47 47 48 47.3	Filter T 89 84 82 85.0 81 79 78 79.3	Probe T	Stack T 80 78 77 78.3 76 77 76.7	- -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960	K 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	Δ P 0.15 0.17 0.16 0.25 0.26 0.26 0.257 0.29	ΔH 0.70 0.77 0.73 0.733 1.13 1.20 1.20 1.175 1.30	Desired ∆H 0.68 0.77 0.72 0.720 1.13 1.17 1.17 1.17 1.155 1.31		Vacuum 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.47 0.5	DGM T 94 94 94.0 94.0 95 95 95.0 96	Exit T 78 53 48 59.7 47 47 47 48 48 47.3 48	Filter T 89 84 82 85.0 81 79 78 79.3 77	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77.7	- -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715	K 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	Δ P 0.15 0.17 0.16 0.25 0.26 0.26 0.26 0.26 0.29 0.29	ΔH 0.70 0.77 0.73 1.13 1.20 1.20 1.175 1.30 1.26	Desired ∆H 0.68 0.77 0.72 0.720 1.13 1.17 1.17 1.155 1.31 1.26		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 94 95 95 95 95 96 96 96	Exit T 78 53 48 59.7 47 47 48 47,3 48 48 48	Filter T 89 84 82 85.0 81 79 78 79.3 77 77	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 76.7 77	- -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590	K 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	ΔP 0.15 0.17 0.16 0.25 0.26 0.26 0.26 0.29 0.28 0.28	ΔH 0.70 0.77 0.73 0.733 1.13 1.20 1.20 1.175 1.30 1.26 1.26	Desired Δ H 0.68 0.77 0.72 0.720 1.13 1.17 1.17 1.155 1.31 1.26 1.26		Vacuum 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 96 95 95.0 96 96 98	Exit T 78 53 48 59.7 47 47 47 48 47.3 48 48 51	Filter T 89 84 82 85.0 81 79 78 79.3 77 77 79	Probe T	Stack T 80 78 77 76 77 76.7 77 76.7 77 78.3 76 77 77 78.3 76 77 77 78				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590	K 4.5	ΔP 0.15 0.17 0.16 0.25 0.26 0.25 0.26 0.257 0.29 0.28 0.28 0.28 0.28	ΔH 0.70 0.77 0.73 1.13 1.20 1.20 1.175 1.30 1.26 1.26 1.273	Desired Δ H 0.68 0.77 0.72 0.720 1.13 1.17 1.17 1.155 1.31 1.26 1.26 1.26 1.275		Vacuum 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94.0 94 95 95 95.0 96 96 98 96.7	Exit T 78 53 48 59.7 47 47 47 48 47.3 48 48 51 49.0	Filter T 89 84 82 85.0 81 79 78 79.3 77 79 77.7	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 76.7 77 78 77.3	- - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20 14:30	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610	K 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5	ΔP 0.15 0.17 0.16 0.25 0.26 0.25 0.26 0.257 0.29 0.28 0.28 0.28 0.28	ΔH 0.70 0.77 0.73 0.733 1.13 1.20 1.120 1.175 1.30 1.26 1.273 1.26	Desired ΔH 0.68 0.77 0.720 1.13 1.17 1.15 1.31 1.26 1.26 1.26		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 94 95 95 95 95 95 96 96 98 96 798	Exit T 78 53 48 59.7 47 47 47 48 48 48 51 49.0 52	Filter T 89 84 82 85.0 81 79 78 79.3 77 77 79 77.7 79	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 78.3 76 77 78.3 76.7 77 78.3 77.3	- - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20 14:30 14:40	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335	K 4.5	ΔP 0.15 0.17 0.160 0.25 0.26 0.26 0.26 0.29 0.28 0.28 0.28 0.28 0.28 0.28 0.28	ΔH 0.70 0.77 0.73 0.733 1.13 1.20 1.20 1.20 1.20 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.25	Desired ΔH 0.68 0.77 0.72 0.720 1.13 1.17 1.17 1.155 1.31 1.26 1.26 1.275 1.26 1.26 1.22		Vacuum 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 95 95 95 95 95 96 96 98 98 98 96.7 98 100	Exit T 78 53 48 59.7 47 47 48 47,3 48 48 51 49.0 52 53	Filter T 89 84 82 85.0 81 79 78 79.3 77 79 77.7 79 77.7 79 79 79	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 76.7 77 78 77.3 78 78	- - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20 14:30 14:40 14:50	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225	K 4.5	ΔP 0.15 0.17 0.16 0.25 0.26 0.25 0.29 0.28 0.28 0.28 0.28 0.28 0.28	ΔH 0.70 0.77 0.73 1.13 1.20 1.175 1.30 1.26 1.273 1.26 1.25 1.25	Desired ΔH 0.68 0.77 0.72 0.720 1.13 1.17 1.17 1.155 1.31 1.26 1.26 1.26 1.22 1.26		Vacuum 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 96 95 95 95.0 96 96 98 96 98 98 96,7 98 100 99	Exit T 78 53 48 59.7 47 47 47 48 47 48 48 51 49.0 52 53 54	Filter T 89 84 82 85.0 81 79 78 79.3 77 79 77.7 79 77,7 79 77 79 77 79 77 79	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 76.7 77 77 78 77.3 78 78 78 78 78 77 77 78.3 76 77 77 76.7 77 78.3 78 78 78 78 78 78 78 78 78 78	- - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20 14:30 14:30 14:40 14:50	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225	K 4.5	ΔP 0.15 0.17 0.16 0.26 0.26 0.26 0.28 0.28 0.28 0.28 0.28 0.28 0.22 0.22	ΔH 0.70 0.73 0.73 0.73 1.20 1.20 1.20 1.20 1.20 1.26 1.26 1.26 1.26 1.25 1.25 1.25	Desired ΔΗ 0.68 0.77 0.72 0.720 1.13 1.17 1.17 1.155 1.31 1.26 1.26 1.26 1.26 1.22 1.26 1.22 1.25 1.25 1.26 1.26 1.22 1.22 1.26 1.22 1.22 1.26 1.22 1.22 1.22 1.26 1.22 1.22 1.22 1.22 1.22 1.25 1.26 1.22 1.24		Vacuum 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 96 95 95 96 96 98 98 98 100 99 98 0	Exit T 78 53 48 59.7 47 47 48 47.3 48 48 51 49.0 52 53 54 53 0	Filter T 89 84 82 85.0 81 79 78 79.3 77 79 77.7 79 77.7 79 79.7 79 79.7 78 78 78 78 78 78 78 79 77 79 77 79 77 78 78 79 77 79 79	Probe T	Stack T 80 78 77 76.7 77 76.7 77 78 77 78 78 78 78 78				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5 A	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20 14:30 14:40 14:50	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225	K 4.5	ΔP 0.15 0.17 0.16 0.25 0.26 0.25 0.26 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.27 0.29 0.27 0.28	ΔH 0.70 0.77 0.73 1.13 1.20 1.20 1.175 1.30 1.26 1.273 1.26 1.25 1.26 1.25 1.26	Desired ΔH 0.68 0.77 0.72 0.72 0.72 1.13 1.17 1.17 1.155 1.26 1.26 1.26 1.275 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.26 1.27 1.26 1.27 1.26 1.26 1.26 1.26 1.26 1.27 1.26 1.26 1.26 1.26 1.26 1.27 1.26 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.26 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.26 1.27 1.26 1.26 1.27 1.26 1.26 1.27 1.27 1.27 1.27 1.27 1.27 1.27 1.27 1.27 1.27 1.27 1.27 1.26 1.27 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.2		Vacuum 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 96 95 95,0 96 96 98 98 96,7 98 100 99 99 99 99,55	Exit T 78 53 48 59.7 47 47 48 48 47.3 48 48 51 51 52 53 54 53 54 53 54	Filter T 89 84 82 85.0 81 79 78 79 79 77, 79 77, 79 77 79 77 79 77 79 77 79 77 79 77 79 77 79 79	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 78 77 78 78 78 78 78 78 78 78 79 70 70 70 70 <tr< td=""><td>- - -</td><td></td><td></td><td></td></tr<>	- - -			
PORT A PORT B	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-A	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:10 14:20 14:30 14:30 14:50 8:07 8:07	Meter Reading 824.996 830.670 836.765 842.660 857.300 864.960 872.715 880.590 888.610 896.335 904.225 912.125 912.125	K 4.5	ΔP 0.15 0.17 0.16 0.25 0.26 0.26 0.29 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.27 0.28 0.27 0.28	ΔH 0.70 0.77 0.73 0.73 1.20 1.25 1.20 1.25 1	Desired ΔΗ 0.68 0.77 0.72 0.720 0.720 1.13 1.17 1.17 1.155 1.31 1.26 1.26 1.26 1.275 1.226 1.225 1.225 1.225 0.72 0.72		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 95 95.0 96 96 96 98 95.0 96 98 95.0 96 98 95.0 96 96 98 95.0 96 96 96 96 98 95.0 96 95 96 96 96 95 96 96 95 96 96 95 96 96 95 96 96 95 96 96 95 96 96 95 96 96 95 96 96 95 96 96 95 96 96 95 96 96 96 96 95 96 96 96 96 96 95 96 96 96 96 96 96 96 96 96 96 96 96 96	Exit T 78 53 48 59.7 47 47 47 47 47 48 48 48 51 49.0 52 53 54 53.0 52 52	Filter T 89 84 82 85.0 81 79 78 79,3 77 79 77,7 78 78 78 78 78 78 79 79 77,7 79 77,7 79 77,7 78 78 78 78 78 78 79 79 77,7 78 78 78 79 77 78 78 78 78 78 78 78 78 78	Probe T	Note Temperature Stack T 80 78 77 78.3 76 77 77 76.7 77 78 77.3 78 78.0 78.0 73	- - - -			
PORT A PORT B	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-B	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20 14:30 14:40 14:50 8:07 8:17	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225 912.125 917.910	K 4.5	ΔP 0.15 0.17 0.16 0.25 0.26 0.26 0.26 0.257 0.29 0.28 0.28 0.28 0.28 0.27 0.28 0.27 0.28 0.277 0.16	ΔH 0.70 0.77 0.73 1.13 1.20 1.20 1.20 1.27 1.30 1.26 1.26 1.257 0.72 0.72	Desired ΔΗ 0.68 0.77 0.72 0.72 0.72 1.13 1.17 1.17 1.155 1.31 1.26 1.26 1.26 1.22 1.26 1.245 0.72 0.72 0.72		Vacuum 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 96 95 95.0 96 96 96 98 96.7 98 100 99 99.0 65 65	Exit T 78 53 48 59.7 47 47 47 47 47 47 48 48 51 49.0 52 53 54 53 54 53.0 52 45	Filter T 89 84 82 85.0 81 79 79 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 78.3 67	Probe T	Stack T 80 78 77 78.3 76 77 76,7 77,77 76,7 77,3 78 78 78 78 78 78 78,0 73 74	- - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C	Clock 13:00 13:10 13:20 13:30 13:40 13:40 14:10 14:10 14:20 14:30 14:40 14:50 8:07 8:17 8:27	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225 912.125 917.910 923.670	K 4.5	ΔP 0.15 0.17 0.16 0.25 0.26 0.25 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.27 0.28 0.27 0.27 0.27 0.27 0.27 0.27	ΔH 0.70 0.73 0.733 0.733 1.13 1.20 1.175 1.30 1.26 1.26 1.26 1.26 1.25 1.26 1.25 1.26 0.72 0.72 0.76	Desired ΔΗ 0.68 0.77 0.72 0.72 0.72 0.72 0.72 1.13 1.17 1.17 1.15 1.26 1.26 1.26 1.26 1.26 1.22 1.245 1.24		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 95 95 96 96 96 98 96 98 98 98 90 98 99.0 65 68 871	Exit T 78 53 48 50.7 47 47 47 48 51 49.0 53 54 53 54 53 54 53.0 52 54 53.0 52 44	Filter T 89 84 82 85.0 81 79.3 77 79 77.7 79 79 77.7 79 79 77.7 79 79 79 70 70 70 70 70 70 70 70 70 70	Probe T	Note Television 80 78 78 77 76.7 77 76.7 77 76.7 77 78 78 78 78 78 78 78 78 78 78 78 78 78 78 78 78 78 78 73 74 75 75	- - - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 3-A 3-C 4-A 4-B 4-C 5-A 5-B 5-C	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:10 14:20 14:20 14:30 14:50 8:07 8:17 8:27	Meter Reading 824.996 830.670 836.765 842.660 872.715 880.590 888.610 896.335 904.225 912.125 917.910 923.670	K 4.5	ΔP 0.15 0.17 0.16 0.25 0.26 0.25 0.29 0.28 0.28 0.28 0.28 0.28 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.15 0.17	ΔH 0.70 0.77 0.73 1.13 1.20 1.20 1.20 1.20 1.26 1.273 1.26 1.25 1.26 1.25 1.26 1.25 1.26 0.72 0.72 0.72 0.73 0.73	Desired ΔH 0.68 0.77 0.72 0.72 0.720 1.13 1.17 1.15 1.26 1.26 1.26 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.27 1.26 1.27 1.27 1.26 1.27 1.27 1.27 1.26 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.26 1.27 1.26 1.27 1.26 1.26 1.26 1.26 1.27 1.26 1.26 1.26 1.26 1.27 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26		Vacuum 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 95 95 95 96 96 96 96 96 98 90 99 99 99 99 99 95 65 68 71 6 6 .0	Exit T 78 53 48 59,7 47 47 47 47 48 47,3 48 48 48 51 52 53 53 54 52 45 44 47,0	Filter T 89 84 82 81 79 78 79 77 77 79 77 79 77 79 77 79 77 79 77 79 77 79 77 79 77 79 77 79 77 76 63 63 67 69 69 66 66 66 67 69 69 66 67 67 67 67 67 67 67 67 67	Probe T	Stack T 80 78 78 76 77 76.7 77 76.7 77.3 78 78 78 78.0 73.3 74 75.7 74.0	- - - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 3-C 4-A 4-B 4-C 5-A 5-B 5-C 6-A	Clock 13:00 13:10 13:20 13:30 13:30 13:50 13:50 14:00 14:10 14:10 14:20 14:30 14:40 14:40 14:30 14:40 14:50 8:07 8:17 8:27 8:37	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225 912.125 917.910 923.670 929.460	K 4.5 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28	∆H 0.70 0.73 0.733 1.13 1.20 1.175 1.30 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.273 0.72 0.72 0.76 0.733 1.35	Desired ΔΗ 0.68 0.77 0.72 0.72 0.72 0.72 0.72 1.13 1.17 1.17 1.15 1.31 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.22 0.77 0.72 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.77 0.73 0.73 0.73 0.77 0.77 0.73 0.75		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 95 95 95 96 98 96 98 96 98 98 98 90 65 68 68 71 68 71 68 74	Exit T 78 53 48 59,7 47 47 47 47 47 48 48 48 51 52 53 54 53,0 52 45 53,0 52 44 47,0 43	Filter T 89 84 82 85.0 81 79.3 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 63 63 65 66.3 69	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 76.7 77.3 78 78 78.0 73 74 75 74	- - - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20 14:20 14:40 14:50 8:07 8:17 8:27 8:27 8:37	Neter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225 912.125 917.910 923.670 929.460 937.370	K 4.5 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28	ΔH 0.70 0.73 0.73 1.13 1.20 1.20 1.20 1.26 1.26 1.26 1.26 1.25 1.26 1.25 1.26 1.25 0.72 0.72 0.72 0.72 0.73 1.33 1.35 1.40	Desired ΔH 0.68 0.77 0.72 0.720 1.13 1.17 1.155 1.26 1.26 1.26 1.22 1.26 1.22 1.26 1.22 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.73 0.75 0.72 0.75 0.72 0.75 0.72 0.75 0.72 0.75 0.72 0.75 0.72 0.72 0.72 0.75 0.72 0.72 0.72 0.75 0.72 0.73 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.7		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 96 95 95 96 96 96 96 96 96 96 96 96 96 96 96 96	Exit T 78 53 48 59,7 47 47 47 47 48 47,3 48 48 51 52 53 54 53,0 52 45 44 47,0 43 46	Filter T 89 84 82 85.0 81 79 78 79,3 77 77 79 77 77 79 77,7 79 77,7 79 77,7 79 77,7 63 63 67 69 66.3 69 70	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77.7 76.7 77.3 78 78.0 77.3 78.7 78.7 78.7 78.7 78.7 78.7 78.7 78.7 78.7 78.7 78.7 78.7 78.7 78.7 78.7 78.7 79.7 74.0 74.0	- - - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-C 4-A 4-B 4-C 5-B 5-C 6-A 6-C	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:10 14:10 14:20 14:30 14:40 14:40 14:40 14:50 14:40 14:57	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225 912.125 917.910 923.670 929.460 937.370	K 4.5 5.0 5.0 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28	∆H 0.70 0.77 0.73 0.733 1.13 1.20 1.175 1.30 1.26 1.26 1.273 1.26 1.26 1.26 1.257 0.72 0.72 0.72 0.72 0.73 1.35 1.40	Desired ΔH 0.68 0.77 0.72 0.72 0.72 1.13 1.17 1.15 1.31 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.22 0.72 0.77 0.73 1.35 1.35 1.35		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 95 95 96 96 98 96 98 98 96 98 100 99 99.0 65 68 71 68 71 68 71 74 77 99	Exit T 78 53 48 59,7 47 47 47 47 48 48 48 51 49,0 52 53 54 53,0 52 45 44 47,0 43 46 47	Filter T 89 84 82 85.0 85.0 85.0 81 79.3 77 79.3 77 79 77.7 79 77 79 77 78.3 63 67 69 70 69 70 70 71	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 76.7 77.3 78 78 78 78 78 78.0 74 74 74 74 74 74 74	· · ·			
PORT A	Point 1-A 1-B 1-C 2-A 3-A 3-C 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:30 14:40 14:30 14:40 14:50 8:07 8:17 8:17 8:17 8:47 8:57	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 886.610 896.335 904.225 912.125 917.910 929.460 937.370 945.560	K 4.5 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.26 0.28 0.28 0.28 0.28 0.28 0.27 0.28 0.27 0.16 0.16 0.16 0.16 0.16 0.16 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.16 0.27 0.27 0.27 0.27 0.16 0.27 0.27 0.27 0.27 0.16 0.27 0	ΔH 0.70 0.73 0.73 1.13 1.20 1.20 1.20 1.20 1.26 1.26 1.26 1.26 1.273 1.26 1.26 1.273 1.26 1.25 1.26 1.25 0.72 0.72 0.72 0.72 0.72 0.73 1.35 1.40 1.40 1.383	Desired ΔH 0.68 0.77 0.72 0.720 1.13 1.17 1.155 1.26 1.26 1.26 1.275 1.26 1.275 1.26 1.225 1.26 1.225 1.26 1.225 1.225 1.225 1.225 1.25 1.35 1.350		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 96 95 95 96 96 96 96 96 98 96.7 98 100 99 99.0 99.0 65 68 71 68.0 74 77 79 76.7	Exit T 78 53 48 59.7 47 47 47 48 47.3 48 48 48 51 52 53 53 52 45 52 45 44 47.0 43 46 47 45,3	Filter T 89 84 82 85.0 81 79 78 79,3 77 77 79 77,7 79 77,7 79 77,7 79 77,7 79 77,7 78,3 63 63 65 69 66,3 69 90 70 71 70,0	Probe T	Stack T 80 78 77 78.3 76 77 76 77 76.7 77 78 74 74 74 74.0	- - - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 3-C 4-A 4-B 4-C 5-A 5-B 5-C 6-A 6-B 6-C 7-A	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20 14:30 14:40 14:50 14:50 8:07 8:17 8:27 8:27 8:47 8:57 9:07	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225 912.125 917.910 923.670 929.460 937.370 953.770	K 4.5 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28	∆H 0.70 0.73 1.13 1.20 1.175 1.30 1.20 1.175 1.20 1.21 1.20 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.273 1.26 1.25 1.26 1.257 0.72 0.733 1.35 1.40 1.383 1.70	Desired ΔH 0.68 0.77 0.72 0.72 0.72 1.13 1.17 1.15 1.26 1.26 1.26 1.27 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.25 1.35 1.35 1.35 1.35 1.350 1.70		Vacuum 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 95 95 95 96 96 96 96 98 90 97 99 99 99 99 99 99 90 65 68 71 71 77 79 76 81	Exit T 78 53 48 59.7 47 47 48 47.3 48 48 48 51 53 53 53 53 53 53 45 45 45 44 47.0 43 46 47 45 47	Filter T 89 84 82 85.0 81 79 78 79.3 77 77 79 79 77 77.7 79 79 77 77.7 78.3 67 69 70 66.3 69 70 70 70 70 70 70 70 70 70 70	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 76.7 77 78 74 74 74 74 74 74 74 74 74 74 74 74 74 74 74 74 74 <	- - - - -			
PORT A	Point 1-A 1-B 1-C 2-A 3-B 3-C 3-A 3-C 4-A 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-B	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:10 14:30 14:40 14:50 8:07 8:17 8:7 8:47 8:57 9:07 9:17	Neter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 886.335 904.225 912.125 912.125 912.3670 929.460 937.370 945.560 953.770 963.100	K 4.5 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.27 0.29 0.28 0.28 0.28 0.28 0.27 0.28 0.27 0.16 0.16 0.16 0.16 0.16 0.16 0.27 0.27 0.28 0.27 0.28 0.27 0.27 0.28 0.27 0.27 0.28 0.27 0.27 0.27 0.27 0.28 0.27 0.27 0.27 0.27 0.27 0.27 0.28 0.27 0.27 0.27 0.28 0.27 0.27 0.27 0.28 0.27 0.27 0.27 0.28 0.27 0.27 0.27 0.28 0.27 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.35 0	∆H 0.70 0.73 0.73 1.13 1.20 1.20 1.20 1.20 1.26 1.26 1.26 1.26 1.26 1.273 1.26 1.25 1.26 1.27 0.72 0.72 0.72 0.72 0.73 1.31 1.40 1.40 1.40 1.40 1.40 1.40 1.75 1.26 1.27 0.72 0.72 0.72 0.72 0.72 0.72 0.72 0.73 1.40 1.40 1.40 1.70 1.70 1.70 1.75 1.75 1.26 1.275 1.26 1.275 1.26 1.275 0.72 0.73 1.383 1.30 1.	Desired ΔH 0.68 0.77 0.72 0.720 1.13 1.17 1.155 1.26 1.26 1.275 1.26 1.26 1.275 1.26 1.225 1.26 1.225 1.26 1.225 1.225 1.26 1.225 1.225 1.25 1.35 1.355 1.355 1.355 1.355 1.350 1.70 1.70		Vacuum 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 96 95 95 96 96 96 96 98 96 98 90 99 99 99 99 99 99 97 97 65 68 87 11 68 80 74 77 79 76.7 81	Exit T 78 53 48 59.7 47 47 48 48 47.3 48 48 51 52 53 54 52 45 52 45 44 47.0 43 46 47 47	Filter T 89 84 82 85.0 81 79 78 79 77 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77 79 77 79 77 70 77 70 70 77 70 70 77 70 70	Probe T	Stack T 80 78 77 76 77 76 77 76.7 77.3 78 78.0 78.0 78.0 78.0 78.0 74.0 74.0 74.0 70	- - - -			
PORT A	Point 1-A 1-B 1-C 2-A 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-B 5-C 6-A 6-C 7-A 7-A 7-A	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:10 14:20 14:20 14:30 14:20 14:30 14:50 8:07 8:17 8:27 8:37 8:47 8:57 9:07 9:17 9:27	Neter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225 912.125 917.910 923.670 929.460 953.770 963.100 971.950	K 4.5 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.29 0.28 0.28 0.28 0.28 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.28 0.27 0.34 0	∆H 0.70 0.73 1.13 1.20 1.175 1.26 1.26 1.26 1.26 1.26 1.25 1.26 1.25 1.26 1.25 1.26 1.25 1.26 1.27 0.72 0.72 0.73 1.35 1.40 1.40 1.40 1.40 1.40 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.75 1.75 1.75 1.26 1.26 1.25 1.26 1.26 1.25 1.26 1.26 1.27 0.73 1.35 1.40 1.40 1.40 1.40 1.40 1.40 1.40 1.75 1.75 1.26 1.26 1.27 0.72 0.73 1.35 1.40 1.40 1.40 1.70 1.70 1.75 1.75 1.26 1.75 1.26 1.75 1.26 1.75 1.26 1.75 1.26 1.75 1.26 1.75 1.26 1.75 1.26 1.75 1.26 1.75 1.26 1.75 1.75 1.75 1.26 1.75 1.26 1.75 1.40 1.75	Desired ΔH 0.68 0.77 0.72 0.72 0.720 1.13 1.17 1.155 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.27 0.72 0.72 0.72 0.72 1.35 1.35 1.35 1.35 1.35 1.70 1.75 1.26 1.26 1.26 1.26 1.26 1.275 1.35 1.35 1.35 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.35 1.75 1.70 1.70 1.70 1.75 1.35 1.70 1.70 1.70 1.70 1.70 1.75 1.70		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 95 95 95 96 96 96 96 96 98 90 99 99 99 99 99 99 90 55 68 71 74 77 79 76.7 78 81 82 84	Exit T 78 53 48 59,7 47 47 47 48 48 48 48 48 51 52 53 54 52 52 53 54 52 45 47,0 43 46 47 47 47	Filter T 89 84 82 81 79 78 79.3 77 77 79 79 77 79 77 79 77 78.3 67 69 70 66.3 69 70 71 70.0 70 71	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 76.7 77.3 78 78 78 78 78 78 78 78.0 74.0 74 73	- - - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-C	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:10 14:10 14:40 14:50 14:40 14:50 8:07 8:17 8:27 8:37 8:57 9:07 9:17 9:27	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 886.610 896.335 904.225 912.125 912.125 912.125 912.3670 929.460 937.370 945.560 953.770 963.100 971.950	K 4.5 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.27 0.29 0.28 0.28 0.28 0.27 0.27 0.16 0.16 0.16 0.16 0.17 0.17 0.26 0.27 0.34 0.34 0.34 0.34 0.24 0.34 0.34 0.24 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.24 0.34 0.24 0.34 0.24 0.34 0.24 0.34 0.24 0.34 0.24 0.34 0.24 0.34 0.24 0.34 0.34 0.24 0.34 0.34 0.24 0.34 0.34 0.24 0.34 0	ΔH 0.70 0.73 0.73 1.13 1.20 1.20 1.20 1.20 1.20 1.26 1.26 1.26 1.26 1.26 1.25 1.26 1.25 1.25 0.72 0.72 0.72 0.72 0.73 1.20 1.25 1.27 0.72 0.76 0.73 1.25 1.25 1.27 0.72 0.76 0.73 1.40 1.25 1.27 0.72 0.76 0.73 1.40 1.38 1.26 1.25 1.27 0.72 0.76 0.73 1.40 1.38 1.40 1.70 1.70 1.70 1.75 1.25 1.27 0.72 0.76 0.73 1.40 1.38 1.40 1.38 1.20 0.76 0.73 1.20 0.76 0.73 1.20 0.76 0.72 0.76 0.72 0.76 0.72 0.76 0.72 0.76 0.72 0.76 0.72 0.76 0.72 0.76 0.70 1.383 1.30 1.39 1.40 1.39 1.39 1.39 1.39 1.39 1.40 1.39 1.39 1.39 1.39 1.40 1.39 1.39 1.39 1.39 1.40 1.39 1.39 1.39 1.39 1.40 1.39 1.39 1.39 1.40 1.39 1.39 1.39 1.40 1.39 1.39 1.39 1.39 1.40 1.39 1.39 1.39 1.39 1.39 1.40 1.39 1.39 1.39 1.39 1.40 1.39 1.39 1.39 1.39 1.39 1.39 1.39 1.39	Desired ΔH 0.68 0.77 0.72 0.720 1.13 1.17 1.15 1.26 1.26 1.26 1.26 1.275 1.26 1.22 1.26 1.22 0.72 0.72 0.72 0.72 0.73 1.35 1.70		Vacuum 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 96 95 95 96 96 96 98 98 96.7 98 90.0 65 68 871 65 68 71 65 68 71 65 68 71 65 68 71 65 68 71 65 68 71 65 68 71 65 68 75 99.0 99.0 99.0 99.0 99.0 99.0 99.0 99.	Exit T 78 53 48 59.7 47 47 48 48 48 48 51 49.0 52 53 54 53.0 52 45 44 47.0 47.3 47 47 47 9 47 47 9 47 47 9 47 47 47 9 47 47 47 47 47 47 47 47 47 47 47 47 47	Filter T 89 84 82 85.0 81 79 78 79 77.7 79 70 77.7 79 70 77.7 79 70 77.7 79 70 70 70 77.7 79 70 70 70 70 70 70 70 70 70 70	Probe T	Stack T 80 76 77 76 77 76 77 76 77 76 77 78 77 78 77 78 77.3 78 78.0 78.0 74.0 74.0 74.0 74.0 74.0 73 71.0 72.3	- - - - -			
PORT A	Point 1-A 1-B 1-C 2-A 3-A 3-B 3-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-C	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20 14:20 14:30 14:40 14:40 14:50 8:07 8:17 8:27 8:37 8:47 8:57 9:07 9:17 9:17 9:27	Neter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225 912.125 917.910 923.670 929.460 953.770 963.100 971.950	K 4.5 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.27 0.28 0.27 0.28 0.27 0.27 0.27 0.16 0.16 0.16 0.16 0.26 0.26 0.29 0.28 0.27 0.27 0.27 0.28 0.28 0.28 0.27 0.28 0.27 0.28 0.28 0.27 0.28 0.27 0.28 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.16 0.16 0.16 0.17 0.17 0.17 0.16 0.34 0	ΔH 0.70 0.73 1.13 1.20 1.20 1.175 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 0.72 0.72 0.72 0.72 0.72 0.72 0.73 1.35 1.40 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.27 0.73 1.26 1.27 0.72	Desired ΔH 0.68 0.77 0.72 0.720 1.13 1.17 1.155 1.26 1.26 1.26 1.26 1.22 1.26 1.22 1.26 1.22 1.26 1.22 0.7		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 95 95 95 96 96 96 96 96 96 96 98 96 96 98 90 99 99 99 99 99 76 7 7 7 7 9 8 1 81 82 84 82 3	Exit T 78 53 48 59,7 47 47 47 47 48 47,3 48 48 48 51 52 53 53 53 53 53 53 53 44 47,0 43 46 47 47 47 47 47 47 47 47 47 47 47 47 47	Filter T 89 89 84 82 81 79 79 77 77 79 77 70 77 79 77 70 77 79 77 79 77 79 77 79 77 70 77 79 77 70 77 79 77 70 77 79 77 70 70 77 70 77 70 70 70 70	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 76.7 77.3 78 78 78 78 78 78.0 74.0 73.0 72.3 72.3 72.3	- - - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-C 3-A 3-C 3-A 3-C 4-A 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-C 8-A 8-D	Clock 13:00 13:10 13:20 13:30 13:40 14:10 14:20 14:20 14:30 14:42 14:30 14:42 14:30 14:45 14:50 8:07 8:17 8:27 8:37 8:47 8:57 9:07 9:17 9:27 9:37	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225 912.125 917.910 923.670 929.460 937.370 945.560 953.170 963.100 971.950	K 4.5 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.27 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.27 0.28 0.27 0.29 0.28 0.28 0.28 0.27 0.29 0.28 0.27 0.29 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.16 0.17 0.16 0.27 0.27 0.27 0.16 0.16 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.34 0.34 0.34 0.34 0.35 0.35 0.35 0.34 0.35 0.35 0.35 0.35 0.34 0.35 0.35 0.35 0.35 0.35 0.34 0.35 0	∆H 0.70 0.73 1.13 1.20 1.175 1.30 1.20 1.175 1.30 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.35 1.40 1.383 1.70 1.70 1.700	Desired ΔH 0.68 0.77 0.72 0.72 0.72 1.13 1.17 1.15 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.27 0.72 0.72 0.72 0.72 0.72 1.35 1.35 1.35 1.35 1.35 1.70 1.75		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 95 95 96 96 96 98 98 98 98 98 98 99 99 99 99 99 99 99	Exit T 78 53 48 79,7 47 47 47 48 48 48 51 47 47 53 53 53 45 44 43 46 47 47 47 47 47 47 47 47 47 47 47 47 47	Filter T 89 84 82 85.0 81 79.3 77 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77.7 79 77 79 77 77.7 79 77 77 79 77 77 79 77 77 7	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77 76.7 77.3 78 78.0 73.3 78 78.0 74 74.0 74.0 74.0 74.7 72.3 72.3	· · ·			
PORT A	Point 1-A 1-B 1-C 2-A 3-A 3-C 3-C 3-A 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-C 8-A 8-B	Clock 13:00 13:10 13:20 13:30 13:40 13:50 14:10 14:10 14:20 14:30 14:40 14:50 8:07 8:17 8:47 8:57 8:37 8:47 8:57 9:07 9:17 9:27 9:47	Neter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 886.610 896.335 904.225 912.125 917.910 923.670 953.770 945.560 971.950 981.180 990.280	K 4.5 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.25 0.29 0.28 0.28 0.28 0.28 0.27 0.28 0.27 0.16 0.16 0.16 0.17 0.163 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.27 0.28 0.28 0.28 0.28 0.27 0.29 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.28 0.27 0.16 0.16 0.16 0.17 0.16 0.34	∆H 0.70 0.73 0.73 1.13 1.20 1.20 1.20 1.20 1.20 1.26 1.26 1.273 1.26 1.26 1.273 1.26 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.275 1.26 1.275 1.26 1.275 1.26 1.275 1.26 1.275 1.26 1.275 1.26 1.275 1.26 1.275 1.26 1.275 1.26 1.275 1.27 0.72 0.72 0.72 0.72 0.72 0.72 0.76 0.73 1.40 1.40 1.40 1.40 1.40 1.40 1.40 1.40 1.40 1.40 1.40 1.75 1.26 1.275 1.26 1.275 1.26 1.275 1.26 1.275 1.26 1.275 1.26 1.275 1.26 1.275 1.275 1.275 1.26 1.275 1.275 1.275 1.275 1.275 1.275 1.275 1.40 1.40 1.40 1.770	Desired ΔH 0.68 0.77 0.72 0.720 1.13 1.17 1.155 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.27 0.72 0.73 1.35 1.35 1.35 1.35 1.70		Vacuum 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 95 95 95 96 96 96 96 96 96 96 96 96 96 96 96 96	Exit T 78 53 48 59,7 47 47 48 47,3 48 48 48 51 52 53 54 49,0 52 53 54 53 52 45 53 52 45 44 47,0 47 47 47 47 47 47 47 47 47 47 47 47 47	Filter T 8 9 84 82 85.0 81 79 78 79 77 77 79 77 77 79 77 77 79 77 77	Probe T	Stack T 80 78 77 78.3 76 77 76.7 77.3 78 78 78 78 78 78 78 78 78 78 78 74 74 74 74 74 74 74 74 74 74 74 74 74 73 73 74 74 74 73 74 73 74 73 74 73 74 73	- - - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 3-C 4-A 4-B 4-C 5-A 5-B 5-C 6-A 6-B 6-C 7-A 7-B 7-C 8-A 8-B 8-C	Clock 13:00 13:10 13:20 13:30 13:40 14:10 14:20 14:20 14:20 14:30 14:40 14:50 14:40 14:50 14:40 14:50 14:40 14:50 14:40 14:50 14:40 14:50 14:40 14:50 14:40 14:50	Meter Reading 824.996 830.670 836.765 842.660 849.810 857.300 864.960 872.715 880.590 888.610 896.335 904.225 912.125 917.910 923.670 929.460 971.370 953.770 963.100 971.950 981.180 999.340	K 4.5 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.15 0.17 0.16 0.25 0.26 0.28 0.28 0.28 0.28 0.28 0.27 0.28 0.27 0.27 0.27 0.16 0.16 0.16 0.17 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.28 0.27 0.28 0.27 0.28 0.28 0.27 0.27 0.28 0.27 0.27 0.28 0.27 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.27 0.27 0.28 0.27 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.34	∆H 0.70 0.73 1.13 1.20 1.175 1.30 1.26 1.26 1.26 1.26 1.26 1.26 1.273 1.26 1.273 1.26 1.273 1.26 1.25 1.26 1.25 1.26 1.25 1.26 1.273 1.35 1.40 1.383 1.70 1.70 1.700 1.70	Desired AH 0.68 0.77 0.72 0.72 0.72 0.72 1.13 1.17 1.15 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.26 1.25 1.35 1.35 1.35 1.35 1.35 1.35 1.35 1.70 1.70 1.70 1.70 1.70 1.70 1.70 1.70		Vacuum 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 94 94 94 94 95 95 96 96 96 96 96 96 98 90 96 98 90 97 99 99 99 99 99 99 99 99 99 99 99 99	Exit T 78 53 48 59.7 47 47 48 48 48 51 53 53 54 53 53 54 53.0 52 53 54 47,0 43 46 47 47,0 43 46 47 47 47 47 47 47 48 8 48	Filter T 89 84 82 85.0 81 79 77 79 77 77 79 77 77 79 77 77	Probe T	Stack T 80 78 78 78.3 76 77 76.7 77 76.7 77 76.7 77 78 74 74 74 74 74 74 74 74 74 74 74 74 74 74 74 74 74	· · · · · · · · · · · · · · · · · · ·			

