

REVISED TEST REPORT FOR 2023 STATIONARY COMBUSTION TURBINES EMISSIONS INFORMATION COLLECTION REPORT ON CT-4 AND CT-5 AT SUNSHINE GAS PRODUCERS, LLC

Prepared For:

Sunshine Gas Producers, LLC

14747 San Fernando Road
Sylmar, California 91342

For Submittal To:

U.S Environmental Protection Agency

Office of Air Quality Planning and Standards
Melanie King
(919) 541-2469
King.Melaine@epa.gov

Prepared By:

Montrose Air Quality Services, LLC

1631 E. St. Andrew Pl.
Santa Ana, California 92705
(714) 279-6777

Pete San Juan

Test Dates: **February 7 – 17, 2023**
Production Date: **April 23, 2024**
Report Number: **W002AS-023392-RT-4542-R1**



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REVIEW AND CERTIFICATION

I certify that, to the best of my knowledge, the information contained in this document is complete and accurate and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: 4/23/2024

Name: Pete San Juan Title: Field Project Manager

I have reviewed, technically and editorially, details and other appropriate written materials contained herein. I hereby certify that to the best of my knowledge the presented material is authentic and accurate and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: 4/23/2024

Name: Michael Chowsanitphon Title: Reporting Hub Manager

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1.0 INTRODUCTION AND SUMMARY

Montrose Air Quality Services, LLC (MAQS) has been contracted by Sunshine Gas Producers, LLC (Sunshine) to conduct source testing at their facility in Sylmar, California. Testing was conducted according to the document submitted to Sunshine by the Environmental Protection Agency (EPA), titled "Stationary Combustion Turbines Emissions Information Collection." The testing was conducted from February 7 through February 17, 2023 at the exhaust stacks of Landfill gas -fired Stationary Combustion Turbine 4 (CT-4) and Combustion Turbine 5 (CT-5) to meet the following objectives:

- Provide emissions test data to the EPA under Clean Air Act Section 114 Information Collection Request (ICR) for Stationary Combustion Turbines. The following tests listed below were conducted during this test program:

Emissions Tests: Seven test runs were performed on each CT to measure the following emissions parameters:

- Carbon Monoxide (CO): ppmvd, ppmvd @ 15% O₂, and lb/hr
- Particulate: gr/dscf, gr/dscf @ 15% O₂, and lb/hr
- Acid Gases and Formaldehyde: ppmvd, ppmvd @ 15% O₂, and lb/hr
- Multiple Metals (listed below): mg/dscm, mg/dscm @ 15% O₂, and lb/hr

Additional compounds that were determined during this test program are:

- metals from the multi-metals train: antimony (Sb), arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr), cobalt (Co), lead (Pb), manganese (Mn), mercury (Hg), nickel (Ni), selenium (Se);

Exhaust gas flow rate, moisture content, O₂ and CO₂ were determined in conjunction with the isokinetic tests. Sampling was coordinated with plant personnel throughout the program. The testing was performed by Pete San Juan, Dominic Heredero, James Navarrete, and Allen Dusky of MAQS. James Navarrete was the on-site Qualified Individual for MAQS. Nick Diedrich of Sunshine Gas Producers, LLC coordinated testing.

This test report contains unit description, operating conditions, and sample locations in Section 2. Section 3 contains a test program overview including the test procedures and the test schedule. The Appendices contain additional information including original data, calculations, and quality assurance information.

1.1 RESULTS SUMMARY

Tables 1-1 through 1-6 summarize the results of the tests.

**TABLE 1-1
CO EMISSIONS RESULTS SUMMARY
SUNHINE GAS PRODUCERS
COMBUSTION TURBINES 4 & 5**

Parameter/Units	CT-4 Averages	CT-5 Averages
Diluent Emissions and Stack Flow Rate		
O ₂ , % Volume Dry	16.03	16.15
CO ₂ , % Volume Dry	4.44	4.22
Stack Flow Rate, dscfm	34,630	33,960
Pollutant Emissions		
Carbon Monoxide (CO)		
ppm Volume Dry	0.82	0.18
ppmc Volume Dry @ 15% O ₂	1.00	0.22
lb/hr	0.12	0.03

**TABLE 1-2
PARTICULATE MATTER RESULTS SUMMARY
SUNHINE GAS PRODUCERS
COMBUSTION TURBINES 4 & 5**

Parameter/Units	CT-4 Averages	CT-5 Averages
Diluent Emissions and Stack Flow Rate		
Moisture Fraction, %	5.1	5.3
O ₂ , % Volume Dry	16.03	16.15
CO ₂ , % Volume Dry	4.44	4.22
Stack Flow Rate, wacfm	85,252	84,194
Stack Flow Rate, dscfm	34,630	33,960
Total Particulate Matter (PM)		
Grain Loading, gr/dscf	0.00009	0.00007
Grain Loading @ 15% O ₂	0.00011	0.00009
lb/hr	0.026	0.020

Note: Results of individual test runs are presented in the tables in Section 4.0.

**TABLE 1-3
TOTAL METALS RESULTS SUMMARY
SUNSHINE GAS PRODUCERS
COMBUSTION TURBINES 4 & 5**

Parameter/Units	CT-4 Averages	CT-5 Averages
Diluent Emissions and Stack Flow Rate		
Flow Rate, dscfm	34,688	33,777
Sample Volume, dscf	177.29	175.38
O ₂ , % Volume Dry	16.03	16.15
CO ₂ , % Volume Dry	4.44	4.22
Moisture, % by Volume	5.03	4.90
Antimony		
mg/m ³	< 0.00007	ND< 0.00006
mg/m ³ @ 15% O ₂	< 0.00008	ND< 0.00008
lb/hr	< 8.49 x 10 ⁻⁶	ND< 7.73 x 10 ⁻⁶
Arsenic		
mg/m ³	< 0.00015	ND< 0.00015
mg/m ³ @ 15% O ₂	< 0.00018	ND< 0.00018
lb/hr	< 1.91 x 10 ⁻⁵	ND< 1.84 x 10 ⁻⁵
Beryllium		
mg/m ³	< 0.00002	< 0.00001
mg/m ³ @ 15% O ₂	< 0.00002	< 0.00002
lb/hr	< 2.54 x 10 ⁻⁶	< 1.85 x 10 ⁻⁶
Cadmium		
mg/m ³	< 0.00005	< 0.00002
mg/m ³ @ 15% O ₂	< 0.00006	< 0.00002
lb/hr	< 6.43 x 10 ⁻⁶	< 2.08 x 10 ⁻⁶
Chromium		
mg/m ³	0.00119	0.00105
mg/m ³ @ 15% O ₂	0.00144	0.00130
lb/hr	1.55 x 10 ⁻⁴	1.33 x 10 ⁻⁴
Cobalt		
mg/m ³	< 0.00006	< 0.00002
mg/m ³ @ 15% O ₂	< 0.00007	< 0.00002
lb/hr	< 7.54 x 10 ⁻⁶	< 1.93 x 10 ⁻⁶
Lead		
mg/m ³	0.00015	0.00008
mg/m ³ @ 15% O ₂	0.00018	0.00011
lb/hr	1.92 x 10 ⁻⁵	1.07 x 10 ⁻⁵
Manganese		
mg/m ³	0.00038	0.00087
mg/m ³ @ 15% O ₂	0.00047	0.00107
lb/hr	4.98 x 10 ⁻⁶	1.10 x 10 ⁻⁴
Mercury		
mg/m ³	< 0.00012	< 0.00009
mg/m ³ @ 15% O ₂	< 0.00014	< 0.00011
lb/hr	< 1.55 x 10 ⁻⁵	< 1.12 x 10 ⁻⁵
Nickel		
mg/m ³	0.00046	0.00040
mg/m ³ @ 15% O ₂	0.00056	0.00050
lb/hr	6.02 x 10 ⁻⁵	5.08 x 10 ⁻⁵
Selenium		
mg/m ³	< 0.00055	< 0.00101
mg/m ³ @ 15% O ₂	< 0.00066	< 0.00124
lb/hr	< 7.08 x 10 ⁻⁵	< 1.27 x 10 ⁻⁴

ND< - species not detected in sample. ND< = BDL

< - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL

Data reported without ND< or < = ADL

**TABLE 1-4
FRONT HALF METALS RESULTS SUMMARY
SUNHINE GAS PRODUCERS
COMBUSTION TURBINES 4 & 5**

Parameter/Units	CT-4 Averages		CT-5 Averages	
Diluent Emissions and Stack Flow Rate				
Flow Rate, dscfm		34,688		33,777
Sample Volume, dscf		177.29		175.38
O ₂ , % Volume Dry		16.03		16.15
CO ₂ , % Volume Dry		4.44		4.22
Moisture, % by Volume		5.03		4.90
Antimony F $\frac{1}{2}$				
mg/m ³	<	0.00005	ND<	0.00005
mg/m ³ @ 15% O ₂	<	0.00006	ND<	0.00006
lb/hr	<	6.81 x 10 ⁻⁶	ND<	6.36 x 10 ⁻⁶
Arsenic F $\frac{1}{2}$				
mg/m ³	ND<	0.00013	ND<	0.00014
mg/m ³ @ 15% O ₂	ND<	0.00016	ND<	0.00017
lb/hr	ND<	1.74 x 10 ⁻⁵	ND<	1.71 x 10 ⁻⁵
Beryllium F $\frac{1}{2}$				
mg/m ³	<	0.00002	<	0.00001
mg/m ³ @ 15% O ₂	<	0.00002	<	0.00001
lb/hr	<	2.01 x 10 ⁻⁶	<	1.41 x 10 ⁻⁶
Cadmium F $\frac{1}{2}$				
mg/m ³	<	0.00002	<	0.00001
mg/m ³ @ 15% O ₂	<	0.00002	<	0.00001
lb/hr	<	2.45 x 10 ⁻⁶	<	1.32 x 10 ⁻⁶
Chromium F $\frac{1}{2}$				
mg/m ³		0.00108		0.00093
mg/m ³ @ 15% O ₂		0.00131		0.00115
lb/hr		1.41 x 10 ⁻⁴		1.18 x 10 ⁻⁴
Cobalt F $\frac{1}{2}$				
mg/m ³	<	0.00005	ND<	0.00001
mg/m ³ @ 15% O ₂	<	0.00006	ND<	0.00001
lb/hr	<	6.34 x 10 ⁻⁶	ND<	1.43 x 10 ⁻⁶
Lead F $\frac{1}{2}$				
mg/m ³		0.00008		0.00006
mg/m ³ @ 15% O ₂		0.00010		0.00008
lb/hr		1.09 x 10 ⁻⁵		8.12 x 10 ⁻⁶
Manganese F $\frac{1}{2}$				
mg/m ³		0.00021		0.00026
mg/m ³ @ 15% O ₂		0.00025		0.00032
lb/hr		2.71 x 10 ⁻⁵		3.23 x 10 ⁻⁵
Mercury F $\frac{1}{2}$				
mg/m ³	ND<	0.000005	ND<	0.00001
mg/m ³ @ 15% O ₂	ND<	0.000006	ND<	0.00001
lb/hr	ND<	6.47 x 10 ⁻⁷	ND<	6.36 x 10 ⁻⁷
Nickel F $\frac{1}{2}$				
mg/m ³		0.00033		0.00030
mg/m ³ @ 15% O ₂		0.00040		0.00037
lb/hr		4.26 x 10 ⁻⁵		3.80 x 10 ⁻⁵
Selenium F $\frac{1}{2}$				
mg/m ³	ND<	0.00006	ND<	0.00006
mg/m ³ @ 15% O ₂	ND<	0.00007	ND<	0.00008
lb/hr	ND<	7.86 x 10 ⁻⁶	ND<	7.74 x 10 ⁻⁶

ND< - species not detected in sample. ND< = BDL

< - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL

Data reported without ND< or < = ADL

**TABLE 1-5
BACK HALF METALS RESULTS SUMMARY
SUNSHINE GAS PRODUCERS
COMBUSTION TURBINES 4 & 5**

Parameter/Units	CT-4 Averages	CT-5 Averages
Diluent Emissions and Stack Flow Rate		
Flow Rate, dscfm	34,688	33,777
Sample Volume, dscf	177.29	175.38
O ₂ , % Volume Dry	16.03	16.15
CO ₂ , % Volume Dry	4.44	4.22
Moisture, % by Volume	5.03	4.90
Antimony B_{1/2}		
mg/m ³	< 0.00001	ND< 0.00001
mg/m ³ @ 15% O ₂	< 0.00002	ND< 0.00001
lb/hr	< 1.68 x 10 ⁻⁶	ND< 1.36 x 10 ⁻⁶
Arsenic B_{1/2}		
mg/m ³	< 0.00001	ND< 0.00001
mg/m ³ @ 15% O ₂	< 0.00002	ND< 0.00001
lb/hr	< 1.71 x 10 ⁻⁶	ND< 1.36 x 10 ⁻⁶
Beryllium B_{1/2}		
mg/m ³	< 0.000004	ND< 0.000003
mg/m ³ @ 15% O ₂	< 0.000005	ND< 0.000004
lb/hr	< 5.29 x 10 ⁻⁷	ND< 4.41 x 10 ⁻⁷
Cadmium B_{1/2}		
mg/m ³	< 0.00003	< 0.00001
mg/m ³ @ 15% O ₂	< 0.00004	< 0.00001
lb/hr	< 3.98 x 10 ⁻⁶	< 7.60 x 10 ⁻⁷
Chromium B_{1/2}		
mg/m ³	0.00011	0.00012
mg/m ³ @ 15% O ₂	0.00013	0.00015
lb/hr	1.42 x 10 ⁻⁵	1.52 x 10 ⁻⁵
Cobalt B_{1/2}		
mg/m ³	0.00001	< 0.00000
mg/m ³ @ 15% O ₂	0.00001	< 0.00000
lb/hr	1.19 x 10 ⁻⁶	< 5.03 x 10 ⁻⁷
Lead B_{1/2}		
mg/m ³	0.00006	0.00002
mg/m ³ @ 15% O ₂	0.00008	0.00003
lb/hr	8.38 x 10 ⁻⁶	2.61 x 10 ⁻⁶
Manganese B_{1/2}		
mg/m ³	0.00018	0.00061
mg/m ³ @ 15% O ₂	0.00021	0.00075
lb/hr	2.27 x 10 ⁻⁵	7.75 x 10 ⁻⁵
Mercury B_{1/2}		
mg/m ³	< 0.00011	< 0.00008
mg/m ³ @ 15% O ₂	< 0.00014	< 0.00010
lb/hr	< 1.49 x 10 ⁻⁵	< 1.06 x 10 ⁻⁵
Nickel B_{1/2}		
mg/m ³	0.00014	0.00010
mg/m ³ @ 15% O ₂	0.00016	0.00013
lb/hr	1.77 x 10 ⁻⁵	1.29 x 10 ⁻⁵
Selenium B_{1/2}		
mg/m ³	0.00049	0.00094
mg/m ³ @ 15% O ₂	0.00059	0.00116
lb/hr	6.29 x 10 ⁻⁵	1.20 x 10 ⁻⁴

ND< - species not detected in sample. ND< = BDL

< - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL

Data reported without ND< or < = ADL

TABLE 1-6
EPA 320 EMISSIONS RESULTS SUMMARY
SUNHINE GAS PRODUCERS
COMBUSTION TURBINES 4 & 5

Parameter/Units	CT-4 Averages	CT-5 Averages
Diluent Emissions and Stack Flow Rate		
O ₂ , % Volume Dry	16.0	16.1
CO ₂ , % Volume Dry	4.5	4.3
Stack Flow Rate, dscfm	34,630	33,962
Pollutant Emissions		
Hydrochloric Acid (HCl)		
ppm Volume Dry	0.52	0.34
ppmc Volume Dry @ 15% O ₂	0.63	0.41
lb/hr	0.10	0.06
Hydrogen Fluoride (HF)		
ppm Volume Dry	1.79	1.40
ppmc Volume Dry @ 15% O ₂	2.16	1.72
lb/hr	0.19	0.15
Formaldehyde (CH₂O)⁽¹⁾		
ppm Volume Dry	0.027	0.070
ppmc Volume Dry @ 15% O ₂	0.033	0.086
lb/hr	0.004	0.011

(1) As measured values are reported from FTIR. These values are below the instrument detection limit (BDL).

1.2 PROGRAM CONTACTS

The following list contains information on personnel to be contacted regarding any aspect of the test program. Pete San Juan was the on-site Project Manager and James Navarrete was the on-site Qualified Individual for MAQS.

Nick Diedrich
Sunshine Gas Producers, LLC
14747 San Fernando Road
Sylmar, California 91342
Phone: (559) 665-0807 x107
Fax: (559) 665-0817

Pete San Juan
Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, California 92705
Phone: (714) 279-6777
Email: PSanjuan@montrose-env.com

2.0 UNIT DESCRIPTION

Sunshine Gas Producers owns and operates five (5) stationary combustion turbines located at 14747 San Fernando Rd, Sylmar, California facility. The five (5) turbines are identical Solar, Mercury 50, landfill gas fired, rated at 61 MMBtu/hr, driving a nominal 4.9 megawatt (MW) electrical generator. The units are equipped with flow rate recording devices and a continuous emission monitoring system (CEMS) for NO_x and O₂ concentrations.

2.2 OPERATION DURING TESTS

The turbines operated at the highest normal load conditions achievable during the source tests. The operating parameters for each turbine during the tests are shown below in Tables 2-1 and 2-2:

**TABLE 2-1
OPERATING PARAMETERS CT-4
SUNHINE GAS PRODUCERS**

Parameter/Units	2/7/2023	2/8/2023	2/9/2023	2/10/2023
Gas Flow , scfh	101929.4	101866.7	101031.4	100468.1
Heat Input , MMBtu/hr	46.99	46.94	46.80	46.93
Electrical Production , MW	4.2	4.1	4.1	4.1
Exhaust Temperature , °F	1200.0	1200.0	1200.0	1200.0

**TABLE 2-2
OPERATING PARAMETERS CT-5
SUNHINE GAS PRODUCERS**

Parameter/Units	2/14/2023	2/15/2023	2/16/2023	2/17/2023
Gas Flow , scfh	94486.8	98249.4	96888.0	96781.7
Heat Input , MMBtu/hr	44.15	44.90	45.15	45.25
Electrical Production , MW	3.7	3.8	3.8	3.8
Exhaust Temperature , °F	1200.0	1199.7	1200.0	1200.0

2.3 SAMPLE LOCATIONS

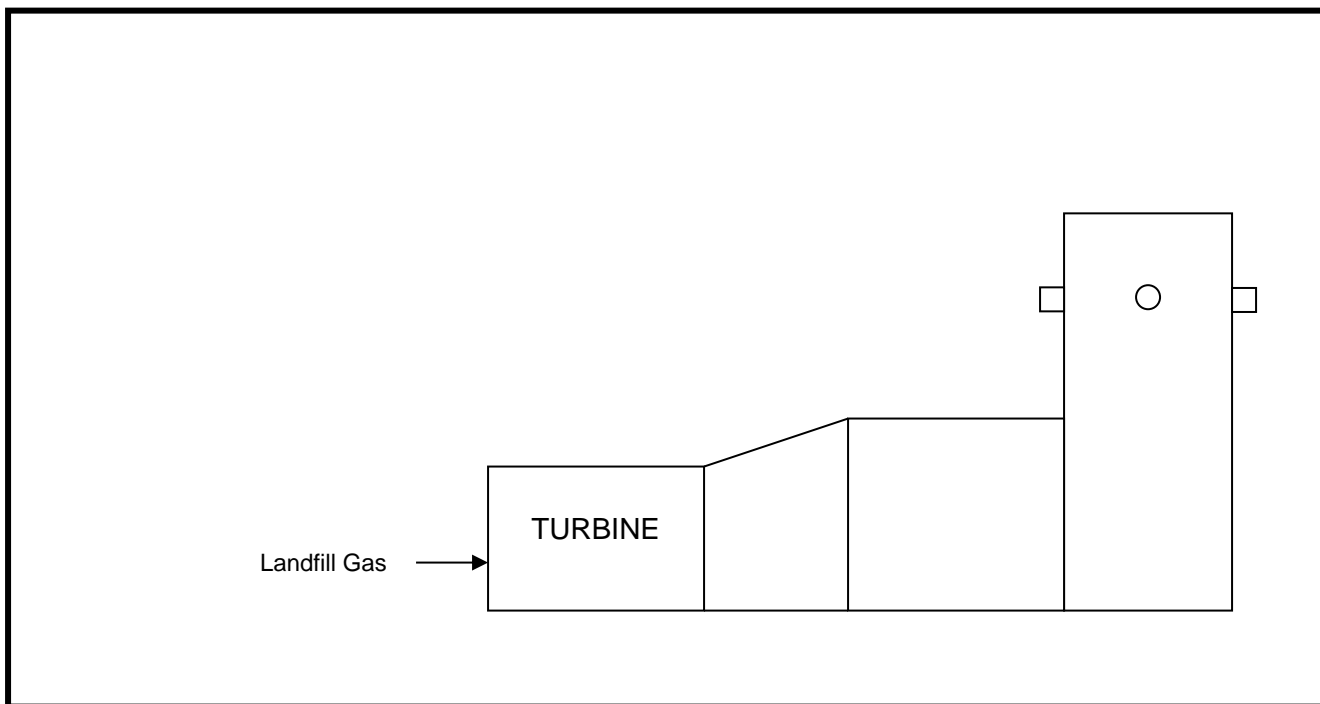
Reference method measurements were performed from sample ports located on the exhaust stacks. The sample locations meet the dimensional requirements of EPA Method 1. A diagram of the sample location is presented as Figure 2-1. Isokinetic testing was performed using a matrix of 24 points located according to EPA Method 1 procedures.

Table 2-3 presents stack measurements and traverse points for the sampling location listed.

**TABLE 2-3
 SAMPLING LOCATION
 SUNHINE GAS PRODUCERS
 COMBUSTION TURBINES 4 & 5**

Sampling Location	Duct Inside Diameter (in.)	Distance from Nearest Disturbance		Number of Traverse Points
		Downstream EPA "B" (ft./dia.)	Upstream EPA "A" (ft./dia.)	
CT-4	55	14.8/3.22	2.9/0.6	Isokinetic: 24 (2/port) Gaseous: 24 (2/port)
CT-5	55	14.8/3.22	2.9/0.6	Isokinetic: 24 (2/port) Gaseous: 24 (2/port)

**FIGURE 2-1
 SIMPLIFIED PROCESS BLOCK DIAGRAM
 SUNHINE GAS PRODUCERS
 COMBUSTION TURBINES 4 & 5**



3.0 TEST METHODOLOGY

Table 3-1 summarizes the test methods and techniques used for the tests. The following sections describe each method in further detail.

**TABLE 3-1
TEST SUMMARY**

Parameter	Measurement Principle	Reference Method	Replicates-Duration	Comments
Flue Gas Velocity, Stack Flow Rate	S-type Pitot traverse	EPA 1 and 2	--	With all tests
H ₂ O	Condensation Gravimetric	EPA 4	--	With all tests
O ₂	Continuous Analyzer (Electrochemical Cell)	EPA 3A	--	With all tests
CO ₂	Continuous Analyzer (Non-dispersive infrared)	EPA 3A	--	With all tests
CO	Continuous Analyzer (Non-dispersive infrared)	EPA 10	7 – 240 minutes	N/A
Trace Metals	ICP-MS/OES and CVAAS	EPA 29	7 – 240 minutes	N/A
Particulate Matter (PM)	Gravimetric	EPA 5	7 – 240 minutes	N/A
Formaldehyde (CH ₂ O)	FTIR	EPA 320	7 – 60 minutes	N/A
Hydrochloric Acid (HCl)	FTIR	EPA 320	7 – 60 minutes	N/A
Hydrogen Fluoride (HF)	FTIR	EPA 320	7 – 60 minutes	N/A

3.1 O₂, CO₂, and CO BY CONTINUOUS ANALYZERS

O₂, CO₂, and CO concentrations were measured using EPA Methods 3A and 10. These measurements were made on-site with MAQS' mobile emission measurement laboratory. The system used for this project consisted of a probe, heated Teflon line, moisture removal system, unheated Teflon line, sample pump, sample filter, and individual component analyzers.

O₂ was measured using an approved electro-chemical cell analyzer. The cell contains an electrolytic fluid that reacts with oxygen to generate an electrical signal proportional to the concentration. The analyzer was operated on a 0-20% range.

CO₂ was measured using an approved non-dispersive infrared analyzer. The analyzer was operated on a 0-10% range.

CO was measured using an approved non-dispersive infrared analyzer. The analyzer employs gas filter correlation to minimize or eliminate the interferences of other species such as H₂O or CO₂. The analyzer was operated on a 0-10 ppm range.

The analyzers and sampling system were subjected to calibration and quality assurance procedures including leak checks and calibration error determinations before sampling, and system bias and drift determinations as part of each test run as detailed below. Data were corrected for any observed bias or drift.

An Analyzer Calibration was performed as necessary by adjusting the zero and span settings of the analyzer. Calibration Error was then determined at three levels for each range of each analyzer. This check was performed at the beginning of each test day. The calibration error must not exceed $\pm 2\%$ of the calibration span of the analyzer as determined by the following equation:

$$\text{Calibration Error} = \frac{\text{Analyzer Response} - \text{Cal. Gas Value}}{\text{Calibration Span}} * 100\%$$

The Sample System Bias test was performed before and after each test run and must not exceed $\pm 5\%$ of the calibration span for both the zero and upscale span gas. The system bias is calculated using the following equation:

$$\text{Sample System Bias} = \frac{\text{Response to System Bias} - \text{Response to Analyzer Cal}}{\text{Calibration Span}} * 100\%$$

Where:

Response to Analyzer Cal = the analyzer response to the last time the same calibration gas was introduced directly to the analyzer (this may be the pre-test calibration error value or a more recent analyzer calibration adjustment)

Zero and Calibration Drift were calculated for each test run based on the analyzer response during the pre- and post-test sample system bias test. Zero and upscale drift must not exceed $\pm 3\%$ of the calibration span.

$$\text{Analyzer Drift} = \frac{\text{Post-Test System Bias Response} - \text{Pre-Test System Bias Response}}{\text{Calibration Span}} * 100\%$$

The pre- and post-test analyzer responses during the sample system bias test were used to correct the raw test average for any sample system bias and analyzer drift. The drift/bias corrected data are the actual reported concentrations and are used for subsequent calculations (mass emission rates, lb/MMBtu, corrections to 3% or 15% O₂, etc.). The drift/bias corrections are performed using the following equation:

$$C_c = \frac{\bar{C} - C_o}{C_m - C_o} * C_{ma}$$

Where:

C_c = Drift/bias corrected concentration

\bar{C} = Raw Test Average

C_m = Average of pre- and post-test response to sample system bias span

C_o = Average of pre- and post-test to sample system bias zero

C_{ma} = Span gas value

3.2 VELOCITY

The stack gas velocity was measured using EPA Method 2 which utilizes an S-type pitot tube and type-K thermocouple.

3.3 MOISTURE

Stack gas moisture content was measured in conjunction with all isokinetic tests.

3.4 PARTICULATE MATTER (FILTERABLE) BY EPA METHOD 5

Replicates of 7, 240-minute samples using EPA Method 5 were conducted to measure emissions of Particulate Matter (PM):

The sampling train included:

- Nozzle (part a);
- Heated glass-lined probe (part b);
- Filter heated to $248 \pm 25^\circ\text{F}$ (part c);
- Flexible Teflon connecting tube or “sample line” (part d);
- An impinger train consisting of 2 impingers containing 100ml of deionized water, an empty impinger, and an impinger containing silica gel (part e).

Sampling was conducted as described in EPA Method 5. After sampling, the apparatus was leak-checked as described in that Method, then the sampling train was disassembled for sample recovery.

Recovery and Analysis of “Front Half” or filterable PM: Sample was recovered from the nozzle, probe liner and filter holder as described in EPA Method 5 with acetone washes and brushing into an amber glass bottle. The filter was returned to its pre-numbered Petri dish. The filterable PM emissions was determined from gravimetric analysis of the samples as described in EPA Method 5.

3.5 TRACE METALS BY EPA METHOD 29 (MULTI-METALS)

Replicates of 7, 240-minute samples were collected for metals using the procedure in EPA Method 29. These samples were analyzed for antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium.