Isokinetic Worksheet TA 35-213 - Lathe #1 and Lathe #2, Run 3

	Date:	8/21/24		C	ritical Isokii	netic Test Da	ta		Pre-Te	st Calibration	Check		1	Dry Gas Mete	r Leak Check	s	Pitot Tube	Leak Check
	Client:	LANL			Atmosph.	Press.("Hg)	22.88	Static P	Vi	635.094	cf		pre-test	0.002 cf @	14"		+/-	4.8/4.7
	Plant:	TA-35-213			Pitot Tub	e Factor, Cp	0.84	В	Vf	643.901	cf		post-test	0.001 cf @	8"		+/-	
Emissi	on Source:	Lathe #1 and	1 Lathe #2	Sta	tic Pressure	(in H2O),Pg	-0.16	-0.17	Vt	8.807	cf				Moistu	re Data		
Те	chnicians:	CS, MM		M _S - Mole	cular Weight	(lb/lb-mole)	28.71	Α	ΔH	1.60	"H20		Run 1	Imp 1	Imp 2	Imp 3	Imp 4	Total Wt
	DGM No:	Console 2		I	Drv Gas Fra	ction. 1-Bws	0.9881	-0.15	Time	10	min		Beginning	715.1	689.5	597.0	949.1	2950.7
DGM	Factor, Y:	0.993			Nozzle	Diamter (in)	0.267	Nozzle (in.)	Tm	540	R		Ending	717.6	691.9	597.8	982.7	2990.0
	ΔH@:	1.624			Nozzle	e Area (ft^2)	3.88E-04	0.26	Pbar	22.88	"Hg		Total	2.5	2.4	0.8	33.6	39.3
Stack Dia	meter ("):	12			Total Sample	e Time (min)	240	0.27	constant	0.0319	"Hø-cfm/R			u	Gaseous	Data (%)		
Stack A	rea (ft^2):	0.785			Numl	ber of Points	8	0.27	Yc	0.9852			02	20.90	CO2	0.04	N2	79.1
						Filter #	OF-18	0.267	Δ H @	1.5750		Sc	ale Prelim Ch	eck (1000g):	1000.0	999.9	1000.0	999.97
							Q. 10	01-01						(****g):				
Start Vol	1008 710	Ston Vol	1199 971	Actual	Volume	191 261	Target	180.000	ACEXY	189 922	SCF	139.075	1					
Start Time	10:27	Stop Time	12:59	Sample Tim	e per Point	30	K Factor	5.0	$\Sigma \sqrt{\Lambda P}$	4.091	$Avg \sqrt{\Lambda P}$	0.265				Isokinetic	Rate (%):	101.12
		stop 1110						210				0.000	1					
Sample	Start	Observed	Observed	Next Point			Desired		Sample	DGM	Last	Filter	Probe	Stack	Point Vol		Stack	Average
Point per	Meter	Clock	Meter Reading	Target	ΔP	ΔH	ΔH	Observed	Vacuum	Temp.	Imp.	Temp.	Temp.	Temp.	Sampled	$\Sigma - \sqrt{\Delta P}$	Velocity	ISO
Port	Time	Time	(ft^3)	(ft^3)	("H2O)	("H2O)	("H2O)	K Factor	("Hg)	(°F)	(°F)	(°F)	(°F)	(°F)	(DSCF)	("H2O)	(ft/s)	(%)
1	0.00	10:27	1008.710	1027.694	0.170	0.850	0.85	4.80	0.50	89.7	48.3	77.3		76.7	14.043	0.412	26.77	101.1
2	30.00		1027.910	1051.496	0.263	1.317	1.32	4.81	0.67	89.3	43.7	77.3		76.3	17.419	0.513	33.30	100.9
3	60.00	t	1051.675	1077.904	0.323	1.617	1.62	4.79	1.13	91.7	45.3	78.7		76.0	19.382	0.569	36.89	101.0
4	90.00	<u> </u>	1078.205	1105.062	0.337	1.683	1.68	4.77	1.37	93.0	47.3	80.7		74.7	19.747	0.580	37.60	101.0
5	120.00	12:29	1105.295	1124.388	0.170	0.850	0.85	4.77	0.63	94.0	49.0	81.3		79.0	14.082	0.412	26.83	101.1
6	150.00	·····	1124.700	1148.094	0.253	1.300	1.27	4.87	1.00	96.0	55.3	81.7		77.3	17.263	0.503	32.70	101.2
7	180.00	I	1148.540	1174.035	0.300	1.500	1.50	4.74	1.00	97.0	49.7	77.3		77.0	18.560	0.548	35.57	101.2
8	210.00	t	1174.200	1200.039	0.307	1.567	1.53	4.83	1.03	99.0	50.7	79.3		78.0	18.577	0.554	36.00	101.0
Finish	240.00	12:59	1199.971												Sum	Sum		
	Total	Total	191.261	Average	0.265	1.335	1.327	4,796	0.917	93,708	48,667	79.208		76.875	139.0746	4.0915	33.206	101.07
		BG	Nozzle Number	1	2	3	4	5	6	7		* meter box le	ak check = less	than 0.02 cfm	at 15 in. Hg or	greatest vacuu	n observed dur	ing test.
		Noz	zle Diameter (in.)	0.125	0.187	0.250	0.312	0.375	0.437	0.500		† pitot tube le	ak check = hold	d 3 in. H ₂ O for	at least 15 sec.			
	No	zzle Cross Se	ctional Area (ft2)	0.000085	0.000191	0.000341	0.000531	0.000767	0.001042	0.001364		$\Delta H = \Delta P x$	K factor x	(T + 460)/	5281			
														et uga				
	Point	Clock	Meter Reading	K	ΔP	ΔH	Desired AH		Vacuum	DGM T	Exit T	Filter T	Probe T	Stack T				
PORT A	Point 1-A	Clock 10:27	Meter Reading 1008.710	K 5.0	Δ P 0.17	Δ H 0.85	Desired AH		Vacuum 0.5	DGM T 90	Exit T 56	Filter T 78	Probe T	Stack T 76	•			
PORT A	Point 1-A 1-B	Clock 10:27 10:37	Meter Reading 1008.710 1015.150	K 5.0 5.0	Δ P 0.17 0.17	ΔH 0.85 0.85	Desired ΔH 0.85 0.85		0.5 0.5	DGM T 90 90	Exit T 56 45	Filter T 78 77	Probe T	Stack T 76 77				
PORT A	Point 1-A 1-B 1-C	Clock 10:27 10:37 10:47	Meter Reading 1008.710 1015.150 1021.515	K 5.0 5.0 5.0	Δ P 0.17 0.17 0.17	ΔH 0.85 0.85 0.85	Desired ∆H 0.85 0.85 0.85		Vacuum 0.5 0.5 0.5	DGM T 90 90 89	Exit T 56 45 44	Filter T 78 77 77	Probe T	Stack T 76 77 77	•			
PORT A	Point 1-A 1-B 1-C	Clock 10:27 10:37 10:47	Meter Reading 1008.710 1015.150 1021.515	K 5.0 5.0 5.0 5.0	Δ P 0.17 0.17 0.17 0.17	ΔH 0.85 0.85 0.85 0.85 0.850	Desired ∆H 0.85 0.85 0.85 0.85 0.850		Vacuum 0.5 0.5 0.5 0.50	DGM T 90 90 89 89.7	Exit T 56 45 44 48.3	Filter T 78 77 77 77 77.3	Probe T 	Stack T 76 77 77 77 76.7				
PORT A	Point 1-A 1-B 1-C 2-A	Clock 10:27 10:37 10:47 10:57	Meter Reading 1008.710 1015.150 1021.515 1027.910	K 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.17 0.17 0.17 0.17 0.170 0.25	ΔH 0.85 0.85 0.85 0.85 0.850 1.25	Desired ∆H 0.85 0.85 0.85 0.85 0.850 1.25		Vacuum 0.5 0.5 0.5 0.50 0.5	DGM T 90 90 89 89.7 89.7	Exit T 56 45 44 48.3 44	Filter T 78 77 77 77.3 77	Probe T	Stack T 76 77 77 76.7 77	• •			
PORT A	Point 1-A 1-B 1-C 2-A 2-B	Clock 10:27 10:37 10:47 10:57 11:07	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550	K 5.0 5.0 5.0 5.0 5.0 5.0	Δ P 0.17 0.17 0.17 0.17 0.25 0.27	ΔH 0.85 0.85 0.85 0.85 1.25 1.35	Desired ΔH 0.85 0.85 0.85 0.850 1.25 1.35		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 90 90 89 89.7 89 89 89	Exit T 56 45 44 48.3 44 43	Filter T 78 77 77 77.3 77 77	Probe T	Stack T 76 77 77 76.7 77 76	• -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C	Clock 10:27 10:37 10:47 10:57 11:07 11:17	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600	K 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Δ P 0.17 0.17 0.17 0.17 0.25 0.27 0.27	ΔH 0.85 0.85 0.85 0.850 1.25 1.35 1.35	Desired Δ H 0.85 0.85 0.85 0.850 1.25 1.35 1.35		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.0	DGM T 90 90 89 89.7 89 89 89 90	Exit T 56 45 44 48.3 44 43 44	Filter T 78 77 77 77.3 77 77 77 78	Probe T 	Stack T 76 77 77 76.7 77 76 76 76				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C	Clock 10:27 10:37 10:47 10:57 11:07 11:17	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600	K 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Δ P 0.17 0.17 0.17 0.25 0.27 0.27 0.27 0.263	ΔH 0.85 0.85 0.85 0.850 1.25 1.35 1.35 1.35 1.317	Desired ∆H 0.85 0.85 0.85 0.850 1.25 1.35 1.35 1.317		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.0 0.67	DGM T 90 90 89 89.7 89 89 90 89.3	Exit T 56 45 44 48.3 44 43 44 43.7	Filter T 78 77 77.3 77 77 77 78 77.3	Probe T	Stack T 76 77 77 76.7 77 76 76 76 76.3	• •			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675	K 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.17 0.17 0.17 0.25 0.27 0.27 0.27 0.27 0.263 0.32	ΔH 0.85 0.85 0.85 0.850 1.25 1.35 1.35 1.35 1.317 1.60	Desired ΔH 0.85 0.85 0.85 0.85 1.25 1.35 1.35 1.317 1.60		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.0 0.67 1.0	DGM T 90 89 89.7 89 89 90 89.3 91	Exit T 56 45 44 48.3 44 43 44 43 44 43.7 45	Filter T 78 77 77.3 77 77 78 77.3 79	Probe T	Stack T 76 77 77 76.7 76 76 76 76.3 76	• •			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:27 11:37	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420	K 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Δ P 0.17 0.17 0.17 0.25 0.27 0.27 0.27 0.27 0.32 0.33	ΔH 0.85 0.85 0.85 0.850 1.25 1.35 1.35 1.35 1.317 1.60 1.65	Desired ΔH 0.85 0.85 0.85 0.85 1.25 1.35 1.35 1.317 1.60 1.65		Vacuum 0.5 0.5 0.5 0.5 0.5 1.0 0.67 1.0 1.2	DGM T 90 89 89.7 89 89 90 89.3 91 92	Exit T 56 45 44 48.3 44 43 44 43 44 43.7 45 45	Filter T 78 77 77.3 77 78 77.3 79 79 79	Probe T	Stack T 76 77 77 76.7 76 76 76 76 76 76 76 76	• •			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:27 11:37 11:47	Meter Reading 1008.710 1015.150 1021.515 1027.910 1033.550 1043.600 1051.675 1060.420 1069.420	K 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Δ P 0.17 0.17 0.25 0.27 0.27 0.263 0.32 0.33 0.32	ΔH 0.85 0.85 0.85 1.25 1.35 1.35 1.317 1.60 1.65 1.60	Desired ΔH 0.85 0.85 0.85 0.85 1.25 1.35 1.35 1.317 1.60 1.65 1.60		Vacuum 0.5 0.5 0.5 0.5 1.0 0.67 1.0 1.2 1.2	DGM T 90 89 89.7 89 89 90 89.3 91 92 92	Exit T 56 45 44 48.3 44 43 44 43.7 45 45 45 46	Filter T 78 77 77.3 77 78 77.3 78 79 79 79 78	Probe T	Stack T 76 77 77 76.7 76 76 76 76 76 76 76 76 76 76				
PORTA	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:47	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1069.420	K 5.0	ΔP 0.17 0.17 0.25 0.27 0.263 0.32 0.32 0.32 0.32 0.32	ΔH 0.85 0.85 0.85 1.25 1.35 1.317 1.60 1.65 1.60 1.617	Desired ΔH 0.85 0.85 0.85 1.25 1.35 1.35 1.317 1.60 1.65 1.60 1.617		Vacuum 0.5 0.5 0.5 0.5 0.5 1.0 0.67 1.0 1.2 1.2 1.13	DGM T 90 90 89 89.7 89 89 90 89.3 91 92 92 92 91.7	Exit T 56 45 44 48.3 44 43 44 43.7 45 45 46 45.3	Filter T 78 77 77.3 77 77 77 77 77 78 77.3 79 79 79 78 78.7	Probe T	Stack T 76 77 77 76.7 76 76 76 76 76 76 76 76 76 76 76	• • •			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:47 11:57	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1069.420 1078.205	K 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	Δ P 0.17 0.17 0.25 0.27 0.27 0.263 0.32 0.33 0.32 0.32 0.34	ΔH 0.85 0.85 0.85 0.85 1.25 1.35 1.35 1.317 1.60 1.65 1.65 1.60 1.617 1.70	Desired ΔΗ 0.85 0.85 0.85 0.85 1.25 1.35 1.35 1.317 1.60 1.65 1.60 1.617 1.70		Vacuum 0.5 0.5 0.5 0.5 0.5 1.0 0.67 1.0 1.2 1.2 1.13 1.4	DGM T 90 90 89 89.7 89 90 89.3 91 92 92 91.7 93	Exit T 56 45 44 48.3 44 43 44 43.7 45 45 46 45.3 47	Filter T 78 77 77.3 77 77 78 77.3 79 79 79 79 78 78.7 80	Probe T	Stack T 76 77 77 76.7 76 76 76 76 76 76 76 76 76 76 76 76 76	• • •			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-B	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:47 11:57 12:07	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1069.420 1078.205 1087.270	K 5.0	ΔP 0.17 0.17 0.25 0.27 0.263 0.32 0.33 0.32 0.33 0.32 0.33 0.32 0.33	ΔH 0.85 0.85 0.85 0.850 1.25 1.35 1.35 1.317 1.60 1.65 1.60 1.617 1.70 1.65 1.69	Desired ΔΗ 0.85 0.85 0.85 0.850 1.25 1.35 1.35 1.317 1.60 1.65 1.60 1.617 1.70 1.65 1.65		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.0 0.67 1.0 1.2 1.2 1.2 1.13 1.4 1.4	DGM T 90 90 89 89.7 89 90 89.3 91 92 92 92 92 91.7 93 93	Exit T 56 45 44 43 44 43 44 43 44 43 44 43 44 43 44 45 45 45 45 45 46 47 47 47 47 47 47 47 47 47 47	Filter T 78 77 77.3 77 77 78 77 78 79 79 79 78 78.7 80 81	Probe T	Stack T 76 77 77 76.7 76 76 76 76 76 76 76 76 76 76 0 76 72 72	• - -			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:47 11:57 12:07 12:17	Neter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1069.420 1078.205 1087.270 1096.250	K 5.0	ΔP 0.17 0.17 0.25 0.27 0.27 0.23 0.32 0.33 0.32 0.33 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.35 0.34 0.35 0.34 0.33 0.34 0.35 0.34 0.35 0.32 0.33 0.34 0.32 0.33 0.34 0.33 0.34 0.35 0.34 0.35 0.32 0.33 0.32 0.33 0.32 0.33 0.33 0.33	ΔH 0.85 0.85 0.85 1.25 1.35 1.317 1.60 1.65 1.60 1.617 1.70 1.65 1.66 1.65 1.66 1.65 1.66 1.65 1.66	Desired ΔH 0.85 0.85 0.85 1.25 1.35 1.35 1.317 1.60 1.617 1.70 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.70 1.7		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.0 0.67 1.0 1.2 1.2 1.2 1.4 1.4 1.3 1.2	DGM T 90 90 89. 89. 89. 90 89.3 91 92 92 92 91.7 93 93 93 93	Exit T 56 45 44 43 44 43 44 43 44 43 45 45 45 45 45 45 47 47 47 47 47 48	Filter T 78 77 77.3 77.3 77.3 77 78 77.3 79 79 79 79 78 78.7 80 80 81 81 81	Probe T 	Stack T 76 77 76 77 76 76.3 76 <	•			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:47 11:57 12:17 12:17	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1069.420 1078.205 1087.270 1087.270	K 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.17 0.17 0.17 0.25 0.27 0.27 0.27 0.27 0.23 0.32 0.32 0.32 0.32 0.32 0.32 0.34 0.34 0.33 0.34	ΔH 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85	Desired ΔH 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.0 0.67 1.0 1.2 1.13 1.4 1.3 1.37 0.5	DGM T 90 90 89 89 90 89,3 91 92 91,7 93 93 93,00	Exit T 56 45 44 48.3 44 43.4 43.7 45 45 46 45.3 47 47 47 48 47 48 47	Filter T 78 77 77.3 77.3 77 78 77.3 79 79 79 78 78.7 80 81 81 81 81 80 7	Probe T	Stack T 76 77 77 76 76 76 76 76 76 76 76 76 76	• • •			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:47 11:57 12:07 12:17 12:29	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1078.205 1087.270 1096.250	K 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.17 0.17 0.25 0.27 0.263 0.32 0.32 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34	ΔH 0.85 0.85 0.85 0.85 1.25 1.35 1.317 1.60 1.65 1.60 1.617 1.70 1.65 1.65 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.65 1.65 1.70 1.65 1.70 1.65 1.65 1.65 1.65 1.65 1.65 1.65 1.65 1.65 1.70 1.65	Desired AH 0.85 0.85 0.85 0.85 0.85 0.85 1.25 1.35 1.317 1.60 1.65 1.60 1.617 1.70 1.65 1.70 1.65 1.70 1.683 0.85		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 90 90 89 89.7 89 90 90 89.3 91 92 92 91.7 93 93 93 93 93 93.0 94	Exit T 56 45 44 48.3 44 43.7 45 45 45 46 45.3 47 47 47 47 47 48	Filter T 78 77 77 77 77 78 77.3 79 78 77.3 79 78 78.7 80 80 81 81 81 81	Probe T	Stack T 76 77 76 76.7 76 76.3 76 76 76 76 76 76 76 76 76 72 76 72 76 72 76 72 72 72	•			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-A 5-C	Clock 10:27 10:37 10:47 10:57 11:07 11:07 11:27 11:37 11:47 11:57 12:07 12:17 12:29 12:39	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1069.420 1078.205 1087.270 1096.250 1105.295 1110.730	K 5.0 5.0	ΔP 0.17 0.17 0.17 0.25 0.27 0.263 0.32 0.33 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.37 0.17 0.17	ΔH 0.85 0.85 0.85 0.85 0.85 0.85 1.25 1.35 1.317 1.60 1.60 1.60 1.617 1.70 1.65 1.70 1.65 1.70 0.85 0.65 0.65 0.65 0.65 0.65 0.65 0.85	Desired AH 0.85 0.85 0.85 0.850 1.25 1.35 1.35 1.317 1.60 1.65 1.60 1.617 1.70 1.65 1.70 1.65 1.70 1.683 0.85 0.85		Vacuum 0.5 0.5 0.5 0.5 0.5 1.0 1.2 1.2 1.13 1.4 1.3 1.4 1.3 1.5 0.7	DGM T 90 90 89 89 89 90 90 89.3 91 92 92 92 92 91.7 93 93 93 93 93 94 94	Exit T 56 45 48.3 44 43.7 45 46 43.7 45 46 45.3 47 47 48 47 48 48 49 950	Filter T 78 77 77 77.3 77 77 78 77.3 79 78 78.7 80 81 81 81 81 81 82 81	Probe T	Stack T 76 77 77 76.7 76 76.3 76 76 76 76 76 76 76 76 76 76 76 76 77 77				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-C 4-A 4-B 4-C 5-B 5-C	Ctock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:47 11:57 12:07 12:17 12:29 12:39 12:49	Meter Reading 1008.710 1015.150 1021.515 1021.515 1035.550 1043.600 1051.675 1060.420 1064.420 1078.205 1087.270 1096.250 1110.730 1116.170	K 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	ΔP 0.17 0.17 0.17 0.25 0.27 0.27 0.32 0.33 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34	ΔH 0.85 0.85 0.85 1.25 1.35 1.317 1.65 1.65 1.60 1.617 1.70 1.68 1.70 1.68 0.85 0.65 0.65 0.65 0.85	Desired AH 0.85 0.85 0.85 0.85 0.85 0.85 1.35 1.35 1.35 1.317 1.65 1.65 1.617 1.70 1.68 1.70 1.68 0.85		Vacuum 0.5 0.5 0.5 0.5 0.5 1.0 0.67 1.2 1.2 1.13 1.4 1.4 1.3 1.37 0.7 0.7 0.7 0.63	DGM T 90 90 89 89.7 89 90 89.3 90 89.3 91 92 92 92 92 92 93.0 93.0 94 94 94	Exit T 56 45 44 48.3 44 43 44 43 44 43.7 45 45 45 45 46 45.3 47 47 47 47 47.3 48 47.3 48 9 500	Filter T 78 77 77 77 78 77.3 77 78 79 79 79 79 78 78,7 80 81 81 81 81 81 81 81 81	Probe T	Stack T 76 77 76 76 76 76 76 76 76 76 76 76 76	• • •			