This procedure isokinetically withdraws flue gas through the sample train described below:

1. The probe and nozzle are glass to prevent metal contamination of the sample.
2. The filter is Quartz fiber to minimize interferences.
3. The first impinger is empty, the second and third impingers contain 5% nitric acid and 10% hydrogen peroxide to collect any volatile metals which pass through the filter.
4. The fourth impinger is empty to prevent carry over of the $\text{HNO}_3/\text{H}_2\text{O}_2$ solution into the permanganate solution.
5. The fifth and sixth impingers contain acidified potassium permanganate solution to collect any mercury that is not collected in the $\text{HNO}_3/\text{H}_2\text{O}_2$ impingers.
6. The last impinger contains silica gel.

Sampling reagents and media are all trace metals quality with lot analyses of specific heavy metals available. The sampling train is pre-cleaned with DI water and nitric acid before testing and sealed with parafilm.

A field blank and reagent blank was collected and analyzed for this sampling program.

Sample recovery consists of recovering the following sample fractions:

- Probe, nozzle and front filter holder rinse – 100 ml of 0.1N HNO_3 and brushing.
- Filter - returned to pre-numbered petri dish and sealed.
- First three impingers, back half of filter holder and sample line - 100 ml of 0.1N HNO_3 acid rinse.
- Empty impinger 100 ml of 0.1N HNO_3 rinse.
- Permanganate impingers - 4% KMnO_4 /10% H_2SO_4 rinse followed by DI water rinse.
- 8N hydrochloric acid rinse of permanganate impingers to remove residual manganese dioxide adhering to the impinger walls.

All sample fractions are stored in acid washed sample bottles.

Analysis for these metals except mercury was performed by ICP-MS and ICP-OES. Mercury was analyzed by cold vapor atomic absorption spectroscopy (CVAAS). Sample analyses were performed by Enthalpy Analytical, LLC in Durham, North Carolina. In the laboratory, decomposition of each sample fraction was performed per the method, and front half and back half fractions were analyzed and reported separately as requested by the EPA guidance document for this testing program. Five mercury analyses were performed per sample train: the combined filter/probe wash, nitric acid impinger catch, the empty impinger rinse, the potassium permanganate impinger catch, and the hydrochloric acid rinse of the permanganate impingers.

The reagent blank, the field blank and a laboratory preparation blank were analyzed for all trace metals. Spike recoveries and duplicate analyses are reported with the sample results in the laboratory report. No blank corrections were applied to the reported results since majority of the blank values were non-detect.

3.6 FORMALDEHYDE AND ACID GASES BY EPA METHOD 320

Replicates of 7 - 60 minute samples were collected for formaldehyde, hydrochloric acid (HCl), and hydrogen fluoride (HF) by EPA Method 320.

EPA Method 320 is an instrumental test method used to measure specific analyte concentrations for which EPA reference spectra have been developed or prepared. Extractive emission measurements are performed using FTIR spectroscopy. The FTIR analyzer is composed of a spectrometer and detector, a high optical throughput sampling cell, analysis software, and a quantitative spectral library. The analyzer collects high resolution spectra in the mid infrared spectral region (600 to 4,500 cm^{-1}), which are analyzed using the quantitative spectral library. This provides an accurate, highly sensitive measurement of gases and vapors.

Pertinent information regarding the performance of the method is presented below:

- Method Options:
 - The specific analyte concentrations include H_2O , formaldehyde, HCl and HF
 - Continuous static sampling is performed at a flow rate of approximately 10 liters per minute
 - A dynamic matrix spike is performed using formaldehyde, HCl and HF. Each spiking cylinder contained SF_6 as a tracer gas
- Method Exceptions:
 - The minimum detectable concentration values are determined using the MDC2 calculation specified in ASTM Method D6348-12
- Target and/or Minimum Required Sample Duration: 60 minutes

4.0 TEST RESULTS AND OVERVIEW

4.1 CT-4 TEST RESULTS

The results of the CT-4 tests are presented in Tables 4-1 through 4-6.

**TABLE 4-1
CO RESULTS CT-4
SUNHINE GAS PRODUCERS**

Parameter/Units	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6	Run 7	Average
Date	2/7/2023	2/8/2023	2/8/2023	2/9/2023	2/9/2023	2/10/2023	2/10/2023	--
Start Time	10:53	08:11	13:06	08:06	12:41	07:51	12:16	--
Stop Time	15:03	12:18	17:12	12:21	16:55	12:00	16:25	--
Pre-Test Information								
Reference Temperature, °F	68	68	68	68	68	68	68	--
Diluent Emissions and Stack Flow Rate								
O ₂ , % Volume Dry	16.02	16.01	16.07	16.04	15.98	16.01	16.05	16.03
CO ₂ , % Volume Dry	4.40	4.52	4.47	4.37	4.30	4.49	4.54	4.44
Stack Flow Rate, dscfm	34,673	34,670	34,381	34,767	34,864	34,564	34,491	34,630
Pollutant Emissions								
Carbon Monoxide (CO)								
ppm Volume Dry	1.22	1.27	0.96	0.63	1.04	0.43	0.22	0.82
ppmc Volume Dry @ 15% O ₂	1.48	1.53	1.18	0.77	1.25	0.52	0.26	1.00
lb/hr	0.18	0.19	0.14	0.10	0.16	0.06	0.03	0.12

**TABLE 4-2
PARTICULATE MATTER RESULTS CT-4
SUNHINE GAS PRODUCERS**

Parameter/Units	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6	Run 7	Average
Date	2/7/2023	2/8/2023	2/8/2023	2/9/2023	2/9/2023	2/10/2023	2/10/2023	--
Start Time	10:50	08:10	13:05	08:05	12:40	07:50	12:15	--
Stop Time	15:00	12:20	17:15	12:15	16:50	12:00	16:25	--
Test Information								
Reference Temperature, °F	68	68	68	68	68	68	68	--
Diluent Emissions and Stack Flow Rate								
Moisture Fraction, %	5.3	5.2	5.2	4.7	4.8	5.0	5.2	5.1
O ₂ , % Volume Dry	16.02	16.01	16.07	16.04	15.98	16.01	16.05	16.03
CO ₂ , % Volume Dry	4.40	4.52	4.47	4.37	4.30	4.49	4.54	4.44
Stack Flow Rate, wacfm	85,268	85,063	84,263	85,048	85,359	85,851	85,914	85,252
Stack Flow Rate, dscfm	34,673	34,670	34,381	34,767	34,864	34,564	34,491	34,630
Particulate Emissions								
Grain Loading, gr/dscf	0.00006	0.00013	0.00010	0.00006	0.00011	0.00004	0.00012	0.00009
Grain Loading @ 15% O ₂	0.00007	0.00015	0.00013	0.00007	0.00013	0.00005	0.00015	0.00011
lb/hr	0.018	0.037	0.031	0.017	0.033	0.013	0.036	0.026

Sunshine Gas Producers, LLC
Revised 2023 ICR on CT-4 and CT-5

TABLE 4-3
TOTAL TRACE METALS RESULTS SUMMARY CT-4
SUNHINE GAS PRODUCERS

Parameter/Units	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	Averages
Diluent Emissions and Stack Flow Rate								
Date	2/7/2023	2/8/2023	2/8/2023	2/9/2023	2/9/2023	2/10/2023	2/10/2023	--
Start Time	10:50	08:10	13:05	08:05	12:40	07:50	12:15	--
Stop Time	15:00	12:20	17:15	12:15	16:50	12:00	16:25	--
Flow Rate, dscfm	34,801	34,847	34,702	34,614	34,850	34,552	34,453	34,688
Sample Volume, dscf	178.48	179.87	178.95	181.31	177.55	173.28	171.62	177.29
O ₂ , % Volume Dry	16.02	16.01	16.07	16.04	15.98	16.01	16.05	16.03
CO ₂ , % Volume Dry	4.40	4.52	4.47	4.37	4.30	4.49	4.54	4.44
Moisture, % by Volume	5.03	5.07	5.13	5.04	4.90	4.94	5.09	5.03
Antimony								
mg/m ³	0.00009	0.00006	<	0.00006	ND<	0.00006	ND<	0.00007
mg/m ³ @ 15% O ₂	0.00011	0.00008	<	0.00008	ND<	0.00007	ND<	0.00008
lb/hr	1.14 x 10 ⁻⁵	8.22 x 10 ⁻⁶	<	8.14 x 10 ⁻⁶	ND<	7.86 x 10 ⁻⁶	ND<	8.49 x 10 ⁻⁶
Arsenic								
mg/m ³	<	0.00014	<	0.00015	ND<	0.00014	ND<	0.00015
mg/m ³ @ 15% O ₂	<	0.00017	<	0.00018	ND<	0.00017	ND<	0.00018
lb/hr	<	1.88 x 10 ⁻⁵	<	1.90 x 10 ⁻⁵	ND<	1.88 x 10 ⁻⁵	ND<	1.91 x 10 ⁻⁵
Beryllium								
mg/m ³	0.00003	0.00004	ND<	0.00001	ND<	0.00001	<	0.00002
mg/m ³ @ 15% O ₂	0.00004	0.00004	ND<	0.00002	ND<	0.00002	<	0.00002
lb/hr	3.81 x 10 ⁻⁶	4.72 x 10 ⁻⁶	ND<	1.80 x 10 ⁻⁶	ND<	1.83 x 10 ⁻⁶	<	2.54 x 10 ⁻⁶
Cadmium								
mg/m ³	0.00017	0.00006	<	0.00003	<	0.00002	ND<	0.00005
mg/m ³ @ 15% O ₂	0.00021	0.00008	<	0.00004	<	0.00002	ND<	0.00006
lb/hr	2.24 x 10 ⁻⁵	8.27 x 10 ⁻⁶	<	3.78 x 10 ⁻⁶	<	2.08 x 10 ⁻⁶	ND<	6.43 x 10 ⁻⁶
Chromium								
mg/m ³	0.00103	0.00136	0.00099	0.00130	0.00136	0.00097	0.00135	0.00119
mg/m ³ @ 15% O ₂	0.00124	0.00164	0.00121	0.00158	0.00163	0.00117	0.00164	0.00144
lb/hr	1.34 x 10 ⁻⁴	1.77 x 10 ⁻⁴	1.29 x 10 ⁻⁴	1.69 x 10 ⁻⁴	1.77 x 10 ⁻⁴	1.25 x 10 ⁻⁴	1.74 x 10 ⁻⁴	1.55 x 10 ⁻⁴
Cobalt								
mg/m ³	0.00004	0.00005	0.00023	0.00002	<	0.00002	<	0.00006
mg/m ³ @ 15% O ₂	0.00005	0.00006	0.00028	0.00003	<	0.00002	<	0.00007
lb/hr	5.82 x 10 ⁻⁶	7.01 x 10 ⁻⁶	2.98 x 10 ⁻⁵	3.06 x 10 ⁻⁶	<	2.42 x 10 ⁻⁶	<	7.54 x 10 ⁻⁶
Lead								
mg/m ³	0.00027	0.00020	0.00011	0.00014	0.00012	0.00010	0.00010	0.00015
mg/m ³ @ 15% O ₂	0.00033	0.00024	0.00013	0.00016	0.00015	0.00012	0.00012	0.00018
lb/hr	3.53 x 10 ⁻⁵	2.62 x 10 ⁻⁵	1.41 x 10 ⁻⁵	1.75 x 10 ⁻⁵	1.59 x 10 ⁻⁵	1.33 x 10 ⁻⁵	1.24 x 10 ⁻⁵	1.92 x 10 ⁻⁵
Manganese								
mg/m ³	0.00044	0.00036	0.00023	0.00026	0.00027	0.00050	0.00062	0.00038
mg/m ³ @ 15% O ₂	0.00054	0.00044	0.00028	0.00032	0.00033	0.00061	0.00075	0.00047
lb/hr	5.77 x 10 ⁻⁵	4.73 x 10 ⁻⁵	2.97 x 10 ⁻⁵	3.40 x 10 ⁻⁵	3.58 x 10 ⁻⁵	6.51 x 10 ⁻⁵	7.93 x 10 ⁻⁵	4.98 x 10 ⁻⁵
Mercury								
mg/m ³	<	0.00015	<	0.00020	<	0.00009	<	0.00012
mg/m ³ @ 15% O ₂	<	0.00018	<	0.00024	<	0.00010	<	0.00014
lb/hr	<	1.95 x 10 ⁻⁵	<	2.57 x 10 ⁻⁵	<	1.13 x 10 ⁻⁵	<	1.55 x 10 ⁻⁵
Nickel								
mg/m ³	0.00071	0.00048	0.00042	0.00053	0.00041	0.00033	0.00037	0.00046
mg/m ³ @ 15% O ₂	0.00086	0.00058	0.00052	0.00064	0.00049	0.00040	0.00045	0.00056
lb/hr	9.28 x 10 ⁻⁵	6.25 x 10 ⁻⁵	5.48 x 10 ⁻⁵	6.80 x 10 ⁻⁵	5.29 x 10 ⁻⁵	4.26 x 10 ⁻⁵	4.80 x 10 ⁻⁵	6.02 x 10 ⁻⁵
Selenium								
mg/m ³	<	0.00028	<	0.00029	<	0.00029	<	0.00055
mg/m ³ @ 15% O ₂	<	0.00034	<	0.00035	<	0.00035	<	0.00066
lb/hr	<	3.70 x 10 ⁻⁵	<	3.75 x 10 ⁻⁵	<	3.80 x 10 ⁻⁵	<	7.08 x 10 ⁻⁵

ND< - species not detected in sample. ND< = BDL
< - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL
Data reported without ND< or < = ADL

TABLE 4-4
FRONT HALF TRACE METALS RESULTS SUMMARY CT-4
SUNHINE GAS PRODUCERS

Parameter/Units	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	Averages
Diluent Emissions and Stack Flow Rate								
Date	2/7/2023	2/8/2023	2/8/2023	2/9/2023	2/9/2023	2/10/2023	2/10/2023	--
Start Time	10:50	08:10	13:05	08:05	12:40	07:50	12:15	--
Stop Time	15:00	12:20	17:15	12:15	16:50	12:00	16:25	--
Flow Rate, dscfm	34,801	34,847	34,702	34,614	34,850	34,552	34,453	34,688
Sample Volume, dscf	178.48	179.87	178.95	181.31	177.55	173.28	171.62	177.29
O ₂ , % Volume Dry	16.02	16.01	16.07	16.04	15.98	16.01	16.05	16.03
CO ₂ , % Volume Dry	4.40	4.52	4.47	4.37	4.30	4.49	4.54	4.44
Moisture, % by Volume	5.03	5.07	5.13	5.04	4.90	4.94	5.09	5.03
Antimony F_{1/2}								
mg/dscm	0.00007	0.00005	ND<	0.00005	ND<	0.00005	ND<	0.00005
mg/dscm @ 15% O ₂	0.00008	0.00006	ND<	0.00006	ND<	0.00006	ND<	0.00006
lb/hr	8.84 x 10 ⁻⁶	6.43 x 10 ⁻⁶	ND<	6.31 x 10 ⁻⁶	ND<	6.49 x 10 ⁻⁶	ND<	6.81 x 10 ⁻⁶
Arsenic F_{1/2}								
mg/dscm	ND<	0.00013	ND<	0.00013	ND<	0.00013	ND<	0.00013
mg/dscm @ 15% O ₂	ND<	0.00016	ND<	0.00016	ND<	0.00017	ND<	0.00016
lb/hr	ND<	1.73 x 10 ⁻⁵	ND<	1.72 x 10 ⁻⁵	ND<	1.74 x 10 ⁻⁵	ND<	1.74 x 10 ⁻⁵
Beryllium F_{1/2}								
mg/dscm	0.00002	0.00003	ND<	0.00001	ND<	0.00001	ND<	0.00002
mg/dscm @ 15% O ₂	0.00003	0.00004	ND<	0.00001	ND<	0.00001	ND<	0.00002
lb/hr	2.99 x 10 ⁻⁶	4.20 x 10 ⁻⁶	ND<	1.36 x 10 ⁻⁶	ND<	1.38 x 10 ⁻⁶	ND<	2.01 x 10 ⁻⁶
Cadmium F_{1/2}								
mg/dscm	0.00005	0.00003	ND<	0.00001	ND<	0.00001	0.00001	0.00002
mg/dscm @ 15% O ₂	0.00006	0.00004	ND<	0.00001	ND<	0.00001	0.00001	0.00002
lb/hr	5.98 x 10 ⁻⁶	4.43 x 10 ⁻⁶	ND<	1.33 x 10 ⁻⁶	ND<	1.35 x 10 ⁻⁶	1.37 x 10 ⁻⁶	2.45 x 10 ⁻⁶
Chromium F_{1/2}								
mg/dscm	0.00090	0.00124	0.00089	0.00119	0.00125	0.00087	0.00126	0.00108
mg/dscm @ 15% O ₂	0.00108	0.00149	0.00109	0.00144	0.00150	0.00105	0.00153	0.00131
lb/hr	1.17 x 10 ⁻⁴	1.61 x 10 ⁻⁴	1.16 x 10 ⁻⁴	1.54 x 10 ⁻⁴	1.63 x 10 ⁻⁴	1.12 x 10 ⁻⁴	1.62 x 10 ⁻⁴	1.41 x 10 ⁻⁴
Cobalt F_{1/2}								
mg/dscm	0.00003	0.00004	0.00022	0.00002	ND<	0.00001	ND<	0.00005
mg/dscm @ 15% O ₂	0.00003	0.00005	0.00027	0.00002	ND<	0.00001	ND<	0.00006
lb/hr	3.66 x 10 ⁻⁶	5.15 x 10 ⁻⁶	2.92 x 10 ⁻⁵	1.96 x 10 ⁻⁶	ND<	1.46 x 10 ⁻⁶	ND<	6.34 x 10 ⁻⁶
Lead F_{1/2}								
mg/dscm	0.00013	0.00011	0.00007	0.00007	0.00008	0.00006	0.00007	0.00008
mg/dscm @ 15% O ₂	0.00015	0.00013	0.00008	0.00008	0.00010	0.00008	0.00009	0.00010
lb/hr	1.63 x 10 ⁻⁵	1.40 x 10 ⁻⁵	8.84 x 10 ⁻⁶	8.98 x 10 ⁻⁶	1.05 x 10 ⁻⁵	8.20 x 10 ⁻⁵	9.13 x 10 ⁻⁶	1.09 x 10 ⁻⁵
Manganese F_{1/2}								
mg/dscm	0.00020	0.00019	0.00015	0.00015	0.00014	0.00030	0.00033	0.00021
mg/dscm @ 15% O ₂	0.00025	0.00023	0.00018	0.00018	0.00017	0.00036	0.00040	0.00025
lb/hr	2.65 x 10 ⁻⁵	2.49 x 10 ⁻⁵	1.90 x 10 ⁻⁵	1.95 x 10 ⁻⁵	1.88 x 10 ⁻⁵	3.82 x 10 ⁻⁵	4.27 x 10 ⁻⁵	2.71 x 10 ⁻⁵
Mercury F_{1/2}								
mg/dscm	ND<	0.00000	ND<	0.00000	ND<	0.00000	ND<	0.00000
mg/dscm @ 15% O ₂	ND<	0.00001	ND<	0.00001	ND<	0.00001	ND<	0.00001
lb/hr	ND<	6.44 x 10 ⁻⁷	ND<	6.31 x 10 ⁻⁷	ND<	6.49 x 10 ⁻⁷	ND<	6.47 x 10 ⁻⁷
Nickel F_{1/2}								
mg/dscm	0.00043	0.00036	0.00027	0.00038	0.00030	0.00025	0.00030	0.00033
mg/dscm @ 15% O ₂	0.00052	0.00044	0.00033	0.00046	0.00036	0.00031	0.00037	0.00040
lb/hr	5.57 x 10 ⁻⁵	4.74 x 10 ⁻⁵	3.51 x 10 ⁻⁵	4.92 x 10 ⁻⁵	3.87 x 10 ⁻⁵	3.29 x 10 ⁻⁵	3.90 x 10 ⁻⁵	4.26 x 10 ⁻⁵
Selenium F_{1/2}								
mg/dscm	ND<	0.00006	ND<	0.00006	ND<	0.00006	ND<	0.00006
mg/dscm @ 15% O ₂	ND<	0.00007	ND<	0.00007	ND<	0.00007	ND<	0.00007
lb/hr	ND<	7.83 x 10 ⁻⁶	ND<	7.79 x 10 ⁻⁶	ND<	7.89 x 10 ⁻⁶	ND<	7.86 x 10 ⁻⁶

ND< - species not detected in sample. ND< = BDL

< - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL

Data reported without ND< or < = ADL

**TABLE 4-5
BACK HALF TRACE METALS RESULTS SUMMARY CT-4
SUNHINE GAS PRODUCERS**

Parameter/Units	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	Averages						
Diluent Emissions and Stack Flow Rate														
Date	2/7/2023	2/8/2023	2/8/2023	2/9/2023	2/9/2023	2/10/2023	2/10/2023	--						
Start Time	10:50	08:10	13:05	08:05	12:40	07:50	12:15	--						
Stop Time	15:00	12:20	17:15	12:15	16:50	12:00	16:25	--						
Flow Rate, dscfm	34,801	34,847	34,702	34,614	34,850	34,552	34,453	34,688						
Sample Volume, dscf	178.48	179.87	178.95	181.31	177.55	173.28	171.62	177.29						
O ₂ , % Volume Dry	16.02	16.01	16.07	16.04	15.98	16.01	16.05	16.03						
CO ₂ , % Volume Dry	4.40	4.52	4.47	4.37	4.30	4.49	4.54	4.44						
Moisture, % by Volume	5.03	5.07	5.13	5.04	4.90	4.94	5.09	5.03						
Antimony B _{1/2}														
mg/dscm	0.00002	0.00001	0.00001	ND<	0.00001	ND<	0.00001	<	0.00001					
mg/dscm @ 15% O ₂	0.00002	0.00002	0.00002	ND<	0.00001	ND<	0.00001	ND<	0.00001	<	0.00002			
lb/hr	2.60 x 10 ⁻⁶	1.80 x 10 ⁻⁶	1.73 x 10 ⁻⁶	ND<	1.42 x 10 ⁻⁶	ND<	1.37 x 10 ⁻⁶	ND<	1.40 x 10 ⁻⁶	ND<	1.41 x 10 ⁻⁶	<	1.68 x 10 ⁻⁶	
Arsenic B _{1/2}														
mg/dscm	0.00001	0.00002	0.00001	ND<	0.00001	ND<	0.00001	ND<	0.00001	ND<	0.00001	<	0.00001	
mg/dscm @ 15% O ₂	0.00001	0.00003	0.00002	ND<	0.00001	ND<	0.00001	ND<	0.00001	ND<	0.00001	<	0.00002	
lb/hr	1.53 x 10 ⁻⁶	3.07 x 10 ⁻⁶	1.79 x 10 ⁻⁶	ND<	1.42 x 10 ⁻⁶	ND<	1.37 x 10 ⁻⁶	ND<	1.40 x 10 ⁻⁶	ND<	1.41 x 10 ⁻⁶	<	1.71 x 10 ⁻⁶	
Beryllium B _{1/2}														
mg/dscm	0.000006	0.000004	ND<	0.000003	ND<	0.000004	ND<	0.000004	0.000004	<	0.000004	<	0.000004	
mg/dscm @ 15% O ₂	0.000008	0.000005	ND<	0.000004	ND<	0.000004	ND<	0.000004	0.000005	<	0.000005	<	0.000005	
lb/hr	8.22 x 10 ⁻⁷	5.25 x 10 ⁻⁷	ND<	4.41 x 10 ⁻⁷	ND<	4.46 x 10 ⁻⁷	ND<	4.53 x 10 ⁻⁷	5.60 x 10 ⁻⁷	<	5.29 x 10 ⁻⁷	<	5.29 x 10 ⁻⁷	
Cadmium B _{1/2}														
mg/dscm	0.00013	0.00003	0.00002	0.00003	0.00001	ND<	0.00000	ND<	0.00000	<	0.00003	<	0.00003	
mg/dscm @ 15% O ₂	0.00015	0.00004	0.00002	0.00003	0.00001	ND<	0.00001	ND<	0.00001	<	0.00004	<	0.00004	
lb/hr	1.64 x 10 ⁻⁵	3.84 x 10 ⁻⁶	2.44 x 10 ⁻⁶	3.36 x 10 ⁻⁶	7.29 x 10 ⁻⁷	ND<	5.40 x 10 ⁻⁷	ND<	5.44 x 10 ⁻⁷	<	3.98 x 10 ⁻⁶	<	3.98 x 10 ⁻⁶	
Chromium B _{1/2}														
mg/dscm	0.00013	0.00012	0.00010	0.00011	0.00011	0.00010	0.00009	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	
mg/dscm @ 15% O ₂	0.00016	0.00014	0.00012	0.00014	0.00013	0.00013	0.00011	0.00013	0.00011	0.00013	0.00013	0.00013	0.00013	
lb/hr	1.70 x 10 ⁻⁵	1.55 x 10 ⁻⁵	1.26 x 10 ⁻⁵	1.47 x 10 ⁻⁵	1.45 x 10 ⁻⁵	1.35 x 10 ⁻⁵	1.19 x 10 ⁻⁵	1.35 x 10 ⁻⁵	1.19 x 10 ⁻⁵	1.35 x 10 ⁻⁵	1.19 x 10 ⁻⁵	1.42 x 10 ⁻⁵	1.42 x 10 ⁻⁵	
Cobalt B _{1/2}														
mg/dscm	0.00002	0.00001	0.00000	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	
mg/dscm @ 15% O ₂	0.00002	0.00002	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	
lb/hr	2.16 x 10 ⁻⁶	1.87 x 10 ⁻⁶	6.18 x 10 ⁻⁷	1.10 x 10 ⁻⁶	9.60 x 10 ⁻⁷	7.11 x 10 ⁻⁷	9.23 x 10 ⁻⁷	7.11 x 10 ⁻⁷	9.23 x 10 ⁻⁷	9.23 x 10 ⁻⁷	9.23 x 10 ⁻⁷	1.19 x 10 ⁻⁶	1.19 x 10 ⁻⁶	
Lead B _{1/2}														
mg/dscm	0.00015	0.00009	0.00004	0.00007	0.00004	0.00004	0.00003	0.00003	0.00003	0.00003	0.00003	0.00006	0.00006	
mg/dscm @ 15% O ₂	0.00018	0.00011	0.00005	0.00008	0.00005	0.00005	0.00003	0.00005	0.00003	0.00005	0.00003	0.00008	0.00008	
lb/hr	1.90 x 10 ⁻⁵	1.22 x 10 ⁻⁵	5.25 x 10 ⁻⁶	8.53 x 10 ⁻⁶	5.40 x 10 ⁻⁶	5.06 x 10 ⁻⁶	3.24 x 10 ⁻⁶	5.06 x 10 ⁻⁶	3.24 x 10 ⁻⁶	5.06 x 10 ⁻⁶	3.24 x 10 ⁻⁶	8.38 x 10 ⁻⁶	8.38 x 10 ⁻⁶	
Manganese B _{1/2}														
mg/dscm	0.00024	0.00017	0.00008	0.00011	0.00013	0.00021	0.00028	0.00021	0.00028	0.00021	0.00028	0.00018	0.00018	
mg/dscm @ 15% O ₂	0.00029	0.00021	0.00010	0.00014	0.00016	0.00025	0.00035	0.00025	0.00035	0.00025	0.00035	0.00021	0.00021	
lb/hr	3.12 x 10 ⁻⁵	2.23 x 10 ⁻⁵	1.07 x 10 ⁻⁵	1.45 x 10 ⁻⁵	1.70 x 10 ⁻⁵	2.69 x 10 ⁻⁵	3.66 x 10 ⁻⁵	2.69 x 10 ⁻⁵	3.66 x 10 ⁻⁵	2.69 x 10 ⁻⁵	3.66 x 10 ⁻⁵	2.27 x 10 ⁻⁵	2.27 x 10 ⁻⁵	
Mercury B _{1/2}														
mg/dscm	<	0.00014	<	0.00011	<	0.00010	<	0.00010	<	0.00008	<	0.00011	<	0.00011
mg/dscm @ 15% O ₂	<	0.00017	<	0.00013	<	0.00012	<	0.00010	<	0.00012	<	0.00010	<	0.00014
lb/hr	<	1.88 x 10 ⁻⁵	<	1.37 x 10 ⁻⁵	<	1.27 x 10 ⁻⁵	<	1.07 x 10 ⁻⁵	<	1.28 x 10 ⁻⁵	<	1.04 x 10 ⁻⁵	<	1.49 x 10 ⁻⁵
Nickel B _{1/2}														
mg/dscm	0.00028	0.00012	0.00015	0.00015	0.00011	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00014	0.00014	
mg/dscm @ 15% O ₂	0.00034	0.00014	0.00019	0.00018	0.00013	0.00009	0.00009	0.00009	0.00009	0.00009	0.00009	0.00016	0.00016	
lb/hr	3.71 x 10 ⁻⁵	1.51 x 10 ⁻⁵	1.97 x 10 ⁻⁵	1.88 x 10 ⁻⁵	1.43 x 10 ⁻⁵	9.62 x 10 ⁻⁶	9.02 x 10 ⁻⁶	9.62 x 10 ⁻⁶	9.02 x 10 ⁻⁶	9.62 x 10 ⁻⁶	9.02 x 10 ⁻⁶	1.77 x 10 ⁻⁵	1.77 x 10 ⁻⁵	
Selenium B _{1/2}														
mg/dscm	0.00022	0.00006	0.00023	0.00091	0.00023	0.00163	0.00011	0.00011	0.00011	0.00011	0.00011	0.00049	0.00049	
mg/dscm @ 15% O ₂	0.00027	0.00008	0.00028	0.00111	0.00028	0.00196	0.00014	0.00014	0.00014	0.00014	0.00014	0.00059	0.00059	
lb/hr	2.91 x 10 ⁻⁵	8.24 x 10 ⁻⁶	2.97 x 10 ⁻⁵	1.18 x 10 ⁻⁴	3.01 x 10 ⁻⁵	2.10 x 10 ⁻⁴	1.48 x 10 ⁻⁵	2.10 x 10 ⁻⁴	1.48 x 10 ⁻⁵	2.10 x 10 ⁻⁴	1.48 x 10 ⁻⁵	6.29 x 10 ⁻⁵	6.29 x 10 ⁻⁵	

ND< - species not detected in sample. ND< = BDL
< - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL
Data reported without ND< or < = ADL

TABLE 4-6
ACID GASES AND FORMALDEHYDE RESULTS SUMMARY CT-4
SUNHINE GAS PRODUCERS

Parameter/Units	1-EPA 320	2-EPA 320	3-EPA 320	4-EPA 320	5-EPA 320	6-EPA 320	7-EPA 320	Averages
Date	2/7/2023	2/7/2023	2/7/2023	2/8/2023	2/8/2023	2/8/2023	2/8/2023	--
Start Time	10:50	12:00	13:15	09:06	10:19	11:23	13:05	--
Stop Time	11:50	13:08	14:15	10:06	11:19	12:32	14:05	--
Pre-Test Information								
Reference Temperature, °F	68	68	68	68	68	68	68	--
Diluent Emissions and Stack Flow Rate								
O ₂ , % Volume Dry	16.02	16.02	16.02	16.01	16.01	16.01	16.07	16.03
CO ₂ , % Volume Dry	4.40	4.40	4.40	4.52	4.52	4.52	4.47	4.46
Stack Flow Rate, dscfm	34,673	34,673	34,673	34,670	34,670	34,670	34,381	34,630
Pollutant Emissions								
Hydrochloric Acid (HCl)								
ppm Volume Dry	0.54	0.49	0.50	0.45	0.51	0.56	0.60	0.52
ppmc Volume Dry @ 15% O ₂	0.65	0.59	0.61	0.54	0.61	0.68	0.73	0.63
lb/hr	0.11	0.10	0.10	0.09	0.10	0.11	0.12	0.10
Hydrogen Fluoride (HF)								
ppm Volume Dry	1.72	1.67	1.79	1.62	1.81	1.90	2.00	1.79
ppmc Volume Dry @ 15% O ₂	2.08	2.02	2.16	1.95	2.19	2.30	2.44	2.16
lb/hr	0.19	0.18	0.19	0.17	0.20	0.21	0.21	0.19
Formaldehyde (CH₂O)⁽¹⁾								
ppm Volume Dry	0.021	0.021	0.028	0.035	0.026	0.028	0.030	0.027
ppmc Volume Dry @ 15% O ₂	0.026	0.025	0.034	0.042	0.032	0.034	0.037	0.033
lb/hr	0.003	0.003	0.005	0.006	0.004	0.005	0.005	0.004

(1) As measured values are reported from FTIR. These values are below the instrument detection limit (BDL).

4.2 CT-5 TEST RESULTS

The results of the CT-5 tests are presented in Tables 4-7 through 4-12.

**TABLE 4-7
CO RESULTS CT-5
SUNHINE GAS PRODUCERS**

Parameter/Units	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6	Run 7	Average
Date	2/14/2023	2/14/2023	2/15/2023	2/15/2023	2/16/2023	2/16/2023	2/17/2023	--
Start Time	08:01	12:21	07:36	12:01	07:36	12:01	07:31	--
Stop Time	12:10	16:30	11:46	16:11	11:45	16:10	11:40	--
Pre-Test Information								
Reference Temperature, °F	68	68	68	68	68	68	68	--
Diluent Emissions and Stack Flow Rate								
O ₂ , % Volume Dry	16.08	16.08	16.11	16.15	16.20	16.22	16.17	16.15
CO ₂ , % Volume Dry	4.29	4.25	4.23	4.18	4.19	4.14	4.27	4.22
Stack Flow Rate, dscfm	33,956	33,815	34,017	33,819	34,037	34,235	33,840	33,960
Pollutant Emissions								
Carbon Monoxide (CO)								
ppm Volume Dry	0.39	0.08	0.14	0.12	0.15	0.08	0.26	0.18
ppmc Volume Dry @ 15% O ₂	0.48	0.09	0.17	0.15	0.19	0.10	0.33	0.22
lb/hr	0.06	0.01	0.02	0.02	0.02	0.01	0.04	0.03

TABLE 4-8
PARTICULATE MATTER RESULTS CT-5
SUNHINE GAS PRODUCERS

Parameter/Units	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6	Run 7	Average
Date	2/14/2023	2/14/2023	2/15/2023	2/15/2023	2/16/2023	2/16/2023	2/17/2023	--
Start Time	08:00	12:20	07:35	12:00	07:35	12:00	07:30	--
Stop Time	12:10	16:30	11:45	16:10	11:45	16:10	11:40	--
Test Information								
Reference Temperature, °F	68	68	68	68	68	68	68	--
Diluent Emissions and Stack Flow Rate								
Moisture Fraction, %	5.7	5.5	5.5	5.5	5.3	4.4	5.3	5.3
O ₂ , % Volume Dry	16.08	16.08	16.11	16.15	16.20	16.22	16.17	16.15
CO ₂ , % Volume Dry	4.29	4.25	4.23	4.18	4.19	4.14	4.27	4.22
Stack Flow Rate, wacfm	84,863	84,333	84,176	84,188	84,147	83,710	83,942	84,194
Stack Flow Rate, dscfm	33,956	33,815	34,017	33,819	34,037	34,235	33,840	33,960
Particulate Emissions								
Grain Loading, gr/dscf	0.00005	0.00010	0.00007	0.00006	0.00000	0.00015	0.00006	0.00007
Grain Loading @ 15% O ₂	0.00006	0.00012	0.00008	0.00008	0.00000	0.00019	0.00008	0.00009
lb/hr	0.015	0.028	0.020	0.018	0.000	0.043	0.017	0.020

Sunshine Gas Producers, LLC
Revised 2023 ICR on CT-4 and CT-5

TABLE 4-9
TOTAL TRACE METALS RESULTS SUMMARY CT-5
SUNHINE GAS PRODUCERS

Parameter/Units	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	Averages
Diluent Emissions and Stack Flow Rate								
Date	2/14/2023	2/14/2023	2/15/2023	2/15/2023	2/16/2023	2/16/2023	2/17/2023	--
Start Time	08:00	12:20	07:35	12:00	07:35	12:00	7:30	--
Stop Time	12:10	16:30	12:45	16:10	11:45	16:10	11:40	--
Flow Rate, dscfm	33,749	33,854	33,920	33,742	33,727	33,795	33,652	33,777
Sample Volume, dscf	175.69	171.57	178.69	174.82	179.16	173.04	174.67	175.38
O ₂ , % Volume Dry	16.08	16.08	16.11	16.15	16.20	16.22	16.17	16.15
CO ₂ , % Volume Dry	4.29	4.25	4.23	4.18	4.19	4.14	4.27	4.22
Moisture, % by Volume	5.09	4.79	4.95	4.97	4.76	4.81	4.91	4.90
Antimony								
mg/m ³	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006
mg/m ³ @ 15% O ₂	ND< 0.00007	ND< 0.00008	ND< 0.00007	ND< 0.00008	ND< 0.00007	ND< 0.00008	ND< 0.00008	ND< 0.00008
lb/hr	ND< 7.69 x 10 ⁻⁵	ND< 7.90 x 10 ⁻⁶	ND< 7.68 x 10 ⁻⁶	ND< 7.73 x 10 ⁻⁶	ND< 7.54 x 10 ⁻⁶	ND< 7.82 x 10 ⁻⁶	ND< 7.71 x 10 ⁻⁶	ND< 7.73 x 10 ⁻⁶
Arsenic								
mg/m ³	ND< 0.00015	ND< 0.00015	ND< 0.00014	ND< 0.00015	ND< 0.00014	ND< 0.00015	ND< 0.00015	ND< 0.00015
mg/m ³ @ 15% O ₂	ND< 0.00018	ND< 0.00018	ND< 0.00018	ND< 0.00018	ND< 0.00018	ND< 0.00019	ND< 0.00018	ND< 0.00018
lb/hr	ND< 1.84 x 10 ⁻⁵	ND< 1.89 x 10 ⁻⁵	ND< 1.82 x 10 ⁻⁵	ND< 1.85 x 10 ⁻⁵	ND< 1.80 x 10 ⁻⁵	ND< 1.87 x 10 ⁻⁵	ND< 1.84 x 10 ⁻⁵	ND< 1.84 x 10 ⁻⁵
Beryllium								
mg/m ³	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00002	< 0.00001
mg/m ³ @ 15% O ₂	ND< 0.00002	ND< 0.00002	ND< 0.00002	ND< 0.00002	ND< 0.00002	ND< 0.00002	< 0.00002	< 0.00002
lb/hr	ND< 1.79 x 10 ⁻⁶	ND< 1.84 x 10 ⁻⁶	ND< 1.79 x 10 ⁻⁶	ND< 1.80 x 10 ⁻⁶	ND< 1.75 x 10 ⁻⁶	ND< 1.82 x 10 ⁻⁶	< 2.17 x 10 ⁻⁶	< 1.85 x 10 ⁻⁶
Cadmium								
mg/m ³	ND< 0.00001	< 0.00003	< 0.00002	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00001	< 0.00002
mg/m ³ @ 15% O ₂	ND< 0.00002	< 0.00003	< 0.00002	ND< 0.00002	ND< 0.00002	ND< 0.00002	< 0.00002	< 0.00002
lb/hr	ND< 1.84 x 10 ⁻⁶	< 3.17 x 10 ⁻⁶	< 2.20 x 10 ⁻⁶	ND< 1.85 x 10 ⁻⁶	ND< 1.80 x 10 ⁻⁶	ND< 1.87 x 10 ⁻⁶	< 1.85 x 10 ⁻⁶	< 2.08 x 10 ⁻⁶
Chromium								
mg/m ³	0.00102	0.00136	0.00104	0.00101	0.00100	0.00082	0.00111	0.00105
mg/m ³ @ 15% O ₂	0.00125	0.00166	0.00128	0.00126	0.00125	0.00103	0.00139	0.00130
lb/hr	1.29 x 10 ⁻⁴	1.72 x 10 ⁻⁴	1.32 x 10 ⁻⁴	1.28 x 10 ⁻⁴	1.26 x 10 ⁻⁴	1.03 x 10 ⁻⁴	1.40 x 10 ⁻⁴	1.33 x 10 ⁻⁴
Cobalt								
mg/m ³	ND< 0.00001	ND< 0.00001	< 0.00002	< 0.00001	< 0.00002	ND< 0.00001	< 0.00002	< 0.00002
mg/m ³ @ 15% O ₂	ND< 0.00002	ND< 0.00002	< 0.00002	< 0.00002	< 0.00002	ND< 0.00002	< 0.00002	< 0.00002
lb/hr	ND< 1.84 x 10 ⁻⁶	ND< 1.89 x 10 ⁻⁶	< 1.96 x 10 ⁻⁶	< 1.87 x 10 ⁻⁶	< 2.00 x 10 ⁻⁶	ND< 1.87 x 10 ⁻⁶	< 2.10 x 10 ⁻⁶	< 1.93 x 10 ⁻⁶
Lead								
mg/m ³	0.00008	0.00009	0.00009	0.00008	0.00009	0.00008	0.00009	0.00008
mg/m ³ @ 15% O ₂	0.00010	0.00011	0.00011	0.00010	0.00011	0.00010	0.00011	0.00011
lb/hr	1.07 x 10 ⁻⁵	1.11 x 10 ⁻⁵	1.11 x 10 ⁻⁵	9.85 x 10 ⁻⁶	1.10 x 10 ⁻⁵	1.02 x 10 ⁻⁵	1.12 x 10 ⁻⁵	1.07 x 10 ⁻⁵
Manganese								
mg/m ³	0.00323	0.00057	0.00049	0.00023	0.00031	0.00066	0.00059	0.00087
mg/m ³ @ 15% O ₂	0.00395	0.00070	0.00060	0.00028	0.00039	0.00084	0.00074	0.00107
lb/hr	4.07 x 10 ⁻⁴	7.27 x 10 ⁻⁵	6.19 x 10 ⁻⁵	2.86 x 10 ⁻⁵	3.94 x 10 ⁻⁵	8.38 x 10 ⁻⁵	7.43 x 10 ⁻⁵	1.10 x 10 ⁻⁴
Mercury								
mg/m ³	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
mg/m ³ @ 15% O ₂	< 0.00010	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00012	< 0.00011	< 0.00011
lb/hr	< 1.08 x 10 ⁻⁵	< 1.16 x 10 ⁻⁵	< 1.10 x 10 ⁻⁵	< 1.11 x 10 ⁻⁵	< 1.10 x 10 ⁻⁵	< 1.18 x 10 ⁻⁵	< 1.11 x 10 ⁻⁵	< 1.12 x 10 ⁻⁵
Nickel								
mg/m ³	0.00036	0.00043	0.00037	0.00039	0.00051	0.00036	0.00040	0.00040
mg/m ³ @ 15% O ₂	0.00044	0.00052	0.00045	0.00049	0.00064	0.00045	0.00050	0.00050
lb/hr	4.56 x 10 ⁻⁵	5.39 x 10 ⁻⁵	4.68 x 10 ⁻⁵	4.95 x 10 ⁻⁵	6.42 x 10 ⁻⁵	4.54 x 10 ⁻⁵	5.04 x 10 ⁻⁵	5.08 x 10 ⁻⁵
Selenium								
mg/m ³	< 0.00175	< 0.00053	< 0.000405	< 0.00013	< 0.00022	< 0.00011	< 0.00025	< 0.00101
mg/m ³ @ 15% O ₂	< 0.00214	< 0.00065	< 0.000499	< 0.00016	< 0.00028	< 0.00014	< 0.00031	< 0.00124
lb/hr	< 2.20 x 10 ⁻⁴	< 6.76 x 10 ⁻⁵	< 5.1 x 10 ⁻⁴	< 1.61 x 10 ⁻⁵	< 2.79 x 10 ⁻⁵	< 1.40 x 10 ⁻⁵	< 3.13 x 10 ⁻⁵	< 1.27 x 10 ⁻⁴

ND< - species not detected in sample. ND< = BDL
< - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL
Data reported without ND< or < = ADL

TABLE 4-10
FRONT HALF TRACE METALS RESULTS SUMMARY CT-5
SUNHINE GAS PRODUCERS

Parameter/Units	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	Averages
Diluent Emissions and Stack Flow Rate								
Date	2/14/2023	2/14/2023	2/15/2023	2/15/2023	2/16/2023	2/16/2023	2/17/2023	--
Start Time	08:00	12:20	07:35	12:00	07:35	12:00	07:30	--
Stop Time	12:10	16:30	12:45	16:10	11:45	16:10	11:40	--
Flow Rate, dscfm	33,749	33,854	33,920	33,742	33,727	33,795	33,652	33,777
Sample Volume, dscf	175.69	171.57	178.69	174.82	179.16	173.04	174.67	175.38
O ₂ , % Volume Dry	16.08	16.08	16.11	16.15	16.20	16.22	16.17	16.15
CO ₂ , % Volume Dry	4.29	4.25	4.23	4.18	4.19	4.14	4.27	4.22
Moisture, % by Volume	5.09	4.79	4.95	4.97	4.76	4.81	4.91	4.90
Antimony F_{1/2}								
mg/dscm	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005
mg/dscm @ 15% O ₂	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006
lb/hr	ND< 6.35 x 10 ⁻⁶	ND< 6.52 x 10 ⁻⁶	ND< 6.27 x 10 ⁻⁶	ND< 6.38 x 10 ⁻⁶	ND< 6.22 x 10 ⁻⁶	ND< 6.45 x 10 ⁻⁶	ND< 6.37 x 10 ⁻⁶	ND< 6.36 x 10 ⁻⁶
Arsenic F_{1/2}								
mg/dscm	ND< 0.00013	ND< 0.00014	ND< 0.00013	ND< 0.00014	ND< 0.00013	ND< 0.00014	ND< 0.00014	ND< 0.00014
mg/dscm @ 15% O ₂	ND< 0.00017	ND< 0.00017	ND< 0.00016	ND< 0.00017	ND< 0.00017	ND< 0.00017	ND< 0.00017	ND< 0.00017
lb/hr	ND< 1.70 x 10 ⁻⁵	ND< 1.75 x 10 ⁻⁵	ND< 1.68 x 10 ⁻⁵	ND< 1.71 x 10 ⁻⁵	ND< 1.67 x 10 ⁻⁵	ND< 1.73 x 10 ⁻⁵	ND< 1.71 x 10 ⁻⁵	ND< 1.71 x 10 ⁻⁵
Beryllium F_{1/2}								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	0.00001	< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	0.00002	< 0.00001
lb/hr	ND< 1.35 x 10 ⁻⁶	ND< 1.39 x 10 ⁻⁶	ND< 1.33 x 10 ⁻⁶	ND< 1.36 x 10 ⁻⁶	ND< 1.32 x 10 ⁻⁶	ND< 1.37 x 10 ⁻⁶	1.73 x 10 ⁻⁶	< 1.41 x 10 ⁻⁶
Cadmium F_{1/2}								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	0.00001	< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	0.00001	< 0.00001
lb/hr	ND< 1.32 x 10 ⁻⁶	ND< 1.35 x 10 ⁻⁶	ND< 1.30 x 10 ⁻⁶	ND< 1.32 x 10 ⁻⁶	ND< 1.29 x 10 ⁻⁶	ND< 1.34 x 10 ⁻⁶	1.33 x 10 ⁻⁶	< 1.32 x 10 ⁻⁶
Chromium F_{1/2}								
mg/dscm	0.00092	0.00126	0.00091	0.00089	0.00089	0.00072	0.00093	0.00093
mg/dscm @ 15% O ₂	0.00112	0.00154	0.00112	0.00111	0.00112	0.00091	0.00116	0.00115
lb/hr	1.16 x 10 ⁻⁴	1.60 x 10 ⁻⁴	1.15 x 10 ⁻⁴	1.13 x 10 ⁻⁴	1.13 x 10 ⁻⁴	9.14 x 10 ⁻⁵	1.17 x 10 ⁻⁴	1.18 x 10 ⁻⁴
Cobalt F_{1/2}								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
lb/hr	ND< 1.43 x 10 ⁻⁶	ND< 1.47 x 10 ⁻⁶	ND< 1.41 x 10 ⁻⁶	ND< 1.43 x 10 ⁻⁶	ND< 1.40 x 10 ⁻⁶	ND< 1.45 x 10 ⁻⁶	ND< 1.43 x 10 ⁻⁶	ND< 1.43 x 10 ⁻⁶
Lead F_{1/2}								
mg/dscm	0.00006	0.00006	0.00006	0.00006	0.00007	0.00007	0.00007	0.00006
mg/dscm @ 15% O ₂	0.00008	0.00008	0.00007	0.00007	0.00009	0.00009	0.00009	0.00008
lb/hr	8.15 x 10 ⁻⁶	8.19 x 10 ⁻⁶	7.40 x 10 ⁻⁶	7.12 x 10 ⁻⁶	8.66 x 10 ⁻⁶	8.60 x 10 ⁻⁶	8.76 x 10 ⁻⁶	8.12 x 10 ⁻⁶
Manganese F_{1/2}								
mg/dscm	0.00013	0.00047	0.00014	0.00014	0.00013	0.00053	0.00025	0.00026
mg/dscm @ 15% O ₂	0.00016	0.00057	0.00017	0.00017	0.00017	0.00067	0.00031	0.00032
lb/hr	1.65 x 10 ⁻⁵	5.95 x 10 ⁻⁵	1.72 x 10 ⁻⁵	1.78 x 10 ⁻⁵	1.67 x 10 ⁻⁵	6.69 x 10 ⁻⁵	3.13 x 10 ⁻⁵	3.23 x 10 ⁻⁵
Mercury F_{1/2}								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00000	ND< 0.00001	ND< 0.00000	ND< 0.00001	ND< 0.00001	ND< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
lb/hr	ND< 6.35 x 10 ⁻⁷	ND< 6.52 x 10 ⁻⁷	ND< 6.27 x 10 ⁻⁷	ND< 6.38 x 10 ⁻⁷	ND< 6.22 x 10 ⁻⁷	ND< 6.45 x 10 ⁻⁷	ND< 6.37 x 10 ⁻⁷	ND< 6.36 x 10 ⁻⁷
Nickel F_{1/2}								
mg/dscm	0.00028	0.00034	0.00028	0.00028	0.00038	0.00028	0.00025	0.00030
mg/dscm @ 15% O ₂	0.00035	0.00042	0.00035	0.00035	0.00048	0.00035	0.00031	0.00037
lb/hr	3.58 x 10 ⁻⁵	4.33 x 10 ⁻⁵	3.59 x 10 ⁻⁵	3.57 x 10 ⁻⁵	4.83 x 10 ⁻⁵	3.54 x 10 ⁻⁵	3.16 x 10 ⁻⁵	3.80 x 10 ⁻⁵
Selenium F_{1/2}								
mg/dscm	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006
mg/dscm @ 15% O ₂	ND< 0.00007	ND< 0.00008	ND< 0.00007	ND< 0.00008	ND< 0.00008	ND< 0.00008	ND< 0.00008	ND< 0.00008
lb/hr	ND< 7.72 x 10 ⁻⁶	ND< 7.93 x 10 ⁻⁶	ND< 7.63 x 10 ⁻⁶	ND< 7.75 x 10 ⁻⁶	ND< 7.56 x 10 ⁻⁶	ND< 7.85 x 10 ⁻⁶	ND< 7.74 x 10 ⁻⁶	ND< 7.74 x 10 ⁻⁶

ND< - species not detected in sample. ND< = BDL
< - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL
Data reported without ND< or < = ADL

TABLE 4-11
BACK HALF TRACE METALS RESULTS SUMMARY CT-5
SUNHINE GAS PRODUCERS

Parameter/Units	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	Averages
Diluent Emissions and Stack Flow Rate								
Date	2/14/2023	2/14/2023	2/15/2023	2/15/2023	2/16/2023	2/16/2023	2/17/2023	--
Start Time	08:00	12:20	07:35	12:00	07:35	12:00	07:30	--
Stop Time	12:10	16:30	12:45	16:10	11:45	16:10	11:40	--
Flow Rate, dscfm	33,749	33,854	33,920	33,742	33,727	33,795	33,652	33,777
Sample Volume, dscf	175.69	171.57	178.69	174.82	179.16	173.04	174.67	175.38
O ₂ , % Volume Dry	16.08	16.08	16.11	16.15	16.20	16.22	16.17	16.15
CO ₂ , % Volume Dry	4.29	4.25	4.23	4.18	4.19	4.14	4.27	4.22
Moisture, % by Volume	5.09	4.79	4.95	4.97	4.76	4.81	4.91	4.90
Antimony B_{1/2}								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
lb/hr	ND< 1.35 x 10 ⁻⁶	ND< 1.38 x 10 ⁻⁶	ND< 1.41 x 10 ⁻⁶	ND< 1.35 x 10 ⁻⁶	ND< 1.32 x 10 ⁻⁶	ND< 1.37 x 10 ⁻⁶	ND< 1.35 x 10 ⁻⁶	ND< 1.36 x 10 ⁻⁶
Arsenic B_{1/2}								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
lb/hr	ND< 1.35 x 10 ⁻⁶	ND< 1.38 x 10 ⁻⁶	ND< 1.41 x 10 ⁻⁶	ND< 1.35 x 10 ⁻⁶	ND< 1.32 x 10 ⁻⁶	ND< 1.37 x 10 ⁻⁶	ND< 1.35 x 10 ⁻⁶	ND< 1.36 x 10 ⁻⁶
Beryllium B_{1/2}								
mg/dscm	ND< 0.000003	ND< 0.000004	ND< 0.000004	ND< 0.000003	ND< 0.000003	ND< 0.000004	ND< 0.000003	ND< 0.000003
mg/dscm @ 15% O ₂	ND< 0.000004	ND< 0.000004	ND< 0.000004	ND< 0.000004	ND< 0.000004	ND< 0.000004	ND< 0.000004	ND< 0.000004
lb/hr	ND< 4.37 x 10 ⁻⁷	ND< 4.49 x 10 ⁻⁶	ND< 4.57 x 10 ⁻⁷	ND< 4.39 x 10 ⁻⁷	ND< 4.28 x 10 ⁻⁶	ND< 4.44 x 10 ⁻⁷	ND< 4.38 x 10 ⁻⁷	ND< 4.41 x 10 ⁻⁷
Cadmium B_{1/2}								
mg/dscm	ND< 0.00000	0.00001	0.00001	ND< 0.00000	ND< 0.00000	ND< 0.00000	ND< 0.00000	< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	0.00002	0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00001
lb/hr	ND< 5.20 x 10 ⁻⁷	1.82 x 10 ⁻⁶	8.96 x 10 ⁻⁷	ND< 5.23 x 10 ⁻⁷	ND< 5.10 x 10 ⁻⁷	ND< 5.29 x 10 ⁻⁷	ND< 5.22 x 10 ⁻⁷	< 7.60 x 10 ⁻⁷
Chromium B_{1/2}								
mg/dscm	0.00011	0.00010	0.00013	0.00012	0.00010	0.00010	0.00019	0.00012
mg/dscm @ 15% O ₂	0.00013	0.00012	0.00016	0.00015	0.00013	0.00012	0.00023	0.00015
lb/hr	1.35 x 10 ⁻⁵	1.25 x 10 ⁻⁵	1.67 x 10 ⁻⁵	1.53 x 10 ⁻⁵	1.30 x 10 ⁻⁵	1.21 x 10 ⁻⁵	2.36 x 10 ⁻⁵	1.52 x 10 ⁻⁵
Cobalt B_{1/2}								
mg/dscm	ND< 0.00000	ND< 0.00000	0.00000	0.00000	0.00000	ND< 0.00000	0.00001	< 0.00000
mg/dscm @ 15% O ₂	ND< 0.00000	ND< 0.00000	0.00001	0.00000	0.00001	ND< 0.00000	0.00001	< 0.00000
lb/hr	ND< 4.16 x 10 ⁻⁷	ND< 4.28 x 10 ⁻⁷	5.52 x 10 ⁻⁷	4.34 x 10 ⁻⁷	6.00 x 10 ⁻⁷	ND< 4.23 x 10 ⁻⁷	6.70 x 10 ⁻⁷	< 5.03 x 10 ⁻⁷
Lead B_{1/2}								
mg/dscm	0.00002	0.00002	0.00003	0.00002	0.00002	0.00001	0.00002	0.00002
mg/dscm @ 15% O ₂	0.00002	0.00003	0.00004	0.00003	0.00002	0.00002	0.00002	0.00003
lb/hr	2.51 x 10 ⁻⁶	2.92 x 10 ⁻⁶	3.69 x 10 ⁻⁶	2.73 x 10 ⁻⁶	2.36 x 10 ⁻⁶	1.59 x 10 ⁻⁶	2.49 x 10 ⁻⁶	2.61 x 10 ⁻⁶
Manganese B_{1/2}								
mg/dscm	0.00310	0.00010	0.00035	0.00009	0.00018	0.00013	0.00034	0.00061
mg/dscm @ 15% O ₂	0.00379	0.00013	0.00043	0.00011	0.00023	0.00017	0.00043	0.00075
lb/hr	3.91 x 10 ⁻⁴	1.33 x 10 ⁻⁵	4.47 x 10 ⁻⁵	1.08 x 10 ⁻⁵	2.26 x 10 ⁻⁵	1.70 x 10 ⁻⁶	4.30 x 10 ⁻⁵	7.75 x 10 ⁻⁵
Mercury B_{1/2}								
mg/dscm	< 0.00008	< 0.00009	< 0.00008	< 0.00008	< 0.00008	< 0.00009	< 0.00008	< 0.00008
mg/dscm @ 15% O ₂	< 0.00010	< 0.00011	< 0.00010	< 0.00010	< 0.00010	< 0.00011	< 0.00010	< 0.00010
lb/hr	< 1.02 x 10 ⁻⁵	< 1.10 x 10 ⁻⁵	< 1.04 x 10 ⁻⁵	< 1.05 x 10 ⁻⁵	< 1.04 x 10 ⁻⁵	< 1.11 x 10 ⁻⁵	< 1.04 x 10 ⁻⁵	< 1.06 x 10 ⁻⁵
Nickel B_{1/2}								
mg/dscm	0.00008	0.00008	0.00009	0.00011	0.00013	0.00008	0.00015	0.00010
mg/dscm @ 15% O ₂	0.00010	0.00010	0.00011	0.00014	0.00016	0.00010	0.00019	0.00013
lb/hr	9.85 x 10 ⁻⁶	1.06 x 10 ⁻⁵	1.09 x 10 ⁻⁵	1.37 x 10 ⁻⁵	1.59 x 10 ⁻⁵	1.01 x 10 ⁻⁵	1.88 x 10 ⁻⁵	1.29 x 10 ⁻⁵
Selenium B_{1/2}								
mg/dscm	0.00168	0.00047	0.00399	0.00007	0.00016	0.00005	0.00019	0.00094
mg/dscm @ 15% O ₂	0.00206	0.00058	0.00492	0.00008	0.00020	0.00006	0.00023	0.00116
lb/hr	2.13 x 10 ⁻⁴	5.97 x 10 ⁻⁵	5.07 x 10 ⁻⁴	8.32 x 10 ⁻⁵	2.03 x 10 ⁻⁵	6.17 x 10 ⁻⁶	2.36 x 10 ⁻⁵	1.20 x 10 ⁻⁴