PORT A	Point 1-A 1-B 1-C 2-A 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:37 11:37 11:57 12:07 12:17 12:29 12:39 12:49	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1078.205 1087.270 1096.250 1105.295 1110.730 1105.295 1110.730	K 5.0 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0 5.00 5.0	ΔP 0.17 0.17 0.25 0.27 0.26 0.33 0.32 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.37 0.17 0.17 0.17 0.17 0.17 0.17	ΔH 0.85 0.85 0.85 1.25 1.35 1.317 1.60 1.65 1.60 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.83 0.85 0	Desired ΔH 0.85 0.85 0.85 0.85 0.85 1.35 1.35 1.35 1.35 1.35 1.36 1.60 1.60 1.61 1.60 1.65 1.70 1.70		Vacuum 0.5 0.5 0.5 0.5 0.5 1.0 1.0 1.2 1.13 1.4 1.4 1.3 1.37 0.5 0.7 0.7 0.6 1.0	DGM T 90 90 89 89.7 89 90 89.3 91 92 92 91.7 93 93 93 93.0 94 94 94 94 94	Exit T 56 45 44 48.3 44 43 44 43 44 43 45 45 46 45 46 45.3 47 48 47 48 47 48 49 50 50 50 50 50 50 50 50 50 50	Filter T 78 77 77 77 77 77 77 77 77 79 79 79 79 79	Probe T	Stack T 76 77 77 76.7 77 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 74.7 79 79 79 79 79 79 79 79				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-A	Clock 10:27 10:37 10:47 10:47 11:07 11:17 11:27 11:37 11:47 11:47 12:27 12:27 12:17 12:29 12:39 12:49	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1069.420 1078.205 1087.270 1096.250 1105.295 1110.730 1116.170	K 5.0 5.0 5.00 5.0 5.0 5.0	ΔP 0.17 0.17 0.17 0.27 0.27 0.27 0.27 0.23 0.32 0.32 0.32 0.33 0.32 0.33 0.32 0.33 0.34 0.337 0.17 0.17 0.17 0.17 0.170 0.25 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27	ΔH 0.85 0.85 0.850 1.25 1.35 1.317 1.60 1.65 1.65 1.65 1.65 1.65 1.67 1.70 1.683 0.85	Desired AH 0.85 0.85 0.85 0.85 1.35 1.35 1.35 1.317 1.60 1.65 1.60 1.65 1.60 1.65 1.70 1.65 1.70 1.63 0.85		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 1.0 0.67 1.2 1.2 1.3 1.4 1.3 1.37 0.5 0.7 0.7 0.7 0.7 0.6 1.0 1.0 1.2 1.2 1.2 1.4 1.4 1.4 1.3 1.3 1.4 1.4 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3	DGM T 90 90 89 89,7 89,7 90 90 90 91 92 92 91,7 93 93,9 93,0 94 94 94,0 95 96	Exit T 56 45 44 48.3 44 43 44 43 45 45 45 45 45 45 45 47 47 47 47 48 47,48 47,48 49 50 50 52 56	Filter T 78 77 77 77 77 78 77,3 79 79 79 79 78 78 78 78 78 78 78 78 78 81 81 81 81 82 81 81 82 81 81 81 82 83	Probe T	Stack T 76 77 77 76.7 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 77 77 78 79 79 79 79 79 79.00 77				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-C	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:47 11:57 12:07 12:17 12:29 12:39 12:49 12:59 13:19	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1069.420 1078.205 1087.270 1096.250 1105.295 1110.730 1116.170 1124.700 1132.685 1140.600	K 5.0 5.0	ΔP 0.17 0.17 0.17 0.27 0.27 0.263 0.32 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.37 0.17 0.17 0.170 0.26 0.25 0.25 0.25 0.25 0.25 0.25 0.27 0.26 0.32 0.32 0.32 0.34 0.34 0.34 0.34 0.34 0.37 0.17 0.17 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.32 0.34 0.34 0.34 0.33 0.34 0.37 0.17 0.17 0.17 0.17 0.17 0.17 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.34 0.34 0.37 0.17 0.17 0.26 0.25 0.25 0.25 0.27 0.27 0.27 0.17 0.26 0.25	ΔH 0.85 0.85 0.85 0.85 0.85 1.25 1.35 1.317 1.60 1.617 1.60 1.617 1.60 1.65 1.70 1.65 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.30 1.65 1.30 1.30 1.30 1.65 1.30 1.30 1.65 1.30 1.65 1.30 1.30 1.65 1.30 1.30 1.30 1.30 1.65 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.65 1.30 1.30 1.30 1.30 1.65 1.30 1.30 1.30 1.30 1.65 1.30 1.30 1.30 1.30 1.65 1.30 1.30 1.30 1.65 1.30 1.30 1.30 1.30 1.65 1.30 1.30 1.30 1.30 1.65 1.30	Desired ΔH 0.85 0.85 0.85 0.85 0.85 1.25 1.35 1.35 1.31 1.60 1.61 1.60 1.61 1.60 1.65 1.70 1.65 1.70 1.683 0.85		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.0 1.2 1.2 1.3 1.4 1.4 1.3 1.37 0.5 0.7 0.7 0.7 0.0 1.0 1.0 1.2 1.2 1.2 1.4 1.4 1.4 1.3 1.37 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.	DGM T 90 90 89 89. 89. 90 89. 91 92 92 92 92 93 93 93 93 93 93. 93. 94 94. 94. 94. 95 96 97	Exit T 56 44 48,3 44 43 44 43,7 45 45 45 46 45,3 47 47 47 47 47 48 9 50 50 52 56 58	Filter T 78 77 77 77 77 77 78 79 79 79 79 78 78 78 78 78 78 78 78 78 80 80 81 81 81 81 81 82 82 83 80	Probe T	Stack T 76 77 77 76 76 76 76 76 76 76 76 76 76				
PORT A	Point 1-A 1-B 1-C 2-A 2-A 3-A 3-C 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-C	Clock 10:27 10:37 10:57 11:07 11:17 11:27 11:37 11:37 11:37 11:57 12:07 12:17 12:29 12:39 12:39 12:59 13:09 13:19	Neter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1078.205 1087.270 1096.250 1105.295 1110.730 1116.170 1124.700 1132.685 1140.600	K 5.0	ΔP 0.17 0.17 0.17 0.27 0.27 0.27 0.27 0.27 0.32 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.35 0.37 0.17 0.17 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.32 0.32 0.33 0.32 0.33 0.34 0.33 0.34 0.34 0.35 0.37 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.32 0.32 0.33 0.34 0.34 0.34 0.34 0.34 0.37 0.17 0.17 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.32 0.17 0.17 0.17 0.25 0	ΔH 0.85 0.85 0.85 0.85 0.85 1.35 1.35 1.35 1.37 1.60 1.60 1.60 1.60 1.65 1.70 1.65 1.70 1.65 1.70 1.68 3.085 0.85 0.85 0.85 0.85 0.85 1.35 1.60 1.65 1.60 1.65 1.65 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.30 1.35 1.35 1.37 1.60 1.65 1.70 1.65 1.70 1.65 1.30 1.35 1.35 1.37 1.70 1.68 1.30 1.35 1.30 1.35 1.35 1.37 1.70 1.68 1.300 1.300 1	Desired ΔH 0.85 0.85 0.85 0.85 0.85 1.35 1.35 1.35 1.37 1.60 1.60 1.65 1.60 1.65 1.70 1.65 1.70 1.65 0.85 0.25		Vacuum 0.5 0.5 0.5 0.5 0.5 1.0 1.0 1.2 1.13 1.4 1.4 1.3 1.3 1.3 1.3 1.3 1.4 1.4 1.4 1.4 1.4 1.5 0.7 0.6 0.5 0.5 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	DGM T 90 90 89 89.7 89 90 89.3 91 92 92 91.7 93 93 93.0 93.0 94 94.0 94 94.0 95 96 97 96.0	Exit T 56 45 44 48.3 44 43 44 43 44 43 45 45 46 45.3 47 48 47 48 47 48 49 50 55 3	Filter T 78 77 77 78 77,3 77 78 79 78 78 78 78 80,7 81 81 81 81 81 81 81 81 81 81 81 81 81	Probe T	Stack T 76 77 77 76.7 77 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 77 76 78 79 79 79 79 79 78 77				
PORT A	Point 1-A 1-B 1-C 2-A 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-C 7-A	Clock 10:27 10:37 10:47 11:07 11:17 11:27 11:37 11:47 11:47 11:57 12:07 12:17 12:29 12:39 12:49 12:49 13:59 13:19	Neter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1069.420 1078.205 1087.270 1096.250 1105.295 1116.170 1124.700 1132.685 1148.540	K 5.0	ΔP 0.17 0.17 0.17 0.27 0.27 0.27 0.27 0.23 0.32 0.32 0.32 0.33 0.32 0.33 0.32 0.33 0.34 0.337 0.17 0.17 0.17 0.17 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25	ΔH 0.85 0.85 0.85 0.850 1.25 1.35 1.35 1.317 1.60 1.65 1.60 1.61 1.60 1.65 1.70 1.65 1.70 1.65 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.10 1.30 1.30 1.30 1.30 1.30 1.50 1.50 1.30 1.50 1.30 1.50	Desired ΔH 0.85 0.85 0.85 0.85 1.35 1.35 1.317 1.60 1.65 1.60 1.65 1.60 1.65 1.70 1.65 1.70 1.68 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 1.25 1.25 1.25 1.25 1.25 1.25 1.35 1.60 1.65 1.70 1.65 1.30 1.55 1.35 1.35 1.35 1.35 1.50 1.55		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 0.5 1.0 0.67 1.0 1.2 1.2 1.3 1.4 1.4 1.3 1.37 0.5 0.7 0.7 0.6 0.7 0.7 0.7 0.7 0.7 0.7 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	DGM T 90 90 90 89 89 90 91 92 91 92 91 93 93 93 93 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 94 95 96 97 96.0	Exit T 56 45 44 48.3 44 43 43 43 43 45 45 45 46 45 45 46 47 47 48 47 47 48 49 50 52 56 58 55 51	Filter T 78 77 77 77 77 77 78 79 79 78 78.7 80 80 81 81 80.7 82 81 81.3 82 83 80 81.3 82 83 80 81.3 82 83 80 81.3 80 80 81.3 80 80 81.3 80 80 81.3 80 80 81.3 80 80 81.3 80 80 80 81.3 80 80 80 80 80 80 80 80 80 80 80 80 80	Probe T	Stack T 76 77 76.7 76 76 76 76 76 76 76 76 76 7	• • •			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-A	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:47 11:57 12:07 12:17 12:29 12:39 12:39 12:49 12:59 13:39	Neter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1078.205 1087.270 1096.250 1105.295 1110.730 1124.700 1132.685 1140.600 1148.540	K 5.0	ΔP 0.17 0.17 0.17 0.27 0.27 0.263 0.32 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.37 0.17 0.170 0.26 0.27 0.273 0.32 0.34 0.32 0.32 0.32 0.34 0.32 0.34 0.34 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.36 0.37 0.17 0.17 0.27 0.25 0.25 0.37 0.37 0.37 0.37 0.17 0.17 0.25 0.25 0.25 0.25 0.30 0.34 0.33 0.34 0.34 0.33 0.34 0.36 0.37 0.17 0.17 0.25 0.25 0.30 0.30 0.30 0.36 0.37 0.25 0.25 0.25 0.30 0.30 0.36 0.36 0.25 0.25 0.25 0.30 0.30 0.36 0.25 0.25 0.25 0.30 0.30 0.25 0.25 0.25 0.30 0.30 0.30 0.25 0.25 0.25 0.25 0.30 0.30 0.30 0.25 0.30 0.30 0.30 0.30 0.30 0.25 0.30	ΔH 0.85 0.85 0.850 0.850 1.35 1.35 1.317 1.60 1.617 1.70 1.60 1.617 1.60 1.65 1.70 1.683 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.	Desired ΔH 0.85 0.85 0.85 0.85 1.25 1.35 1.35 1.31 1.60 1.61 1.60 1.61 1.60 1.65 1.70 1.683 0.85		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.0 1.2 1.13 1.4 1.3 1.37 0.5 0.7 0.7 0.7 0.7 0.6 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.1 1.2 1.1 1.3 1.3 1.3 1.3 1.3 1.0 1.0 1.0 1.0 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	DGM T 90 90 89 89 89 90 89.3 91 92 92 92 91.7 93 93 93 93 93 93 93 93 93 93 93 93 93	Exit T 56 45 44 48,3 44 43 44 43 44 43 45 45 46 45 46 45 46 47 47 48 49 90 50 52 56 58 55,3 51 49	Filter T 78 77 77 77 77 77 77 77 77 77 77 77 78 79 79 79 79 79 79 78 78 78 78 78 78 78 78 81 81 81 81 81 81 81 81 81 81 81 81 81	Probe T	Stack T 76 77 77 76 76 76 76 76 76 76 76 76 76				
PORT A	Point 1-A 1-B 1-C 2-A 2-A 3-A 3-C 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-C	Clock 10:27 10:37 10:57 11:07 11:17 11:27 11:37 11:37 11:57 12:07 12:17 12:29 12:39 12:39 12:39 12:39 13:39 13:19	Meter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1078.205 1087.270 1096.250 1105.295 1110.730 1116.170 1124.700 1132.685 1140.600	K 5.0 5.0 5.00 5.0	ΔP 0.17 0.17 0.17 0.27 0.27 0.27 0.27 0.23 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.35 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.32 0.32 0.32 0.33 0.34 0.34 0.34 0.34 0.34 0.34 0.34 0.35 0.35 0.35 0.32 0.32 0.32 0.33 0.34 0.34 0.34 0.34 0.34 0.35 0.32 0.35 0.32 0.32 0.33 0.34 0.34 0.34 0.35 0.35 0.35 0.32 0.32 0.32 0.33 0.34 0.34 0.35 0.35 0.35 0.32 0.33 0.34 0.35 0.37 0.17 0.17 0.25 0.25 0.30 0.30 0.30 0.30 0.30 0.30 0.35 0.35 0.35 0.35 0.25 0.25 0.30 0.30 0.30 0.30 0.35 0.30 0.35 0.35 0.35 0.35 0.25 0.30 0	ΔH 0.85 0.85 0.85 0.85 0.85 1.35 1.35 1.37 1.60 1.60 1.60 1.61 1.60 1.65 1.70 1.68 3.085 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.55 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.50	Desired ΔH 0.85 0.85 0.85 0.85 0.85 0.85 1.35 1.60 1.65 1.70 1.68 0.85 0.85 0.85 0.85 0.85 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.50 1.50 1.50 1.50 1.50 1.50 1.25 1.50		Vacuum 0.5 0.5 0.5 0.5 0.5 1.0 1.0 1.2 1.13 1.4 1.4 1.3 1.3 1.3 1.3 1.3 1.4 1.4 1.4 1.4 1.4 1.5 0.7 0.63 1.0 1.0 1.0 1.0 1.0 1.0 1.2 1.13 1.4 1.4 1.4 1.5 0.7 0.5 0.5 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	DGM T 90 90 90 89 89 90 89,3 91 92 91,7 93 93 93 93 94 94 94 94 94 94 95 96 97 97 97 97	Exit T 56 45 44 48.3 44 43 44 43 44 43 45 45 46 45.3 47 48 47 48 49 50 49.0 52 56 58 51 49 49	80 80 77 77 77 77 78 77 79 79 78 78 78 78 80 81 81 81 81 81 81 81 81 81 81 81 81 81 81 81 81 78 78 78 78 78 78 76	Probe T	Stack T 76 77 77 76.7 77 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 77 76 78 79 79.0 77 78 77.3 77 77				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-C 7-A 7-B 7-C	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:47 11:57 12:07 12:17 12:29 12:39 12:49 12:59 13:09 13:29 13:39 13:49	Neter Reading 1008.710 1015.150 1021.515 1022.515 1035.550 1043.600 1051.675 1064.420 1078.205 1087.270 1096.250 1105.295 1110.730 1116.170 1124.700 1132.685 1146.500 116.600	K 5.0 5.0	ΔP 0.17 0.17 0.25 0.27 0.27 0.26 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.32 0.33 0.34 0.33 0.34 0.35 0.25 0.25 0.25 0.25 0.25 0.26 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.33 0.34 0.35 0.35 0.35 0.35 0.32 0.32 0.33 0.34 0.34 0.35 0.34 0.35 0.34 0.35 0.34 0.35 0.34 0.35 0.34 0.35 0.35 0.35 0.34 0.35 0.35 0.35 0.35 0.35 0.35 0.36 0.36 0.36 0.37 0.37 0.17 0.17 0.17 0.17 0.17 0.17 0.26 0.33 0.34 0.33 0.34 0.35 0.36 0.37 0.17 0.17 0.17 0.26 0.26 0.33 0.34 0.33 0.34 0.36 0.36 0.37 0.17 0.17 0.26 0.25 0.25 0.25 0.25 0.36 0.37 0.37 0.17 0.17 0.26 0.25 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.36 0.37 0.17 0.26 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.36 0.30 0	ΔH 0.85 0.85 0.85 0.850 1.25 1.35 1.35 1.317 1.60 1.617 1.60 1.617 1.70 1.65 1.70 1.65 1.70 1.65 1.70 1.65 1.30 1.30 1.30 1.30 1.30 1.30 1.50 1.50 1.50	Desired ΔH 0.85 0.85 0.85 0.85 0.85 1.25 1.35 1.31 1.60 1.65 1.60 1.67 1.60 1.67 1.60 1.65 1.70 0.85 0.50		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.0 1.0 1.2 1.2 1.3 1.4 1.4 1.3 1.37 0.5 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7	DGM T 90 90 89 89 90 88.7 89 90 91 92 91.7 93.93 93.93 93.0 94 94 94.9 94.9 95 96 97 97 97.0	Exit T 56 44 48.3 44 43 44 43 44 43 44 43 45 45 45 46 45 45 46 47.3 48 47.3 48 49 50 52 56 58 55.3 51 49 49 49 49 49 49 49 49 49 49	Filter T 78 77 77 77 77 77 78 79 78 78 78 78 78 78 78 80 81 81 81 81 81 81 81 81 81 81 77 78 77 78 77 78 78 78 78 78 78 78 78	Probe T	Stack T 76 77 77 76 76 76 76 76 76 76 76 76 76	• • •			
PORT A	Point 1-A 1-B 1-C 2-A 2-A 3-B 3-C 3-A 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-B 7-C	Clock 10:27 10:37 10:47 11:07 11:17 11:27 11:37 11:47 11:47 11:57 12:07 12:17 12:29 12:29 12:29 12:49 12:49 12:59 13:09 13:19 13:39 13:39 13:39	Meter Reading 1008.710 1015.150 1021.515 1021.51	K 5.0 5.0 5.00 5.00 5.0	ΔP 0.17 0.17 0.17 0.27 0.27 0.26 0.32 0.32 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.35 0.25 0.25 0.25 0.25 0.25 0.27 0.27 0.26 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.32 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.37 0.17 0.17 0.17 0.25 0.25 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.25 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.25 0.30 0	ΔH 0.85 0.85 0.850 1.25 1.35 1.35 1.317 1.60 1.617 1.60 1.617 1.60 1.65 1.65 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.50 1.300 1.50	Desired ΔH 0.85 0.85 0.85 0.85 0.85 1.35 1.35 1.35 1.35 1.35 1.35 1.36 1.60 1.60 1.60 1.61 1.60 1.65 1.70 1.65 0.85 0.50		Vacuum 0.5 0.5 0.5 0.5 0.5 1.0 1.2 1.2 1.3 1.4 1.4 1.3 0.5 0.7 0.7 0.7 0.7 0.7 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	DGM T 90 90 89 89.7 89 90 89.3 91 92 92 91.7 93 93 93 93 93 93 93 93 93 93 93 93 94 94 94 94 94 94 94 95 96 97 97 97 97 97 97 98	Exit T 56 44 48,3 44 43 44 43 44 43 45 45 46 45,3 47 48 49 50 49 49 49 49 49,50	Filter T 78 77 77 77 77 77 77 78 79 79 79 79 79 78 78 78 78 78 78 81 81 81 81 81 81 81 81 78 82 81 81 81 78 78 78 78 78 78 78 77 77 77 77 77 77	Probe T	Stack T 76 77 77 76 76 76 76 76 76 76 76 76 76	• • • •			
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-C 8-A 8-B	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:37 11:47 11:57 12:07 12:17 12:29 12:39 12:39 12:49 13:39 13:39 13:59 14:09	Inter Reading 1008.710 1015.150 1021.515 1027.910 1035.550 1043.600 1051.675 1060.420 1078.205 1087.270 1096.250 1116.170 1124.700 1124.700 1148.540 1157.030 1166.000 1174.200 1182.860	K 5.0 5.0 5.00 5.0	ΔP 0.17 0.17 0.17 0.27 0.27 0.27 0.27 0.23 0.32 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.35 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.32 0.33 0.34 0.34 0.25 0.25 0.25 0.32 0.34 0.33 0.34 0.32 0.32 0.32 0.34 0.33 0.34 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.30 0.30 0.30 0.30 0.30 0.34 0.30 0.31 0	ΔH 0.85 0.85 0.85 0.85 0.85 1.35 1.35 1.37 1.60 1.65 1.60 1.65 1.70 1.68 3.085 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.50 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.30 1.50 1	Desired ΔH 0.85 0.85 0.85 0.85 0.85 0.85 1.35 1.35 1.35 1.35 1.35 1.35 1.35 1.35 1.35 1.35 1.60 1.65 1.60 1.65 0.85 0.50 0.55 0.50 0.55 0.50 0.55 0.50 0.55 0.50 0.55		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.0 1.0 1.2 1.13 1.4 1.3 1.3 1.3 1.3 1.3 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.0 1.0 0.5 0.7 0.6 0.5 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	DGM T 90 90 89 89.7 89 90 89.3 89.3 91.92 92 91.7 93 93 93.93 93.93 94.94 94 94.0 95 96 97 96.97 97.0 98.9	Exit T 56 45 44 48.3 44 43 44 43 44 43 45 45 46 45.3 47 48 47 48 49 50 52 56 58 51 49 49 49 49 50 50 50 50 50	80 80 80 80 80 80 80 80 80 81 80 81 80 81 81 80 81 81 80 81 81 82 83 80 81 81 82 83 80 81 81 82 83 80 81<	Probe T	Stack T 76 77 77 76.7 77 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 77 76 78 77.3 77.0 78				
PORT A	Point 1-A 1-B 1-C 2-A 2-B 2-C 3-A 3-B 3-C 4-A 4-B 4-C 5-A 5-C 6-A 6-B 6-C 7-A 7-C 8-A 8-C	Clock 10:27 10:37 10:47 10:57 11:07 11:17 11:27 11:47 11:47 11:57 12:07 12:17 12:39 12:49 12:39 12:49 12:59 13:09 13:19 13:29 13:39 13:49	Neter Reading 1008.710 1015.150 1021.515 1022.515 1035.550 1043.600 1051.675 1060.420 1068.200 1078.205 1087.270 1096.250 1105.295 1105.295 1110.730 1112.4650 1148.540 1157.030 1166.000 1174.200 1122.860 1191.525	K 5.0 5.0	ΔP 0.17 0.17 0.17 0.27 0.27 0.27 0.263 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.37 0.17 0.170 0.263 0.32 0.33 0.34 0.32 0.34 0.33 0.34 0.35 0.32 0.33 0.34 0.33 0.34 0.35 0.32 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.34 0.33 0.36 0.30 0.31 0.31 0.31 0.55	ΔH 0.85 0.85 0.85 0.85 0.85 0.85 1.25 1.35 1.317 1.60 1.617 1.70 1.65 1.70 1.65 1.70 1.65 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.50 1.30 1.30 1.30 1.30 1.30 1.50 1.50 1.50 1.50 1.60 1.60 1.60 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.60 1.60 1.50	Desired ΔH 0.85 0.85 0.85 0.85 0.85 1.25 1.35 1.35 1.31 1.60 1.65 1.60 1.65 1.60 1.65 1.60 1.65 1.60 1.65 1.50 1.50 1.50 1.25 1.25 1.25 1.25 1.25 1.50 1.55		Vacuum 0.5 0.5 0.5 0.5 0.5 0.5 1.0 0.67 1.2 1.2 1.2 1.3 1.4 1.4 1.3 0.5 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	DGM T 90 90 89 89 .7 89 90 89.3 91 92 92 92 92 92 91.7 91.7 93 93 93 93 93 93 93 93 93 93 93 93 93	Exit T 56 44 48.3 44 43 44 43.7 45 45 45 46 45.3 47 47 47 47 48 49 50 52 56 55.3 51 9 49 49 50 55 55 55 55 50 50 50 50 50	Filter T 78 77 77 77 77 78 79 79 79 78 78 78 78 80 81 81 81 81 81 81 81 81 81 81 77 78 76 77 80 81 81 81 77 78 78 78 78 78 78 78 78 78 78 78 78	Probe T	Stack T 76 77 77 76 76 76 76 76 76 76 76 76 76	•			