ND< - species not detected in sample. ND< = BDL
< - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL
Data reported without ND< or < = ADL

TABLE 4-12
ACID GASES AND FORMALDEHYDE RESULTS SUMMARY CT-5
SUNHINE GAS PRODUCERS

Parameter/Units	1-EPA 320	2-EPA 320	3-EPA 320	4-EPA 320	5-EPA 320	6-EPA 320	7-EPA 320	Averages
Date	2/14/2023	2/14/2023	2/14/2023	2/14/2023	2/15/2023	2/15/2023	2/15/2023	--
Start Time	09:15	10:20	11:25	12:40	09:05	10:10	11:15	--
Stop Time	10:15	11:20	12:34	13:40	10:05	11:10	12:30	--
Pre-Test Information								
Reference Temperature, °F	68	68	68	68	68	68	68	--
Diluent Emissions and Stack Flow Rate								
O ₂ , % Volume Dry	16.08	16.08	16.08	16.08	16.11	16.11	16.11	16.09
CO ₂ , % Volume Dry	4.29	4.29	4.29	4.25	4.23	4.23	4.23	4.26
Stack Flow Rate, dscfm	33,956	33,956	33,956	33,815	34,017	34,017	34,017	33,962
Pollutant Emissions								
Hydrochloric Acid (HCl)								
ppm Volume Dry	0.29	0.31	0.35	0.38	0.29	0.33	0.39	0.34
ppmc Volume Dry @ 15% O ₂	0.35	0.38	0.43	0.47	0.35	0.41	0.49	0.41
lb/hr	0.06	0.06	0.07	0.07	0.06	0.06	0.08	0.06
Hydrogen Fluoride (HF)								
ppm Volume Dry	1.26	1.34	1.40	1.45	1.21	1.52	1.64	1.40
ppmc Volume Dry @ 15% O ₂	1.54	1.64	1.72	1.77	1.49	1.87	2.02	1.72
lb/hr	0.13	0.14	0.15	0.15	0.13	0.16	0.17	0.15
Formaldehyde (CH₂O)⁽¹⁾								
ppm Volume Dry	0.096	0.081	0.092	0.077	0.051	0.054	0.040	0.070
ppmc Volume Dry @ 15% O ₂	0.118	0.100	0.112	0.094	0.063	0.066	0.049	0.086
lb/hr	0.015	0.013	0.015	0.012	0.008	0.009	0.006	0.011

(1) As measured values are reported from FTIR. These values are below the instrument detection limit (BDL).

4.3 FIELD TEST DEVIATIONS AND EXCETPTIONS

No filed deviations or exceptions from the test plan or test methods occurred during this test program. Per the EPA guidance document, front and back half fractions were analyzed separately for EPA Method 29. The results of front half and back half analyses for individual metals were reported separately along with a total emission. The reported results are not blank corrected since majority of the blank values were non-detect. Sampling duration was designed such that a minimum volume of 141 dscf (4 dscm) was collected per run for each metal and particulate sampling train. Isokinetic sampling rate was maintained for each metal and particulate sampling train within the specification of $100 \pm 10\%$. The reported results are considered representative.

APPENDIX A TEST DATA

Appendix A.1

Sample Location Data

TRAVERSE POINT LOCATION FOR CIRCULAR STACKS

 Checked by: PSJ

 Plant: Sunshine Gas

 Source: Turbine 4 and 5

 Date: 2/7-2/17, 2023

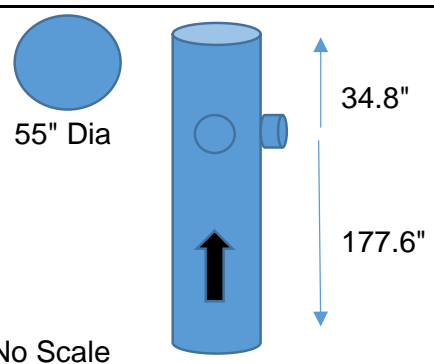
 Inside of far wall to
 outside of nipple (a): 60"

 Inside of near wall to
 outside of nipple (b): 5"

 Stack I.D. (a-b): 55"

 Nearest upstream disturbance: 177.6"

 Nearest downstream disturbance: 34.8"

 Calculator: SJ


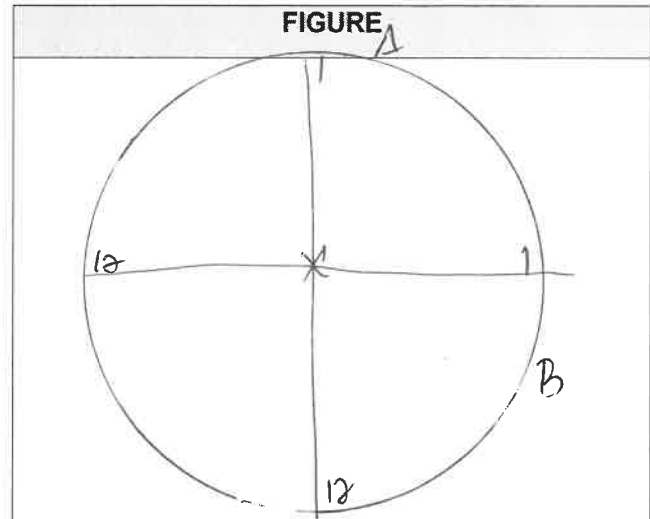
Schematic of duct

Traverse Point Number	Fraction of Stack I.D.	Stack I.D.	Products of Columns 2 & 3	Nipple Length	Traverse Point (sum of columns 4 & 5)
1	2.1	55	1.2	5	6.2
2	6.7	55	3.7	5	8.7
3	11.8	55	6.5	5	11.5
4	17.7	55	9.7	5	14.7
5	25.0	55	13.8	5	18.8
6	35.6	55	19.6	5	24.6
7	64.4	55	35.4	5	40.4
8	75.0	55	41.3	5	46.3
9	82.3	55	45.3	5	50.3
10	88.2	55	48.5	5	53.5
11	93.3	55	51.3	5	56.3
12	97.9	55	53.8	5	58.8

MONTROSE AQS
 1631 E. ST ANDREW PLACE
 SANTA ANA, CA 92705

CYCLONIC FLOW VERIFICATION DATA SHEET

FACILITY	Sunshine
SOURCE	CO ₂ 4
DATE	2/7/23
PROJECT NUMBER	023392
STACK DIAMETER/DIMENSION	55"
BAROMETRIC PRESSURE	28.36
STATIC PRESSURE	-0.55
RUN NUMBER	1-7
TOTAL TRAVERSE POINTS	24
OPERATOR	DK, AD, DJS

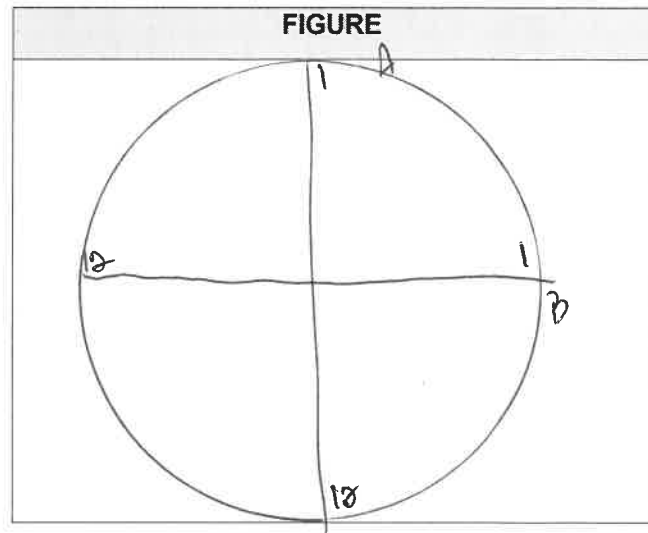


SAMPLE POINT	DISTANCE FROM SAMPLE PORT (INCHES)	NULL POINT ROTATION ANGLE	
		A NORTH/SOUTH	B EAST/WEST
1	1.2	0	1
2	3.7	1	0
3	6.5	2	0
4	9.2	1	1
5	13.8	3	2
6	19.6	1	1
7	35.4	0	0
8	41.3	2	0
9	45.3	0	3
10	48.5	0	1
11	51.3	1	0
12	53.8	0	1
		AVERAGE	1

MONTROSE AQS
 1631 E. ST ANDREW PLACE
 SANTA ANA, CA 92705

CYCLONIC FLOW VERIFICATION DATA SHEET

FACILITY	Sunshine
SOURCE	Col 5
DATE	2/14/23
PROJECT NUMBER	023392
STACK DIAMETER/DIMENSION	55"
BAROMETRIC PRESSURE	29.98
STATIC PRESSURE	-6.5
RUN NUMBER	1-7
TOTAL TRAVERSE POINTS	24
OPERATOR	OH, AD, PS



SAMPLE POINT	DISTANCE FROM SAMPLE PORT (INCHES)	NULL POINT ROTATION ANGLE	
		^A NORTH/SOUTH	^B EAST/WEST
1	1.2	0	1
2	3.7	0	0
3	6.5	1	0
4	9.7	0	1
5	13.8	1	2
6	19.4	0	1
7	35.4	2	0
8	41.3	1	1
9	45.3	0	0
10	48.5	1	0
11	51.3	2	0
12	53.8	0	1
		AVERAGE	1

Appendix A.2

Gaseous DAS Data

Appendix A.2.1 CT-4 Data

Date	Time	O2%	CO2%	COppm	
2/7/2023	8:49:00	0.071	-0.255		
2/7/2023	8:50:00	0.072	-0.092	-0.088	
2/7/2023	8:51:00	-0.019	-0.029	-0.04	< Zero Direct
2/7/2023	8:52:00	-0.027	-0.032	-0.024	
2/7/2023	8:53:00	-0.027	-0.038	-0.042	
2/7/2023	8:54:00	1.583	0.25	-0.014	
2/7/2023	8:55:00	9.504	4.541	5.999	
2/7/2023	8:56:00	10.193	4.71	9.661	
2/7/2023	8:57:00	18.098	8.918	9.673	
2/7/2023	8:58:00	19.116	9.364	9.649	< Direct High
2/7/2023	8:59:00	19.286	9.623	9.619	< Direct High
2/7/2023	9:00:00	12.646	6.299	8.922	
2/7/2023	9:01:00	10.098	4.944	4.706	< Direct Mid
2/7/2023	9:02:00	10.959	4.815	4.711	
2/7/2023	9:03:00	15.996	4.468	2.504	
2/7/2023	9:04:00	15.979	4.475	1.446	
2/7/2023	9:05:00	15.975	4.468	1.43	
2/7/2023	9:06:00	15.977	4.475	1.19	
2/7/2023	9:07:00	15.974	4.468	1.256	
2/7/2023	9:08:00	15.979	4.461	1.219	
2/7/2023	9:09:00	15.966	4.465	1.272	
2/7/2023	9:10:00	15.964	4.467	1.26	
2/7/2023	9:11:00	15.943	4.484	1.205	
2/7/2023	9:12:00	15.963	4.459	1.224	
2/7/2023	9:13:00	15.957	4.455	1.159	
2/7/2023	9:14:00	15.97	4.454	1.049	
2/7/2023	9:15:00	15.929	4.465	1.123	
2/7/2023	9:16:00	15.906	4.449	1.185	
2/7/2023	9:17:00	15.902	4.452	1.21	
2/7/2023	9:18:00	15.91	4.432	1.34	
2/7/2023	9:19:00	14.581	3.685	1.275	
2/7/2023	9:20:00	-0.009	0.101	0.728	
2/7/2023	9:21:00	-0.031	0.088	-0.048	
2/7/2023	9:22:00	-0.035	0.091	-0.044	
2/7/2023	9:23:00	-0.037	0.083	-0.028	
2/7/2023	9:24:00	-0.037	0.076	-0.042	
2/7/2023	9:25:00	-0.041	0.081	-0.031	
2/7/2023	9:26:00	-0.042	0.087	-0.036	
2/7/2023	9:27:00	-0.042	0.082	-0.045	
2/7/2023	9:28:00	-0.04	0.073	-0.042	
2/7/2023	9:29:00	-0.038	0.078	-0.052	
2/7/2023	9:30:00	-0.039	0.08	-0.045	
2/7/2023	9:31:00	-0.037	0.082	-0.042	
2/7/2023	9:32:00	-0.041	0.072	-0.05	
2/7/2023	9:33:00	-0.041	0.071	-0.049	
2/7/2023	9:34:00	-0.04	0.073	-0.055	
2/7/2023	9:35:00	-0.042	0.068	-0.046	
2/7/2023	9:36:00	-0.042	0.069	-0.045	

2/7/2023	9:37:00	-0.041	0.067	-0.058
2/7/2023	9:38:00	-0.039	0.065	-0.055
2/7/2023	9:39:00	-0.039	0.077	-0.061
2/7/2023	9:40:00	-0.04	0.085	-0.062
2/7/2023	9:41:00	-0.041	0.093	-0.071
2/7/2023	9:42:00	-0.04	0.102	-0.065
2/7/2023	9:43:00	-0.039	0.104	-0.067
2/7/2023	9:44:00	-0.041	0.093	-0.063
2/7/2023	9:45:00	-0.043	0.097	-0.065
2/7/2023	9:46:00	-0.042	0.095	-0.069
2/7/2023	9:47:00	-0.042	0.093	-0.074
2/7/2023	9:48:00	-0.042	0.101	-0.073
2/7/2023	9:49:00	12.777	3.663	0.536
2/7/2023	9:50:00	15.891	4.429	1.486
2/7/2023	9:51:00	15.913	4.41	1.21
2/7/2023	9:52:00	15.918	4.423	1.031
2/7/2023	9:53:00	15.898	4.472	1.481
2/7/2023	9:54:00	15.907	4.461	1.611
2/7/2023	9:55:00	15.891	4.468	1.015
2/7/2023	9:56:00	15.905	4.459	1.288
2/7/2023	9:57:00	15.923	4.45	1.623
2/7/2023	9:58:00	15.921	4.431	1.965
2/7/2023	9:59:00	15.904	4.449	1.347
2/7/2023	10:00:00	15.92	4.428	1.404
2/7/2023	10:01:00	15.901	4.439	1.103
2/7/2023	10:02:00	15.904	4.436	1.366
2/7/2023	10:03:00	15.899	4.441	1.122
2/7/2023	10:04:00	15.911	4.433	1.183
2/7/2023	10:05:00	15.899	4.459	1.159
2/7/2023	10:06:00	15.923	4.456	1.327
2/7/2023	10:07:00	15.927	4.456	1.069
2/7/2023	10:08:00	15.913	4.473	1.226
2/7/2023	10:09:00	15.92	4.456	1.238
2/7/2023	10:10:00	15.916	4.448	1.139
2/7/2023	10:11:00	15.922	4.451	1.169
2/7/2023	10:12:00	15.88	4.475	1.051
2/7/2023	10:13:00	15.896	4.481	1.205
2/7/2023	10:14:00	15.891	4.462	1.632
2/7/2023	10:15:00	15.923	4.428	1.288
2/7/2023	10:16:00	15.912	4.443	1.388
2/7/2023	10:17:00	15.917	4.45	1.514
2/7/2023	10:18:00	15.915	4.461	1.445
2/7/2023	10:19:00	15.908	4.47	1.914
2/7/2023	10:20:00	15.86	4.503	1.521
2/7/2023	10:21:00	15.899	4.455	1.272
2/7/2023	10:22:00	15.896	4.462	1.158
2/7/2023	10:23:00	15.899	4.458	1.131
2/7/2023	10:24:00	15.871	4.479	1.365
2/7/2023	10:25:00	15.915	4.442	1.765

2/7/2023	10:26:00	15.91	4.433	1.388	
2/7/2023	10:27:00	15.917	4.441	1.418	
2/7/2023	10:28:00	15.934	4.436	1.222	
2/7/2023	10:29:00	15.924	4.457	1.063	
2/7/2023	10:30:00	15.905	4.492	1.076	
2/7/2023	10:31:00	16.431	5.553	1.144	
2/7/2023	10:32:00	11.153	5.506	-0.059	
2/7/2023	10:33:00	-0.071	0.058	-0.163	< Direct Zero
2/7/2023	10:34:00	-0.028	-0.023	-0.096	< Direct Zero
2/7/2023	10:35:00	13.002	5.903	3.208	
2/7/2023	10:36:00	19.118	9.58	9.524	< Direct High
2/7/2023	10:37:00	19.287	9.635	9.636	< Direct High
2/7/2023	10:38:00	19.292	9.619	9.631	
2/7/2023	10:39:00	11.608	5.675	7.961	
2/7/2023	10:40:00	10.129	4.897	4.687	
2/7/2023	10:41:00	10.128	4.903	4.653	
2/7/2023	10:42:00	10.124	4.899	4.664	< Direct Mid
2/7/2023	10:43:00	12.856	4.681	4.516	
2/7/2023	10:44:00	12.473	4.582	1.454	
2/7/2023	10:45:00	10.059	4.954	-0.093	< System O2, CO2
2/7/2023	10:46:00	3.221	1.401	0.813	
2/7/2023	10:47:00	-0.026	0.006	4.594	< System CO
2/7/2023	10:48:00	-0.031	0.153	4.644	
2/7/2023	10:49:00	5.322	1.56	4.592	
2/7/2023	10:50:00	15.899	4.451	2.037	
2/7/2023	10:51:00	15.903	4.457	1.327	
2/7/2023	10:52:00	15.884	4.464	1.446	< Start run 1
2/7/2023	10:53:00	15.897	4.447	1.237	12
2/7/2023	10:54:00	15.904	4.429	1.022	
2/7/2023	10:55:00	15.924	4.412	1.095	
2/7/2023	10:56:00	15.924	4.42	1.471	
2/7/2023	10:57:00	15.925	4.412	1.107	
2/7/2023	10:58:00	15.921	4.416	0.98	
2/7/2023	10:59:00	15.926	4.419	1.439	
2/7/2023	11:00:00	15.922	4.432	1.177	
2/7/2023	11:01:00	15.902	4.46	1.376	
2/7/2023	11:02:00	15.94	4.438	0.993	
2/7/2023	11:03:00	15.927	4.46	1.063	11
2/7/2023	11:04:00	15.933	4.449	1.189	
2/7/2023	11:05:00	15.94	4.447	0.935	
2/7/2023	11:06:00	15.931	4.451	1.015	
2/7/2023	11:07:00	15.935	4.458	1.005	
2/7/2023	11:08:00	15.928	4.479	1.092	
2/7/2023	11:09:00	15.931	4.475	0.948	
2/7/2023	11:10:00	15.925	4.489	1.192	
2/7/2023	11:11:00	15.937	4.489	1.004	
2/7/2023	11:12:00	15.932	4.479	0.949	
2/7/2023	11:13:00	15.928	4.48	1.341	10
2/7/2023	11:14:00	15.934	4.489	1.427	

2/7/2023	11:15:00	15.931	4.492	1.413	
2/7/2023	11:16:00	15.95	4.48	1.172	
2/7/2023	11:17:00	15.934	4.483	1.173	
2/7/2023	11:18:00	15.923	4.475	1.262	
2/7/2023	11:19:00	15.933	4.472	1.443	
2/7/2023	11:20:00	15.939	4.458	1.241	
2/7/2023	11:21:00	15.942	4.468	1.322	
2/7/2023	11:22:00	15.936	4.463	1.536	
2/7/2023	11:23:00	15.905	4.501	1.137	9
2/7/2023	11:24:00	15.929	4.464	1.122	
2/7/2023	11:25:00	15.948	4.458	0.953	
2/7/2023	11:26:00	15.928	4.484	0.949	
2/7/2023	11:27:00	15.925	4.486	1.091	
2/7/2023	11:28:00	15.952	4.477	1.391	
2/7/2023	11:29:00	15.929	4.503	1.402	
2/7/2023	11:30:00	15.916	4.512	1.338	
2/7/2023	11:31:00	15.928	4.501	1.035	
2/7/2023	11:32:00	15.911	4.491	1.017	
2/7/2023	11:33:00	15.935	4.457	1.37	8
2/7/2023	11:34:00	15.96	4.44	1.068	
2/7/2023	11:35:00	15.926	4.493	1.339	
2/7/2023	11:36:00	15.924	4.49	1.146	
2/7/2023	11:37:00	15.944	4.463	1.053	
2/7/2023	11:38:00	15.947	4.441	1.119	
2/7/2023	11:39:00	15.944	4.461	1.071	
2/7/2023	11:40:00	15.947	4.466	1.301	
2/7/2023	11:41:00	15.949	4.465	0.977	
2/7/2023	11:42:00	15.941	4.473	1.054	
2/7/2023	11:43:00	15.952	4.45	1.072	7
2/7/2023	11:44:00	15.944	4.453	1.567	
2/7/2023	11:45:00	15.956	4.44	1.168	
2/7/2023	11:46:00	15.927	4.48	0.961	
2/7/2023	11:47:00	15.947	4.473	1.011	
2/7/2023	11:48:00	15.949	4.499	1.267	
2/7/2023	11:49:00	15.935	4.509	1.154	
2/7/2023	11:50:00	15.912	4.538	1.027	
2/7/2023	11:51:00	15.931	4.506	1.333	
2/7/2023	11:52:00	15.95	4.486	1.767	
2/7/2023	11:53:00	15.948	4.486	1.586	6
2/7/2023	11:54:00	15.964	4.466	1.878	
2/7/2023	11:55:00	15.952	4.471	1.162	
2/7/2023	11:56:00	15.946	4.477	1.441	
2/7/2023	11:57:00	15.922	4.489	1.719	
2/7/2023	11:58:00	15.953	4.457	1.095	
2/7/2023	11:59:00	15.921	4.49	1.201	
2/7/2023	12:00:00	15.949	4.467	1.036	
2/7/2023	12:01:00	15.96	4.451	0.984	
2/7/2023	12:02:00	15.95	4.463	1.535	
2/7/2023	12:03:00	15.957	4.474	1.047	5

2/7/2023	12:04:00	15.963	4.48	0.923	
2/7/2023	12:05:00	15.934	4.524	1.236	
2/7/2023	12:06:00	15.919	4.551	1.312	
2/7/2023	12:07:00	15.952	4.496	0.931	
2/7/2023	12:08:00	15.947	4.489	1.213	
2/7/2023	12:09:00	15.947	4.488	1.462	
2/7/2023	12:10:00	15.948	4.479	1.254	
2/7/2023	12:11:00	15.97	4.468	1.081	
2/7/2023	12:12:00	15.926	4.504	0.994	
2/7/2023	12:13:00	15.918	4.505	1.232	4
2/7/2023	12:14:00	15.957	4.467	1.596	
2/7/2023	12:15:00	15.958	4.467	1.781	
2/7/2023	12:16:00	15.929	4.48	1.151	
2/7/2023	12:17:00	15.946	4.452	2.113	
2/7/2023	12:18:00	15.939	4.483	1.701	
2/7/2023	12:19:00	15.95	4.486	1.342	
2/7/2023	12:20:00	15.97	4.482	0.977	
2/7/2023	12:21:00	15.951	4.502	1.123	
2/7/2023	12:22:00	15.963	4.481	1.278	
2/7/2023	12:23:00	15.958	4.474	0.984	3
2/7/2023	12:24:00	15.957	4.46	1.089	
2/7/2023	12:25:00	15.96	4.47	1.148	
2/7/2023	12:26:00	15.952	4.475	1.161	
2/7/2023	12:27:00	15.955	4.487	1.271	
2/7/2023	12:28:00	15.94	4.487	1.057	
2/7/2023	12:29:00	15.948	4.455	1.403	
2/7/2023	12:30:00	15.937	4.46	0.953	
2/7/2023	12:31:00	15.95	4.442	1.341	
2/7/2023	12:32:00	15.937	4.455	1.162	
2/7/2023	12:33:00	15.957	4.446	1.204	2
2/7/2023	12:34:00	15.969	4.422	1.045	
2/7/2023	12:35:00	15.963	4.419	1.143	
2/7/2023	12:36:00	15.972	4.408	1.237	
2/7/2023	12:37:00	15.962	4.421	1.223	
2/7/2023	12:38:00	15.973	4.418	1.468	
2/7/2023	12:39:00	15.962	4.434	1.065	
2/7/2023	12:40:00	15.966	4.451	1.24	
2/7/2023	12:41:00	15.965	4.448	1.282	
2/7/2023	12:42:00	15.973	4.432	1.23	
2/7/2023	12:43:00	15.958	4.44	1.192	1
2/7/2023	12:44:00	15.953	4.439	1.497	
2/7/2023	12:45:00	15.893	4.495	1.086	
2/7/2023	12:46:00	15.914	4.488	1.279	
2/7/2023	12:47:00	15.951	4.468	1.33	
2/7/2023	12:48:00	15.963	4.441	1.186	
2/7/2023	12:49:00	15.96	4.446	0.977	
2/7/2023	12:50:00	15.928	4.46	1.387	
2/7/2023	12:51:00	15.94	4.452	1.691	
2/7/2023	12:52:00	15.954	4.44	1.671	

2/7/2023	12:53:00	15.956	4.436	1.214	
2/7/2023	12:54:00	15.918	4.46	1.118	
2/7/2023	12:55:00	15.911	4.473	1.129	
2/7/2023	12:56:00	14.707	4.442	1.263	
2/7/2023	12:57:00	10.085	4.958	0.286	
2/7/2023	12:58:00	10.079	4.968	-0.012	< System O2, CO2
2/7/2023	12:59:00	5.342	2.426	0.114	
2/7/2023	13:00:00	-0.012	-0.005	4.151	
2/7/2023	13:01:00	-0.018	-0.02	4.626	< System CO
2/7/2023	13:02:00	-0.021	-0.033	4.619	
2/7/2023	13:03:00	9.14	2.574	4.173	< Resume
2/7/2023	13:04:00	15.905	4.446	1.237	12
2/7/2023	13:05:00	15.924	4.441	1.393	
2/7/2023	13:06:00	15.927	4.466	1.056	
2/7/2023	13:07:00	15.956	4.451	1.346	
2/7/2023	13:08:00	15.954	4.466	1.084	
2/7/2023	13:09:00	15.959	4.481	1.063	
2/7/2023	13:10:00	15.944	4.476	1.177	
2/7/2023	13:11:00	15.954	4.445	1.873	
2/7/2023	13:12:00	15.933	4.463	1.217	
2/7/2023	13:13:00	15.942	4.442	1.402	
2/7/2023	13:14:00	15.959	4.431	1.198	11
2/7/2023	13:15:00	15.957	4.442	1.307	
2/7/2023	13:16:00	15.95	4.45	2.071	
2/7/2023	13:17:00	15.946	4.439	1.392	
2/7/2023	13:18:00	15.942	4.442	1.404	
2/7/2023	13:19:00	15.966	4.404	2.075	
2/7/2023	13:20:00	15.951	4.424	1.351	
2/7/2023	13:21:00	15.957	4.437	1.116	
2/7/2023	13:22:00	15.959	4.437	1.251	
2/7/2023	13:23:00	15.956	4.427	1.19	
2/7/2023	13:24:00	15.951	4.422	1.356	10
2/7/2023	13:25:00	15.952	4.415	1.759	
2/7/2023	13:26:00	15.955	4.424	1.139	
2/7/2023	13:27:00	15.963	4.44	0.946	
2/7/2023	13:28:00	15.956	4.444	1.013	
2/7/2023	13:29:00	15.918	4.485	1.007	
2/7/2023	13:30:00	15.954	4.468	1.043	
2/7/2023	13:31:00	15.949	4.472	0.993	
2/7/2023	13:32:00	15.964	4.466	0.932	
2/7/2023	13:33:00	15.966	4.478	0.9	
2/7/2023	13:34:00	15.957	4.476	0.907	9
2/7/2023	13:35:00	15.962	4.461	0.93	
2/7/2023	13:36:00	15.956	4.459	0.903	
2/7/2023	13:37:00	15.96	4.458	0.924	
2/7/2023	13:38:00	15.938	4.493	1.726	
2/7/2023	13:39:00	15.951	4.483	1.55	
2/7/2023	13:40:00	15.959	4.485	1.602	
2/7/2023	13:41:00	15.964	4.498	1.277	

2/7/2023	13:42:00	15.962	4.487	0.931	
2/7/2023	13:43:00	15.968	4.478	0.912	
2/7/2023	13:44:00	15.967	4.475	0.903	8
2/7/2023	13:45:00	15.961	4.484	0.874	
2/7/2023	13:46:00	15.952	4.508	0.893	
2/7/2023	13:47:00	15.96	4.504	0.989	
2/7/2023	13:48:00	15.949	4.507	1.234	
2/7/2023	13:49:00	15.956	4.493	1.074	
2/7/2023	13:50:00	15.962	4.474	1.145	
2/7/2023	13:51:00	15.972	4.462	1.13	
2/7/2023	13:52:00	15.972	4.462	1.164	
2/7/2023	13:53:00	15.967	4.455	0.966	
2/7/2023	13:54:00	15.976	4.457	1.07	7
2/7/2023	13:55:00	15.951	4.484	1.049	
2/7/2023	13:56:00	15.97	4.472	1.196	
2/7/2023	13:57:00	15.965	4.474	1.071	
2/7/2023	13:58:00	15.962	4.492	0.926	
2/7/2023	13:59:00	15.968	4.496	0.907	
2/7/2023	14:00:00	15.97	4.5	0.954	
2/7/2023	14:01:00	15.97	4.504	0.931	
2/7/2023	14:02:00	15.965	4.518	1.049	
2/7/2023	14:03:00	15.97	4.515	0.98	
2/7/2023	14:04:00	15.962	4.519	1.005	6
2/7/2023	14:05:00	15.971	4.511	0.966	
2/7/2023	14:06:00	15.98	4.51	0.907	
2/7/2023	14:07:00	15.945	4.54	0.936	
2/7/2023	14:08:00	15.964	4.534	1	
2/7/2023	14:09:00	15.973	4.533	0.975	
2/7/2023	14:10:00	15.969	4.536	1.098	
2/7/2023	14:11:00	15.978	4.52	1.179	
2/7/2023	14:12:00	15.978	4.501	1.311	
2/7/2023	14:13:00	15.981	4.48	1.026	
2/7/2023	14:14:00	15.974	4.491	0.989	5
2/7/2023	14:15:00	15.974	4.481	0.985	
2/7/2023	14:16:00	15.986	4.466	0.953	
2/7/2023	14:17:00	15.975	4.482	0.937	
2/7/2023	14:18:00	15.972	4.483	0.918	
2/7/2023	14:19:00	15.964	4.499	0.923	
2/7/2023	14:20:00	15.972	4.492	1.035	
2/7/2023	14:21:00	15.975	4.5	0.908	
2/7/2023	14:22:00	15.981	4.513	0.956	
2/7/2023	14:23:00	15.986	4.536	0.99	
2/7/2023	14:24:00	15.937	4.566	1.006	4
2/7/2023	14:25:00	15.972	4.516	1.027	
2/7/2023	14:26:00	15.989	4.51	0.925	
2/7/2023	14:27:00	15.993	4.507	0.891	
2/7/2023	14:28:00	15.971	4.543	0.956	
2/7/2023	14:29:00	15.968	4.543	1.023	
2/7/2023	14:30:00	15.975	4.525	0.932	

2/7/2023	14:31:00	15.972	4.523	0.952	
2/7/2023	14:32:00	15.968	4.518	1.05	
2/7/2023	14:33:00	15.974	4.526	1.233	
2/7/2023	14:34:00	15.979	4.538	1.082	3
2/7/2023	14:35:00	15.974	4.516	1.023	
2/7/2023	14:36:00	15.978	4.516	0.933	
2/7/2023	14:37:00	15.985	4.512	0.948	
2/7/2023	14:38:00	15.975	4.52	0.89	
2/7/2023	14:39:00	15.948	4.54	0.97	
2/7/2023	14:40:00	15.969	4.539	1.152	
2/7/2023	14:41:00	15.98	4.531	1.122	
2/7/2023	14:42:00	15.943	4.553	1.17	
2/7/2023	14:43:00	15.989	4.498	0.938	
2/7/2023	14:44:00	15.993	4.492	0.886	2
2/7/2023	14:45:00	15.992	4.524	0.895	
2/7/2023	14:46:00	15.976	4.557	0.986	
2/7/2023	14:47:00	15.99	4.533	0.998	
2/7/2023	14:48:00	15.988	4.529	0.961	
2/7/2023	14:49:00	15.981	4.545	0.915	
2/7/2023	14:50:00	15.986	4.539	1.137	
2/7/2023	14:51:00	15.99	4.535	1.085	
2/7/2023	14:52:00	15.983	4.529	0.98	
2/7/2023	14:53:00	15.997	4.494	0.923	
2/7/2023	14:54:00	15.988	4.487	0.902	1
2/7/2023	14:55:00	15.987	4.489	0.916	
2/7/2023	14:56:00	15.997	4.496	0.886	
2/7/2023	14:57:00	15.975	4.512	0.901	
2/7/2023	14:58:00	15.968	4.509	0.925	
2/7/2023	14:59:00	15.982	4.496	0.92	
2/7/2023	15:00:00	15.985	4.518	0.939	
2/7/2023	15:01:00	15.981	4.513	0.915	
2/7/2023	15:02:00	15.964	4.527	0.956	
2/7/2023	15:03:00	15.971	4.525	1.039	
2/7/2023	15:04:00	15.977	4.522	0.942	
2/7/2023	15:05:00	15.983	4.511	0.96	
2/7/2023	15:06:00	11.956	4.767	0.778	
2/7/2023	15:07:00	10.095	5.061	-0.048	< System O2, CO2
2/7/2023	15:08:00	3.832	1.812	0.532	
2/7/2023	15:09:00	-0.014	-0.011	4.413	
2/7/2023	15:10:00	-0.019	-0.017	4.649	< System CO
2/7/2023	15:11:00	1.813	0.314	4.648	
2/7/2023	15:12:00	19.308	9.794	6.302	
2/7/2023	15:13:00	19.329	9.707	9.565	< Direct High
2/7/2023	15:14:00	13.594	6.9	9.203	
2/7/2023	15:15:00	10.14	4.985	5.063	
2/7/2023	15:16:00	10.144	4.983	4.639	< Direct Mid
2/7/2023	15:17:00	10.143	4.991	4.634	
2/7/2023	15:18:00	10.14	4.987	4.624	
2/7/2023	15:19:00	10.142	4.985	4.643	

2/7/2023	15:20:00	10.145	4.99	4.658	
2/7/2023	15:21:00	10.142	5.003	4.661	
2/7/2023	15:22:00	10.143	4.989	4.645	
2/7/2023	15:23:00	10.145	4.964	4.657	
2/7/2023	15:24:00	10.142	4.959	4.65	
2/7/2023	15:25:00	10.143	4.953	4.656	
2/7/2023	15:26:00	10.144	4.95	4.63	
2/7/2023	15:27:00	10.144	4.956	4.641	
2/7/2023	15:28:00	10.141	4.978	4.632	
2/7/2023	15:29:00	10.142	4.974	4.63	
2/7/2023	15:30:00	10.141	4.966	4.643	
2/7/2023	15:31:00	10.141	4.954	4.641	
2/7/2023	15:32:00	10.139	4.941	4.654	
2/7/2023	15:33:00	10.139	4.937	4.649	
2/7/2023	15:34:00	10.142	4.948	4.637	
2/7/2023	15:35:00	10.142	4.961	4.64	
2/7/2023	15:36:00	10.139	4.968	4.645	
2/7/2023	15:37:00	10.14	4.95	4.651	
2/7/2023	15:38:00	10.14	4.926	4.643	
2/7/2023	15:39:00	10.143	4.922	4.637	
2/7/2023	15:40:00	10.139	4.923	4.627	
2/7/2023	15:41:00	10.139	4.929	4.639	
2/7/2023	15:42:00	10.142	4.941	4.634	
2/7/2023	15:43:00	10.141	4.96	4.634	
2/7/2023	15:44:00	10.14	4.966	4.645	
2/7/2023	15:45:00	10.139	4.962	4.643	
2/7/2023	15:46:00	10.14	4.954	4.618	
2/7/2023	15:47:00	10.141	4.935	4.633	
2/7/2023	15:48:00	10.142	4.925	4.646	
2/7/2023	15:49:00	10.142	4.915	4.643	
2/7/2023	15:50:00	10.142	4.914	4.639	
2/7/2023	15:51:00	10.142	4.929	4.662	
2/7/2023	15:52:00	10.142	4.94	4.65	
2/7/2023	15:53:00	10.143	4.947	4.639	
2/7/2023	15:54:00	10.142	4.956	4.641	
2/7/2023	15:55:00	10.142	4.959	4.642	
2/7/2023	15:56:00	10.141	4.972	4.629	
2/7/2023	15:57:00	10.141	4.972	4.635	
2/7/2023	15:58:00	10.142	4.96	4.643	
2/7/2023	15:59:00	10.142	4.948	4.654	
2/7/2023	16:00:00	10.142	4.936	4.633	
2/7/2023	16:01:00	10.144	4.943	4.633	
2/7/2023	16:02:00	10.143	4.949	4.634	
2/7/2023	16:03:00	1.737	0.898	4.08	
2/7/2023	16:04:00	-0.052	-0.096	1.27	
2/7/2023	16:05:00	-0.053	-0.109	0.224	
2/7/2023	16:06:00	-0.012	-0.021	-0.04	< Direct Zero
2/7/2023	16:07:00	-0.051	-0.114	-0.098	
2/7/2023	16:08:00	-0.05	-0.115	-0.122	

2/7/2023	16:09:00	-0.051	-0.112	-0.135
2/7/2023	16:10:00	-0.053	-0.107	-0.133
2/7/2023	16:11:00	-0.052	-0.106	-0.135
2/7/2023	16:12:00	-0.054	-0.113	-0.123
2/7/2023	16:13:00	-0.053	-0.122	-0.128
2/7/2023	16:14:00	-0.053	-0.126	-0.126
2/7/2023	16:15:00	-0.053	-0.118	-0.132
2/7/2023	16:16:00	-0.054	-0.111	-0.125
2/7/2023	16:17:00	-0.054	-0.103	-0.127
2/7/2023	16:18:00	-0.055	-0.114	-0.139
2/7/2023	16:19:00	-0.055	-0.128	-0.135
2/7/2023	16:20:00	-0.055	-0.127	-0.124
2/7/2023	16:21:00	-0.056	-0.118	-0.129
2/7/2023	16:22:00	-0.055	-0.113	-0.125
2/7/2023	16:23:00	-0.057	-0.108	-0.134
2/7/2023	16:24:00	-0.055	-0.116	-0.117
2/7/2023	16:25:00	-0.053	-0.122	-0.129

Date	Time	O2%	CO2%	COppm	
2/8/2023	7:45:00	-0.012	-0.024	-0.018	
2/8/2023	7:46:00	-0.013	-0.015	-0.024	< Direct Zero
2/8/2023	7:47:00	-0.014	-0.012	-0.015	
2/8/2023	7:48:00	1.233	0.243	-0.029	
2/8/2023	7:49:00	19.244	9.625	4.671	
2/8/2023	7:50:00	19.282	9.629	9.662	< Direct High
2/8/2023	7:51:00	13.852	6.765	8.936	
2/8/2023	7:52:00	10.119	4.901	4.932	
2/8/2023	7:53:00	10.219	4.896	4.715	< Direct Mid
2/8/2023	7:54:00	15.935	4.429	3.826	
2/8/2023	7:55:00	15.788	4.322	1.459	
2/8/2023	7:56:00	10.127	4.921	0.612	
2/8/2023	7:57:00	10.092	4.942	-0.079	< System O2, CO2
2/8/2023	7:58:00	3.697	1.7	0.645	
2/8/2023	7:59:00	0.006	0.007	4.438	
2/8/2023	8:00:00	0.001	0.005	4.707	< System CO
2/8/2023	8:01:00	12.61	3.57	3.668	
2/8/2023	8:02:00	15.94	4.433	1.467	
2/8/2023	8:03:00	15.937	4.45	1.431	
2/8/2023	8:04:00	15.944	4.437	1.376	
2/8/2023	8:05:00	15.941	4.427	1.319	
2/8/2023	8:06:00	15.943	4.432	1.285	
2/8/2023	8:07:00	15.949	4.428	1.265	
2/8/2023	8:08:00	15.944	4.431	1.314	
2/8/2023	8:09:00	15.946	4.427	1.327	
2/8/2023	8:10:00	15.943	4.435	1.345	< Start Run 2A 0810
2/8/2023	8:11:00	15.949	4.427	1.375	12
2/8/2023	8:12:00	15.947	4.438	1.358	
2/8/2023	8:13:00	15.944	4.437	1.29	
2/8/2023	8:14:00	15.944	4.431	1.446	
2/8/2023	8:15:00	15.947	4.431	1.304	
2/8/2023	8:16:00	15.953	4.427	1.163	
2/8/2023	8:17:00	15.954	4.426	1.245	
2/8/2023	8:18:00	15.949	4.434	1.294	
2/8/2023	8:19:00	15.951	4.436	1.331	
2/8/2023	8:20:00	15.95	4.434	1.363	
2/8/2023	8:21:00	15.952	4.437	1.279	11
2/8/2023	8:22:00	15.955	4.425	1.268	
2/8/2023	8:23:00	15.953	4.428	1.144	
2/8/2023	8:24:00	15.942	4.435	1.257	
2/8/2023	8:25:00	15.954	4.429	1.397	
2/8/2023	8:26:00	15.93	4.444	1.302	
2/8/2023	8:27:00	15.927	4.441	1.27	
2/8/2023	8:28:00	15.946	4.432	1.282	
2/8/2023	8:29:00	15.962	4.43	1.203	
2/8/2023	8:30:00	15.947	4.447	1.351	
2/8/2023	8:31:00	15.957	4.433	1.271	10
2/8/2023	8:32:00	15.957	4.428	1.3	
2/8/2023	8:33:00	15.95	4.435	1.26	
2/8/2023	8:34:00	15.953	4.426	1.35	
2/8/2023	8:35:00	15.932	4.44	1.284	
2/8/2023	8:36:00	15.946	4.424	1.238	
2/8/2023	8:37:00	15.961	4.418	1.369	
2/8/2023	8:38:00	15.933	4.441	1.322	

2/8/2023	8:39:00	15.94	4.436	1.262	
2/8/2023	8:40:00	15.948	4.437	1.309	
2/8/2023	8:41:00	15.954	4.431	1.285	9
2/8/2023	8:42:00	15.951	4.424	1.307	
2/8/2023	8:43:00	15.93	4.445	1.208	
2/8/2023	8:44:00	15.947	4.428	1.226	
2/8/2023	8:45:00	15.96	4.424	1.226	
2/8/2023	8:46:00	15.95	4.427	1.173	
2/8/2023	8:47:00	15.959	4.422	1.262	
2/8/2023	8:48:00	15.957	4.408	1.257	
2/8/2023	8:49:00	15.952	4.424	1.42	
2/8/2023	8:50:00	15.948	4.437	1.429	
2/8/2023	8:51:00	15.947	4.428	1.279	8
2/8/2023	8:52:00	15.946	4.424	1.273	
2/8/2023	8:53:00	15.946	4.427	1.224	
2/8/2023	8:54:00	15.96	4.414	1.261	
2/8/2023	8:55:00	15.966	4.425	1.059	
2/8/2023	8:56:00	15.961	4.436	1.024	
2/8/2023	8:57:00	15.959	4.43	1.029	
2/8/2023	8:58:00	15.946	4.449	1.374	
2/8/2023	8:59:00	15.939	4.454	1.264	
2/8/2023	9:00:00	15.941	4.466	1.221	
2/8/2023	9:01:00	15.953	4.46	1.325	7
2/8/2023	9:02:00	15.946	4.465	1.365	
2/8/2023	9:03:00	15.952	4.475	1.271	
2/8/2023	9:04:00	15.957	4.469	1.315	
2/8/2023	9:05:00	15.938	4.484	1.424	
2/8/2023	9:06:00	15.931	4.496	1.209	
2/8/2023	9:07:00	15.939	4.493	1.18	
2/8/2023	9:08:00	15.963	4.48	1.182	
2/8/2023	9:09:00	15.958	4.49	1.072	
2/8/2023	9:10:00	15.936	4.522	1.185	
2/8/2023	9:11:00	15.912	4.556	1.154	6
2/8/2023	9:12:00	15.905	4.551	1.134	
2/8/2023	9:13:00	15.947	4.509	1.172	
2/8/2023	9:14:00	15.958	4.494	1.088	
2/8/2023	9:15:00	15.971	4.491	1.055	
2/8/2023	9:16:00	15.953	4.509	1.481	
2/8/2023	9:17:00	15.952	4.513	1.76	
2/8/2023	9:18:00	15.961	4.52	1.416	
2/8/2023	9:19:00	15.955	4.53	1.381	
2/8/2023	9:20:00	15.957	4.529	1.18	
2/8/2023	9:21:00	15.953	4.543	2.052	5
2/8/2023	9:22:00	15.957	4.526	1.92	
2/8/2023	9:23:00	15.959	4.525	1.548	
2/8/2023	9:24:00	15.962	4.534	1.551	
2/8/2023	9:25:00	15.96	4.551	1.557	
2/8/2023	9:26:00	15.961	4.55	1.592	
2/8/2023	9:27:00	15.955	4.556	1.325	
2/8/2023	9:28:00	15.96	4.546	1.63	
2/8/2023	9:29:00	15.957	4.551	1.47	
2/8/2023	9:30:00	15.967	4.542	1.453	
2/8/2023	9:31:00	15.966	4.534	1.496	4
2/8/2023	9:32:00	15.958	4.55	1.181	
2/8/2023	9:33:00	15.962	4.556	1.216	

2/8/2023	9:34:00	15.958	4.564	1.345	
2/8/2023	9:35:00	15.95	4.581	1.355	
2/8/2023	9:36:00	15.961	4.579	1.293	
2/8/2023	9:37:00	15.96	4.57	1.791	
2/8/2023	9:38:00	15.969	4.57	1.398	
2/8/2023	9:39:00	15.962	4.574	1.293	
2/8/2023	9:40:00	15.976	4.559	1.409	
2/8/2023	9:41:00	15.965	4.573	1.209	3
2/8/2023	9:42:00	15.95	4.586	1.589	
2/8/2023	9:43:00	15.943	4.6	1.64	
2/8/2023	9:44:00	15.965	4.576	1.291	
2/8/2023	9:45:00	15.97	4.574	1.11	
2/8/2023	9:46:00	15.975	4.568	1.121	
2/8/2023	9:47:00	15.97	4.587	1.271	
2/8/2023	9:48:00	15.974	4.579	1.195	
2/8/2023	9:49:00	15.974	4.568	1.105	
2/8/2023	9:50:00	15.974	4.576	1.023	
2/8/2023	9:51:00	15.969	4.582	1.126	2
2/8/2023	9:52:00	15.965	4.599	1.968	
2/8/2023	9:53:00	15.971	4.577	1.512	
2/8/2023	9:54:00	15.972	4.594	1.66	
2/8/2023	9:55:00	15.973	4.594	1.714	
2/8/2023	9:56:00	15.966	4.598	1.7	
2/8/2023	9:57:00	15.969	4.597	1.21	
2/8/2023	9:58:00	15.969	4.585	1.162	
2/8/2023	9:59:00	15.968	4.592	1.023	
2/8/2023	10:00:00	15.966	4.605	1.296	
2/8/2023	10:01:00	15.966	4.607	1.247	1
2/8/2023	10:02:00	15.96	4.607	1.179	
2/8/2023	10:03:00	15.966	4.601	1.243	
2/8/2023	10:04:00	15.972	4.602	1.69	
2/8/2023	10:05:00	15.958	4.615	1.636	
2/8/2023	10:06:00	15.97	4.599	1.583	
2/8/2023	10:07:00	15.977	4.582	1.61	
2/8/2023	10:08:00	15.972	4.605	1.642	
2/8/2023	10:09:00	15.959	4.614	1.732	
2/8/2023	10:10:00	15.952	4.611	1.621	
2/8/2023	10:11:00	11.602	4.839	1.225	
2/8/2023	10:12:00	10.093	5.022	-0.058	< System O2, CO2
2/8/2023	10:13:00	8.147	4.087	-0.191	
2/8/2023	10:14:00	-0.002	0.16	3.037	
2/8/2023	10:15:00	-0.013	0.047	4.675	< System CO
2/8/2023	10:16:00	1.933	0.739	4.67	
2/8/2023	10:17:00	15.927	4.579	2.748	
2/8/2023	10:18:00	15.947	4.588	1.605	< Resume Run 2B
2/8/2023	10:19:00	15.945	4.589	2.114	12
2/8/2023	10:20:00	15.953	4.586	1.896	
2/8/2023	10:21:00	15.951	4.583	1.276	
2/8/2023	10:22:00	15.951	4.592	1.515	
2/8/2023	10:23:00	15.947	4.586	1.421	
2/8/2023	10:24:00	15.954	4.576	1.27	
2/8/2023	10:25:00	15.955	4.571	1.053	
2/8/2023	10:26:00	15.95	4.586	1.1	
2/8/2023	10:27:00	15.952	4.586	1.115	
2/8/2023	10:28:00	15.946	4.59	1.598	

2/8/2023	10:29:00	15.956	4.577	1.328	11
2/8/2023	10:30:00	15.956	4.577	1.052	
2/8/2023	10:31:00	15.953	4.583	1.439	
2/8/2023	10:32:00	15.957	4.584	1.15	
2/8/2023	10:33:00	15.952	4.588	1.152	
2/8/2023	10:34:00	15.951	4.592	1.299	
2/8/2023	10:35:00	15.961	4.583	1.092	
2/8/2023	10:36:00	15.962	4.576	0.957	
2/8/2023	10:37:00	15.957	4.593	0.969	
2/8/2023	10:38:00	15.95	4.604	1.123	
2/8/2023	10:39:00	15.951	4.624	1.417	10
2/8/2023	10:40:00	15.955	4.614	1.483	
2/8/2023	10:41:00	15.965	4.594	1.155	
2/8/2023	10:42:00	15.967	4.585	0.964	
2/8/2023	10:43:00	15.968	4.58	0.956	
2/8/2023	10:44:00	15.961	4.597	0.964	
2/8/2023	10:45:00	15.953	4.621	0.989	
2/8/2023	10:46:00	15.956	4.63	1.006	
2/8/2023	10:47:00	15.951	4.635	1.047	
2/8/2023	10:48:00	15.961	4.617	0.98	
2/8/2023	10:49:00	15.955	4.639	1.173	9
2/8/2023	10:50:00	15.958	4.643	1.396	
2/8/2023	10:51:00	15.956	4.63	1.372	
2/8/2023	10:52:00	15.955	4.625	1.28	
2/8/2023	10:53:00	15.966	4.622	1.388	
2/8/2023	10:54:00	15.965	4.639	1.029	
2/8/2023	10:55:00	15.964	4.655	1.263	
2/8/2023	10:56:00	15.946	4.675	1.439	
2/8/2023	10:57:00	15.961	4.65	1.318	
2/8/2023	10:58:00	15.947	4.653	1.342	
2/8/2023	10:59:00	15.961	4.629	1.157	8
2/8/2023	11:00:00	15.968	4.619	1.122	
2/8/2023	11:01:00	15.966	4.626	0.967	
2/8/2023	11:02:00	15.97	4.64	0.976	
2/8/2023	11:03:00	15.953	4.658	1.032	
2/8/2023	11:04:00	15.965	4.657	1.016	
2/8/2023	11:05:00	15.969	4.652	1.26	
2/8/2023	11:06:00	15.979	4.641	1.07	
2/8/2023	11:07:00	15.977	4.64	0.963	
2/8/2023	11:08:00	15.968	4.647	1.02	
2/8/2023	11:09:00	15.946	4.671	1.268	7
2/8/2023	11:10:00	15.957	4.652	1.313	
2/8/2023	11:11:00	15.961	4.649	1.187	
2/8/2023	11:12:00	15.971	4.634	1.264	
2/8/2023	11:13:00	15.974	4.623	1.705	
2/8/2023	11:14:00	15.965	4.648	1.319	
2/8/2023	11:15:00	15.97	4.651	1.409	
2/8/2023	11:16:00	15.972	4.645	1.068	
2/8/2023	11:17:00	15.973	4.632	1.113	
2/8/2023	11:18:00	15.978	4.624	1.003	
2/8/2023	11:19:00	15.966	4.643	0.997	6
2/8/2023	11:20:00	15.97	4.661	1.062	
2/8/2023	11:21:00	15.975	4.653	0.956	
2/8/2023	11:22:00	15.962	4.659	1.012	
2/8/2023	11:23:00	15.975	4.657	1.098	

2/8/2023	11:24:00	15.973	4.657	0.985	
2/8/2023	11:25:00	15.97	4.661	0.944	
2/8/2023	11:26:00	15.965	4.677	1.143	
2/8/2023	11:27:00	15.973	4.684	1.384	
2/8/2023	11:28:00	15.961	4.697	1.205	
2/8/2023	11:29:00	15.972	4.688	1.087	5
2/8/2023	11:30:00	15.981	4.688	0.947	
2/8/2023	11:31:00	15.98	4.689	0.928	
2/8/2023	11:32:00	15.977	4.702	1.077	
2/8/2023	11:33:00	15.974	4.706	1.677	
2/8/2023	11:34:00	15.979	4.699	1.088	
2/8/2023	11:35:00	15.978	4.691	1.178	
2/8/2023	11:36:00	15.985	4.684	1.719	
2/8/2023	11:37:00	15.986	4.687	0.971	
2/8/2023	11:38:00	15.978	4.695	1.03	
2/8/2023	11:39:00	15.978	4.687	0.992	4
2/8/2023	11:40:00	15.975	4.695	0.964	
2/8/2023	11:41:00	15.979	4.689	0.96	
2/8/2023	11:42:00	15.976	4.699	0.994	
2/8/2023	11:43:00	15.985	4.682	0.945	
2/8/2023	11:44:00	15.983	4.683	0.934	
2/8/2023	11:45:00	15.983	4.706	0.935	
2/8/2023	11:46:00	15.977	4.707	1.063	
2/8/2023	11:47:00	15.977	4.696	0.985	
2/8/2023	11:48:00	15.977	4.693	1.073	
2/8/2023	11:49:00	15.978	4.693	1.457	3
2/8/2023	11:50:00	15.994	4.68	0.969	
2/8/2023	11:51:00	15.986	4.687	0.952	
2/8/2023	11:52:00	15.986	4.707	0.993	
2/8/2023	11:53:00	15.992	4.708	1.059	
2/8/2023	11:54:00	15.988	4.701	0.94	
2/8/2023	11:55:00	15.99	4.709	0.947	
2/8/2023	11:56:00	15.983	4.71	0.986	
2/8/2023	11:57:00	15.986	4.696	1.113	
2/8/2023	11:58:00	15.985	4.682	0.988	
2/8/2023	11:59:00	15.988	4.692	0.957	2
2/8/2023	12:00:00	15.989	4.691	1.086	
2/8/2023	12:01:00	15.987	4.687	0.978	
2/8/2023	12:02:00	15.987	4.692	0.951	
2/8/2023	12:03:00	15.985	4.708	0.98	
2/8/2023	12:04:00	15.979	4.709	0.952	
2/8/2023	12:05:00	15.967	4.71	1.016	
2/8/2023	12:06:00	15.974	4.687	1.033	
2/8/2023	12:07:00	15.987	4.665	0.958	
2/8/2023	12:08:00	15.993	4.65	0.961	
2/8/2023	12:09:00	15.986	4.655	0.956	1
2/8/2023	12:10:00	15.995	4.637	0.925	
2/8/2023	12:11:00	15.989	4.643	0.915	
2/8/2023	12:12:00	15.986	4.642	0.942	
2/8/2023	12:13:00	15.976	4.65	0.998	
2/8/2023	12:14:00	15.981	4.632	0.971	
2/8/2023	12:15:00	15.989	4.626	0.94	
2/8/2023	12:16:00	15.993	4.619	0.926	
2/8/2023	12:17:00	16	4.626	0.92	
2/8/2023	12:18:00	15.992	4.646	0.932	< End Run 2