Appendix C: Example Calculations

Example Calculations Moisture Content and Stack Molecular Weight

	Moisture Content Determina	ntic	on	
	Moisture Content via EPA Method 4 - A	Rui	n 1	
V1 =	Initial dry gas meter reading	=	644.322	ft3
$V_2 =$	Final dry gas meter reading	=	822.268	ft3
$V_M =$	Total cubic meters of stack gas metered (V2-V1)	=	177.946	ft3
Y =	Dry gas meter correction factor	=	0.9930	unitless
VM (corr) =	Corrected DGM volume to cubic feet (VM x Y)	=	176.700	ft3
$W_{I} =$	Initial weight of impinger train	=	2971.4	grams
$W_F =$	Final weight of impinger train	=	3004.5	grams
W TOT=	Total weight gain of impinger train (WF-WI)	=	33.1	grams
K1 =	Conversion factor	=	1.333	LH20
1 m3/mL =	Conversion factor	=	1 x e 6	
$DH_20 =$	Density of water	=	998.2	L/g
$K_{1A} =$	Conv. factor x density of water @ EPA STP	=	1.336	L/g
K3 =	528°R x 28.316 L/ft3 @ EPA STP	=	499.7	<u>°R - L</u>
	<u> </u>			"Hg-ft3
PATM =	Atmospheric Pressure	=	22.88	"Hg
T ∘ _F =	Average temperature of dry gas meter	=	88.71	°F
$\mathbf{T} \circ_{\mathbf{R}} =$	Avg. temperature of dry gas meter $+ 460^{\circ}$	=	548.71	°R
	Formulas and Calculations (Equation	4-	4)	
	Tormanus and Catemations (Equation		·/	
$V_{M (std)} =$	Volume of gas metered @ EPA STP	=		
VM (std) =	<u>176.700 x 22.88 x 499.7</u> @ EPA STP 548.71	=	3681.938	L
Bws =	Moisture content by volume	=		
D. D.	(33.10 x 1.336)		0.011077	
$\mathbf{Bws} =$	(33.10 x 1.336) + 3681.94	=	0.011866	
	x 100	=	1.19%	Moisture
	Stack Gas Molecular Weight			
MWH20 =	Molecular weight of water	=	18	lb/lb-mol
$MW_{02} =$	Molecular weight of oxygen	=	32	lb/lb-mol
$MW_{CO2} =$	Molecular weight of carbon dioxide	=	44	lb/lb-mol
$MW_{N2} =$	Molecular weight of nitrogen	=	28	lb/lb-mol
$C_{02} =$	Volume fraction of corrected oxygen	=	0.2090	02
CCO2 =	Volume fraction of corrected carbon dioxide	=	0.0004	CO2
$C_{N2} =$	Volume fraction of nitrogen = $1 - (C_{02} + C_{C_{02}})$	=	0.7906	N2
1-Bws =	Dry gas fraction = $(1 - Bws)$	=	0.9881	Drv Exhaust
	Formulas and Calculations (Fauations 3-1	l av	ad 2-5)	
Mc -	Wet molecular weight of stack gas	an	lh/lh mol	
$M_D =$	Dry molecular weight of stack gas	``	lb/lb-mol	
$\mathbf{M}\mathbf{D} =$	$(MW02 \times C02) + (MWC02 \times CC02) + (MWN2 \times C02) + (M$	N2) =	28.842	lb/lb-mol
Ms = =	(18 x Bws) + [(1-Bws) x MD] 0.214 + 28.500	=	28.714	lb/lb-mol

Example Calculations Exhaust Flow Rates

Stack Gas Velocity Determination									
Velo	city and stack flow rate via Pitot tube (Equations	s 2-6	6, 2-8, 2-9,	2-10)					
CP =	S-Type Pitot Tube Coefficient (dimensionless)	=	0.84						
$\Delta P =$	Differential Pressure Measured by Pitot Tube	=	"H20						
$\sqrt{\Delta P_{avg}} =$	Average Square Root of ΔP 's	=	0.494	"H20					
$Ts-\circ_F =$	Average Temperature (measured)	=	74.9	°F					
$T_{S-\circ R} =$	Absolute Temperature ($^{\circ}$ R) = (Ts + 460)	=	534.9	°R					
1-Bws =	Dry Gas Fraction (unitless)	=	0.9881						
Ms =	Molecular Weight of Stack Gas, wet	=	28.71	lbs/lbs-mol					
K P =	Pitot Tube Constant in Minutes	=	5129.4	ft/min					
$K_Y =$	Standard Pressure/Temperature Coefficient	=	°R-min/"H	-Ig-hr					
=	528° R ÷ 29.92 "Hg x 60 min ÷ 1 hr	=	1058.8	<u>°R-min</u> "Hg-hr					
P_{B} =	Atmospheric Pressure ("Hg)	=	22.88	"Hg					
$P_G =$	Static Pressure ("H2O)	=	-0.16	"H20					
Ps =	Absolute Pressure	=	"Hg						
Ps =	$P_{B} + \frac{P_{G}}{13.6 ("H2O/"Hg)}$	=	22.87	"Hg					
D =	Stack Diameter	=	1.00	feet					
As =	Area of Stack (ft2) = $\pi x d_i^2 \div 4$	=	0.79	ft2					
$V_S =$	Stack Velocity	=	ft/min						
=	Kp x Cp x $\sqrt{\Delta P_{avg}}$ x	=	ft/min						
$V_S =$	4308.7 x 0.49 x <u>535</u> 656.64	=	1922.32	ft/min					
$\mathbf{Q}_{\mathbf{A}} =$	Volumetric Flow Rate = $V_S x A_S$	=	1,509.78	ft3/min					
QD =	Stack flow rate on a dry basis and standard of	cond	itions						
Qstd =	Volumetric Flow Rate on a Dry Basis								
=	Qa x (1-Bws) x Ky x Ps ÷ Ts								
$\mathbf{Q}_{\mathbf{ST}\mathbf{I}} =$	1,509.78 x 1046.3 x <u>22.87</u> 534.9	=	67,537	DSCF/H					

Example Calculations Concentration and Mass Emission Rates

Calculated Emissions										
Determination of Be Concentrations and Mass Emission Rates										
Qs m1-4=	Measured Stack Flow Rate	=	67,537	SCF/H Dry						
$V_{M-DRY} =$	Dry Standard Metered Volume	=	130.593	SCF Dry						
Be Mass =	Mass of Be Collected (Blank Corrected)	=	0.20	$\mu \mathrm{g}$						
$C_{F2} =$	Conversion from micrograms to grams	=	1.00E-06	g / µg						
$C_{F3} =$	Conversion from grains to pounds	=	453.6	gr/lb						
$C_{F4} =$	Conversion from sample time to hr	=	0.25	hr						
Concentratio	n (g/DSCF) = mass collected (μ g) x CF2 VM-DRY (SCF)	<u></u>								
	0.20 x 1.00F-06									
Be CONC $=$ -	$\frac{0.20 \text{ A} 1.00 \text{ E} 00}{130.593} = 1.53\text{E-09}$	gr/I	DSCF							
Mass Emissi	$dons (lbs/hr) = TSP_{CONC} \div C_{F3} \times C_{F4} \times C_{F4}$	QSм	1-4							
$\mathbf{BE} \mathbf{g/hr} =$	1.53E-09 x 67,537 x 0.25	=	2.59E-05	g/hr						
	Determination of Isokinetics Co	nditi	ions							
V _{M-DRY} =	Dry Standard Metered Volume	=	130.593	SCF Dry						
$\theta =$	Total Sampling Time	=	240	min						
K5 =	Atmospheric Sampling Standard	=	0.0945	"Hg-min/°R-sec						
$V_S =$	Stack Gas Velocity	=	32.04	ft/sec						
Ts =	Absolute Stack Temperature	=	534.88	°R-sec						
Ps =	Absolute Stack Pressure	=	22.87	"Hg						
$A_N =$	Area of Nozzle Diameter	=	3.88E-04	ft^2						
1-Bws =	Dry Gas Fraction (unitless)	=	0.9881							
Isokinetic Va	$mation (\%) = \frac{K_5 \times T_5 \times V_{m-std}}{R_5 \times V_5 \times A_{N} \times A_{N} \times A_{N}}$	wc)								
	1 5 X V 5 X AN X U X (1-D	wəj								
I (%) =-	$\frac{6600.90}{67.391} = 97.95 \%$									

Appendix D: QA/QC Activities and Equipment Calibration Results

APEX INSTRUMENTS METHOD 5 PRE-TEST CONSOLE CALIBRATION

USING CALIBRATED CRITICAL ORIFICES

5-POINT ENGLISH UNITS

Meter Console Information					
Console Model Number	MC522 #2				
Console Serial Number	1205014				
DGM Model Number	MS-4				
DGM Serial Number	30-Nov-24				

Calibration Conditions						
Date Time		8/5/24	14:00:00			
Barometric Pressure		25.0	in Hg			
Theoretical Critical V	/acuum ¹	11.8	in Hg			
Calibration Technicia	n	SV				

	Factors/Conversions
Std Temp	528
Std Press	29.92
Κ 1	17.647

¹For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

²The Critical Orifice Coefficient, K', must be entered in English units, (ft³*°R^{1/2})/(in.Hg*min).

	Calibration Data										
Run Time			Metering Console					Critical Orifice			
	DGM Orifice	Volume	Volume	Outlet Temp	Outlet Temp	Serial	Coefficient	Amb Temp	Amb Temp	Actual	
Elapsed	ΔН	Initial	Final	Initial	Final	Number		Initial	Final	Vacuum	
(Θ)	(P _m)	(V _{mi})	(V _{mf})	(t _{mi})	(t _{mf})		К'	(t _{amb})	(t _{amb})		
min	in H ₂ O	cubic feet	cubic feet	°F	۴		see above2	°F	۴	in Hg	
15.0	0.28	615.364	620.332	84	85	TC 40	0.2536	86	86	21	
11.0	0.56	620.332	625.735	85	85	TC 48	0.3690	86	86	20	
8.0	0.97	625.735	630.985	85	85	TC 55	0.4930	86	88	19	
6.0	1.70	630.985	636.213	85	86	TC 63	0.6550	88	88	17	
5.0	2.80	636.213	641.924	86	86	TC 73	0.8580	88	88	16	

	Results										
	Standard	lized Data		Dry Gas Meter							
Dru Co	na Matar	Critica	Orifico	Calibrati	on Factor	Flowrate	<u>Δ</u> Η	I @			
Dry Ga	is weter	Critica	Office	Value	Variation	Std & Corr	0.75 SCFM	Variation			
(V _{m(std)})	(Q _{m(std)})	(Vcr _(std))	(Q _{cr(std)})	(Y)	(ΔY)	(Q _{m(std)(corr)})	(AH@)	(ΔΔ H@)			
cubic feet	cfm	cubic feet	cfm			cfm	in H2O				
4.029	0.269	4.070	0.271	1.010	0.018	0.271	1.738	0.113			
4.381	0.398	4.343	0.395	0.991	-0.001	0.395	1.643	0.019			
4.262	0.533	4.216	0.527	0.989	-0.003	0.527	1.601	-0.023			
4.249	0.708	4.197	0.700	0.988	-0.005	0.700	1.598	-0.027			
4.653	0.931	4.581	0.916	0.985	-0.008	0.916	1.542	-0.082			
				0.993	Y Average		1.624	∆H@ Average			

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

APEX INSTRUMENTS METHOD 5 POST-TEST CONSOLE CALIBRATION

USING CALIBRATED CRITICAL ORIFICES

3-POINT ENGLISH UNITS

Meter Console Information					
Console Model Number	MC522 #2				
Console Serial Number	1205014				
DGM Model Number	MS-4				
DGM Serial Number	1506596				

Calibration Conditions						
Date	Time	8/22/24	10:52			
Barometric Pressure		25.0	in Hg			
heoretical Critical V	′acuum¹	11.8	in Hg			
Calibration Technicia	n	MM				

Factors/Conversions							
Std Temp	528	°R					
Std Press	29.92	in Hg					
K ₁	17.647	oR/in Hg					

¹For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

²The Critical Orifice Coefficient, K', must be entered in English units, (ft^{3*}°R^{1/2})/(in.Hg*min).

	Calibration Data										
Run Time			Metering Console					Critical Orifice			
	DGM Orifice	Volume	Volume	Outlet Temp	Outlet Temp	Serial	Coefficient	Amb Temp	Amb Temp	Actual	
Elapsed	ΔН	Initial	Final	Initial	Final	Number		Initial	Final	Vacuum	
(O)	(P _m)	(V _{mi})	(V _{mf})	(t _{mi})	(t _{mf})		К'	(t _{amb})	(t _{amb})		
min	in H ₂ O	cubic feet	cubic feet	۴	۴		see above2	۴	۴	in Hg	
8.0	0.970	1200.579	1205.787	80	81	55	0.493	83	83	19.0	
8.0	0.970	1205.787	1211.018	81	81	55	0.493	83	83	19.0	
8.0	0.970	1211.018	1216.238	81	81	55	0.493	83	83	19.0	

	Results										
	Standard	lized Data		Dry Gas Meter							
				Calibrati	on Factor	Flowrate	ΔH	1@			
Dry Ga	s Meter	Critical	Orifice	Value	Variation	Std & Corr	0.75 SCFM	Variation			
(V _{m(std)})	(Q _{m(std)})	(Vcr _(std))	(Q _{cr(std)})	(Y)	(ΔY)	(Q _{m(std)(corr)})	(AH@)	$(\Delta \Delta H@)$			
cubic feet	cfm	cubic feet	cfm			cfm	in H2O				
4.263	0.535	4.217	0.529	0.989	-0.001	0.529	1.601	0.001			
4.278	0.535	4.233	0.529	0.990	-0.001	0.529	1.599	0.000			
4.269	0.534	4.233	0.529	0.992	0.001	0.529	1.599	0.000			
Pretest Gamma	0.989	% Deviation	0.117	0.990	Y Average		1.600	∆H@ Average			

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature

Date




Metering Console Thermocouple Calibration

Date: 8/22/24 Technician: MM

Meter ID: Apex XC522 Console #2

Thermocouple ID: Alltec Series 22 TC Source #8766041

Thermocouple:PT-8-1Ambient Temp.:82.5

STANDARD	Al	UX	STA	ACK	PR	OBE	OV	ΈN	FIL	TER	EX	KIT	AVERAGE
TEMP. (°R)	Rdg °R	Diff.%	DIFF. (%)										
560	555	0.01	556	0.01	555	0.01	557	0.01	555	0.01	556	0.01	0.01
760	757	0.00	758	0.00	757	0.00	755	0.01	757	0.00	757	0.00	0.00
960	954	0.01	955	0.01	954	0.01	952	0.01	953	0.01	955	0.01	0.01
1160	1156	0.00	1156	0.00	1156	0.00	1157	0.00	1153	0.01	1157	0.00	0.00
1360	1356	0.00	1355	0.00	1357	0.00	1355	0.00	1356	0.00	1357	0.00	0.00
1560	1556	0.00	1555	0.00	1557	0.00	1555	0.00	1556	0.00	1557	0.00	0.00
1760	1755	0.00	1746	0.01	1756	0.00	1754	0.00	1751	0.01	1756	0.00	0.00
1960	1947	0.01	1955	0.00	1956	0.00	1954	0.00	1955	0.00	1956	0.00	0.00
2160	2153	0.00	2154	0.00	2156	0.00	2155	0.00	2154	0.00	2156	0.00	0.00
2360	2351	0.00	2350	0.00	2356	0.00	2349	0.00	2355	0.00	2355	0.00	0.00

Standard Temp. $^{\circ}R = ^{\circ}F + 460^{\circ}$

<u>Average Percent Error =</u> 0.00%

Percent Error = <u>Standard Temp. - Measured Temp.</u> X 100 Standard Temp. **Tolerance ± 1.5%**

Temperature Sensor Calibration Data Sheet

Thermocouple Calibration				
<u>Method: 2 Section 10.3.1</u> <u>Frequency: After each field use</u> Criteria: < 1.5 % Absolute Temperat	<u>ure</u>			
Altitude (ft): 5087	Calib	oration Date:	8/22/24	
Pressure ("Hg): 24.81 Technician: MM				
Boiling Point @ Alt.: 202.81 Thermocouple ID: PT 3-1				
Water Temperature Range	Freezing	Room	Boiling	
Reference Thermometer (°F)		84.2		
Probe Thermometer (°F)		84.0		
Reference Thermometer (°R)	460.0	544.2	460.0	
Probe Thermometer (°R)	460.0	544.0	460.0	
Absolute Temperature Difference 0.0% 0.04% 0.00%				
Absolute Temp. (°R) = $460+$ °F Alt. Correction for Water Boiling Point = $49.161*$ Ln(I"Hg)+ 44.932 Pressure ("Hg) = $29.921*(1-6.8753e-6*alt)^5.2559$				

S-Type Pitot Tube Calibration





640

Appendix E: Laboratory Analysis Report and Chain of Custody

COMPLIANCE SERVICES & TESTING

PROJECT: LANL TA-35

CLIENT # C062 Report # 24-512

> SUBMITTED BY: Alliance Technical Group 12242 S.W. Garden Place TIGARD, OR 97223 (503) 624-2183



Case Narrative

Date: September 5, 2024

General Information

Client:	Compliance Services & Testing
Client Number:	C062
Report Number:	24-512
Sample Description:	Impinger Trains
Sample Numbers:	24-S2462 - 24-S2470

<u>Analysis</u>

Analytes:	Be
Analytical Protocols:	EPA Method 29 (8/2/17 version)
Analytical Notes:	No problems were encountered during the analyses. The back samples consisted of impinger catches and nitric rinses. The results are not blank corrected.
QA/QC Review:	All the data have been reviewed by the analysts performing the analyses and the project manager. All the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.
Disclaimer:	This report shall not be reproduced, except in full, without the written approval of the laboratory. The results only represent those of the samples as received into the laboratory. All data are reported to the detection limit. Results <5x DL must be considered to have a higher degree of uncertainty associated with them. Due to the statistical process of detection limit determination, data in this report should not be used for statistical analysis as the data has been censored in such a manner as to bias statistical analyses high.

Project Manager Paul Duda

Client: Report Number:	C062 - 24-512	Compliance	Services &	Testing	
Lab ID: Client ID: Site: Sample Date:	24-S246 Run 1 H LANL TA 8/20/2	52 Front Half A-35 24			
Analyte		Result	DL	Units	
Beryllium, IC	 P	5.96	0.050	µg/sample	
Lab ID: Client ID: Site: Sample Date:	24-S246 Run 1 H LANL TA 8/20/2	53 Back Half A-35 24			
Analyte		Result	DL	Units	
Beryllium, IC	P	< DL	0.020	µg/sample	
Lab ID: Client ID: Site: Sample Date:	24-S246 Run 2 H LANL TA 8/21/2	54 Front Half A-35 24			
Analyte		Result	DL	Units	
Beryllium, IC		5.94	0.050	µg/sample	
Lab ID: Client ID: Site: Sample Date:	24-S246 Run 2 H LANL TA 8/21/2	55 Back Half A-35 24			
Analyte		Result	DL	Units	
Beryllium, IC	– - P	< DL	0.020	µg/sample	
Lab ID: Client ID: Site: Sample Date:	24-S246 Run 3 H LANL TA 8/21/2	56 Front Half A-35 24			
Analyte		Result	DL	Units	
Beryllium, IC	– - P	5.94	0.050	μg/sample	
Lab ID: Client ID: Site: Sample Date:	24-S246 Run 3 H LANL TA 8/21/2	57 Back Half A-35 24			
Analyte		Result	DL	Units	
Beryllium, IC		< DL	0.020	µg/sample	

Client: Report Number:	C062 - Compliance 24-512	Services	& Testing	
Lab ID: Client ID: Site: Sample Date:	24-S2468 C12 Filter Blank LANL TA-35 8/20/24			
Analyte	Result	DL	Units	
Beryllium, ICI	6.01	0.050	µg/sample	
Lab ID: Client ID: Site: Sample Date:	24-S2469 C8A HNO3 Blank LANL TA-35 8/20/24			
Analyte	Result	DL	Units	
Beryllium, ICI	 ? < DL	0.050	µg/sample	
Lab ID: Client ID: Site: Sample Date:	24-S2470 C9 5%/10% Blank LANL TA-35 8/20/24			
Analyte	Result	DL	Units	
Beryllium, ICH	 ? < DL	0.020	µg/sample	

Client Name:	Compliance Services & Testing
Project Number:	C062
Analytical Technique:	ICP-OES
Instrument:	Perkin Elmer Optima 8300
Sample Description:	Method 29 Front Half
Report Number:	24-512

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	DL Conc. μg/L
Ве	ICB	< DL	0.200
Ве	Meth_Blk	< DL	0.200
Ве	ССВ	< DL	0.200
Ве	ССВ	< DL	0.200

ICB: Initial Calibration Blank CCB: Continuing Calibration Blank

*: Sample Media Blank (SM_Blk) concentration in µg/filter

Method Blank is in control if Method Blank results are <10% of sample results

Calibration QC

Analyte	Sample ID	Standard Conc. μg/L	Measured Conc. μg/L	Percent Recovery
Ве	ICV	2500.	2549.	102.0
Ве	LL-CCV	1.000	1.031	103.1
Ве	LL-LCS	0.500	0.541	108.2
Ве	CCV	2500.	2553.	102.1
Ве	CCV	2500.	2534.	101.4

ICV: Initial Calibration Verification CCV: Continuing Calibration Verification

Calibration Verification Limits: 90% - 110% Recovery

Low Level-CCV Limits: 60% - 140% Recovery Low Level-LCS Limits: 50% - 150% Recovery

LL-LCS results are insignificant if sample results are >10x LL-LCS concentration

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. μg/L	RPD
Be	24-S2462	23.9	24.0	0.67

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100

N/C: RPD is not calculated when sample or replicate is below detection limit

Replicate Limit: 20% RPD

*: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample	Sample	Spike	Spike	Percent
	ID	Conc. μg/L	Conc. µg/L	Amount µg/L	Recovery
Be	LCS	< 0.2	1050.	1000	105.

LCS Limit: 80% - 120% Recovery

Spike Limit: 75% - 125% Recovery

Client Name:Compliance Services & TestingProject Number:C062Analytical Technique:ICP-OESInstrument:Perkin Elmer Optima 8300Sample Description:Method 29 Front HalfReport Number:24-512

Laboratory Control Sample/Matrix Post Spike Analysis (continued)

Analyte	Sample ID	Sample Conc. µg/L	Spike Conc. μg/L	Spike Amount µg/L	Percent Recovery
Be	LCS-Duplicate	< 0.2	1077.	1000	108.
Be	24-S2464	23.77	932.5	1000	90.9

LCS Limit: 80% - 120% Recovery

Spike Limit: 75% - 125% Recovery

LCS Duplicate Data

Analyte	Sample ID	Original Conc. μg/L	Replicate Conc. µg/L	RPD
Be	LCS-Duplicate	1050.	1077.	2.54

RPD = {(sample-duplicate)/[(sample+duplicate)/2]}x100

Duplicate Limit: 20% RPD

Client Name:	Compliance Services & Testing
Project Number:	C062
Analytical Technique:	ICP-OES
Instrument:	Perkin Elmer Optima 8300
Sample Description:	Method 29 Back Half
Report Number:	24-512

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	DL Conc. μg/L
Ве	ICB	< DL	0.200
Ве	Meth_Blk	< DL	0.200
Ве	ССВ	< DL	0.200
Ве	ССВ	< DL	0.200

ICB: Initial Calibration Blank CCB: Continuing Calibration Blank

*: Sample Media Blank (SM_Blk) concentration in µg/filter

Method Blank is in control if Method Blank results are <10% of sample results

Calibration QC

Analyte	Sample ID	Standard Conc. μg/L	Measured Conc. μg/L	Percent Recovery
Ве	ICV	2500.	2471.	98.8
Ве	LL-CCV	1.000	0.979	97.9
Ве	LL-LCS	0.500	0.444	88.8
Ве	CCV	2500.	2476.	99.0
Ве	CCV	2500.	2490.	99.6

ICV: Initial Calibration Verification CCV: Continuing Calibration Verification

Calibration Verification Limits: 90% - 110% Recovery

Low Level-CCV Limits: 60% - 140% Recovery Low Level-LCS Limits: 50% - 150% Recovery

LL-LCS results are insignificant if sample results are >10x LL-LCS concentration

Replicate Data

Analyte	Sample ID	Sample Conc. µg/L	Replicate Conc. μg/L	RPD
Ве	24-S2463	< 0.2	< 0.2	N/C *

RPD = {(sample-replicate)/[(sample+replicate)/2]}x100

N/C: RPD is not calculated when sample or replicate is below detection limit

Replicate Limit: 20% RPD

*: per EPA CLP protocol, control limits do not apply if sample and/or replicate concentration is less than 5x the detection limit

Laboratory Control Sample/Matrix Post Spike Analysis

Analyte	Sample	Sample	Spike	Spike	Percent
	ID	Conc. µg/L	Conc. µg/L	Amount µg/L	Recovery
Ве	LCS	< 0.2	973.9	1000	97.4

LCS Limit: 80% - 120% Recovery

Spike Limit: 75% - 125% Recovery

Client Name:	Compliance Services & Testing
Project Number:	C062
Analytical Technique:	ICP-OES
Instrument:	Perkin Elmer Optima 8300
Sample Description:	Method 29 Back Half
Report Number:	24-512

Laboratory Control Sample/Matrix Post Spike Analysis (continued)

Analyte	Sample ID	Sample Conc. µg/L	Spike Conc. μg/L	Spike Amount µg/L	Percent Recovery
Be	LCS-Duplicate	< 0.2	971.5	1000	97.2
Be	24-S2465	< 0.2	930.3	1000	93.0

LCS Limit: 80% - 120% Recovery

Spike Limit: 75% - 125% Recovery

LCS Duplicate Data

Analyte	Sample ID	Original Conc. μg/L	Replicate Conc. µg/L	RPD
Be	LCS-Duplicate	973.9	971.5	0.25

RPD = {(sample-duplicate)/[(sample+duplicate)/2]}x100

Duplicate Limit: 20% RPD

Alliance Technical Group SOURCE SAMPLE RECEIPT CHECKLIST

Client	Compliance Services & Testing	Date	8/23/2024
# Runs	3 + blanks	Report #	24-512
Package int	tact?		
Chain-of-Cu	ustody form inspected		1
	CoC present with samples?		/
	CoC indicates analytical methodology to be	used? (eg M29, etc.)	M29 11
	Has CoC been signed by client?		
	Custody release date and time noted on Co	C?	1
All sample	containers inspected		~
	Does number of samples match number on	CoC form?	/ /
	Do all sample ID numbers match those on t	he CoC form?	/ 11
	Did client mark sample volumes prior to shi	pment?	NO
	Sample temperature recorded?		Awniert
	Are the sample containers intact?		11
	If present, Audit Sample intact?		n/a
	Are signs of leakage present?		None.
Chain-of-Cu	ustody form signed and dated by CLN		
Corrective :	actions		
	Client contacted due to mismatching sample	e ID numbers	
	Client contacted due to broken sample cont	ainer(s)	
	Client contacted due to leaking sample cont	tainer(s)	
	Client contacted for verification of methods	logy?	
	Corrective actions documented?		
	Corrective actions accomplished?		
Items mark	ed II shall be addressed prior to any analy	tical work being started .	
Items mark	ed * shall be noted in case narrative upon	reporting of results to clien	t.
Signed	Mant		
Notes	1.		
64			



12242 SW Garden Place Tigard, OR 97223

(503) 624-2183

CHAIN-OF-CUSTODY RECORD

	CLIENT INF	ORMATION			1								Report #: 24-512
Company Name Campliance Sorvices & Terring (CST)								Ana	lysis	Reque	ested		Page Lof 2-coc
Sell Sos-69	31-4909	office 5A	mé	testing.	en				a				Turn Around Time Requested
Report To: Show Renail	6	Billing Address	Ane		1				od 20				Rush (Specify)
Project Name La	ANL TA-35		Quote Number			netry			Neth	а. С.216			LOWEST
Lab ID	Field Sample ID	Site	Sample Date	Volume (m ²)	Particle	Gravit	RF	0	e o	CIEC	14		Delumit
DF-14	FILTER BLANK	# Lavi	8-20-24	~ IA	NIA	24-5	0.1.5	-	=	0	0		Sample Specific Notes
QF-15	RUNI	1	8-20-24			1	0401		1				
9F-17	RUN 2		9-24-24			-		-	/				
QF-15	RUN 3		8-21-24	-		1			-	-			
A.	EHNO2/10/142021	BLANK	8-20-24	100-2		1110	1120	-					
β	2.1 N NNO3 B	LANC	8-20-24	100 22		24-5	14/10	-		-			65 HNO2 / 10% H 202 /85% C
LA CIN	NOTAL RINJE	RUN +11		TRD		74-5	14.2	-					
18 0.1	N NITELL RUSE			1		1245	2102	-		-		-	
IC IMAN	KER LATCH	A		V	V	1-12	Colles				-		HADS HOW THO CATCH
Do the samples	0000	V		-	-								t sime alal dura ause
If yes please exp	lain:	il hazards?	C	Tes K	No					-		-	Sine on the tipes prose
Are samples fo	r compliance?	BPI v			-	_	_	_	_				
Special Instruc	tions/QC Requirem	ents & Com	ments:			-		-		_	_		
atoquished by Chi	RIC SOCULED	-	Date/Time to					_		_			
Relinguished by:			24	Received	d By:	114	mt				Date/Time/Tems		
Date/Time			Delle/Time			Received Dy							Date/Time/Temp

For use by Lab:



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12242 SW Garden Place

Tigard, OR 97223

(503) 624-2183

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CHAIN-OF-CUSTODY RECORD

For use by Lab: Report #: 24-512

Contract Hame CST Analysis Requested Page 10 Contract (HQ:S) SPC:ACET Emsi:		CLIENT INF	FORMATION			1								heport #: 24-512
Conser Charles Conser Charles Conser Turn Around Time Requests Call Some Billing Address: Conser Conser Conser Turn Around Time Requests Call Some Billing Address: Conser Conser Conser Conser Conser Call Some Billing Address: Conser Conser Conser Conser Conser Report To: Some Billing Address: Conser Conser Conser Conser Project Marce Lab ID Field Sample ID Site Sample Volume Particle Can Car Conser Conser Conser Conser Conser Conser Can Car Conser Conser Conser Conser Conser Can Conser Conser Conser Conser Conser Can <t< th=""><th>moeny Name</th><th>CST</th><th></th><th></th><th></th><th>1</th><th></th><th></th><th>Ana</th><th>lysis I</th><th>Requi</th><th>ested</th><th></th><th>Page of a cock</th></t<>	moeny Name	CST				1			Ana	lysis I	Requi	ested		Page of a cock
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Report To: Same Billing Address: SAME N Immed Name LANL TA-35 Oudle Number: Immediate Status Immediate Status Lab ID Field Sample ID Site Sample Volume Particle Immediate Status ZA NtTake Russ Rus / Sample Volume Particle Immediate Status Immediate Status ZA NtTake Russ Rus / Sample Volume Particle Immediate Status Immediate Status ZA NtTake Russ Rus / Sample Volume Particle Immediate Status Immediate Status ZA NtTake Russ Rus / Sample Volume Particle Immediate Status Immediate Status ZA NtTake Russ Rus / Sample Volume Particle Immediate Status Immediate Status ZA NtTake Russ Rus / Sample Immediate Status Immediate Status Immediate Status Immediate Status ZA NtTake Russ Rus / Sample Immediate Status Immediate Status Immediate Status Immediate Status ZA NtTake Russ Immediate Status Immediate Status Immediate Status Immediate Status Immediate Status SA NtTake Rust I	1 325-1	681-4909	omce SA	ne	1000	1				0				Forder Time Requested
Product Name LANL TA-35 Quote Number Lab ID Field Sample ID Site Date (m ³) Particle Super State Sample Specific Notes: ZA Nitauc Russe RUU Z 5-21-24 T3D Place 24-52444 O.I.N HAD 7 Z6 Nitauc Russe RUU Z 5-21-24 T3D Place 24-52445 O.I.N HAD 7 Z6 Nitauc Russe RUU Z 5-21-24 T3D Place 24-52445 O.I.N HAD 7 Z6 Nitauc Russe RUU Z 5-21-24 T3D Place 24-52445 O.I.N HAD 7 Z6 Nitauc Russe RUU Z 5-21-24 T3D Place 24-52445 O.I.N HAD 7 Z6 Nitauc Russe RUU Z 5-21-24 T3D Place 24-52445 O.I.N HAD 7 Z6 Nitauc Russe RUU Z Sample Space 20 Z6 Nitauc Russe RUU Z RUU Z RUU Z Sample Space 20 Sample Space 20 Sample Space 20 Sample Space 20 Z6 Tampin See 20 RUU Z RUU Z RUU Z RUU Z Sample Space 20 Sample Space 20 Sample Space 2	port To: 5	ene	Billing Address	SAME						100 2				Standard Rush (Specify)
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Lab ID Field Sample ID Site Date Volume Particle B U B U Sample Specific Notes: 2A Nitaxe Riuse RUU 2 5-21-24 T 3D P(a. 24-52404 0.1A MAD 7 2B Nitaxe Riuse RUU 2 5-21-24 T 3D P(a. 24-52404 0.1A MAD 7 2C Transport Ruuse I THSDHLES I IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	26	54		-			Ē.			2	O			
ZA Nitaxe Russe RUN Z 5-21-24 TBD Imple Specific Mode Z6 Nitaxe Russe Imple Specific Mode 0.1N HAD 7 Z6 Nitaxe Russe Imple Specific Mode 0.1N HAD 7 Z6 Nitaxe Russe Imple Specific Mode 0.1N HAD 7 Z6 Nitaxe Russe Imple Specific Mode 0.1N HAD 7 Z6 TONRINGER Imple Specific Mode 0.1N HAD 7 Z6 TONRINGER Imple Specific Mode 0.1N HAD 7 Z6 TONRINGER Imple Specific Mode 0.1N HAD 7 Z7 TONRINGER Imple Specific Mode 0.1N HAD 7 Z8 NITRIC RUSSE RUN 3 Imple Specific Mode 0.1N HAD 3 Z9 TONRINGER Imple Specific Mode 0.1N HAD 3 Z0 TonPIN GER Imple Specific Mode Imple Specific Mode 0.1N Z0 TonPIN GER Imple Specific Mode Imple Specific Mode 0.1N Z0 TonPIN GER Imple Specific Mode Imple Specific Mode 0.1N	Lab ID	Field Sample ID	Site	Sample Date	Volume (m ³)	Particle Size	Grav	XRF	2	6	OC/E	5	Sam	ale Source Noter
26 MITRIC PLUSE 0 12452465 0	ZA	NITAL RIUSE	RUN Z	8-21-24	TBD	No	24-6	DHUH			-		301	to the specific Motas
2C INARINGED Image: Construction Image: Construction Image: Construction 3A NITRIC RUSS RUN 3 Image: Construction Image: Construction Image: Construction 3B NVTRIC RUSS RUN 3 Image: Construction Image: Construction Image: Construction 3B NVTRIC RUSS RUN 3 Image: Construction Image: Construction Image: Construction 3C Temp: In GEP Image: Construction Image: Construction Image: Construction 3C Temp: In GEP Image: Construction Image: Construction Image: Construction 00 the samples pose any potential hazards? Image: Construction Image: Construction Image: Construction	28	NITRIC RIUSE				1	mus	DUIS					1	IN MADY
3A NITRIC RWSC RUN 3 24+ST466 S% HN03 / 16% H202 3B NVTEIC RINSE 0.1N HN03 3C TMPINGER THSH66 S% HN03 / 16% H202 0.1N MN03 3C TMPINGER S% HN03 / 16% H202 0.1N MN03 0.1N MN03 0.1N MN03 0.1N MN03 0.1N MN03 0.1N MN03 1 1 1 <t< td=""><td>20</td><td>TRAPINGER</td><td>+</td><td></td><td></td><td></td><td>150</td><td>E WOD</td><td>-</td><td></td><td></td><td></td><td>6</td><td>SML OF TOK MAUS -> IL</td></t<>	20	TRAPINGER	+				150	E WOD	-				6	SML OF TOK MAUS -> IL
3B NATELC PLASE OLIN HING3 3C FONPINGER V V 3B V V V 3C FONPINGER V V	3A	NITRIC RUSE	RUN 3				NES	Dist C					57	6 HN03/ 10% H202
3C Timp: NGER Timp: NGER Timp: NGER Timp: NGER Timp: NGER Standard S	38	NATEL RINSE	1				41.5	100	-					DIN HNOS
Do the samples pose any potential hazards?	30	TARALLER	-	1	6		140	BHOT	-		-		0	>-IN MNO3
Do the samples pose any potential hazards?	-	The no ne p		-	~	4	U)						57	MAN 10% HZOZ /8
Do the samples pose any potential hazards?	_								_	_				
Do the samples pose any potential hazards?						_	-					-		
Ve samples for compliance?	the sample	s pose any potenti	al hazards?	[Yes 🛛	No								
a compresi or compresi	e samples fi	or compliance?		x []»-		_	-	_			_			
pecial Instructions/QC Requirements & Comments:	ecial Instru	ctions/QC Requiren	nents & Com	ments:	-	_	-	_	-					
ALL ALL	anushed by 1	m 10	0.81.00.00			_								
Date/Time 08-22-2024 Received By: Maret Dete/Directorion of	could by C	you you		Date/Time 04	2-22-	2024	Received	I By:	Ma	ant -				Qase/Drist(Tempor OF
Date/Time: Received By: Date/Time: Date/Time:	riquismed by:	0		Date/Time:			Received	i By	1	ALC .				Date/Time/Temp

Method 29 Digestion Worklist Number: 2834 Label QC by: 8-16-14 JA Report #: 24-512 Client: C062 Compliance Services & Testing