2/8/2023	12:19:00	15.993	4.643	0.967	
2/8/2023	12:20:00	12.286	4.819	0.92	
2/8/2023	12:21:00	10.103	5.027	-0.025	< System O2, CO2
2/8/2023	12:22:00	4.435	2.298	0.365	
2/8/2023	12:23:00	0	0.179	4.319	
2/8/2023	12:24:00	-0.007	0.027	4.664	< System CO
2/8/2023	12:25:00	6.239	1.924	4.515	
2/8/2023	12:26:00	15.992	4.615	1.499	
2/8/2023	12:27:00	16.005	4.614	0.942	
2/8/2023	12:28:00	16	4.626	0.914	
2/8/2023	12:29:00	15.999	4.642	0.95	
2/8/2023	12:30:00	16.001	4.633	0.99	
2/8/2023	12:31:00	15.991	4.648	0.951	
2/8/2023	12:32:00	15.996	4.656	0.936	
2/8/2023	12:33:00	15.996	4.65	0.941	
2/8/2023	12:34:00	15.998	4.653	0.927	
2/8/2023	12:35:00	16.003	4.642	0.919	
2/8/2023	12:36:00	16.002	4.636	0.919	
2/8/2023	12:37:00	15.988	4.658	0.969	
2/8/2023	12:38:00	15.995	4.658	0.966	
2/8/2023	12:39:00	15.994	4.656	1.226	
2/8/2023	12:40:00	16.003	4.638	1.111	
2/8/2023	12:41:00	16.01	4.636	1.017	
2/8/2023	12:42:00	15.997	4.628	1.076	
2/8/2023	12:43:00	16	4.609	1.067	
2/8/2023	12:44:00	16.016	4.583	0.988	
2/8/2023	12:45:00	16	4.578	0.975	
2/8/2023	12:46:00	15.986	4.591	0.976	
2/8/2023	12:47:00	15.999	4.57	0.946	
2/8/2023	12:48:00	15.998	4.578	1.016	
2/8/2023	12:49:00	16.003	4.567	0.963	
2/8/2023	12:50:00	16.006	4.558	0.934	
2/8/2023	12:51:00	15.999	4.56	0.911	
2/8/2023	12:52:00	16.001	4.551	0.931	
2/8/2023	12:53:00	16.018	4.544	0.909	
2/8/2023	12:54:00	15.961	4.589	0.959	
2/8/2023	12:55:00	15.993	4.552	0.936	
2/8/2023	12:56:00	16.009	4.537	0.932	
2/8/2023	12:57:00	16.012	4.544	0.934	
2/8/2023	12:58:00	15.999	4.571	0.986	
2/8/2023	12:59:00	13.218	4.649	0.926	
2/8/2023	13:00:00	10.095	5.011	-0.001	< System O2, CO2
2/8/2023	13:01:00	4.571	2.268	0.349	
2/8/2023	13:02:00	-0.003	0.099	4.321	
2/8/2023	13:03:00	-0.007	0.027	4.647	< System CO
2/8/2023	13:04:00	13.161	3.783	3.432	
2/8/2023	13:05:00	16.007	4.551	0.992	< Start Run 3 13:05
2/8/2023	13:06:00	16.015	4.551	0.906	12
2/8/2023	13:07:00	16.016	4.555	0.91	
2/8/2023	13:08:00	16.019	4.546	0.924	
2/8/2023	13:09:00	16.02	4.546	0.904	
2/8/2023	13:10:00	16.023	4.543	0.9	
2/8/2023	13:11:00	16.012	4.559	0.92	
2/8/2023	13:12:00	16.011	4.552	0.916	
2/8/2023	13:13:00	16.012	4.551	0.899	

2/8/2023	13:14:00	16.019	4.537	0.914	
2/8/2023	13:15:00	16.026	4.533	0.897	
2/8/2023	13:16:00	16.023	4.553	0.963	11
2/8/2023	13:17:00	15.968	4.594	0.992	
2/8/2023	13:18:00	16.011	4.562	0.95	
2/8/2023	13:19:00	16.004	4.557	0.921	
2/8/2023	13:20:00	16.004	4.56	0.922	
2/8/2023	13:21:00	15.999	4.57	0.922	
2/8/2023	13:22:00	15.991	4.584	0.942	
2/8/2023	13:23:00	15.987	4.584	0.949	
2/8/2023	13:24:00	16.004	4.566	0.963	
2/8/2023	13:25:00	16.001	4.571	1.029	
2/8/2023	13:26:00	16.008	4.577	1.036	10
2/8/2023	13:27:00	16.006	4.573	0.954	
2/8/2023	13:28:00	15.993	4.584	1.005	
2/8/2023	13:29:00	15.989	4.587	0.971	
2/8/2023	13:30:00	16.014	4.574	0.94	
2/8/2023	13:31:00	16.019	4.568	0.923	
2/8/2023	13:32:00	16.013	4.583	0.958	
2/8/2023	13:33:00	15.995	4.602	1.011	
2/8/2023	13:34:00	16.002	4.596	0.986	
2/8/2023	13:35:00	16.011	4.581	0.985	
2/8/2023	13:36:00	16.02	4.585	0.935	9
2/8/2023	13:37:00	16.017	4.574	0.914	
2/8/2023	13:38:00	16.009	4.589	0.947	
2/8/2023	13:39:00	16.009	4.597	1.049	
2/8/2023	13:40:00	16.013	4.599	0.915	
2/8/2023	13:41:00	16.013	4.604	0.904	
2/8/2023	13:42:00	16.006	4.607	1.011	
2/8/2023	13:43:00	15.998	4.616	1.003	
2/8/2023	13:44:00	15.997	4.614	0.985	
2/8/2023	13:45:00	16.015	4.602	0.985	
2/8/2023	13:46:00	16.011	4.613	0.904	8
2/8/2023	13:47:00	16.014	4.612	0.918	
2/8/2023	13:48:00	16.017	4.608	0.9	
2/8/2023	13:49:00	16.015	4.605	0.939	
2/8/2023	13:50:00	16.015	4.606	0.975	
2/8/2023	13:51:00	16.003	4.617	0.959	
2/8/2023	13:52:00	16	4.621	0.941	
2/8/2023	13:53:00	16.005	4.615	0.923	
2/8/2023	13:54:00	15.999	4.626	1.235	
2/8/2023	13:55:00	16.012	4.622	0.963	
2/8/2023	13:56:00	16.011	4.622	0.969	7
2/8/2023	13:57:00	16	4.628	0.921	
2/8/2023	13:58:00	16.011	4.623	0.913	
2/8/2023	13:59:00	16.005	4.622	0.931	
2/8/2023	14:00:00	16	4.629	0.93	
2/8/2023	14:01:00	16.001	4.635	0.943	
2/8/2023	14:02:00	16.011	4.623	0.943	
2/8/2023	14:03:00	16.008	4.61	0.926	
2/8/2023	14:04:00	16	4.622	0.904	
2/8/2023	14:05:00	15.998	4.636	0.915	
2/8/2023	14:06:00	16.009	4.628	0.903	6
2/8/2023	14:07:00	16.006	4.626	0.888	
2/8/2023	14:08:00	16.006	4.625	0.925	

2/8/2023	14:09:00	16.01	4.618	0.911	
2/8/2023	14:10:00	16.016	4.622	0.938	
2/8/2023	14:11:00	16.015	4.63	0.916	
2/8/2023	14:12:00	16.011	4.633	0.912	
2/8/2023	14:13:00	16.01	4.64	0.916	
2/8/2023	14:14:00	16.005	4.65	0.943	
2/8/2023	14:15:00	16.005	4.64	0.917	
2/8/2023	14:16:00	16.012	4.623	0.941	5
2/8/2023	14:17:00	16.007	4.619	1.001	
2/8/2023	14:18:00	16.005	4.62	0.985	
2/8/2023	14:19:00	16.012	4.621	1.001	
2/8/2023	14:20:00	16.01	4.617	1.03	
2/8/2023	14:21:00	16.009	4.604	1.048	
2/8/2023	14:22:00	16.01	4.613	1.024	
2/8/2023	14:23:00	16.001	4.618	0.983	
2/8/2023	14:24:00	16.005	4.621	0.984	
2/8/2023	14:25:00	16.004	4.62	0.969	
2/8/2023	14:26:00	16.004	4.617	0.917	4
2/8/2023	14:27:00	15.986	4.635	0.909	
2/8/2023	14:28:00	15.999	4.613	0.938	
2/8/2023	14:29:00	16.002	4.616	0.918	
2/8/2023	14:30:00	16.004	4.619	0.887	
2/8/2023	14:31:00	15.992	4.627	0.91	
2/8/2023	14:32:00	16.001	4.615	0.954	
2/8/2023	14:33:00	16.001	4.622	0.956	
2/8/2023	14:34:00	16.007	4.622	0.912	
2/8/2023	14:35:00	16.003	4.648	0.928	
2/8/2023	14:36:00	16.002	4.649	0.981	3
2/8/2023	14:37:00	15.996	4.641	0.972	
2/8/2023	14:38:00	16.009	4.624	0.923	
2/8/2023	14:39:00	16.004	4.636	0.956	
2/8/2023	14:40:00	16.011	4.625	0.913	
2/8/2023	14:41:00	16.009	4.63	0.921	
2/8/2023	14:42:00	16.006	4.636	0.922	
2/8/2023	14:43:00	16.011	4.617	0.914	
2/8/2023	14:44:00	16.011	4.6	0.943	
2/8/2023	14:45:00	16.007	4.588	0.918	
2/8/2023	14:46:00	16.009	4.587	0.898	2
2/8/2023	14:47:00	16.009	4.575	0.916	
2/8/2023	14:48:00	15.993	4.592	0.922	
2/8/2023	14:49:00	15.993	4.576	0.932	
2/8/2023	14:50:00	16.001	4.577	0.926	
2/8/2023	14:51:00	16.004	4.557	0.932	
2/8/2023	14:52:00	16.002	4.556	0.925	
2/8/2023	14:53:00	16.005	4.557	0.922	
2/8/2023	14:54:00	16.006	4.567	0.959	
2/8/2023	14:55:00	16.015	4.562	0.979	
2/8/2023	14:56:00	16.001	4.565	0.984	1
2/8/2023	14:57:00	15.999	4.56	0.983	
2/8/2023	14:58:00	16.003	4.551	0.98	
2/8/2023	14:59:00	16	4.549	0.93	
2/8/2023	15:00:00	15.996	4.552	0.914	
2/8/2023	15:01:00	16.003	4.55	0.944	
2/8/2023	15:02:00	16.006	4.547	0.947	
2/8/2023	15:03:00	16.011	4.553	0.923	

2/8/2023	15:04:00	16.01	4.556	0.913	
2/8/2023	15:05:00	16.012	4.549	0.919	
2/8/2023	15:06:00	11.139	4.828	0.681	
2/8/2023	15:07:00	10.099	5.012	-0.027	< System O2, CO2
2/8/2023	15:08:00	5.754	2.739	0.099	
2/8/2023	15:09:00	0	0.096	4.067	
2/8/2023	15:10:00	-0.006	0.035	4.641	< System CO
2/8/2023	15:11:00	-0.007	0.083	4.639	
2/8/2023	15:12:00	9.528	3.083	4.003	< Resume Run 3B
2/8/2023	15:13:00	16.05	4.533	0.938	12
2/8/2023	15:14:00	16.057	4.539	0.929	
2/8/2023	15:15:00	16.058	4.539	0.916	
2/8/2023	15:16:00	16.056	4.549	0.933	
2/8/2023	15:17:00	16.052	4.541	0.952	
2/8/2023	15:18:00	16.054	4.539	0.944	
2/8/2023	15:19:00	16.052	4.539	0.922	
2/8/2023	15:20:00	16.044	4.543	0.942	
2/8/2023	15:21:00	16.058	4.541	0.917	
2/8/2023	15:22:00	16.054	4.542	0.925	
2/8/2023	15:23:00	16.057	4.541	0.929	11
2/8/2023	15:24:00	16.052	4.549	0.931	
2/8/2023	15:25:00	16.08	4.531	0.906	
2/8/2023	15:26:00	16.036	4.574	0.907	
2/8/2023	15:27:00	16.044	4.552	0.956	
2/8/2023	15:28:00	16.06	4.537	0.915	
2/8/2023	15:29:00	16.059	4.543	0.912	
2/8/2023	15:30:00	16.068	4.544	0.904	
2/8/2023	15:31:00	16.065	4.556	0.918	
2/8/2023	15:32:00	16.061	4.557	0.91	
2/8/2023	15:33:00	16.06	4.55	0.927	10
2/8/2023	15:34:00	16.061	4.538	0.935	
2/8/2023	15:35:00	16.058	4.527	0.927	
2/8/2023	15:36:00	16.052	4.537	0.929	
2/8/2023	15:37:00	16.06	4.528	0.931	
2/8/2023	15:38:00	16.053	4.538	0.921	
2/8/2023	15:39:00	16.059	4.527	0.957	
2/8/2023	15:40:00	16.052	4.545	0.932	
2/8/2023	15:41:00	16.052	4.544	0.938	
2/8/2023	15:42:00	16.049	4.551	0.921	
2/8/2023	15:43:00	16.046	4.542	0.978	9
2/8/2023	15:44:00	16.037	4.537	0.989	
2/8/2023	15:45:00	16.05	4.53	0.967	
2/8/2023	15:46:00	16.053	4.527	0.917	
2/8/2023	15:47:00	16.052	4.528	0.921	
2/8/2023	15:48:00	16.052	4.526	0.924	
2/8/2023	15:49:00	16.051	4.534	0.913	
2/8/2023	15:50:00	16.042	4.54	0.938	
2/8/2023	15:51:00	16.043	4.525	0.932	
2/8/2023	15:52:00	16.047	4.525	0.933	
2/8/2023	15:53:00	16.063	4.533	0.913	8
2/8/2023	15:54:00	16.018	4.566	0.942	
2/8/2023	15:55:00	16.042	4.535	0.963	
2/8/2023	15:56:00	16.055	4.516	0.95	
2/8/2023	15:57:00	16.056	4.526	1.004	
2/8/2023	15:58:00	16.049	4.527	0.994	

2/8/2023	15:59:00	16.044	4.533	0.951	
2/8/2023	16:00:00	16.038	4.533	0.964	
2/8/2023	16:01:00	16.049	4.519	0.944	
2/8/2023	16:02:00	16.037	4.537	0.959	
2/8/2023	16:03:00	16.051	4.522	0.958	7
2/8/2023	16:04:00	16.047	4.529	0.965	
2/8/2023	16:05:00	16.048	4.529	0.932	
2/8/2023	16:06:00	16.045	4.529	0.924	
2/8/2023	16:07:00	16.038	4.544	0.952	
2/8/2023	16:08:00	16.054	4.525	0.928	
2/8/2023	16:09:00	16.055	4.527	0.929	
2/8/2023	16:10:00	16.028	4.553	0.945	
2/8/2023	16:11:00	16.041	4.547	0.961	
2/8/2023	16:12:00	16.057	4.52	0.951	
2/8/2023	16:13:00	16.078	4.52	0.917	6
2/8/2023	16:14:00	16.007	4.567	0.971	
2/8/2023	16:15:00	16.044	4.534	0.967	
2/8/2023	16:16:00	16.054	4.51	0.957	
2/8/2023	16:17:00	16.055	4.513	0.961	
2/8/2023	16:18:00	16.055	4.528	0.942	
2/8/2023	16:19:00	16.044	4.535	0.938	
2/8/2023	16:20:00	16.047	4.531	0.95	
2/8/2023	16:21:00	16.052	4.512	0.945	
2/8/2023	16:22:00	16.06	4.509	0.937	
2/8/2023	16:23:00	16.055	4.511	0.936	5
2/8/2023	16:24:00	16.047	4.52	0.946	
2/8/2023	16:25:00	16.076	4.526	0.891	
2/8/2023	16:26:00	16.021	4.569	0.946	
2/8/2023	16:27:00	15.996	4.579	0.944	
2/8/2023	16:28:00	15.984	4.556	0.986	
2/8/2023	16:29:00	16.063	4.49	0.92	
2/8/2023	16:30:00	16.009	4.532	0.939	
2/8/2023	16:31:00	15.999	4.567	0.957	
2/8/2023	16:32:00	15.992	4.585	0.964	
2/8/2023	16:33:00	16.004	4.574	1.004	4
2/8/2023	16:34:00	16.014	4.546	0.951	
2/8/2023	16:35:00	16.025	4.54	0.923	
2/8/2023	16:36:00	16.009	4.545	0.958	
2/8/2023	16:37:00	16.008	4.552	0.956	
2/8/2023	16:38:00	16.004	4.559	1.005	
2/8/2023	16:39:00	16.012	4.554	1.007	
2/8/2023	16:40:00	16.021	4.545	0.96	
2/8/2023	16:41:00	16.024	4.531	0.926	
2/8/2023	16:42:00	16.018	4.54	0.968	
2/8/2023	16:43:00	16.01	4.528	1.068	3
2/8/2023	16:44:00	16.053	4.501	1.051	
2/8/2023	16:45:00	16.061	4.505	1.029	
2/8/2023	16:46:00	16.045	4.516	1.015	
2/8/2023	16:47:00	16.043	4.508	0.96	
2/8/2023	16:48:00	16.043	4.499	0.973	
2/8/2023	16:49:00	16.048	4.478	1.064	
2/8/2023	16:50:00	16.051	4.461	1.026	
2/8/2023	16:51:00	16.047	4.458	1.08	
2/8/2023	16:52:00	16.047	4.457	1.047	
2/8/2023	16:53:00	16.049	4.444	1.003	2

2/8/2023	16:54:00	16.049	4.446	0.967	
2/8/2023	16:55:00	16.049	4.441	0.992	
2/8/2023	16:56:00	16.054	4.438	0.958	
2/8/2023	16:57:00	16.051	4.452	0.944	
2/8/2023	16:58:00	16.045	4.467	0.939	
2/8/2023	16:59:00	16.098	4.402	0.923	
2/8/2023	17:00:00	16.073	4.449	0.877	
2/8/2023	17:01:00	16.028	4.534	0.952	
2/8/2023	17:02:00	16.042	4.542	0.963	
2/8/2023	17:03:00	16.04	4.494	0.952	1
2/8/2023	17:04:00	16.042	4.49	0.953	
2/8/2023	17:05:00	16.048	4.473	0.966	
2/8/2023	17:06:00	16.052	4.481	0.955	
2/8/2023	17:07:00	16.048	4.493	0.95	
2/8/2023	17:08:00	16.03	4.51	0.957	
2/8/2023	17:09:00	15.975	4.496	0.954	
2/8/2023	17:10:00	15.993	4.483	0.949	
2/8/2023	17:11:00	15.937	4.756	0.972	
2/8/2023	17:12:00	15.979	4.428	0.952	
2/8/2023	17:13:00	11.264	4.931	1.667	
2/8/2023	17:14:00	10.097	5.015	-0.024	< System O2, CO2
2/8/2023	17:15:00	4.772	2.136	0.315	
2/8/2023	17:16:00	-0.017	0.042	4.138	
2/8/2023	17:17:00	-0.022	0.041	4.668	< System CO
2/8/2023	17:18:00	5.34	1.562	4.588	
2/8/2023	17:19:00	15.978	4.486	1.856	
2/8/2023	17:20:00	13.225	3.948	0.962	
2/8/2023	17:21:00	-0.006	-0.017	0.349	
2/8/2023	17:22:00	-0.006	-0.02	-0.08	< Direct Zero
2/8/2023	17:23:00	-0.004	-0.028	-0.075	
2/8/2023	17:24:00	-0.002	-0.028	-0.065	
2/8/2023	17:25:00	12.266	5.707	0.81	
2/8/2023	17:26:00	19.296	9.082	8.848	
2/8/2023	17:27:00	19.286	9.553	9.59	
2/8/2023	17:28:00	19.282	9.623	9.582	< Direct High
2/8/2023	17:29:00	11.445	5.444	8.262	
2/8/2023	17:30:00	10.124	4.571	4.728	
2/8/2023	17:31:00	10.123	4.567	4.652	
2/8/2023	17:32:00	10.125	4.603	4.644	
2/8/2023	17:33:00	10.126	4.89	4.651	< Direct Mid
2/8/2023	17:34:00	7.997	3.893	4.66	
2/8/2023	17:35:00	-0.023	-0.073	3.374	

Date	Time	O2%	CO2%	COppm	
2/9/2023	7:46:00	13.682	7.117	9.549	
2/9/2023	7:47:00	0.001	-0.07	2.764	
2/9/2023	7:48:00	-0.001	-0.07	-0.084	< Direct Zero
2/9/2023	7:49:00	7.637	3.441	0.065	
2/9/2023	7:50:00	19.309	9.665	7.583	
2/9/2023	7:51:00	19.314	9.685	9.617	<, Direct High
2/9/2023	7:52:00	11.047	5.453	7.607	
2/9/2023	7:53:00	10.129	4.926	4.625	< Direct Mid
2/9/2023	7:54:00	10.148	4.931	4.58	
2/9/2023	7:55:00	10.166	4.945	4.556	
2/9/2023	7:56:00	10.172	4.941	4.554	
2/9/2023	7:57:00	14.057	3.811	4.336	
2/9/2023	7:58:00	12.069	4.704	1.227	
2/9/2023	7:59:00	10.098	5.022	-0.032	< System O2, CO2
2/9/2023	8:00:00	1.6	0.759	1.21	
2/9/2023	8:01:00	0.009	0.043	4.397	
2/9/2023	8:02:00	0.007	0.042	4.48	
2/9/2023	8:03:00	0.011	0.039	4.662	< System CO
2/9/2023	8:04:00	11.583	3.291	3.605	
2/9/2023	8:05:00	15.973	4.457	0.958	< Start Run 4 08:05
<hr/>					
2/9/2023	8:06:00	15.979	4.465	0.709	12
2/9/2023	8:07:00	15.976	4.476	0.698	
2/9/2023	8:08:00	15.977	4.474	0.753	
2/9/2023	8:09:00	15.982	4.465	0.665	
2/9/2023	8:10:00	15.977	4.469	0.71	
2/9/2023	8:11:00	15.975	4.466	0.633	
2/9/2023	8:12:00	15.979	4.465	0.649	
2/9/2023	8:13:00	15.974	4.474	0.746	
2/9/2023	8:14:00	15.974	4.484	0.891	
2/9/2023	8:15:00	15.975	4.478	0.81	
2/9/2023	8:16:00	15.984	4.462	0.842	11
2/9/2023	8:17:00	15.984	4.457	0.718	
2/9/2023	8:18:00	15.981	4.461	0.716	
2/9/2023	8:19:00	15.978	4.473	0.781	
2/9/2023	8:20:00	15.985	4.46	0.828	
2/9/2023	8:21:00	15.984	4.442	0.735	
2/9/2023	8:22:00	15.976	4.454	0.754	
2/9/2023	8:23:00	15.986	4.432	0.79	
2/9/2023	8:24:00	15.987	4.431	0.735	
2/9/2023	8:25:00	15.983	4.442	0.732	
2/9/2023	8:26:00	15.988	4.433	0.781	10
2/9/2023	8:27:00	15.986	4.422	0.715	
2/9/2023	8:28:00	15.985	4.412	0.796	
2/9/2023	8:29:00	15.979	4.408	0.686	
2/9/2023	8:30:00	15.983	4.407	0.663	
2/9/2023	8:31:00	15.987	4.404	0.641	
2/9/2023	8:32:00	15.977	4.401	0.696	
2/9/2023	8:33:00	15.963	4.423	0.707	
2/9/2023	8:34:00	15.971	4.415	0.68	
2/9/2023	8:35:00	15.972	4.414	0.652	
2/9/2023	8:36:00	15.98	4.403	0.614	9
2/9/2023	8:37:00	15.981	4.407	0.839	
2/9/2023	8:38:00	15.981	4.414	0.81	
2/9/2023	8:39:00	15.986	4.404	0.795	

2/9/2023	8:40:00	15.988	4.388	0.708	
2/9/2023	8:41:00	15.984	4.391	0.725	
2/9/2023	8:42:00	15.98	4.392	0.71	
2/9/2023	8:43:00	15.984	4.391	0.572	
2/9/2023	8:44:00	15.978	4.394	0.664	
2/9/2023	8:45:00	15.987	4.386	0.729	
2/9/2023	8:46:00	15.985	4.384	0.578	8
2/9/2023	8:47:00	15.987	4.382	0.506	
2/9/2023	8:48:00	15.979	4.385	0.638	
2/9/2023	8:49:00	15.975	4.391	0.668	
2/9/2023	8:50:00	15.977	4.401	0.699	
2/9/2023	8:51:00	15.977	4.407	0.691	
2/9/2023	8:52:00	15.969	4.412	0.642	
2/9/2023	8:53:00	15.973	4.411	0.597	
2/9/2023	8:54:00	15.986	4.404	0.575	
2/9/2023	8:55:00	15.958	4.434	0.617	
2/9/2023	8:56:00	15.961	4.423	0.622	7
2/9/2023	8:57:00	15.971	4.415	0.549	
2/9/2023	8:58:00	15.979	4.417	0.703	
2/9/2023	8:59:00	15.984	4.423	0.639	
2/9/2023	9:00:00	15.975	4.415	0.565	
2/9/2023	9:01:00	15.98	4.406	0.569	
2/9/2023	9:02:00	15.972	4.419	0.588	
2/9/2023	9:03:00	15.977	4.423	0.541	
2/9/2023	9:04:00	15.987	4.417	0.481	
2/9/2023	9:05:00	15.979	4.428	0.519	
2/9/2023	9:06:00	15.977	4.422	0.569	6
2/9/2023	9:07:00	15.991	4.409	0.529	
2/9/2023	9:08:00	15.998	4.397	0.396	
2/9/2023	9:09:00	15.992	4.406	0.406	
2/9/2023	9:10:00	15.963	4.439	0.486	
2/9/2023	9:11:00	15.987	4.414	0.507	
2/9/2023	9:12:00	15.989	4.417	0.463	
2/9/2023	9:13:00	15.991	4.419	0.413	
2/9/2023	9:14:00	15.993	4.436	0.492	
2/9/2023	9:15:00	15.993	4.441	0.481	
2/9/2023	9:16:00	15.986	4.443	0.439	5
2/9/2023	9:17:00	15.986	4.44	0.548	
2/9/2023	9:18:00	15.995	4.419	0.424	
2/9/2023	9:19:00	15.988	4.435	0.47	
2/9/2023	9:20:00	15.982	4.437	0.417	
2/9/2023	9:21:00	15.979	4.441	0.569	
2/9/2023	9:22:00	15.973	4.441	0.627	
2/9/2023	9:23:00	15.961	4.449	0.613	
2/9/2023	9:24:00	15.985	4.44	1.353	
2/9/2023	9:25:00	15.932	4.501	1.043	
2/9/2023	9:26:00	15.959	4.488	0.919	4
2/9/2023	9:27:00	15.958	4.473	1.018	
2/9/2023	9:28:00	15.953	4.488	1.865	
2/9/2023	9:29:00	15.978	4.461	1.418	
2/9/2023	9:30:00	15.982	4.462	0.786	
2/9/2023	9:31:00	15.966	4.466	0.846	
2/9/2023	9:32:00	15.981	4.455	1.203	
2/9/2023	9:33:00	15.976	4.438	1.293	
2/9/2023	9:34:00	15.98	4.436	1.223	