Bomb	Sample ID	Client ID	Dic Volu	gestate ime (ml)	рH	Notes
15 1.	MethBlk		2?	50		
18 2.	LL-LCS19					2.5 m 248.63.5 X:11.11.24
19 3.	LCS19					2.5 mL (00ppm 1CAP 19
21 4.	LCS_Dup19					2.5mc Ibuppm
22 5.	24-S2462	Run 1 C1&3				
23 6.	24-S2464	Run 2 C1&3				
247.	24-S2466	Run 3 C1&3				
25 8.	24-S2468	C12 Filter Blan				100m2 used
26 9.	24-S2469	C8A HNO3 Blank		,		100 ml used

Digestion Date:

Be • HmL HFper bomb

Digestion Method: MZ9_FH MZ9_BH CA	ARB436_Combined Other:
Volumetrics: HN0310-2, 5.0 1, 5.0 G	1, HF250-1, HF250-2
Evap Start: 3-26.2466	HNO3 Lot: UMNS trace 63320 X:NG
Evap End: B·27.14 SG	H2O2 Lot:
Digest: <u>8.28.24 /4</u>	HF Lot: CP V093001 X:9.4.25
Dilute: <u>8.28.24 ///</u>	Spike Std: Accustd. 223055011
	X:6.4.25

Clien	CP COSO	Worklist M	Number: 2944	Date 5 Testin	Request	ted: 8/29/2	4
Repor	t #: 24-51	.2	ice services	Anal	ysis Dat	te: 8/29/24	
1.	Lab ID kv:ICV		Analyte	Results	in ug/L	Expected	<pre>% Recovery</pre>
	h1 Tab		Ве	2549.		2500.	101.96
4.	DI:ICB		Ве	< 0.2			
3.	kv:LL-CCV		Ве	1.031 /		Expected 1.000	% Recovery 103.10
4.	bl:Meth_Bl	k	Ве	< 0.2/			
5.	kv:LL-LCS	li Marti	Be	0.541 -		Expected 0.500	<pre>% Recovery 108.20</pre>
б.	Spike of 4	9	Be	1050.		Spk Amount 1000.	Spike Rec. 105.00
7.	MSD of 6	1	Be	1077./	8	Recovery 107.70	RPD 2.54
8,	24-52462	Run 1 Cla	23 Be	23.86 🗸			
9.	Dup of 8		Зе	24.02 🗸		Difference 0,160	e RPD 0.67
10,	24-52464	Run 2 Cla	3 Be	23.77 🗡			
11.	Spike of 1	0	Ве	932.5 /		Spk Amount 1000.	Spike Rec. 90.87
12.	24-52466	Run 3 Clá	Be	23.77 🖊			
13.	kv:CCV		Ве	2553. 🗸		Expected 2500.	% Recovery 102.12
14.	bl:CCB		Be	< 0.2/			
15.	24-52468	C12 Filte	er Bl Be	24.05			
16.	24-52469	CSA HNO3	Blan Be	< 0.2/			
17.	kv:CCV		Be	2534.		Expected 2500.	<pre>% Recovery 101.36</pre>
18.	bl:CCB		Ве	< 0.2/			

Be < 0.2 /

Q COK 87074F

Method: 24-512 FH- ICAP19

Page 1

Sequence No.: 1 Autosampler Location: 1 Sample ID: Calib Blank 1 Date Collected: 8/29/2024 2:03:37 PM Analyst: Data Type: Reprocessed on 8/29/2024 6:54:31 PM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Dilution: Sample Prep Vol: Wash Time: _____ Nebulizer Parameters: Calib Blank 1 Analyte Back Pressure Flow All 343.0 kPa 0.65 L/min Replicate Data: Calib Blank 1
 Net
 Corrected
 Calib.
 Analysis

 Intensity
 Intensity
 Conc.
 Units
 Time

 997.6
 997.6
 [0.00] mg/L
 2:04:28 PM

 942.5
 942.5
 [0.00] mg/L
 2:04:40 PM

 909.0
 909.0
 [0.00] mg/L
 2:04:52 PM
 Repl# Analyte 1 Be 313.107 Be 313.107 2 3 Be 313.107 _____ Mean Data: Calib Blank 1 Mean Corrected Calib
 Intensity
 Std.Dev.
 RSD
 Conc.
 Units

 949.7
 44.76
 4.71%
 [0.00] mg/L
 Analyte Be 313.107 Sequence No.: 2 Autosampler Location: 2 Sample ID: Calib Std 1 Date Collected: 8/29/2024 2:07:40 PM Analyst: Data Type: Reprocessed on 8/29/2024 6:54:31 PM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Dilution: Sample Prep Vol: Wash Time: Nebulizer Parameters: Calib Std 1 Back PressureFlow343.0 kPa0.65 L/min Analyte All Replicate Data: Calib Std 1
 Net
 Corrected
 Calib.
 Analysis

 Intensity
 Intensity
 Conc.
 Units
 Time

 22564802.8
 22563853.1
 [5.0000] mg/L
 2:08:33 PM

 22185037.1
 22184087.4
 [5.0000] mg/L
 2:08:44 PM

 22352199.7
 22351250.0
 [5.0000] mg/L
 2:08:54 PM
 Repl# Analyte 1 Be 313.107 Be 313.107 2 3 Be 313.107 Mean Data: Calib Std 1 Analyte Mean Corrected Calib Conc. Units Intensity Std.Dev. RSD Be 313.107 22366396.8 190335.40 0.85% [5.0000] mg/L Calibration Summary Stds. Equation Slope Analyte Intercept Curvature Corr. Coef. Reslope Be 313.107 1 Lin, Calc Int 0.0 4473000 0.00000 1.000000 Sequence No.: 3 Autosampler Location: 3 Sample ID: ICV Date Collected: 8/29/2024 2:11:38 PM Analyst: SG Data Type: Reprocessed on 8/29/2024 6:54:31 PM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Sample Prep Vol: Dilution: Wash Time:

Method: 24-512 FH- ICAP19 Page 2 Date: 8/29/2024 6:54:31 PM Nebulizer Parameters: ICV Back PressureFlow343.0 kPa0.65 L/min Analyte A11 _____ Replicate Data: ICV Corrected Net Calib. Sample Analysis
 Intensity
 Intensity
 Conc.
 Units

 11553278.2
 11552328.5
 2.583 mg/L

 11409894.8
 11408945.2
 2.550 mg/L

 11241825.9
 11240876.2
 2.513 mg/L
 Repl# Analyte Conc. Units Time 1 Be 313.107
 2583 ug/L
 2:12:30 PM

 2550 ug/L
 2:12:46 PM

 2513 ug/L
 2:13:03 PM
 2 Be 313.107 3 Be 313.107 _____ _____ Mean Data: ICV Mean CorrectedCalib.SampleAnalyteIntensityConc. UnitsStd.Dev.Conc. UnitsStd.Dev.RSDBe 313.10711400716.62.549 mg/L0.03482549 ug/L34.851.37% QC value within limits for Be 313.107 Recovery = 101.95% All analyte(s) passed QC. Sequence No.: 4 Autosampler Location: 4 Sample ID: ICB Date Collected: 8/29/2024 2:15:54 PM Analyst: SG Data Type: Reprocessed on 8/29/2024 6:54:31 PM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Dilution: Sample Prep Vol: Wash Time: _____ Nebulizer Parameters: ICB Back PressureFlow342.0 kPa0.65 L/min Analyte All _____ Replicate Data: ICB
 Net
 Corrected
 Calib.

 Intensity
 Intensity
 Conc. Units

 1224.6
 274.9
 0.000 mg/L

 1393.2
 443.5
 0.000 mg/L

 1296.2
 346.5
 0.000 mg/L

 Sample

 Conc.
 Units
 Time

 0.061
 ug/L
 2:16:44
 PM

 0.099
 ug/L
 2:16:56
 PM

 2 077
 ug/L
 2:17:08
 PM
 Repl# Analyte 1 Be 313.107 Be 313.107 2 3 Be 313.107 Mean Data: ICB Mean Corrected Calib. Sample
 Intensity
 Conc. Units
 Std.Dev.
 Conc. Units
 Std.Dev.

 355.0
 0.000 mg/L
 0.0000
 0.079 ug/L
 0.0189 2
 Analyte RSD Be 313.107 0.0189 23.85% QC value within limits for Be 313.107 Recovery = Not calculated All analyte(s) passed QC. Sequence No.: 5 Autosampler Location: 5 Sample ID: LL-CCV Date Collected: 8/29/2024 2:19:57 PM Analyst: SG Data Type: Reprocessed on 8/29/2024 6:54:31 PM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Dilution: Sample Prep Vol: Wash Time: _____ Nebulizer Parameters: LL-CCV Back PressureFlow342.0 kPa0.65 L/min Analyte All Replicate Data: LL-CCV Net Corrected Calib. Sample Analysis
 Intensity
 Intensity
 Conc.
 Units

 5751.5
 4801.8
 0.001 mg/L
 0.001 mg/L

 5507.2
 4557.5
 0.001 mg/L
 0.001 mg/L

 5422.4
 4472.7
 0.001 mg/L
 Conc. Units 1.073 ug/L 1.019 ug/L 1.000 ug/L Repl# Analyte Time 1 Be 313.107 2:20:48 PM Be 313.107 2:21:00 PM 2 3 Be 313.107 2:21:12 PM

Method: 24-512 FH- ICAP19

Page 3

Mean Data: LL-CCV						
	Mean Corrected	Calib.		Sample	÷	
Analyte Be 313.107	4610 7	Conc. Units	Std.Dev.	Conc. Units	Std.Dev	. RSD
QC value within	limits for Be 313	.107 Recover	y = 103.07%	1.051 49/1	0.0502	J./10
All analyte(s) pass	ed QC.					
Semience No : 6						
Sample ID: MB 24-51	2 FH		Date Collected:	8/29/2024 2:24	:01 PM	
Logged In Analyst (Original) : Admin	istrator	Data Type: Repro	cessed on 8/29	/2024 6:54:3.	I PM
Initial Sample Wt:			Initial Sample V	/ol:		
Dilution:			Sample Prep Vol:	:		
wash Time:						
Nebulizer Parameter	 s: MB 24-512 FH					
Analyte	Back Pressur	e Flow				
All	343.0 kPa	0.65 L/m	lin			
Replicate Data: MR	 2/-512 59					
Repitcate Data. MD	Net	Corrected	Calib	.	Sample 7	Analysis
Repl# Analyte	Intensity	Intensity	Conc. Units	S Conc	. Units	Time
2 Be 313.107	1322 2	۶/.6 ۲72 5	0.000 mg/L 0.000 mg/T	0.02	∠ug/L 2 3ug/T	2:24:51 P 2:25:04 P
3 Be 313.107	1379.6	429.9	0.000 mg/L	0.08	5 ug/L 2	2:25:04 E 2:25:16 E
			<u>-</u> , <u>-</u>	0.05	o ug, <u>n</u>	2.20.10 1
Mean Data: MB 24-512	2 FH					
1	Mean Corrected	Calib.		Sample	r	
Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev	. RSD
De 313.107	300.0	0.000 mg/L	0.0000	0.06/ ug/L	0.0397	59.21%
Sequence No.: 7 Sample ID: LL-LCS 24 Analyst: SG Logged In Analyst ((4-512 FH	istrator	Autosampler Loca Date Collected: Data Type: Repro	etion: 15 8/29/2024 2:28 peessed on 8/29	:04 PM /2024 6:54:3	
Initial Sample Wt:	Jiginai, . Admin	ISLIALUI	Initial Sample V	۲ <u>م</u> ۱۰		
Dilution:			Sample Prep Vol:	01.		
Wash Time:						
Nebulizer Parameters	s: LL-LCS 24-512	 Fh				
Analyte	Back Pressur	e Flow				
All	342.0 kPa	0.65 L/m	in			
Replicate Data: I.II	 CS 24-512 דּש					
	Net	Corrected	Calib	·.	Sample ⁷	nalvsis
Repl# Analyte	Intensity	Intensity	Conc. Units	Conc	. Units	Time
1 Be 313.107	3379.7	2430.0	0.001 mg/L	0.54	3 ug/L 2	2:28:53 PI
2 Be 313.107	3364.3	2414.6	0.001 mg/L	0.54	0 ug/L 2	2:29:06 PI
з ве 313.107	3369.6	2419.9	0.001 mg/L	0.54	1 ug/L 2	2:29:18 PI
Mean Data: LL-LCS 24	 -512 FH					
Μ	lean Corrected	Calib.		Sample		
Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
ве 313.107	2421.5	0.001 mg/L	0.0000	0.541 ug/L	0.0018	0.32%
Sequence No · 8				======================================		
Sample ID: LCS 24-51	2 FH		Date Collected:	CION: 10 8/29/2024 2.22	.05 DM	
Analyst: SG			Data Type: Repro	0/23/2024 2:32 cessed on $R/20$.05 PM /2024 6.54.30	PM
Logged In Analyst (C	riginal) : Admini	strator	and sires hepro		0.04.02	
Initial Sample Wt:			Initial Sample V	ol:		
Dilution:			Sample Prep Vol:			

Method: 24-512 FH- ICAP19

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Wash Time:

Nepulizer Paramete	rs: LCS 24-512 FH						
All	343.0 kPa	• Flow 0.65 L/m	in				
Replicate Data: LC	S 24-512 FH Net	Corrected	Calib			Sample	Analysis
Repl# Analyte	Intensity	Intensity	Conc. Units		Conc.	Units	Time
1 Be 313.107	4714259.1	4713309.4	1.054 mg/L		1054	ug/L	2:32:57 1
2 Be 313.107 3 Be 313.107	4697560.3 4683816.3	4696610.6 4682866.6	1.050 mg/L 1.047 mg/L		1050 1047	ug/L ug/L	2:33:12 1 2:33:27 1
Mean Data: LCS 24-	512 FH Mean Corrected	Calib			Samala		
Analyte	Intensity	Conc. Units	Std.Dev.	Conc.	Units	Std D	ev RSD
3e 313.107	4697595.5	1.050 mg/L	0.0034	1050	ug/L	3.	41 0.32%
Sequence No.: 9 Sample ID: LCS DUP Analyst: SG Logged In Analyst Initial Sample Wt:	24-512 FH (Original) : Admini	.strator	Autosampler Locat: Date Collected: 8, Data Type: Reproce Initial Sample Vo	ion: 1 /29/202 essed o L:	7 24 2:36: 27 8/29/	====== 16 РМ 2024 6:54	:32 PM
Dilution: Nash Time:			Sample Prep Vol:				
Nebulizer Paramete Analyte All	rs: LCS DUP 24-512 Back Pressure 342.0 kPa	FH Flow 0.65 L/m					
Replicate Data: LC	 S DUP 24-512 FH						
	Net	Corrected	Calib.			Sample	Analysis
Repl# Analyte	Intensity	Intensity	Conc. Units		Conc.	Units	Time
1 Be 313.107	4858463.9	485/514.2	1.086 mg/L		1086	ug/L	2:37:06 H
3 Be 313.107	4797431.2	4796481.5	1.073 mg/L 1.072 mg/L		1073	ug/L ug/L	2:37:23 E 2:37:41 E
lean Data: LCS DUP	 24-512 FH						
	Mean Corrected	Calib.			Sample		
nalyte 3e 313.107	Intensity 4818105.8	Conc. Units 1.077 mg/L	Std.Dev. 0.0076	Conc. 1077	Units ug/L	Std.D e 7.0	ev. RSD 54 0.71%
Sequence No.: 10 Sample ID: 24-8246	2		Autosampler Locati Date Collected: 8/ Data Type: Reproce	on: 18 29/202 ssed c	3 24 2:40:3 25 8/29/3	======= 32 РМ 2024 6:54	:32 PM
malyst: SG	(A						
analyst: SG Logged In Analyst Initial Sample Wt: Dilution: Wash Time:	(Original) : Admini	strator	Initial Sample Vol Sample Prep Vol:	.:			
Analyst: SG Logged In Analyst Initial Sample Wt: Dilution: Wash Time: Mebulizer Parameter	(Original) : Admini 	strator	Initial Sample Vol Sample Prep Vol:	.:			
Analyst: SG Analyst: SG Analyst: SG Analyst Anitial Sample Wt: Dilution: Vash Time: Alli Analyte All	(Original) : Admini rs: 24-S2462 Back Pressure 342.0 kPa	strator 	Initial Sample Vol Sample Prep Vol:	.:			
nalyst: SG ogged In Analyst ilution: ash Time: 	(Original) : Admini cs: 24-S2462 Back Pressure 342.0 kPa -S2462	strator Flow 0.65 L/m:	Initial Sample Vol Sample Prep Vol: 	.:			
eplicate Data: 24	(Original) : Admini cs: 24-S2462 Back Pressure 342.0 kPa 	Flow 0.65 L/m: Corrected	Initial Sample Vol: Sample Prep Vol: in Calib.	.: 		Sample	Analysis
Ample 12, 24 analyst: SG logged In Analyst initial Sample Wt: Dilution: Vash Time: Mebulizer Parameter nalyte ll deplicate Data: 24 deplicate Data: 24 depli Analyte 1 Be 313.107	(Original) : Admini cs: 24-S2462 Back Pressure 342.0 kPa 	Flow 0.65 L/m: Corrected Intensity 107154.1	Initial Sample Vol: Sample Prep Vol: in Calib. Conc. Units 0.024 mg/L	.: 	Conc.	Sample Units	Analysis Time 2.41.29 D
Amalyst: SG logged In Analyst initial Sample Wt: Dilution: Wash Time: Mebulizer Parameter Inalyte ll Seplicate Data: 24- Sepl# Analyte 1 Be 313.107 2 Be 313.107	(Original) : Admini cs: 24-S2462 Back Pressure 342.0 kPa -S2462 Net Intensity 108103.8 107634.3	Flow 0.65 L/m: Corrected Intensity 107154.1 106684.6	Initial Sample Vol: Sample Prep Vol: in Calib. Conc. Units 0.024 mg/L 0.024 mg/L	.:	Conc. 23.95 23.85	Sample Units ug/L ug/L	Analysis Time 2:41:29 P 2:41:47 P

Method: 24-512 FH- IC	AP19	P	age 5		Date:	8/29/2024	6:54:32 PM
Mean Data: 24-S2462	an Corrected	C-1+h		-	1		
Analyte Be 313.107	Intensity 106724.0	Conc. Units 0.024 mg/L	Std.Dev. 0.0001	Conc. U 23.86 u	ample nits g/L	Std.De 0.09	v. RSD 2 0.39%
Sequence No.: 11 Sample ID: 24-S2462 R Analyst: SG Logged In Analyst (Or Initial Sample Wt: Dilution: Wash Time:	======================================	istrator	Autosampler Loca Date Collected: 2 Data Type: Reprod Initial Sample Vo Sample Prep Vol:	======== tion: 19 8/29/2024 cessed on ol:	2:44: 8/29/2	======= 52 PM 2024 6:54:	======= 32 PM
Nebulizer Parameters: Analyte All	24-S2462 REP Back Pressure 341.0 kPa	• Flow 0.65 L/m	in				
Replicate Data: 24-S2	462 REP						
Repl#Analyte1Be 313.1072Be 313.1073Be 313.107	Net Intensity 110197.5 106958.2 108071.2	Corrected Intensity 109247.8 106008.5 107121.5	Calib Conc. Units 0.024 mg/L 0.024 mg/L 0.024 mg/L		Conc . 24.42 23.70 23.95	Sample Units ug/L ug/L ug/L	Analysis Time 2:45:49 PM 2:46:08 PM 2:46:26 PM
Mean Data: 24-S2462 R	 EP						
Analyte Be 313.107	Intensity 107459.3	Conc. Units 0.024 mg/L	Std.Dev . 0.0004	Conc. U 24.02 u	ample nits g/L	Std.De 0.36	v. RSD 8 1.53%
Sequence No.: 12 Sample ID: 24-S2464 Analyst: SG Logged In Analyst (Or Initial Sample Wt: Dilution: Wash Time:	iginal) : Admini	.strator	Autosampler Locat Date Collected: & Data Type: Reprod Initial Sample Vo Sample Prep Vol:	tion: 20 8/29/2024 cessed on pl:	2:49:1 8/29/2	 14 PM 2024 6:54:	32 PM
Nebulizer Parameters: Analyte All	24-S2464 Back Pressure 341.0 kPa	Flow 0.65 L/m					
Replicate Data: 24-S2	 464						
Repl#Analyte1Be3Be3313.1073Be313.107	Net Intensity 108637.1 106181.8 106961.0	Corrected Intensity 107687.4 105232.1 106011.3	Calib. Conc. Units 0.024 mg/L 0.024 mg/L 0.024 mg/L		Conc . 24.07 23.52 23.70	Sample Units ug/L ug/L ug/L	Analysis Time 2:50:10 PM 2:50:28 PM 2:50:46 PM
Mean Data: 24-S2464							
Mea Analyte Be 313.107	an Corrected Intensity 106310.3	Calib. Conc. Units 0.024 mg/L	Std.Dev. 0.0003	Sa Conc. Un 23.77 uc	ample nits g/L	Std.De 0.280	v. RSD D 1.18%
Sequence No.: 13 Sample ID: 24-S2464 PC Analyst: SG Logged In Analyst (Or: Initial Sample Wt: Dilution: Wash Time:	DST SPK iginal) : Admini	strator	Autosampler Locat Date Collected: 6 Data Type: Reproc Initial Sample Vo Sample Prep Vol:	cion: 21 3/29/2024 cessed on ol:	2:53:3 8/29/2	35 PM 2024 6:54:2	======= 32 рм
Nebulizer Parameters:	24-S2464 POST S	 PK					

Method: 24-512 FH-	- ICAP19	F	age 6		Date:	8/29/2024 6	6:54:33 PM
Analyte All	Back Pressur 342.0 kPa	re Flow 0.65 L/m	hin				
Replicate Data: 24	4-S2464 POST SPK						
Repl# Analyte	Net Intensity	Corrected	Cali Cong Unit	b.	Cong	Sample	Analysis
1 Be 313.107	4211283.8	4210334.1	0.941 mg/L	5	941 2		2.54.30 PM
2 Be 313.107	4129196.6	4128246.9	0.923 mg/L		922.9	ug/L ug/L	2:54:30 IM
3 Be 313.107	4176321.6	4175371.9	0.933 mg/L		933.4	ug/L	2:55:07 PM
Mean Data: 24-S246	 54 POST SPK						
	Mean Corrected	Calib.			Sample		
Analyte	Intensity	Conc. Units	Std.Dev.	Conc.	Units	Std.Dev	7. RSD
Be 313.107	4171317.6	0.932 mg/L	0.0092	932.5	ug/L	9.21	L 0.99%
Sequence No.: 14 Sample ID: 24-S246 Analyst: SG Logged In Analyst Initial Sample Wt: Dilution: Wash Time:	56 (Original) : Admin	istrator	Autosampler Loc Date Collected: Data Type: Repr Initial Sample Sample Prep Vol	======= ation: 2 8/29/20 ocessed Vol: :	2 2 24 2:57: on 8/29/	======= 57 PM 2024 6:54:3	32 PM
Nebulizer Paramete	ers: 24-S2466						
Analyte	Back Pressur	e Flow					
All	342.0 kPa	0.65 L/m	in				
Replicate Data: 24	 l-S2466						
	Net	Corrected	Cali	b.		Sample	Analysis
Repl# Analyte	Intensity	Intensity	Conc. Unit	s	Conc.	Units	Time
I Be 313.107	1084/2./	107523.0	0.024 mg/L		24.04	ug/L	2:58:56 PM
3 Be 313.107	106041.7	105092.0	0.024 mg/L 0.023 mg/L		23.79 23.49	ug/L ug/L	2:59:14 PM 2:59:32 PM
Mean Data. 24-5240	Mean Corrected	Calib			Sample		
Analyte	Intensity	Conc. Units	Std.Dev.	Conc	Units	Std Dev	r RSD
Be 313.107	106351.6	0.024 mg/L	0.0003	23.77	ug/L	0.272	2 1.15%
Sequence No.: 15 Sample ID: CCV Analyst: SG Logged In Analyst Initial Sample Wt: Dilution: Wash Time:	(Original) : Admin	istrator	Autosampler Loca Date Collected: Data Type: Repro Initial Sample Y Sample Prep Vol	ation: 3 8/29/20 pcessed Vol: :	24 3:02: on 8/29/	21 PM 2024 6:54:3	
P							
Analvte	Back Pressure						
All	342.0 kPa	0.65 L/m	in				
Replicate Data: CC	·						
	Net	Corrected	Calib	o .		Sample	Analysis
Repl# Analyte	Intensity	Intensity	Conc. Units	5	Conc.	Units	Time
⊥ BE 313.10/ 2 Be 313.107	11427928.3	11426978.6	2.554 mg/L		2554	ug/L	3:03:14 PM
3 Be 313.107	11375544.1	11374594.4	2.543 mg/L		2561 2543	ug/L ug/L	3:03:47 PM
Mean Data: CCV							
	Mean Corrected	Calib.			Sample		
Analyte	Intensity	Conc. Units	Std.Dev.	Conc.	Units	Std.Dev	. RSD
Be 313.107	11418637.6	2.553 mg/L	0.0091	2553	ug/L	9.06	0.35%

Method: 24-512 FH- ICAP19 Page 7 Date: 8/29/2024 6:54:33 PM QC value within limits for Be 313.107 Recovery = 102.11% All analyte(s) passed QC. Sequence No.: 16 Autosampler Location: 4 Sample ID: CCB Date Collected: 8/29/2024 3:06:38 PM Analyst: SG Data Type: Reprocessed on 8/29/2024 6:54:33 PM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Dilution: Sample Prep Vol: Wash Time: Nebulizer Parameters: CCB Analyte Back Pressure Flow 342.0 kPa All 0.65 L/min Replicate Data: CCB Calib. Net Corrected Sample Analysis Intensity Intensity **Conc. Units** 0.000 mg/L 0.000 mg/L Repl# Analyte Conc. Units Time 0.056 ug/L 3:07:29 PM 0.056 ug/L 3:07:41 PM 1198.5 248.8 251.3 Be 313.107 1 Be 313.107 2 1201.0 1123.5 173.8 0.000 mg/L 0.039 ug/L 3:07:53 PM 3 Be 313.107 _____ Mean Data: CCB Mean Corrected Calib. Conc. Units Sample IntensityConc. UnitsStd.Dev.Conc. Units224.60.000 mg/L0.00000.050 ug/L Analyte Std.Dev. RSD Be 313.107 0.0098 19.61% QC value within limits for Be 313.107 Recovery = Not calculated All analyte(s) passed QC. _____ Sequence No.: 17 Autosampler Location: 23 Sample ID: 24-S2468 Date Collected: 8/29/2024 3:10:41 PM Analyst: SG Data Type: Reprocessed on 8/29/2024 6:54:33 PM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Dilution: Sample Prep Vol: Wash Time: Nebulizer Parameters: 24-S2468 Back Pressure Flow 342.0 kPa 0.65 L/min Analyte All 342.0 kPa _____ Replicate Data: 24-S2468 Net Corrected Calib. Sample Analysis Intensity Intensity Conc. Units Repl# Analyte Conc. Units Time 23.84 ug/L Be 313.107 107574.7 106625.0 0.024 mg/L 109155.3 108205.6 0.024 mg/L 108855.2 107905.6 0.024 mg/L 1 3:11:39 PM 3:11:57 PM 3:12:15 PM Be 313.107 2 24.19 ug/L 3 Be 313.107 24.12 ug/L _____ Mean Data: 24-S2468 Mean Corrected Calib. Sample Intensity Conc. Units Analyte Conc. Units Std.Dev. Std.Dev. RSD Be 313.107 24.05 ug/L 107578.7 0.024 mg/L 0.0002 0.188 0.78% Sequence No.: 18 Autosampler Location: 24 Sample ID: 24-S2469 Date Collected: 8/29/2024 3:15:03 PM Analyst: SG Data Type: Reprocessed on 8/29/2024 6:54:33 PM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Dilution: Sample Prep Vol: Wash Time: Nebulizer Parameters: 24-S2469

Method: 24-512 FH-	- ICAP19	P	age 8	Date:	8/29/2024 6:54:33 PM
Analyte All	Back Pressure 342.0 kPa	≥ Flow 0.65 L/m	in		
Replicate Data: 24	 1-S2469				
Repl#Analyte1Be3Be333Be33	Net Intensity 959.7 994.8 914.0	Corrected Intensity 10.0 45.1 -35.7	Calib. Conc. Units 0.000 mg/L 0.000 mg/L -0.000 mg/L	Conc . 0.002 0.010 -0.008	Sample Analysis Units Time ug/L 3:15:55 PM ug/L 3:16:07 PM ug/L 3:16:19 PM
 Mean Data: 24-S246	 59				
	Mean Corrected	Calib.		Sample	
Be 313.107	6.5	0.000 mg/L	Std.Dev. Con 0.0000 0.0	c. Units 01 ug/L	Std.Dev. RSD 0.0091 626.44%
Sequence No.: 19 Sample ID: CCV Analyst: SG Logged In Analyst Initial Sample Wt: Dilution: Wash Time:	(Original) : Admini	lstrator	Autosampler Location: Date Collected: 8/29/ Data Type: Reprocesse Initial Sample Vol: Sample Prep Vol:	3 2024 3:19: d on 8/29/	 08 PM 2024 6:54:33 PM
Nebulizer Paramete	ers: CCV				
Analyte All	Back Pressure 343.0 kPa	• Flow 0.65 L/m	in		
Replicate Data: CC	vv				
Repl# Analyte	Net Intensity	Corrected	Calib. Conc. Units	Cong	Sample Analysis Units Time
1 Be 313.107	11403153.5	11402203.8	2.549 mg/L	2549	ug/L 3:19:59 PM
2 Be 313.107 3 Be 313.107	11322732.7 11288045.6	11321783.0 11287095.9	2.531 mg/L 2.523 mg/L	2531 2523	ug/L 3:20:16 PM ug/L 3:20:32 PM
Mean Data: CCV					
Analyte Be 313.107 QC value within All analyte(s) pas	Mean Corrected Intensity 11337027.6 limits for Be 313. sed QC.	Calib. Conc. Units 2.534 mg/L 107 Recover	Std.Dev. Con. 0.0132 25 y = 101.38% 25	Sample c. Units 34 ug/L	Std.Dev. RSD 13.20 0.52%
Sequence No.: 20 Sample ID: CCB Analyst: SG			Autosampler Location: Date Collected: 8/29/2 Data Type: Reprocessed	4 2024 3:23:2 d on 8/29/2	======================================
Logged In Analyst Initial Sample Wt: Dilution: Wash Time:	(Original) : Admini	strator	Initial Sample Vol: Sample Prep Vol:		
Nebulizer Paramete	rs: CCB				
Analyte All	Back Pressure 342.0 kPa	e Flow 0.65 L/m.	in		
Replicate Data: CC	B				
Renl# Analyta	Net	Corrected	Calib.	~	Sample Analysis
1 Be 313.107	1198.9	249.2	0.000 mg/T	0.056	ua/L 3:24.15 PM
2 Be 313.107 3 Be 313.107	1102.6 1121.1	152.9 171.4	0.000 mg/L 0.000 mg/L	0.034	ug/L 3:24:27 PM ug/L 3:24:39 PM
Mean Data: CCB					
	Mean Corrected	Calib.		Sample	

Method: 24-512 FH- ICAP19 Page		age 9 Date: 8/29/2024 6:		:54:33 PM				
Analyte Be 313.107 QC value within All analyte(s) pass	Intensity 191.2 limits for Be 31 sed QC.	Conc. 0.000 L3.107 E	Units mg/L Recovery	Std.Dev. 0.0000 = Not calculated	Conc . 0.043	Units ug/L	Std.Dev. 0.0114	RSD 26.73%

Method 29 Digestion Worklist Number: 2835 Report #: 24-512 Client: C062 Compliance Services & Testing Digestion Date:

	Sample ID	Client ID	Digestate Volume (ml)	рH	Notes
1.	MethBlk		160		
2.	LL-LCS19				1.0mc 248.63.5 X.11.11-24
3.	LCS19				1.0m (00 ppm (CAP 19
4.	LCS_Dup19				1.0ml 100 ppm 1649 19
5.	24-S2463	Run 1 BH&C4			
6.	24-S2465	Run 2 BH&C4			
7.	24-S2467	Run 3 BH&C4			
8.	24-S2470	C9 5%/10% Blank			

Bc

Digestion Met	chod: M29_FH	M29_BH CARB436_Comb	pined	Other:
Volumetrics	: HNO3 10-2,	1.0i, M100-1		
Evap Start:	8.27.24 56	HNO3	Lot:	omni trace 63320 XING
Evap End:	9.4.24 56		Lot:	CP VOZ9001 X! 12.11.24
Digest:	9.4.24 SG	HF	Lot:	
Dilute:	9.4.24 54	Spike	Std:	Accushe 223055011
				X16.4.25

QCOLC
9.5.24 Jan

Clie: Repo:	ICP nt: C062 rt #: 24-51	Worklist Numbe Compliance S 2	r: 3055 ervices	Date Request & Testing Analysis Dat	ced: 9/ 5/24 ce: 9/ 5/24	Ł
-	Lab ID		Analyte	Results in ug/L		
1.	kv:ICV		Be	2471. /	Expected 2500.	<pre>% Recovery 98.84</pre>
2.	bl:ICB		Ве	< 0.2 /		
3.	kv:LL-CCV		Ве	0.979 /	Expected 1.000	<pre>% Recovery 97.90</pre>
4.	bl:Meth_Bl	k	Ве	< 0.2		
5	. kv:LL-LCS		Be	0.444	Expected 0.500	<pre>% Recovery 88.80</pre>
6.	Spike of 4	(Be	973.9/	Spk Amount 1000.	Spike Rec. 97.39
7.	MSD of 6	-	Ве	971.5	Recovery 97.15	RPD -0.25
8.	24 - S2463	Run 1 BH&C4	Be	< 0.2		
9.	Dup of 8	/	Ве	< 0.2	Difference	e RPD
10.	24 - S2465	Run 2 BH&C4	Be	< 0.2		
11.	Spike of 1	0	Ве	930.3	Spk Amount 1000.	Spike Rec. 93.03
12.	24 - S2467	Run 3 BH&C4	Be	< 0.2		
13.	kv:CCV		Be	2476./	Expected 2500.	<pre>% Recovery 99.04</pre>
14.	bl:CCB		Ве	< 0.2		
15.	24 - S2470	C9 5%/10% Bla	Be	< 0.2/		
16.	kv:CCV		Be	2490.	Expected 2500.	<pre>% Recovery 99.60</pre>
17.	bl:CCB		Ве	< 0.2		

Method: 24-512 BH- ICAP19

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Sequence No.: 1 Autosampler Location: 1 Sample ID: Calib Blank 1 Date Collected: 9/5/2024 6:48:34 AM Analyst: Data Type: Reprocessed on 9/5/2024 8:32:14 AM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Dilution: Sample Prep Vol: Wash Time: Nebulizer Parameters: Calib Blank 1 Analyte Back Pressure Flow All 339.0 kPa 0.65 L/min Replicate Data: Calib Blank 1 Net Corrected Analysis Calib.
 Intensity
 Intensity
 Conc. Units

 1131.3
 1131.3
 [0.00] mg/L
 Repl# Analyte Time

 1131.3
 1131.3

 1204.9
 1204.9

 1163.7
 1163.7

 6:49:23 AM 6:49:35 AM 6:49:47 AM Be 313.107 1 [0.00] mg/L 2 Be 313.107 Be 313.107 3 [0.00] mg/L 6:49:47 AM Mean Data: Calib Blank 1 Mean Corrected Calib
 Intensity
 Std.Dev.
 RSD

 1166.6
 36.92
 3.16%
 Analyte Conc. Units Be 313.107 [0.00] mg/L Sequence No.: 2 Autosampler Location: 2 Sample ID: Calib Std 1 Date Collected: 9/5/2024 6:52:35 AM Analyst: Data Type: Reprocessed on 9/5/2024 8:32:14 AM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Sample Prep Vol: Dilution: Wash Time: _____ Nebulizer Parameters: Calib Std 1 Analyte Back Pressure Flow All 341.0 kPa 0.65 L/min _____ Replicate Data: Calib Std 1 Analysis Net Corrected Calib. Conc. Units
 Intensity
 Intensity
 Conc.
 Units

 23614420.9
 23613254.3
 [5.0000] mg/L

 23524261.5
 23523094.9
 [5.0000] mg/L

 23494621.7
 23493455.1
 [5.0000] mg/L
 Repl# Analyte Time Be 313.107 1 6:53:28 AM 2 Be 313.107 6:53:39 AM 3 Be 313.107 6:53:49 AM _____ Mean Data: Calib Std 1 Mean Corrected Calib Analyte Intensity Std.Dev. RSD Conc. Units Be 313.107 23543268.1 62395.36 0.27% [5.0000] mg/L _____ Calibration Summary Stds. Equation Analvte Slope Intercept Curvature Corr. Coef. Reslope Be 313.107 0.0 0.00000 1 Lin, Calc Int 4709000 1.000000 Sequence No.: 3 Autosampler Location: 3 Sample ID: ICV Date Collected: 9/5/2024 6:56:33 AM Analyst: SG Data Type: Reprocessed on 9/5/2024 8:32:14 AM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Dilution: Sample Prep Vol: Wash Time:

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2

Nebulizer Parameters: ICV Analyte Back Pressure Flow A11 341.0 kPa 0.65 L/min _____ Replicate Data: ICV Net Corrected Calib. Sample Analysis
 Intensity
 Intensity
 Conc.
 Units

 11725369.4
 11724202.7
 2.490 mg/L

 11620187.9
 11619021.3
 2.468 mg/L

 11570045.0
 11568878.4
 2.457 mg/L
 Repl# Analyte Conc. Units Time 1 Be 313.107 2490 ug/L 2468 ug/L 2457 ug/L 6:57:25 AM Be 313.107 2 6:57:42 AM 6:57:58 AM 3 Be 313.107 _____ Mean Data: ICV Mean Corrected Calib. Sample AnalyteIntensityConc. UnitsStd.Dev.Conc. UnitsStd.Dev.RSDBe 313.10711637367.52.471 mg/L0.01682471 ug/L16.840.68%OC value within limits for Bo 313.107Decourse 00.00000.000000.000 QC value within limits for Be 313.107 Recovery = 98.86% All analyte(s) passed QC. ______ Sequence No.: 4 Autosampler Location: 4 Sample ID: ICB Date Collected: 9/5/2024 7:00:49 AM Analyst: SG Data Type: Reprocessed on 9/5/2024 8:32:14 AM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Dilution: Sample Prep Vol: Wash Time: _____ Nebulizer Parameters: ICB Analyte Back Pressure Flow All 341.0 kPa 0.65 L/min Replicate Data: ICB Net Corrected Calib. Sample Analysis
 Intensity
 Intensity
 Conc.
 Units

 1624.2
 457.5
 0.000 mg/L
 1353.8
 187.1
 0.000 mg/L

 1456.9
 290.2
 0.000 mg/L
 1456.9
 1456.9
 1456.9
 Repl# Analyte Conc. Units Time 1 Be 313.107 0.097 ug/L 0.040 ug/L 7:01:40 AM 7:01:52 AM Be 313.107 2 0.040 ug/L 0.062 ug/L 7:02:05 AM 3 Be 313.107 Mean Data: ICB
 Mean Corrected
 Calib.
 Sample

 Intensity
 Conc. Units
 Std.Dev.
 Conc. Units
 Std.Dev.
 RSD

 311.6
 0.000 mg/L
 0.0000
 0.066 ug/L
 0.0290
 43.79%
 Analyte Be 313.107 QC value within limits for Be 313.107 Recovery = Not calculated All analyte(s) passed QC. Sequence No.: 5 Autosampler Location: 5 Sample ID: LL-CCV Date Collected: 9/5/2024 7:04:53 AM Analyst: SG Data Type: Reprocessed on 9/5/2024 8:32:14 AM Logged In Analyst (Original) : Administrator Initial Sample Wt: Initial Sample Vol: Dilution: Sample Prep Vol: Wash Time: Nebulizer Parameters: LL-CCV Flow Analyte Back Pressure 342.0 kPa 0.65 L/min A11 Replicate Data: LL-CCV Net Corrected Analysis Calib. Sample
 Intensity
 Intensity
 Conc.
 Units

 5763.0
 4596.3
 0.001 mg/L
 5777.7

 5777.7
 4611.0
 0.001 mg/L
 5789.2

 5789.2
 4622.5
 0.001 mg/L
 Conc. Units 0.976 ug/L 0.979 ug/L 0.982 ug/L Repl# Analyte Time 1 Be 313.107 7:05:44 AM Be 313.107 7:05:57 AM 2 3 Be 313.107 7:06:09 AM

Method: 24-512 BH- ICAP19

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Mean Data: LL-CCV							
Mean Data. 11-CCV	Mean Corrected	Calib.			Sample		
Analyte Be 313.107	Intensity 4610.0	Conc. Units 0.001 mg/L	Std.Dev. 0.0000	Conc . 0.979	Units ug/L	Std.De 0.002	v. RSD 8 0.29%
QC value within All analyte(s) pass	limits for Be 313 sed QC.	.107 Recover	y = 97.90%		5		
Sequence No.: 6 Sample ID: MB 24-51 Analyst: SG Logged In Analyst (Initial Sample Wt: Dilution: Wash Time:	.2 BH (Original) : Admin:	istrator	Autosampler Loca Date Collected: Data Type: Repro Initial Sample V Sample Prep Vol:	vition: 1 9/5/202 cessed Vol:	4 4 7:08:5 on 9/5/2	====== 8 ам 024 8:32:1	====== 5 AM
Nebulizer Parameter Analyte All	s: MB 24-512 BH Back Pressure 343.0 kPa	e Flow 0.65 L/m	in				
Replicate Data: MB	24-512 ВН						
Repl#Analyte1Be 313.1072Be 313.1073Be 313.107	Net Intensity 1123.7 1006.9 974.1	Corrected Intensity -43.0 -159.8 -192.5	Calib Conc. Units -0.000 mg/L -0.000 mg/L -0.000 mg/L	• •	Conc. -0.009 -0.034 -0.041	Sample Units ug/L ug/L ug/L	Analysis Time 7:09:47 AM 7:09:59 AM 7:10:11 AM
 Mean Data: MB 24-51	.2 вн						
	Mean Corrected	Calib.		_	Sample	. -	
Analyte Be 313.107	-131.8 -	Conc. Units -0.000 mg/L	Std.Dev. 0.0000	Conc .	Units ug/L	Std.De 0.016	v. RSD 7 59.67%
Sequence No.: 7 Sample ID: LL-LCS 2 Analyst: SG Logged In Analyst (Initial Sample Wt: Dilution: Wash Time:	4-512 BH Original) : Admini	istrator	Autosampler Loca Date Collected: Data Type: Repro Initial Sample V Sample Prep Vol:	cessed of the second se	5 7:12:5 on 9/5/2	9 AM 024 8:32:1	5 AM
Nebulizer Parameter Analyte All	s: LL-LCS 24-512 F Back Pressure 343.0 kPa	3H ≥ Flow 0.65 L/m					
Replicate Data: LL-	LCS 24-512 BH	Corrected	Calib				Apalygig
Repl# Analyte 1 Be 313.107 2 Be 313.107 3 Be 313.107	Intensity 3187.0 3229.3 3349.2	Intensity 2020.4 2062.6 2182.6	Conc. Units 0.000 mg/L 0.000 mg/L 0.000 mg/L	•	Conc . 0.429 0.438 0.464	Units ug/L ug/L ug/L	Time 7:13:48 AM 7:14:00 AM 7:14:12 AM
Mean Data: LL-LCS 2	 4-512 вн						
Analyte Be 313.107	Mean Corrected Intensity 2088.5	Calib. Conc. Units 0.000 mg/L	Std.Dev. 0.0000	Conc. 0.444	Sample Units ug/L	Std.De 0.017	v. RSD 9 4.03%
Sequence No.: 8 Sample ID: LCS 24-5 Analyst: SG Logged In Analyst (Initial Sample Wt:	 12 BH Original) : Admini	.strator	Autosampler Loca Date Collected: Data Type: Reprov Initial Sample Vo	======= tion: 16 9/5/2024 cessed c ol:	5 4 7:17:00 5n 9/5/20	0 AM 024 8:32:1	5 AM
Dilution:			Sample Prep Vol:				

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Wash Time:

Analyte All	s: LCS 24-512 BH Back Pressure 343 O kPa	Flow	in				
1111	545.0 XIa	0.00 11/10					
Replicate Data: LCS	24-512 ВН						
Repl# Analvte	Net Intensity	Corrected Intensity	Conc	Calib. Units	Con	Sample Units	Analysis Time
1 Be 313.107	4649256.8	4648090.2	0.987	mg/L	987	.1 ug/L	7:17:50 AI
2 Be 313.107	4555790.2	4554623.6	0.967	mg/L	967	.3 ug/L	7:18:05 AI
3 Be 313.107	4556255.2	4555088.6	0.967	mg/L	967	.4 ug/L	7:18:20 AI
Mean Data: LCS 24-5	 12 вн						
1	Mean Corrected	Calib.			Sample	9	
Analyte	Intensity	Conc. Units	Std.De	v.	Conc. Units	Std.D	ev. RSD
Be 313.107	4585934.1	0.974 mg/L	0.011	4	973.9 ug/L	11.	43 1.17%
Sequence No.: 9 Sample ID: LCS DUP 2 Analyst: SG Logged In Analyst (6	24-512 BH Driginal) : Admini	strator	Autosample Date Colle Data Type:	r Locat cted: 9 Reproc	ion: 17 /5/2024 7:21 essed on 9/5	:10 AM /2024 8:32:	======= 15 AM
Initial Sample Wt: Dilution: Wash Time:			Initial Sau Sample Pre	mple Vo p Vol:	1:		
Nebulizer Parameter:	s: LCS DUP 24-512	 BH					
Analyte	Back Pressure	Flow					
All	343.0 kPa	0.65 L/m	in				
Replicate Data: LCS	DUP 24-512 BH	Corrected		Calib		Samplo	Analyzia
Repl# Analyte	Intensity	Intensity	Conc.	Units	Cond	c. Units	Time
	1601161 5	4600294.8	0.977	mg/L	977	.0 ua/L	7:22:00 AN
1 Be 313.107	4001401.0	100025110	0.511			· · · · · · · · · · · · · · · · · · ·	
1 Be 313.107 2 Be 313.107	4541972.3	4540805.7	0.964	mg/L	964	.4 ug/L	7:22:15 AN
1 Be 313.107 2 Be 313.107 3 Be 313.107	4541972.3 4582963.0	4540805.7 4581796.4	0.964 0.973	mg/L mg/L	964 973	.4 ug/L .1 ug/L	7:22:15 AN 7:22:30 AN
1 Be 313.107 2 Be 313.107 3 Be 313.107 	4541972.3 4582963.0 24-512 BH	4540805.7 4581796.4	0.964 0.973	mg/L mg/L 	964 973	.4 ug/L .1 ug/L	7:22:15 AN 7:22:30 AN
1 Be 313.107 2 Be 313.107 3 Be 313.107 Mean Data: LCS DUP 2	4541972.3 4582963.0 24-512 BH Mean Corrected	4540805.7 4581796.4 	0.964 0.973	mg/L mg/L	964 973 Sample	4 ug/L .1 ug/L	7:22:15 AN 7:22:30 AN
1 Be 313.107 2 Be 313.107 3 Be 313.107 Mean Data: LCS DUP 2 Analyte Be 313.107	4541972.3 4582963.0 24-512 BH Mean Corrected Intensity 4574299 0	4540805.7 4581796.4 Calib. Conc. Units	0.964 0.973	mg/L mg/L 	964 973 Sample Conc. Units	4 ug/L .1 ug/L ••••••••••••••••••••••••••••••••••••	7:22:15 AN 7:22:30 AN
1 Be 313.107 2 Be 313.107 3 Be 313.107 Mean Data: LCS DUP 2 Analyte Be 313.107	4541972.3 4582963.0 24-512 BH Mean Corrected Intensity 4574299.0	4540805.7 4581796.4 Calib. Conc. Units 0.971 mg/L	0.964 0.973 Std.Dev 0.006	mg/L mg/L v . 5	964 973 Sample Conc. Units 971.5 ug/L	4 ug/L .1 ug/L Std.De 6.4	7:22:15 AN 7:22:30 AN ev. RSD 47 0.67%
1 Be 313.107 2 Be 313.107 3 Be 313.107 Mean Data: LCS DUP 2 Analyte Be 313.107 Sequence No.: 10 Sample ID: 24-S2463 Analyst: SG	4541972.3 4582963.0 24-512 BH Mean Corrected Intensity 4574299.0	4540805.7 4581796.4 Calib. Conc. Units 0.971 mg/L	0.964 0.973 Std.Der 0.0063 Autosample: Date Colled Data Type:	mg/L mg/L v. 5 r Locat cted: 9 Reproc	964 973 Sample Conc. Units 971.5 ug/L ion: 18 /5/2024 7:25 essed on 9/5,	.4 ug/L .1 ug/L .1 ug/L 	7:22:15 AN 7:22:30 AN
<pre>1 Be 313.107 2 Be 313.107 3 Be 313.107 3 Be 313.107 Mean Data: LCS DUP 2 Analyte Be 313.107 Sequence No.: 10 Sample ID: 24-S2463 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time:</pre>	4541972.3 4582963.0 24-512 BH Mean Corrected Intensity 4574299.0	4540805.7 4581796.4 Calib. Conc. Units 0.971 mg/L 	0.964 0.973 Std.Der 0.0063 Autosample: Date Colled Data Type: Initial Sar Sample Prep	mg/L mg/L v. 5 r Locat cted: 9 Reproc mple Vo o Vol:	964 973 Sample Conc. Units 971.5 ug/L ion: 18 /5/2024 7:25 essed on 9/5, 1:	.4 ug/L .1 ug/L .1 ug/L 	7:22:15 AN 7:22:30 AN ev. RSD 47 0.67%
<pre>1 Be 313.107 2 Be 313.107 3 Be 313.107 3 Be 313.107 Mean Data: LCS DUP 2 Analyte Be 313.107 Sequence No.: 10 Sample ID: 24-S2463 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: </pre>	4541972.3 4582963.0 24-512 BH Mean Corrected Intensity 4574299.0 	4540805.7 4581796.4 	0.964 0.973 Std.Dev 0.0063 Autosample: Date Colled Data Type: Initial Sar Sample Prep	mg/L mg/L v. 5 r Locat cted: 9 Reproc nple Vo o Vol:	964 973 Sample Conc. Units 971.5 ug/L ion: 18 /5/2024 7:25 essed on 9/5, 1:	.4 ug/L .1 ug/L .1 ug/L 	7:22:15 AN 7:22:30 AN •••• RSD 47 0.67% •••••
<pre>1 Be 313.107 2 Be 313.107 3 Be 313.107 3 Be 313.107 Mean Data: LCS DUP 2 Analyte Be 313.107 Sequence No.: 10 Sample ID: 24-S2463 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: Nebulizer Parameters Analyte All</pre>	4541972.3 4582963.0 24-512 BH Mean Corrected Intensity 4574299.0 Driginal) : Admini 3: 24-S2463 Back Pressure 344.0 kPa	4540805.7 4581796.4 Calib. Conc. Units 0.971 mg/L 	0.964 0.973 Std.Dev 0.006 Autosample: Date Collec Data Type: Initial Sar Sample Prep	mg/L mg/L 5 r Locat cted: 9 Reproc nple Vo. o Vol:	964 973 Sample Conc. Units 971.5 ug/L ion: 18 /5/2024 7:25 essed on 9/5, 1:	.4 ug/L .1 ug/L .1 ug/L 	7:22:15 AN 7:22:30 AN ev. RSD 47 0.67%
<pre>1 Be 313.107 2 Be 313.107 3 Be 313.107 3 Be 313.107 Mean Data: LCS DUP 2 Analyte Be 313.107 Sequence No.: 10 Sample ID: 24-S2463 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: Nebulizer Parameters Analyte Analyte All Replicate Data: 24-S</pre>	4541972.3 4582963.0 24-512 BH Mean Corrected Intensity 4574299.0 Driginal) : Admini s: 24-S2463 Back Pressure 344.0 kPa	4540805.7 4581796.4 	0.964 0.973 Std.Der 0.0063 Autosample: Date Colled Data Type: Initial Sample Prep in	mg/L mg/L v. 5 r Locat cted: 9 Reproc p Vol:	964 973 Sample Conc. Units 971.5 ug/L ion: 18 /5/2024 7:25 essed on 9/5, 1:	.4 ug/L .1 ug/L .1 ug/L 	7:22:15 AN 7:22:30 AN ev. RSD 47 0.67% ====================================
<pre>1 Be 313.107 2 Be 313.107 3 Be 313.107 3 Be 313.107 Mean Data: LCS DUP 2 Analyte Be 313.107 ====================================</pre>	4541972.3 4582963.0 24-512 BH Mean Corrected Intensity 4574299.0 Driginal) : Admini s: 24-52463 Back Pressure 344.0 kPa 32463 Net Intensity	4540805.7 4581796.4 	0.964 0.973 Std.Der 0.006 Autosample: Date Collec Data Type: Initial Sar Sample Prep	mg/L mg/L v. 5 r Locat cted: 9 Reproc p Vol: o Vol: Calib.	964 973 Sample Conc. Units 971.5 ug/L ion: 18 /5/2024 7:25 essed on 9/5, 1:	4 ug/L 4 ug/L 5 Std.De 6.4 20 AM 2024 8:32:1 Sample	7:22:15 AN 7:22:30 AN ••••• RSD 47 0.67% ••••••••••••••••••••••••••••••••••••
<pre>1 Be 313.107 2 Be 313.107 3 Be 313.107 3 Be 313.107 Mean Data: LCS DUP 2 Maalyte Be 313.107 ====================================</pre>	4541972.3 4582963.0 24-512 BH Mean Corrected Intensity 4574299.0 Driginal) : Admini s: 24-52463 Back Pressure 344.0 kPa 344.0 kPa 344.0 kPa	4540805.7 4581796.4 Calib. Conc. Units 0.971 mg/L 	0.964 0.973 Std.Der 0.006 Autosample: Date Collec Data Type: Initial Sar Sample Prep in Conc. -0.000	mg/L mg/L v. 5 r Locat cted: 9 Reproc po Vol: o Vol: Calib. Units mg/L	964 973 Sample Conc. Units 971.5 ug/L ion: 18 /5/2024 7:25 essed on 9/5, 1: Conc	.4 ug/L .1 ug/L .1 ug/L .1 ug/L 	7:22:15 AN 7:22:30 AN 47 0.67% 15 AM Analysis Time 7:26:14 AM
<pre>1 Be 313.107 2 Be 313.107 3 Be 313.107 3 Be 313.107 Mean Data: LCS DUP 2 Analyte Be 313.107 ====================================</pre>	4541972.3 4582963.0 24-512 BH Mean Corrected Intensity 4574299.0 	4540805.7 4581796.4 Calib. Conc. Units 0.971 mg/L 	o.964 0.973 Std.Dev 0.0063 Autosample: Date Colled Data Type: Initial Sar Sample Prep in Conc. -0.000 -0.000	mg/L mg/L v. 5 r Locat cted: 9 Reproc po Vol: o Vol: Calib. Units mg/L mg/L	964 973 Sample Conc. Units 971.5 ug/L ion: 18 /5/2024 7:25 essed on 9/5, 1: Conc -0.01 -0.04	4 ug/L 4 ug/L 1 ug/L 5 Std.De 6.4 20 AM 2024 8:32:1 Sample 5 Units 5 ug/L 10 ug/L	7:22:15 AN 7:22:30 AN 47 0.67% ====================================

Mean Data: 24-S2463 Analyte	loop Corrected							
Mean Data: 24-S2463 Nalyte	loon Corrected							
Analyte	ACON CONTORTOR	a 1 .						
Analyte		Cali	b.	a	-	Sample		
	Intensity	Conc. Unit	S	Std.Dev.	Conc.	Units	Std.De	\mathbf{v} . RSD
De 515.107	-100.4	-0,000 mg/1	1	0.0000	-0.029	ug/ь	0.012	/ 44.126
Seguence No.: 11			====== A11t	osampler Loca	tion 1	 9		
Sample ID: 24-S2463	REP		Dat	e Collected:	9/5/202	4 7:29:3	6 AM	
Analvst: SG			Dat	a Type: Repro	cessed	on $9/5/2$	024 8:32:1	5 AM
Logged In Analyst (Original) : Admir	nistrator				, -, -, -		• • • • • • • • • • • • • • • • • • • •
Initial Sample Wt:	5 ,		Ini	tial Sample V	ol:			
Dilution:			Sam	ple Prep Vol:				
Wash Time:								
Nebulizer Parameters	s: 24-S2463 REP	-1						
Analyte	Back Pressur	C FLOW	/ <u></u>					
ATT	344.0 KPa	0.65 1	/min					
Replicate Data: 24-8	 52463 REP							
	Net	Correcte	d	Calib).		Sample	Analysis
Repl# Analyte	Intensity	Intensit	y	Conc. Units	:	Conc.	Units	Time
1 Be 313.107	930.8	-235.	8	-0.000 mg/L		-0.050	ug/L	7:30:30 AM
2 Be 313.107	985.2	-181.	5	-0.000 mg/L		-0.039	ug/L	7:30:47 AM
3 Be 313.107	1086.3	-80.	4	-0.000 mg/L		-0.017	ug/L	7:31:03 AM
							<u>.</u>	
Mean Data: 24-S2463	REP							
1	Mean Corrected	Cali	b.			Sample		
Analyte	Intensity	Conc. Unit	S	Std.Dev.	Conc.	Units	Std.De	v. RSD
Do 212 107	-165.9	-0.000 mg/I		0.0000	-0.035	ug/L	0.016	8 47.55%
Sequence No.: 12			===== Aut	osampler Loca	======================================	 0		
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time:	Driginal) : Admir	istrator	Aut Dat Dat Ini Sam	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol:	tion: 2 9/5/202 cessed o	0 4 7:33:5 on 9/5/2	====== 1 AM 024 8:32:1	5 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admin s: 24-S2465	istrator	Aut Dat Dat Ini Sam	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol:	tion: 2 9/5/202 cessed o fol:	0 4 7:33:5 on 9/5/2	======= 1 AM 024 8:32:1	5 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admin s: 24-S2465 Back Pressur	istrator 	Aut Dat Dat Ini Sam	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol:	tion: 2 9/5/202 cessed o fol:	0 4 7:33:5 on 9/5/2	======= 1 AM 024 8:32:1	5 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa	nistrator re Flow 0.65 I	Aut Dat Ini Sam	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol:	tion: 2 9/5/202 cessed Tol:			5 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa	nistrator Te Flow 0.65 I	Aut Dat Ini Sam	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol:	tion: 2 9/5/202 cessed o Tol:	0 4 7:33:5 on 9/5/2	======= 1 AM 024 8:32:1	5 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa S2465 Net	re Flow 0.65 I	Aut Dat Dat Ini Sam /min 	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol: 	tion: 2 9/5/202 cessed o Tol:	0 4 7:33:5 on 9/5/2	======= 1 AM 024 8:32:1 Sample	5 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa s2465 Net Intensity	re Flow 0.65 I Correcte	Aut Dat Ini Sam /min d	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol: Calib Conc. Units	tion: 2 9/5/202 cessed Tol:	0 4 7:33:5 on 9/5/2	======= 1 AM 024 8:32:1 Sample Units	5 AM 5 AM Analysis Time
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa s2465 Net Intensity 991.4	re Flow 0.65 I Correcte Intensit -175.	Aut Dat Ini Sam /min d y 3	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol: 	tion: 2 9/5/202 cessed Tol:	0 4 7:33:5 on 9/5/2 Conc.	======= 1 AM 024 8:32:1 Sample Units ug/L	5 AM 5 AM Analysis Time 7:34:44 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (G Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa 52465 Net Intensity 991.4 888.7	Flow 0.65 I Correcte Intensit -175. -277.	Aut Dat Dat Ini Sam /min d Y 3 9	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol: 	tion: 2 9/5/202 cessed Tol:	Conc. -0.037 -0.059	<pre>====================================</pre>	5 AM 5 AM Analysis Time 7:34:44 AM 7:34:58 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa 32465 Net Intensity 991.4 888.7 908.2	re Flow 0.65 I Correcte Intensit -175. -277. -258.	Aut Dat Dat Ini Sam /min d y 3 9 4	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol: 	tion: 2 9/5/202 cessed of fol:	Conc. -0.037 -0.059 -0.055	1 AM 024 8:32:1 Sample Units ug/L ug/L ug/L	5 AM Analysis Time 7:34:44 AM 7:34:58 AM 7:35:13 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa S2465 Net Intensity 991.4 888.7 908.2	Flow 0.65 I Correcte Intensit -175. -277. -258.	Aut Dat Dat Ini Sam /min d y 3 9 4	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol: Calib Conc. Units -0.000 mg/L -0.000 mg/L	tion: 2 9/5/202 cessed of fol:	Conc. -0.037 -0.059 -0.055	1 AM 024 8:32:1 Sample Units ug/L ug/L ug/L	5 AM Analysis Time 7:34:44 AM 7:34:58 AM 7:35:13 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa 32465 Net Intensity 991.4 888.7 908.2	Flow 0.65 I Correcte Intensit -175. -277. -258. Cali	Aut Dat Dat Ini Sam /min d y 3 9 4 b.	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol: Calib Conc. Units -0.000 mg/L -0.000 mg/L	tion: 2 9/5/202 cessed of 701:	Conc. -0.037 -0.059 -0.055 Sample	1 AM 024 8:32:1 Sample Units ug/L ug/L ug/L	5 AM 5 AM Analysis Time 7:34:44 AM 7:35:13 AM 7:35:13 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa S2465 Net Intensity 991.4 888.7 908.2 Gean Corrected Intensity	re Flow 0.65 I Correcte Intensit -277. -258. Cali Conc. Unit	Aut Dat Dat Ini Sam /min d y 3 9 4 b. s	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol: 	tion: 2 9/5/202 cessed of fol:	Conc. -0.037 -0.059 -0.055 Sample Units	<pre>1 AM 024 8:32:1 </pre>	5 AM 5 AM Analysis Time 7:34:44 AM 7:34:58 AM 7:35:13 AM
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa 344.0 kPa 32465 Net Intensity 991.4 888.7 908.2 Mean Corrected Intensity -237.2	re Flow 0.65 I Correcte Intensit -175. -277. -258. Cali Conc. Unit -0.000 mg/L	Aut Dat Dat Ini Sam /min /min d y 3 9 4 b. s	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol: Calib Conc. Units -0.000 mg/L -0.000 mg/L -0.000 mg/L Std.Dev. 0.0000	Conc. -0.050	0 4 7:33:5 on 9/5/2 Conc. -0.037 -0.059 -0.055 Sample Units ug/L	<pre>1 AM 024 8:32:1 Sample Units ug/L ug/L ug/L ug/L</pre>	5 AM 5 AM Analysis Time 7:34:44 AM 7:34:58 AM 7:35:13 AM 7:35:13 AM 0.0000 0.000 0.000 0.000 0.000 0.000 0.
Sequence No.: 12 Sample ID: 24-S2465 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time: 	Driginal) : Admir s: 24-S2465 Back Pressur 344.0 kPa 32465 Net Intensity 991.4 888.7 908.2 Gean Corrected Intensity -237.2 POST SPK Driginal) : Admin	istrator Flow 0.65 I Correcte Intensit -175. -277. -258. Cali Conc. Unit -0.000 mg/L 	Aut Dat Ini Sam /min /min d Y 3 9 4 b. s Aut Dat	osampler Loca e Collected: a Type: Repro tial Sample V ple Prep Vol: Calib Conc. Units -0.000 mg/L -0.000 mg/L -0.000 mg/L Std.Dev. 0.0000 osampler Loca e Collected: a Type: Repro	Conc. -0.050 	Conc. -0.037 -0.059 -0.055 Sample Units ug/L 4 7:38:0: on 9/5/20	<pre>1 AM 024 8:32:1 Sample Units ug/L ug/L ug/L ug/L </pre>	5 AM 5 AM 5 AM 7:34:44 AM 7:34:58 AM 7:35:13 AM 6 22.98%

Method: 24-512 BH	- ICAP19	F	age 6	Date:	9/5/2024 8:32:16 AM
Analyte All	Back Pressure 344.0 kPa	e Flow 0.65 L/m	in		
Replicate Data: 24	4-S2465 POST SPK				
Popl# Appleto	Net	Corrected	Calib.		Sample Analysis
1 Be 313.107	4388487.5	4387320 8	0.932 mg/I	000. 931 8	Units Time
2 Be 313.107	4355923.2	4354756.6	0.925 mg/L	924.8	ug/L 7.30.33 /
3 Be 313.107	4400649.9	4399483.3	0.934 mg/L	934.3	ug/L 7:39:27
Mean Data: 24-524	 65 POST SPK				
_	Mean Corrected	Calib.		Sample	
Analyte Be 313.107	Intensity 4380520.2	Conc. Units 0.930 mg/L	Std.Dev. 0.0049	Conc. Units 930.3 ug/L	Std.Dev. RSD 4.91 0.53%
Sequence No.: 14 Sample ID: 24-S24 Analyst: SG	67		Autosampler Locat Date Collected: 9 Data Type: Reproc	cion: 22 9/5/2024 7:42:2 cessed on 9/5/2	 0 AM 024 8:32:16 AM
Logged In Analyst Initial Sample Wt Dilution: Wash Time:	(Original) : Admin: :	istrator	Initial Sample Vo Sample Prep Vol:	pl:	
Nebulizer Paramete Analyto	ers: 24-S2467				
All	345 0 kPa	e Filow 0.65 T./m	in		
	545.0 Ala	0.05 1/1			
Replicate Data: 24	 4-s2467				
Repl# Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Conc.	Sample Analysis Units Time
1 Be 313.107	1007.4	-159.3	-0.000 mg/L	-0.034	ug/L 7:43:13 /
2 Be 313.107	935.1	-231.6	-0.000 mg/L	-0.049	ug/L 7:43:27 A
3 Be 313.107	919.0	-247.7	-0.000 mg/L	-0.053	ug/L 7:43:41 A
Mean Data: 24-S246	 67				
No.l.to	Mean Corrected	Calib.		Sample	
Re 313,107	-212 8 -	-0 000 mg/L	Sta.Dev.	Conc. Units	Std.Dev. RSD
			0.0000	-0.045 ug/L	0.0100 22.128
Sequence No.: 15 Sample ID: CCV Analyst: SG Logged In Analyst	(Original) : Admini	istrator	Autosampler Locat Date Collected: 9 Data Type: Reproc	zion: 3 9/5/2024 7:46:2 sessed on 9/5/2	9 AM 024 8:32:16 AM
Initial Sample Wt: Dilution: Wash Time:			Initial Sample Vo Sample Prep Vol:	bl :	
Nebulizer Paramete Analyte All	ers: CCV Back Pressure 344.0 kPa	€ Flow 0.65 L/m			
Replicate Data: CC					
Repl# Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Conc.	Sample Analysis Units Time
⊥ Be 313.107	11758567.2	11757400.6	2.497 mg/L	2497	ug/L 7:47:22 P
2 ве 313.107 3 Ве 313.107	11478341.2	11477174.5	2.494 mg/L 2.437 mg/L	2494 2437	ug/L 7:47:39 A ug/L 7:47:55 A
fean Data: CCV					
	Mean Corrected	Calib.		Sample	
Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev. RSD
3e 313.107	11659148.4	2.476 mg/L	0.0335	2476 ug/L	33.50 1.35%

Method: 24-512 BH- 1	CAP19	P	age 7		Date:	9/5/2024	8:32:16 AM
QC value within 1 All analyte(s) passe	imits for Be 313. ed QC.	107 Recover	ry = 99.04%				
Sequence No.: 16 Sample ID: CCB Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time:	Driginal) : Admini	strator	Autosample: Date Colled Data Type: Initial San Sample Prej	r Location: sted: 9/5/20 Reprocessed mple Vol: o Vol:	4 024 7:50:4 d on 9/5/2	======= 6 АМ 024 8:32:	======= 16 AM
Nebulizer Parameters Analyte All	s: CCB Back Pressure 345.0 kPa	e Flow 0.65 L/m					
Replicate Data: CCB							
Repl# Analyte 1 Be 313.107 2 Be 313.107 3 Be 313.107	Net Intensity 1492.9 1354.2 1288.9	Corrected Intensity 326.2 187.5 122.2	Conc. 0.000 0.000 0.000	Calib. Units mg/L mg/L mg/L	Conc . 0.069 0.040 0.026	Sample Units ug/L ug/L ug/L	Analysis Time 7:51:36 AN 7:51:49 AN 7:52:01 AN
Mean Data: CCB Manalyte Be 313.107 QC value within 1	fean Corrected Intensity 212.0 imits for Be 313.	Calib. Conc. Units 0.000 mg/L 107 Recover	Std.De 0.0000 Ty = Not calo	v. Cond 0 0.04 culated	Sample c. Units 45 ug/L	Std.D 0.02	ev. RSD 21 49.14%
Sample ID: 24-S2470 Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time:	Driginal) : Admini	strator	Date Colled Data Type: Initial Sar Sample Prep	cted: 9/5/20 Reprocessed mple Vol: p Vol:	024 7:54:5 d on 9/5/2	0 AM 024 8:32:	16 AM
Nebulizer Parameters Analyte All	: 24-S2470 Back Pressure 345.0 kPa	Flow 0.65 L/m	uin				
Replicate Data: 24-S	2470						
Repl# Analyte 1 Be 313.107 2 Be 313.107 3 Be 313.107	Net Intensity 1202.0 1187.6 1259.9	Corrected Intensity 35.3 21.0 93.3	Conc. 0.000 0.000 0.000	Calib. Units mg/L mg/L mg/L	Conc . 0.008 0.004 0.020	Sample Units ug/L ug/L ug/L	Analysis Time 7:55:41 AN 7:55:53 AN 7:56:05 AN
Mean Data: 24-S2470							
Analyte Be 313.107	lean Corrected Intensity 49.9	Calib. Conc. Units 0.000 mg/L	Std.Dev 0.0000	7. Cond	Sample c. Units ll ug/L	Std.D 0.00	ev. RSD 81 76.80%
Sequence No.: 18 Sample ID: CCV Analyst: SG Logged In Analyst (C Initial Sample Wt: Dilution: Wash Time:	priginal) : Admini	strator	Autosampler Date Collec Data Type: Initial San Sample Prep	r Location: sted: 9/5/20 Reprocessed mple Vol: o Vol:	3)24 7:58:5 i on 9/5/2	4 AM 024 8:32:1	 16 ам
Nebulizer Parameters	: CCV						
Method: 24-512 BH- ICAP19			Page 8		Date: 9/5/2024 8:32:16 AM		
---	--	---	--	---	-------------------------------------	---	--
Analy All	rte	Back Pressure 345.0 kPa	Flow 0.65 L/m	in			
Repli	.cate Data: CO	 CV					
Repl# 1 2 3	Analyte Be 313.107 Be 313.107 Be 313.107	Net Intensity 11734682.6 11793228.8 11644707.9	Corrected Intensity 11733515.9 11792062.1	Calib. Conc. Units 2.492 mg/L 2.504 mg/L 2.472 mg/L	Conc 249 250	Sample . Units 2 ug/L 4 ug/L	Analysis Time 7:59:46 AM 8:00:03 AM
	De 515.107	11044707.9	11043541.2	2.4/3 mg/L	24/	3 ug/L	8:00:19 AM
Mean Analy Be 31 QC All a	Data: CCV 7te 3.107 2 value withir nalyte(s) pas	Mean Corrected Intensity 11723039.8 h limits for Be 313. ssed QC.	Calib. Conc. Units 2.490 mg/L 107 Recover	Std.Dev. 0.0159 y = 99.59%	Sample Conc. Units 2490 ug/L	Std . 15	Dev. RSD .89 0.64%
Sampl Analy Logge Initi Dilut Wash	e ID: CCB sst: SG d In Analyst al Sample Wt: ion: Time:	(Original) : Admini	strator	Date Collected: 9 Data Type: Reproc Initial Sample Vo Sample Prep Vol:	/5/2024 8:03: essed on 9/5/	10 AM 2024 8:32	:16 AM
Nebul Analy All	izer Paramete te	ers: CCB Back Pressure 345.0 kPa	Flow 0.65 L/m:				
 Repli	cate Data: CC						
Repl# 1 2 3	Analyte Be 313.107 Be 313.107 Be 313.107	Net Intensity 1266.5 1341.3 1390.1	Corrected Intensity 99.9 174.7 223.5	Calib. Conc. Units 0.000 mg/L 0.000 mg/L 0.000 mg/L	Conc 0.02 0.03 0.04	Sample . Units 1 ug/L 7 ug/L 7 ug/L	Analysis Time 8:04:01 AM 8:04:13 AM 8:04:25 AM
Mean Manaly Be 31	Data: CCB te 3.107	Mean Corrected Intensity 166.0	Calib. Conc. Units 0.000 mg/L	Std.Dev. 0.0000	Sample Conc. Units 0.035 ug/L		Dev. RSD

All analyte(s) passed QC.