2/9/2023	9:35:00	15.976	4.434	2.039	
2/9/2023	9:36:00	15.976	4.416	1.085	3
2/9/2023	9:37:00	15.969	4.406	1.206	
2/9/2023	9:38:00	15.973	4.401	1.369	
2/9/2023	9:39:00	15.983	4.39	0.621	
2/9/2023	9:40:00	15.98	4.397	0.38	
2/9/2023	9:41:00	15.965	4.413	0.41	
2/9/2023	9:42:00	15.979	4.422	0.448	
2/9/2023	9:43:00	15.981	4.427	0.377	
2/9/2023	9:44:00	15.981	4.414	0.34	
2/9/2023	9:45:00	15.982	4.409	0.332	
2/9/2023	9:46:00	15.982	4.406	0.431	2
2/9/2023	9:47:00	15.976	4.415	0.535	
2/9/2023	9:48:00	15.972	4.417	0.681	
2/9/2023	9:49:00	15.979	4.416	0.359	
2/9/2023	9:50:00	15.972	4.432	0.642	
2/9/2023	9:51:00	15.985	4.425	0.61	
2/9/2023	9:52:00	15.985	4.427	0.567	
2/9/2023	9:53:00	15.988	4.434	0.603	
2/9/2023	9:54:00	15.982	4.432	0.771	
2/9/2023	9:55:00	15.973	4.438	0.988	
2/9/2023	9:56:00	15.964	4.44	1.109	1
2/9/2023	9:57:00	15.965	4.432	0.809	
2/9/2023	9:58:00	15.975	4.422	0.635	
2/9/2023	9:59:00	15.978	4.419	0.698	
2/9/2023	10:00:00	15.983	4.422	0.792	
2/9/2023	10:01:00	15.985	4.429	0.647	
2/9/2023	10:02:00	15.984	4.427	0.619	
2/9/2023	10:03:00	15.982	4.424	1.245	
2/9/2023	10:04:00	15.984	4.419	0.708	
2/9/2023	10:05:00	15.98	4.426	0.517	
2/9/2023	10:06:00	15.983	4.423	0.462	
2/9/2023	10:07:00	11.226	4.659	0.2	
2/9/2023	10:08:00	10.107	4.948	-0.088	< System O2, CO2
2/9/2023	10:09:00	5.006	2.329	-0.266	
2/9/2023	10:10:00	0.012	-0.041	3.426	
2/9/2023	10:11:00	1.456	0.376	3.948	
2/9/2023	10:12:00	0.613	0.359	3.983	
2/9/2023	10:13:00	0.001	-0.145	7.494	
2/9/2023	10:14:00	4.37	1.02	9.302	
2/9/2023	10:15:00	16.056	4.401	6.475	
2/9/2023	10:16:00	16.046	4.421	3.435	
2/9/2023	10:17:00	8.679	2.552	1.766	
2/9/2023	10:18:00	-0.011	-0.097	4.037	
2/9/2023	10:19:00	-0.01	-0.01	4.652	< System CO
2/9/2023	10:20:00	12.438	3.409	3.791	
2/9/2023	10:21:00	16.003	4.434	0.665	< Resume
2/9/2023	10:22:00	16	4.44	0.678	12
2/9/2023	10:23:00	16.007	4.431	0.375	
2/9/2023	10:24:00	16.002	4.446	0.442	
2/9/2023	10:25:00	15.98	4.449	0.387	
2/9/2023	10:26:00	15.912	4.504	0.511	
2/9/2023	10:27:00	15.992	4.42	0.366	
2/9/2023	10:28:00	16.001	4.405	0.416	
2/9/2023	10:29:00	16.002	4.381	0.447	

2/9/2023	10:30:00	16	4.386	0.706	
2/9/2023	10:31:00	16.004	4.381	0.387	
2/9/2023	10:32:00	16.003	4.382	0.331	11
2/9/2023	10:33:00	16.002	4.383	0.306	
2/9/2023	10:34:00	16.009	4.383	0.309	
2/9/2023	10:35:00	15.997	4.404	0.302	
2/9/2023	10:36:00	15.989	4.408	0.95	
2/9/2023	10:37:00	16.001	4.409	0.754	
2/9/2023	10:38:00	16.003	4.409	0.505	
2/9/2023	10:39:00	15.994	4.424	0.502	
2/9/2023	10:40:00	16.007	4.423	0.552	
2/9/2023	10:41:00	16.008	4.414	0.372	
2/9/2023	10:42:00	15.997	4.417	0.417	10
2/9/2023	10:43:00	16.006	4.397	0.678	
2/9/2023	10:44:00	16.006	4.415	0.698	
2/9/2023	10:45:00	16.004	4.432	0.503	
2/9/2023	10:46:00	15.991	4.459	0.539	
2/9/2023	10:47:00	16.009	4.443	0.872	
2/9/2023	10:48:00	16.01	4.441	0.497	
2/9/2023	10:49:00	16.009	4.438	0.372	
2/9/2023	10:50:00	16.008	4.44	0.417	
2/9/2023	10:51:00	16.014	4.461	0.377	
2/9/2023	10:52:00	16.009	4.486	0.441	9
2/9/2023	10:53:00	16.014	4.487	0.434	
2/9/2023	10:54:00	16.019	4.48	0.387	
2/9/2023	10:55:00	16.016	4.491	0.431	
2/9/2023	10:56:00	16.018	4.48	0.343	
2/9/2023	10:57:00	16.012	4.486	0.44	
2/9/2023	10:58:00	16.004	4.516	0.454	
2/9/2023	10:59:00	16.005	4.518	0.539	
2/9/2023	11:00:00	16.021	4.498	0.62	
2/9/2023	11:01:00	16.022	4.499	0.363	
2/9/2023	11:02:00	16.02	4.51	0.588	8
2/9/2023	11:03:00	16.025	4.507	0.338	
2/9/2023	11:04:00	16.022	4.509	0.998	
2/9/2023	11:05:00	16.017	4.512	0.443	
2/9/2023	11:06:00	16.011	4.515	0.464	
2/9/2023	11:07:00	16.019	4.514	0.507	
2/9/2023	11:08:00	16.026	4.529	0.329	
2/9/2023	11:09:00	16.016	4.53	0.862	
2/9/2023	11:10:00	16.028	4.52	0.44	
2/9/2023	11:11:00	16.021	4.518	0.395	
2/9/2023	11:12:00	16.023	4.504	0.579	7
2/9/2023	11:13:00	16.024	4.519	0.371	
2/9/2023	11:14:00	16.023	4.529	0.744	
2/9/2023	11:15:00	16.021	4.522	0.628	
2/9/2023	11:16:00	16.034	4.511	0.557	
2/9/2023	11:17:00	16.019	4.521	0.331	
2/9/2023	11:18:00	16.016	4.527	0.32	
2/9/2023	11:19:00	16.023	4.532	0.553	
2/9/2023	11:20:00	16.01	4.541	0.328	
2/9/2023	11:21:00	16.027	4.539	0.316	
2/9/2023	11:22:00	16.022	4.542	0.33	6
2/9/2023	11:23:00	16.021	4.552	0.341	
2/9/2023	11:24:00	16.03	4.533	0.424	

2/9/2023	11:25:00	15.998	4.552	0.399	
2/9/2023	11:26:00	16.004	4.537	0.67	
2/9/2023	11:27:00	16.021	4.519	0.636	
2/9/2023	11:28:00	16.033	4.51	0.365	
2/9/2023	11:29:00	16.023	4.509	0.441	
2/9/2023	11:30:00	16.002	4.52	0.518	
2/9/2023	11:31:00	16.025	4.521	0.928	
2/9/2023	11:32:00	16.011	4.524	0.533	5
2/9/2023	11:33:00	15.995	4.535	0.448	
2/9/2023	11:34:00	16.029	4.499	0.552	
2/9/2023	11:35:00	16.022	4.506	0.738	
2/9/2023	11:36:00	16.003	4.528	0.465	
2/9/2023	11:37:00	16.019	4.499	0.766	
2/9/2023	11:38:00	16.027	4.498	0.501	
2/9/2023	11:39:00	16.014	4.491	0.362	
2/9/2023	11:40:00	15.999	4.479	0.29	
2/9/2023	11:41:00	16.038	4.473	0.395	
2/9/2023	11:42:00	16.018	4.48	0.366	4
2/9/2023	11:43:00	16.034	4.48	0.438	
2/9/2023	11:44:00	16.035	4.493	0.405	
2/9/2023	11:45:00	16.033	4.493	0.528	
2/9/2023	11:46:00	16.028	4.493	0.764	
2/9/2023	11:47:00	16.042	4.494	0.422	
2/9/2023	11:48:00	16.022	4.499	0.413	
2/9/2023	11:49:00	16.031	4.485	0.347	
2/9/2023	11:50:00	16.022	4.491	0.285	
2/9/2023	11:51:00	16.019	4.489	0.298	
2/9/2023	11:52:00	16.017	4.5	0.451	3
2/9/2023	11:53:00	16.015	4.501	0.598	
2/9/2023	11:54:00	16.011	4.489	0.715	
2/9/2023	11:55:00	16.036	4.487	0.82	
2/9/2023	11:56:00	16.038	4.496	0.464	
2/9/2023	11:57:00	16.008	4.523	0.604	
2/9/2023	11:58:00	16.041	4.492	0.363	
2/9/2023	11:59:00	16.019	4.483	0.327	
2/9/2023	12:00:00	16.045	4.49	0.403	
2/9/2023	12:01:00	16.042	4.486	0.566	
2/9/2023	12:02:00	16.023	4.498	0.855	2
2/9/2023	12:03:00	16	4.495	0.618	
2/9/2023	12:04:00	16.037	4.497	0.323	
2/9/2023	12:05:00	16.029	4.494	0.749	
2/9/2023	12:06:00	16.019	4.484	0.639	
2/9/2023	12:07:00	16.012	4.484	0.62	
2/9/2023	12:08:00	16.018	4.483	0.41	
2/9/2023	12:09:00	16.034	4.456	0.416	
2/9/2023	12:10:00	16.039	4.46	0.496	
2/9/2023	12:11:00	16.037	4.473	0.361	
2/9/2023	12:12:00	16.031	4.477	0.563	1
2/9/2023	12:13:00	16.005	4.465	0.502	
2/9/2023	12:14:00	16.039	4.473	0.295	
2/9/2023	12:15:00	16.041	4.476	0.295	
2/9/2023	12:16:00	16.031	4.487	0.406	
2/9/2023	12:17:00	16.042	4.482	0.319	
2/9/2023	12:18:00	16.036	4.478	0.39	
2/9/2023	12:19:00	16.033	4.472	0.274	

2/9/2023	12:20:00	16.038	4.481	0.317	
2/9/2023	12:21:00	16.055	4.472	0.291	
2/9/2023	12:22:00	10.117	5.022	-0.439	
2/9/2023	12:23:00	10.108	5.017	-0.033	< System O2, CO2
2/9/2023	12:24:00	5.616	3.224	1.212	
2/9/2023	12:25:00	-2.003	-0.082	5.754	
2/9/2023	12:26:00	-1.467	-0.092	4.979	
2/9/2023	12:27:00	-0.012	-0.029	4.653	< System CO
2/9/2023	12:28:00	2.199	-0.106	4.672	
2/9/2023	12:29:00	2.743	4.156	4.354	
2/9/2023	12:30:00	15.052	4.417	3.439	
2/9/2023	12:31:00	16.034	4.426	2.761	
2/9/2023	12:32:00	16.034	4.432	2.037	
2/9/2023	12:33:00	15.94	4.445	1.154	
2/9/2023	12:34:00	15.97	4.439	1.147	
2/9/2023	12:35:00	15.926	4.441	1.113	
2/9/2023	12:36:00	15.929	4.44	1.105	
2/9/2023	12:37:00	15.928	4.445	1.152	
2/9/2023	12:38:00	15.951	4.441	1.129	
2/9/2023	12:39:00	15.936	4.438	1.145	
2/9/2023	12:40:00	15.916	4.431	0.871	< Start run 5 1240
2/9/2023	12:41:00	15.887	4.418	0.1	12
2/9/2023	12:42:00	15.917	4.429	0.459	
2/9/2023	12:43:00	15.94	4.424	1.064	
2/9/2023	12:44:00	15.939	4.439	0.936	
2/9/2023	12:45:00	15.969	4.429	0.93	
2/9/2023	12:46:00	15.963	4.434	0.962	
2/9/2023	12:47:00	15.945	4.443	1.007	
2/9/2023	12:48:00	15.955	4.429	1.036	
2/9/2023	12:49:00	15.965	4.422	1	
2/9/2023	12:50:00	15.966	4.416	0.964	
2/9/2023	12:51:00	15.955	4.421	0.953	11
2/9/2023	12:52:00	15.965	4.409	1.285	
2/9/2023	12:53:00	15.965	4.417	1.054	
2/9/2023	12:54:00	15.953	4.42	0.995	
2/9/2023	12:55:00	15.966	4.405	0.957	
2/9/2023	12:56:00	15.958	4.409	1.048	
2/9/2023	12:57:00	15.96	4.417	1.056	
2/9/2023	12:58:00	15.952	4.419	0.951	
2/9/2023	12:59:00	15.962	4.405	0.946	
2/9/2023	13:00:00	15.958	4.402	0.962	
2/9/2023	13:01:00	15.96	4.4	0.956	10
2/9/2023	13:02:00	15.956	4.39	0.966	
2/9/2023	13:03:00	15.954	4.399	0.964	
2/9/2023	13:04:00	15.955	4.393	1.1	
2/9/2023	13:05:00	15.955	4.384	1.004	
2/9/2023	13:06:00	15.954	4.383	1.035	
2/9/2023	13:07:00	15.961	4.375	0.984	
2/9/2023	13:08:00	15.949	4.377	0.971	
2/9/2023	13:09:00	15.954	4.375	1.064	
2/9/2023	13:10:00	15.955	4.374	0.96	
2/9/2023	13:11:00	15.946	4.38	0.923	9
2/9/2023	13:12:00	15.946	4.372	0.93	
2/9/2023	13:13:00	15.948	4.378	0.974	
2/9/2023	13:14:00	15.948	4.369	0.996	

2/9/2023	13:15:00	15.949	4.376	0.976	
2/9/2023	13:16:00	15.949	4.384	0.958	
2/9/2023	13:17:00	15.942	4.379	0.94	
2/9/2023	13:18:00	15.933	4.386	0.97	
2/9/2023	13:19:00	15.936	4.376	0.962	
2/9/2023	13:20:00	15.942	4.355	0.95	
2/9/2023	13:21:00	15.946	4.367	0.948	8
2/9/2023	13:22:00	15.943	4.366	0.959	
2/9/2023	13:23:00	15.936	4.362	0.941	
2/9/2023	13:24:00	15.93	4.372	0.928	
2/9/2023	13:25:00	15.944	4.37	0.931	
2/9/2023	13:26:00	15.94	4.361	0.98	
2/9/2023	13:27:00	15.944	4.359	1.038	
2/9/2023	13:28:00	15.943	4.367	1.009	
2/9/2023	13:29:00	15.954	4.352	0.979	
2/9/2023	13:30:00	15.948	4.351	0.958	
2/9/2023	13:31:00	15.95	4.347	1.093	7
2/9/2023	13:32:00	15.95	4.349	0.979	
2/9/2023	13:33:00	15.942	4.351	1.061	
2/9/2023	13:34:00	15.944	4.348	1.021	
2/9/2023	13:35:00	15.941	4.346	0.931	
2/9/2023	13:36:00	15.938	4.35	1.025	
2/9/2023	13:37:00	15.939	4.349	1.061	
2/9/2023	13:38:00	15.94	4.343	0.951	
2/9/2023	13:39:00	15.92	4.369	0.917	
2/9/2023	13:40:00	15.938	4.353	1	
2/9/2023	13:41:00	15.941	4.348	0.955	6
2/9/2023	13:42:00	15.949	4.341	0.929	
2/9/2023	13:43:00	15.937	4.35	0.933	
2/9/2023	13:44:00	15.939	4.352	0.956	
2/9/2023	13:45:00	15.937	4.355	0.918	
2/9/2023	13:46:00	15.936	4.346	1	
2/9/2023	13:47:00	15.942	4.347	0.919	
2/9/2023	13:48:00	15.948	4.347	0.967	
2/9/2023	13:49:00	15.95	4.35	0.919	
2/9/2023	13:50:00	15.951	4.345	0.909	
2/9/2023	13:51:00	15.944	4.353	0.908	5
2/9/2023	13:52:00	15.929	4.362	0.926	
2/9/2023	13:53:00	15.933	4.356	0.949	
2/9/2023	13:54:00	15.939	4.345	0.93	
2/9/2023	13:55:00	15.945	4.337	0.915	
2/9/2023	13:56:00	15.953	4.332	1.006	
2/9/2023	13:57:00	15.952	4.33	1.043	
2/9/2023	13:58:00	15.961	4.323	0.929	
2/9/2023	13:59:00	15.957	4.333	0.9	
2/9/2023	14:00:00	15.953	4.343	0.913	
2/9/2023	14:01:00	15.946	4.345	0.98	4
2/9/2023	14:02:00	15.941	4.359	1.012	
2/9/2023	14:03:00	15.951	4.347	1.015	
2/9/2023	14:04:00	15.954	4.336	1.014	
2/9/2023	14:05:00	15.959	4.327	0.957	
2/9/2023	14:06:00	15.953	4.327	0.89	
2/9/2023	14:07:00	15.951	4.336	0.999	
2/9/2023	14:08:00	15.959	4.336	0.906	
2/9/2023	14:09:00	15.947	4.341	0.889	

2/9/2023	14:10:00	15.932	4.351	0.949	
2/9/2023	14:11:00	15.941	4.347	0.96	3
2/9/2023	14:12:00	15.944	4.34	0.972	
2/9/2023	14:13:00	15.939	4.344	0.957	
2/9/2023	14:14:00	15.936	4.35	0.929	
2/9/2023	14:15:00	15.939	4.336	1.041	
2/9/2023	14:16:00	15.939	4.338	0.951	
2/9/2023	14:17:00	15.936	4.337	0.915	
2/9/2023	14:18:00	15.938	4.339	0.925	
2/9/2023	14:19:00	15.944	4.337	0.888	
2/9/2023	14:20:00	15.936	4.342	0.971	
2/9/2023	14:21:00	15.949	4.324	0.9	2
2/9/2023	14:22:00	15.942	4.334	0.95	
2/9/2023	14:23:00	15.947	4.336	0.985	
2/9/2023	14:24:00	15.946	4.326	0.913	
2/9/2023	14:25:00	15.944	4.326	0.914	
2/9/2023	14:26:00	15.949	4.329	0.881	
2/9/2023	14:27:00	15.947	4.322	0.998	
2/9/2023	14:28:00	15.951	4.33	0.958	
2/9/2023	14:29:00	15.952	4.331	0.9	
2/9/2023	14:30:00	15.95	4.327	0.892	
2/9/2023	14:31:00	15.956	4.317	0.891	1
2/9/2023	14:32:00	15.943	4.325	0.912	
2/9/2023	14:33:00	15.948	4.329	0.989	
2/9/2023	14:34:00	15.946	4.335	1.365	
2/9/2023	14:35:00	15.932	4.346	1.295	
2/9/2023	14:36:00	15.933	4.332	1.368	
2/9/2023	14:37:00	15.953	4.312	1.013	
2/9/2023	14:38:00	15.95	4.319	0.878	
2/9/2023	14:39:00	15.958	4.314	0.876	
2/9/2023	14:40:00	15.959	4.316	0.86	
2/9/2023	14:41:00	15.957	4.317	0.854	
2/9/2023	14:42:00	15.941	4.326	0.926	
2/9/2023	14:43:00	15.953	4.319	0.882	
2/9/2023	14:44:00	15.949	4.319	0.866	
2/9/2023	14:45:00	15.956	4.324	0.882	
2/9/2023	14:46:00	15.954	4.319	0.898	
2/9/2023	14:47:00	14.953	4.354	0.87	
2/9/2023	14:48:00	10.056	4.871	0.149	
2/9/2023	14:49:00	10.098	4.973	-0.048	< System O2, CO2
2/9/2023	14:50:00	7.216	3.341	-0.167	
2/9/2023	14:51:00	-0.034	-0.106	3.284	
2/9/2023	14:52:00	-0.043	-0.116	4.494	
2/9/2023	14:53:00	-0.044	-0.012	4.639	< System CO
2/9/2023	14:54:00	11.616	3.17	3.899	
2/9/2023	14:55:00	15.937	4.31	1.24	< Resume
2/9/2023	14:56:00	15.935	4.323	1.07	12
2/9/2023	14:57:00	15.936	4.327	1.097	
2/9/2023	14:58:00	15.944	4.325	1.027	
2/9/2023	14:59:00	15.948	4.327	0.979	
2/9/2023	15:00:00	15.95	4.325	1.105	
2/9/2023	15:01:00	15.949	4.318	0.937	
2/9/2023	15:02:00	15.943	4.329	0.927	
2/9/2023	15:03:00	15.941	4.332	1.024	
2/9/2023	15:04:00	15.938	4.331	0.998	

2/9/2023	15:05:00	15.927	4.342	1.031	
2/9/2023	15:06:00	15.93	4.327	1.234	11
2/9/2023	15:07:00	15.946	4.302	1.001	
2/9/2023	15:08:00	15.94	4.325	0.983	
2/9/2023	15:09:00	15.932	4.336	1.114	
2/9/2023	15:10:00	15.946	4.322	1.421	
2/9/2023	15:11:00	15.949	4.318	0.966	
2/9/2023	15:12:00	15.944	4.324	1.006	
2/9/2023	15:13:00	15.931	4.336	1.046	
2/9/2023	15:14:00	15.931	4.337	1.121	
2/9/2023	15:15:00	15.945	4.325	1.671	
2/9/2023	15:16:00	15.933	4.324	1.15	10
2/9/2023	15:17:00	15.954	4.3	1.181	
2/9/2023	15:18:00	15.941	4.332	0.94	
2/9/2023	15:19:00	15.944	4.319	0.985	
2/9/2023	15:20:00	15.952	4.307	1.056	
2/9/2023	15:21:00	15.942	4.311	1.013	
2/9/2023	15:22:00	15.955	4.289	1.042	
2/9/2023	15:23:00	15.957	4.291	0.991	
2/9/2023	15:24:00	15.945	4.301	0.887	
2/9/2023	15:25:00	15.945	4.3	0.924	
2/9/2023	15:26:00	15.948	4.303	0.965	9
2/9/2023	15:27:00	15.926	4.326	0.907	
2/9/2023	15:28:00	15.918	4.322	1.088	
2/9/2023	15:29:00	15.927	4.322	0.973	
2/9/2023	15:30:00	15.936	4.312	1.188	
2/9/2023	15:31:00	15.952	4.31	1.332	
2/9/2023	15:32:00	15.946	4.322	1.015	
2/9/2023	15:33:00	15.949	4.321	0.94	
2/9/2023	15:34:00	15.957	4.317	0.945	
2/9/2023	15:35:00	15.958	4.318	0.894	
2/9/2023	15:36:00	15.949	4.323	0.898	8
2/9/2023	15:37:00	15.928	4.342	0.923	
2/9/2023	15:38:00	15.944	4.323	0.918	
2/9/2023	15:39:00	15.947	4.322	0.995	
2/9/2023	15:40:00	15.936	4.335	1	
2/9/2023	15:41:00	15.942	4.327	1.44	
2/9/2023	15:42:00	15.948	4.321	0.921	
2/9/2023	15:43:00	15.944	4.34	0.955	
2/9/2023	15:44:00	15.944	4.337	0.979	
2/9/2023	15:45:00	15.943	4.339	1.02	
2/9/2023	15:46:00	15.937	4.342	1.039	7
2/9/2023	15:47:00	15.934	4.346	1.001	
2/9/2023	15:48:00	15.942	4.332	0.932	
2/9/2023	15:49:00	15.942	4.339	1.059	
2/9/2023	15:50:00	15.945	4.333	1.193	
2/9/2023	15:51:00	15.956	4.318	1.061	
2/9/2023	15:52:00	15.951	4.329	0.941	
2/9/2023	15:53:00	15.956	4.325	0.909	
2/9/2023	15:54:00	15.946	4.332	1.048	
2/9/2023	15:55:00	15.946	4.346	0.924	
2/9/2023	15:56:00	15.937	4.349	0.991	6
2/9/2023	15:57:00	15.947	4.341	1.007	
2/9/2023	15:58:00	15.939	4.342	1.102	
2/9/2023	15:59:00	15.948	4.353	1.198	

2/9/2023	16:00:00	15.944	4.359	1.168	
2/9/2023	16:01:00	15.941	4.345	1.438	
2/9/2023	16:02:00	15.941	4.343	1.185	
2/9/2023	16:03:00	15.927	4.362	1.219	
2/9/2023	16:04:00	15.951	4.348	1.005	
2/9/2023	16:05:00	15.949	4.348	0.943	
2/9/2023	16:06:00	15.947	4.347	1.025	5
2/9/2023	16:07:00	15.937	4.359	0.939	
2/9/2023	16:08:00	15.942	4.354	0.955	
2/9/2023	16:09:00	15.94	4.361	0.979	
2/9/2023	16:10:00	15.934	4.352	1.304	
2/9/2023	16:11:00	15.938	4.344	1.028	
2/9/2023	16:12:00	15.925	4.357	1.068	
2/9/2023	16:13:00	15.927	4.368	1.147	
2/9/2023	16:14:00	15.948	4.36	1.076	
2/9/2023	16:15:00	15.939	4.364	0.992	
2/9/2023	16:16:00	15.941	4.361	0.941	4
2/9/2023	16:17:00	15.941	4.364	1.028	
2/9/2023	16:18:00	15.944	4.348	1.009	
2/9/2023	16:19:00	15.933	4.356	1.08	
2/9/2023	16:20:00	15.935	4.362	1.085	
2/9/2023	16:21:00	15.93	4.368	1.029	
2/9/2023	16:22:00	15.938	4.357	1.159	
2/9/2023	16:23:00	15.942	4.345	1.035	
2/9/2023	16:24:00	15.951	4.343	1.036	
2/9/2023	16:25:00	15.935	4.36	0.934	
2/9/2023	16:26:00	15.943	4.36	0.92	3
2/9/2023	16:27:00	15.946	4.349	0.928	
2/9/2023	16:28:00	15.943	4.356	1.027	
2/9/2023	16:29:00	15.937	4.353	1.081	
2/9/2023	16:30:00	15.944	4.358	0.947	
2/9/2023	16:31:00	15.947	4.336	0.987	
2/9/2023	16:32:00	15.94	4.335	0.973	
2/9/2023	16:33:00	15.937	4.341	1.011	
2/9/2023	16:34:00	15.945	4.333	0.984	
2/9/2023	16:35:00	15.939	4.333	1.41	
2/9/2023	16:36:00	15.937	4.334	1.313	2
2/9/2023	16:37:00	15.923	4.341	1.22	
2/9/2023	16:38:00	15.935	4.319	1.182	
2/9/2023	16:39:00	15.926	4.324	1.095	
2/9/2023	16:40:00	15.948	4.325	1.029	
2/9/2023	16:41:00	15.94	4.336	1.044	
2/9/2023	16:42:00	15.941	4.34	1.02	
2/9/2023	16:43:00	15.932	4.34	0.94	
2/9/2023	16:44:00	15.933	4.335	0.952	
2/9/2023	16:45:00	15.938	4.316	0.994	
2/9/2023	16:46:00	15.923	4.327	1.157	1
2/9/2023	16:47:00	15.932	4.33	1.071	
2/9/2023	16:48:00	15.941	4.323	1.415	
2/9/2023	16:49:00	15.937	4.322	1.228	
2/9/2023	16:50:00	15.933	4.329	0.999	
2/9/2023	16:51:00	15.933	4.321	1.092	
2/9/2023	16:52:00	15.945	4.302	1.301	
2/9/2023	16:53:00	15.947	4.293	1.006	
2/9/2023	16:54:00	15.938	4.298	1.015	

2/9/2023	16:55:00	14.749	4.236	1.045	
2/9/2023	16:56:00	11.264	4.716	0.378	
2/9/2023	16:57:00	10.097	4.932	-0.027	< System O2, CO2
2/9/2023	16:58:00	3.69	1.987	0.028	
2/9/2023	16:59:00	-0.009	-0.2	3.806	
2/9/2023	17:00:00	-0.01	-0.019	4.645	< System CO
2/9/2023	17:01:00	-0.009	-0.015	4.632	
2/9/2023	17:02:00	12.186	5.164	4.1	
2/9/2023	17:03:00	19.294	9.646	7.687	
2/9/2023	17:04:00	19.3	9.629	9.637	< Direct High
2/9/2023	17:05:00	18.776	9.38	9.683	
2/9/2023	17:06:00	10.106	4.917	6.969	
2/9/2023	17:07:00	10.098	4.92	4.703	< Direct Mid
2/9/2023	17:08:00	6.578	3.453	4.681	
2/9/2023	17:09:00	-0.038	-0.001	1.438	
2/9/2023	17:10:00	-0.037	-0.009	-0.041	< Direct Zero

Date	Time	O2%	CO2%	COppm	
2/10/2023	7:33:00	2.379	0.275	1.326	
2/10/2023	7:34:00	-0.048	-0.01	0.341	
2/10/2023	7:35:00	-0.045	-0.028	-0.063	
2/10/2023	7:36:00	-0.033	-0.039	-0.065	< Direct Zero
2/10/2023	7:37:00	14.024	6.668	1.988	
2/10/2023	7:38:00	19.286	9.641	9.753	
2/10/2023	7:39:00	19.289	9.646	9.597	
2/10/2023	7:40:00	19.291	9.634	9.665	< Direct High
2/10/2023	7:41:00	10.37	5.064	6.661	
2/10/2023	7:42:00	10.112	4.908	4.624	< Direct Mid
2/10/2023	7:43:00	14.292	4.496	3.913	
2/10/2023	7:44:00	10.143	4.935	0.324	
2/10/2023	7:45:00	10.106	4.941	-0.01	< System O2, CO2
2/10/2023	7:46:00	1.837	0.971	1.22	
2/10/2023	7:47:00	-0.01	-0.069	4.399	
2/10/2023	7:48:00	-0.011	-0.069	4.607	< System CO
2/10/2023	7:49:00	14.905	4.075	3.353	
2/10/2023	7:50:00	15.965	4.42	1.056	< Start Run 6
2/10/2023	7:51:00	15.96	4.429	1.011	12
2/10/2023	7:52:00	15.962	4.428	0.831	
2/10/2023	7:53:00	15.95	4.435	1.04	
2/10/2023	7:54:00	15.96	4.433	1.029	
2/10/2023	7:55:00	15.956	4.439	0.91	
2/10/2023	7:56:00	15.962	4.435	0.897	
2/10/2023	7:57:00	15.969	4.448	0.848	
2/10/2023	7:58:00	15.957	4.474	0.779	
2/10/2023	7:59:00	15.956	4.466	0.963	
2/10/2023	8:00:00	15.947	4.473	0.938	
2/10/2023	8:01:00	15.969	4.464	0.825	11
2/10/2023	8:02:00	15.96	4.467	0.806	
2/10/2023	8:03:00	15.954	4.472	0.701	
2/10/2023	8:04:00	15.952	4.477	0.77	
2/10/2023	8:05:00	15.958	4.478	0.785	
2/10/2023	8:06:00	15.959	4.493	0.772	
2/10/2023	8:07:00	15.962	4.479	0.717	
2/10/2023	8:08:00	15.958	4.481	1.015	
2/10/2023	8:09:00	15.954	4.489	0.737	
2/10/2023	8:10:00	15.965	4.478	0.631	
2/10/2023	8:11:00	15.97	4.474	0.719	10
2/10/2023	8:12:00	15.966	4.483	0.673	
2/10/2023	8:13:00	15.949	4.519	0.69	
2/10/2023	8:14:00	15.952	4.512	0.743	
2/10/2023	8:15:00	15.961	4.497	0.628	
2/10/2023	8:16:00	15.968	4.498	0.689	
2/10/2023	8:17:00	15.977	4.499	0.703	
2/10/2023	8:18:00	15.973	4.489	0.684	
2/10/2023	8:19:00	15.962	4.494	0.636	
2/10/2023	8:20:00	15.97	4.489	0.699	
2/10/2023	8:21:00	15.97	4.503	0.648	9
2/10/2023	8:22:00	15.969	4.517	0.55	
2/10/2023	8:23:00	15.96	4.509	0.579	
2/10/2023	8:24:00	15.974	4.49	0.628	
2/10/2023	8:25:00	15.97	4.498	0.609	
2/10/2023	8:26:00	15.965	4.508	0.556	

2/10/2023	8:27:00	15.965	4.509	0.482	
2/10/2023	8:28:00	15.978	4.5	0.546	
2/10/2023	8:29:00	15.971	4.512	0.619	
2/10/2023	8:30:00	15.98	4.515	0.619	
2/10/2023	8:31:00	15.973	4.519	0.631	8
2/10/2023	8:32:00	15.963	4.515	0.536	
2/10/2023	8:33:00	15.975	4.501	0.504	
2/10/2023	8:34:00	15.974	4.496	0.524	
2/10/2023	8:35:00	15.965	4.501	0.499	
2/10/2023	8:36:00	15.975	4.498	0.583	
2/10/2023	8:37:00	15.978	4.506	0.576	
2/10/2023	8:38:00	15.972	4.52	0.513	
2/10/2023	8:39:00	15.973	4.525	0.598	
2/10/2023	8:40:00	15.968	4.528	0.52	
2/10/2023	8:41:00	15.98	4.51	0.46	7
2/10/2023	8:42:00	15.978	4.5	0.495	
2/10/2023	8:43:00	15.973	4.492	0.572	
2/10/2023	8:44:00	15.983	4.491	0.439	
2/10/2023	8:45:00	15.97	4.521	0.43	
2/10/2023	8:46:00	15.973	4.532	0.522	
2/10/2023	8:47:00	15.967	4.53	0.531	
2/10/2023	8:48:00	15.98	4.514	0.522	
2/10/2023	8:49:00	15.978	4.522	0.596	
2/10/2023	8:50:00	15.973	4.525	0.6	
2/10/2023	8:51:00	15.962	4.52	0.42	6
2/10/2023	8:52:00	15.982	4.497	0.489	
2/10/2023	8:53:00	15.975	4.52	0.353	
2/10/2023	8:54:00	15.979	4.525	0.429	
2/10/2023	8:55:00	15.981	4.52	0.423	
2/10/2023	8:56:00	15.985	4.513	0.428	
2/10/2023	8:57:00	15.988	4.513	0.377	
2/10/2023	8:58:00	15.98	4.524	0.325	
2/10/2023	8:59:00	15.983	4.526	0.437	
2/10/2023	9:00:00	15.983	4.528	0.43	
2/10/2023	9:01:00	15.983	4.539	0.488	5
2/10/2023	9:02:00	15.985	4.528	0.459	
2/10/2023	9:03:00	15.994	4.517	0.464	
2/10/2023	9:04:00	15.988	4.523	0.396	
2/10/2023	9:05:00	15.975	4.518	0.255	
2/10/2023	9:06:00	15.967	4.534	0.464	
2/10/2023	9:07:00	15.976	4.54	0.395	
2/10/2023	9:08:00	15.983	4.54	0.423	
2/10/2023	9:09:00	15.981	4.542	0.462	
2/10/2023	9:10:00	15.986	4.533	0.551	
2/10/2023	9:11:00	15.988	4.513	0.499	4
2/10/2023	9:12:00	15.979	4.506	0.495	
2/10/2023	9:13:00	15.978	4.502	0.384	
2/10/2023	9:14:00	15.973	4.525	0.383	
2/10/2023	9:15:00	15.973	4.548	0.67	
2/10/2023	9:16:00	15.977	4.551	0.924	
2/10/2023	9:17:00	15.982	4.552	0.662	
2/10/2023	9:18:00	15.977	4.559	0.539	
2/10/2023	9:19:00	15.978	4.555	0.991	
2/10/2023	9:20:00	15.991	4.546	0.887	
2/10/2023	9:21:00	15.973	4.565	0.861	3

2/10/2023	9:22:00	15.988	4.549	0.855	
2/10/2023	9:23:00	15.975	4.557	0.867	
2/10/2023	9:24:00	15.977	4.567	0.848	
2/10/2023	9:25:00	15.985	4.556	0.671	
2/10/2023	9:26:00	15.97	4.577	0.816	
2/10/2023	9:27:00	15.992	4.564	0.628	
2/10/2023	9:28:00	15.999	4.572	1.089	
2/10/2023	9:29:00	16.002	4.58	-0.017	
2/10/2023	9:30:00	15.984	4.603	0.983	
2/10/2023	9:31:00	15.966	4.601	0.794	2
2/10/2023	9:32:00	15.971	4.61	0.492	
2/10/2023	9:33:00	15.94	4.646	0.622	
2/10/2023	9:34:00	15.994	4.596	0.6	
2/10/2023	9:35:00	15.984	4.601	1.015	
2/10/2023	9:36:00	16	4.587	0.999	
2/10/2023	9:37:00	15.998	4.572	1.333	
2/10/2023	9:38:00	15.995	4.575	0.675	
2/10/2023	9:39:00	15.996	4.586	0.439	
2/10/2023	9:40:00	15.976	4.617	0.387	
2/10/2023	9:41:00	15.961	4.64	0.605	1
2/10/2023	9:42:00	15.983	4.623	0.751	
2/10/2023	9:43:00	15.984	4.599	0.888	
2/10/2023	9:44:00	15.997	4.582	0.599	
2/10/2023	9:45:00	16.013	4.58	0.858	
2/10/2023	9:46:00	15.985	4.549	0.488	
2/10/2023	9:47:00	15.978	4.646	0.761	
2/10/2023	9:48:00	15.982	4.497	0.883	
2/10/2023	9:49:00	16.011	4.597	1.009	
2/10/2023	9:50:00	15.989	4.604	0.792	
2/10/2023	9:51:00	11.31	4.885	0.269	
2/10/2023	9:52:00	10.111	5.003	-0.037	< System O2, CO2
2/10/2023	9:53:00	7.252	3.908	0.088	
2/10/2023	9:54:00	-0.017	0.066	3.908	
2/10/2023	9:55:00	-0.017	0.003	4.675	< System CO
2/10/2023	9:56:00	14.122	3.891	3.893	
2/10/2023	9:57:00	15.981	4.618	1.757	
2/10/2023	9:58:00	15.959	4.632	1.358	
2/10/2023	9:59:00	16.01	4.573	0.42	
2/10/2023	10:00:00	15.998	4.573	0.186	< Resume
2/10/2023	10:01:00	16.006	4.576	0.331	12
2/10/2023	10:02:00	16.01	4.574	0.556	
2/10/2023	10:03:00	15.961	4.595	0.418	
2/10/2023	10:04:00	15.995	4.582	0.282	
2/10/2023	10:05:00	15.997	4.566	0.106	
2/10/2023	10:06:00	15.989	4.573	0.352	
2/10/2023	10:07:00	15.98	4.584	0.232	
2/10/2023	10:08:00	15.981	4.582	0.417	
2/10/2023	10:09:00	16.013	4.553	0.509	
2/10/2023	10:10:00	16	4.564	0.657	
2/10/2023	10:11:00	15.999	4.557	0.173	11
2/10/2023	10:12:00	15.983	4.561	0.146	
2/10/2023	10:13:00	15.993	4.556	0.14	
2/10/2023	10:14:00	16.003	4.561	0.213	
2/10/2023	10:15:00	15.986	4.579	0.166	
2/10/2023	10:16:00	16.005	4.554	-0.052	

2/10/2023	10:17:00	15.998	4.567	-0.055	
2/10/2023	10:18:00	15.997	4.564	0.148	
2/10/2023	10:19:00	15.984	4.576	0.27	
2/10/2023	10:20:00	15.984	4.578	0.154	
2/10/2023	10:21:00	15.992	4.564	0.116	10
2/10/2023	10:22:00	16.012	4.549	0.508	
2/10/2023	10:23:00	16.012	4.537	0.146	
2/10/2023	10:24:00	16.002	4.524	0.486	
2/10/2023	10:25:00	15.998	4.538	0.05	
2/10/2023	10:26:00	15.979	4.57	0.243	
2/10/2023	10:27:00	15.973	4.556	-0.054	
2/10/2023	10:28:00	15.991	4.558	0.057	
2/10/2023	10:29:00	16.006	4.53	0.066	
2/10/2023	10:30:00	15.988	4.536	0.125	
2/10/2023	10:31:00	15.983	4.547	0.422	9
2/10/2023	10:32:00	15.984	4.541	0.034	
2/10/2023	10:33:00	15.978	4.54	0.082	
2/10/2023	10:34:00	15.971	4.536	0.051	
2/10/2023	10:35:00	15.981	4.532	-0.031	
2/10/2023	10:36:00	16.013	4.472	0.433	
2/10/2023	10:37:00	16.005	4.468	0.056	
2/10/2023	10:38:00	15.996	4.474	0.338	
2/10/2023	10:39:00	16.012	4.477	-0.035	
2/10/2023	10:40:00	16.011	4.483	-0.025	
2/10/2023	10:41:00	16.01	4.489	0.073	8
2/10/2023	10:42:00	16	4.492	-0.108	
2/10/2023	10:43:00	15.983	4.495	0.175	
2/10/2023	10:44:00	15.981	4.5	0.12	
2/10/2023	10:45:00	15.98	4.502	0.028	
2/10/2023	10:46:00	16.015	4.503	0.026	
2/10/2023	10:47:00	15.978	4.547	0.278	
2/10/2023	10:48:00	15.967	4.556	-0.077	
2/10/2023	10:49:00	15.973	4.541	-0.143	
2/10/2023	10:50:00	15.993	4.518	0.025	
2/10/2023	10:51:00	16.011	4.502	0.346	7
2/10/2023	10:52:00	16.008	4.521	0.057	
2/10/2023	10:53:00	15.958	4.564	0.239	
2/10/2023	10:54:00	15.995	4.506	0.214	
2/10/2023	10:55:00	16.022	4.5	0.341	
2/10/2023	10:56:00	16.017	4.518	-0.12	
2/10/2023	10:57:00	16.006	4.533	0.127	
2/10/2023	10:58:00	15.964	4.567	0.06	
2/10/2023	10:59:00	15.994	4.545	0.006	
2/10/2023	11:00:00	15.988	4.54	0.029	
2/10/2023	11:01:00	15.914	4.59	0.078	6
2/10/2023	11:02:00	15.984	4.539	0.209	
2/10/2023	11:03:00	16.015	4.514	0.728	
2/10/2023	11:04:00	16.026	4.527	0.134	
2/10/2023	11:05:00	16.028	4.522	0.117	
2/10/2023	11:06:00	16.02	4.522	0.1	
2/10/2023	11:07:00	16.034	4.515	1.015	
2/10/2023	11:08:00	16.014	4.529	0.317	
2/10/2023	11:09:00	15.992	4.554	0.309	
2/10/2023	11:10:00	16.014	4.551	0.254	
2/10/2023	11:11:00	16.008	4.568	0.449	5

2/10/2023	11:12:00	16.014	4.559	0.727	
2/10/2023	11:13:00	16	4.564	0.386	
2/10/2023	11:14:00	16.007	4.559	0.072	
2/10/2023	11:15:00	16.029	4.543	0.265	
2/10/2023	11:16:00	16.007	4.565	0.123	
2/10/2023	11:17:00	16.018	4.567	0.493	
2/10/2023	11:18:00	16.017	4.561	0.028	
2/10/2023	11:19:00	16.033	4.552	0.155	
2/10/2023	11:20:00	16.026	4.56	0.17	
2/10/2023	11:21:00	16.019	4.555	0.145	4
2/10/2023	11:22:00	16.017	4.563	0.078	
2/10/2023	11:23:00	16.022	4.571	0.067	
2/10/2023	11:24:00	16.024	4.573	0.112	
2/10/2023	11:25:00	16.021	4.558	0.155	
2/10/2023	11:26:00	16.019	4.549	0.101	
2/10/2023	11:27:00	16.022	4.548	0.093	
2/10/2023	11:28:00	16.02	4.57	0.044	
2/10/2023	11:29:00	16.028	4.569	0.097	
2/10/2023	11:30:00	16.021	4.584	0.089	
2/10/2023	11:31:00	16.02	4.586	0.076	3
2/10/2023	11:32:00	16.023	4.579	0.137	
2/10/2023	11:33:00	16.028	4.579	0.152	
2/10/2023	11:34:00	16.028	4.554	0.164	
2/10/2023	11:35:00	16.029	4.559	0.121	
2/10/2023	11:36:00	16.023	4.579	0.055	
2/10/2023	11:37:00	16.016	4.593	0.168	
2/10/2023	11:38:00	16.016	4.589	0.453	
2/10/2023	11:39:00	16.026	4.569	0.073	
2/10/2023	11:40:00	16.026	4.568	0.03	
2/10/2023	11:41:00	16.026	4.564	0.271	2
2/10/2023	11:42:00	16.027	4.566	0.316	
2/10/2023	11:43:00	16.033	4.566	0.001	
2/10/2023	11:44:00	16.03	4.554	0.049	
2/10/2023	11:45:00	16.023	4.543	0.106	
2/10/2023	11:46:00	16.029	4.539	0.119	
2/10/2023	11:47:00	16.019	4.556	0.085	
2/10/2023	11:48:00	16.029	4.552	0.356	
2/10/2023	11:49:00	16.027	4.561	0.049	
2/10/2023	11:50:00	16.027	4.56	0.144	
2/10/2023	11:51:00	16.026	4.55	0.009	1
2/10/2023	11:52:00	16.022	4.547	0.164	
2/10/2023	11:53:00	16.016	4.565	0.068	
2/10/2023	11:54:00	16.018	4.569	0.167	
2/10/2023	11:55:00	16.022	4.575	0.127	
2/10/2023	11:56:00	16.013	4.598	0.059	
2/10/2023	11:57:00	16.022	4.581	0.185	
2/10/2023	11:58:00	16.027	4.555	0.191	
2/10/2023	11:59:00	16.015	4.594	0.249	
2/10/2023	12:00:00	16.13	4.097	0.585	
2/10/2023	12:01:00	14.122	5.111	0.115	
2/10/2023	12:02:00	10.122	5.001	-0.007	< System O2, CO2
2/10/2023	12:03:00	10.123	5.133	-0.014	
2/10/2023	12:04:00	15.773	4.622	0.619	
2/10/2023	12:05:00	16	4.579	1.197	
2/10/2023	12:06:00	15.99	4.579	1.054	

2/10/2023	12:07:00	15.985	4.558	0.201	
2/10/2023	12:08:00	15.982	4.553	0.154	
2/10/2023	12:09:00	15.981	4.559	0.144	
2/10/2023	12:10:00	13.245	3.95	0.093	
2/10/2023	12:11:00	-0.001	0.021	3.283	
2/10/2023	12:12:00	-0.002	0.019	4.786	
2/10/2023	12:13:00	0	0.008	4.632	< System CO
2/10/2023	12:14:00	12.88	3.565	3.947	
2/10/2023	12:15:00	16.037	4.545	0.844	< Start Run 7 1215
2/10/2023	12:16:00	16.031	4.552	0.052	12
2/10/2023	12:17:00	16.036	4.555	0.045	
2/10/2023	12:18:00	16.029	4.564	0.017	
2/10/2023	12:19:00	16.035	4.561	0.017	
2/10/2023	12:20:00	16.022	4.578	0.119	
2/10/2023	12:21:00	16.036	4.565	0.029	
2/10/2023	12:22:00	16.039	4.547	0.024	
2/10/2023	12:23:00	16.04	4.55	0.082	
2/10/2023	12:24:00	16.029	4.587	0.048	
2/10/2023	12:25:00	16.032	4.584	0.059	
2/10/2023	12:26:00	16.032	4.589	0.034	11
2/10/2023	12:27:00	16.022	4.591	0.08	
2/10/2023	12:28:00	16.02	4.581	0.045	
2/10/2023	12:29:00	16.016	4.57	0.128	
2/10/2023	12:30:00	16.037	4.552	0.302	
2/10/2023	12:31:00	16.035	4.549	0.401	
2/10/2023	12:32:00	16.036	4.564	0.361	
2/10/2023	12:33:00	16.021	4.576	0.175	
2/10/2023	12:34:00	16.04	4.563	0.547	
2/10/2023	12:35:00	16.044	4.579	0.043	
2/10/2023	12:36:00	16.023	4.59	0.06	10
2/10/2023	12:37:00	16.026	4.577	0.133	
2/10/2023	12:38:00	16.037	4.57	0.006	
2/10/2023	12:39:00	16.021	4.581	0.181	
2/10/2023	12:40:00	16.032	4.566	0.019	
2/10/2023	12:41:00	16.031	4.585	0.044	
2/10/2023	12:42:00	16.049	4.568	0.025	
2/10/2023	12:43:00	16.049	4.578	0.064	
2/10/2023	12:44:00	16.033	4.601	0.125	
2/10/2023	12:45:00	16.038	4.608	0.015	
2/10/2023	12:46:00	16.022	4.622	0.252	9
2/10/2023	12:47:00	16.041	4.622	0.014	
2/10/2023	12:48:00	16.039	4.643	0.346	
2/10/2023	12:49:00	16.031	4.654	0.383	
2/10/2023	12:50:00	16.026	4.644	0.234	
2/10/2023	12:51:00	16.031	4.625	0.257	
2/10/2023	12:52:00	16.042	4.608	0.806	
2/10/2023	12:53:00	16.043	4.619	0.254	
2/10/2023	12:54:00	16.022	4.645	0.146	
2/10/2023	12:55:00	16.039	4.646	0.407	
2/10/2023	12:56:00	16.037	4.648	0.501	8
2/10/2023	12:57:00	16.044	4.641	0.622	
2/10/2023	12:58:00	16.044	4.629	0.378	
2/10/2023	12:59:00	16.038	4.618	0.089	
2/10/2023	13:00:00	16.039	4.609	0.098	
2/10/2023	13:01:00	16.043	4.604	0.033	

2/10/2023	13:02:00	16.039	4.613	0.487	
2/10/2023	13:03:00	16.047	4.619	0.433	
2/10/2023	13:04:00	16.034	4.646	0.641	
2/10/2023	13:05:00	16.032	4.646	0.698	
2/10/2023	13:06:00	16.048	4.639	0.288	7
2/10/2023	13:07:00	16.043	4.651	0.043	
2/10/2023	13:08:00	16.026	4.676	0.263	
2/10/2023	13:09:00	16.027	4.679	0.329	
2/10/2023	13:10:00	16.041	4.666	0.12	
2/10/2023	13:11:00	16.041	4.669	0.129	
2/10/2023	13:12:00	16.047	4.663	0.127	
2/10/2023	13:13:00	16.039	4.66	0.137	
2/10/2023	13:14:00	16.046	4.64	0.008	
2/10/2023	13:15:00	16.038	4.652	0.162	
2/10/2023	13:16:00	16.042	4.653	0.135	6
2/10/2023	13:17:00	16.043	4.655	0.298	
2/10/2023	13:18:00	16.037	4.658	0.234	
2/10/2023	13:19:00	16.041	4.663	0.035	
2/10/2023	13:20:00	16.044	4.674	0.018	
2/10/2023	13:21:00	16.031	4.684	0.046	
2/10/2023	13:22:00	16.034	4.677	0.045	
2/10/2023	13:23:00	16.036	4.68	0.271	
2/10/2023	13:24:00	16.046	4.676	0.162	
2/10/2023	13:25:00	16.047	4.68	0.278	
2/10/2023	13:26:00	16.045	4.686	0.018	5
2/10/2023	13:27:00	16.047	4.664	0.472	
2/10/2023	13:28:00	16.04	4.653	0.008	
2/10/2023	13:29:00	16.045	4.639	0.022	
2/10/2023	13:30:00	16.045	4.644	0.421	
2/10/2023	13:31:00	16.039	4.668	0.389	
2/10/2023	13:32:00	16.052	4.658	0.034	
2/10/2023	13:33:00	16.046	4.678	0.04	
2/10/2023	13:34:00	16.038	4.685	0.145	
2/10/2023	13:35:00	16.043	4.683	0.651	
2/10/2023	13:36:00	16.037	4.687	0.285	4
2/10/2023	13:37:00	16.054	4.673	0.061	
2/10/2023	13:38:00	16.042	4.696	0.379	
2/10/2023	13:39:00	16.051	4.67	0.483	
2/10/2023	13:40:00	16.04	4.661	0.383	
2/10/2023	13:41:00	16.045	4.646	0.14	
2/10/2023	13:42:00	16.042	4.652	0.25	
2/10/2023	13:43:00	16.055	4.64	0.02	
2/10/2023	13:44:00	16.05	4.644	0.039	
2/10/2023	13:45:00	16.035	4.661	0.098	
2/10/2023	13:46:00	16.042	4.649	0.004	3
2/10/2023	13:47:00	16.033	4.657	0.073	
2/10/2023	13:48:00	16.023	4.656	0.205	
2/10/2023	13:49:00	16.029	4.666	0.145	
2/10/2023	13:50:00	16.048	4.671	0.054	
2/10/2023	13:51:00	16.04	4.667	0.099	
2/10/2023	13:52:00	16.048	4.653	0.085	
2/10/2023	13:53:00	16.063	4.639	0.059	
2/10/2023	13:54:00	16.061	4.641	0.187	
2/10/2023	13:55:00	16.055	4.632	0.055	
2/10/2023	13:56:00	16.055	4.627	0.065	2

2/10/2023	13:57:00	16.054	4.621	0.378	
2/10/2023	13:58:00	16.051	4.627	0.061	
2/10/2023	13:59:00	16.06	4.622	0.282	
2/10/2023	14:00:00	16.063	4.621	0.096	
2/10/2023	14:01:00	16.056	4.638	0.062	
2/10/2023	14:02:00	16.046	4.664	0.038	
2/10/2023	14:03:00	16.043	4.653	0.01	
2/10/2023	14:04:00	16.056	4.639	0.149	
2/10/2023	14:05:00	16.049	4.65	0.053	
2/10/2023	14:06:00	16.053	4.655	0.01	1
2/10/2023	14:07:00	16.047	4.669	0.133	
2/10/2023	14:08:00	16.043	4.659	0.173	
2/10/2023	14:09:00	16.043	4.645	0.024	
2/10/2023	14:10:00	16.06	4.622	0.075	
2/10/2023	14:11:00	16.052	4.621	0.063	
2/10/2023	14:12:00	16.049	4.631	0.044	
2/10/2023	14:13:00	16.042	4.647	0.097	
2/10/2023	14:14:00	16.042	4.639	0.221	
2/10/2023	14:15:00	16.04	4.639	0.525	
2/10/2023	14:16:00	13.883	4.786	0.023	
2/10/2023	14:17:00	10.148	5.005	-0.029	< System O2, CO2
2/10/2023	14:18:00	11.016	5.111	-0.034	
2/10/2023	14:19:00	16.034	4.67	1.267	
2/10/2023	14:20:00	16.047	4.67	1.525	
2/10/2023	14:21:00	4.145	2.061	2.064	
2/10/2023	14:22:00	0	0.057	4.611	
2/10/2023	14:23:00	0.002	0.04	4.683	< System CO
2/10/2023	14:24:00	9.108	2.466	4.508	
2/10/2023	14:25:00	16.071	4.605	1.626	< Resume
2/10/2023	14:26:00	16.066	4.621	0.137	12
2/10/2023	14:27:00	16.056	4.623	0.243	
2/10/2023	14:28:00	16.041	4.644	0.554	
2/10/2023	14:29:00	16.057	4.635	0.549	
2/10/2023	14:30:00	16.059	4.647	0.212	
2/10/2023	14:31:00	16.066	4.646	0.165	
2/10/2023	14:32:00	16.059	4.647	0.201	
2/10/2023	14:33:00	16.064	4.639	0.097	
2/10/2023	14:34:00	16.059	4.628	0.121	
2/10/2023	14:35:00	16.037	4.631	0.231	
2/10/2023	14:36:00	16.026	4.644	0.113	11
2/10/2023	14:37:00	16.069	4.605	-0.008	
2/10/2023	14:38:00	16.053	4.614	0.005	
2/10/2023	14:39:00	16.045	4.619	0.303	
2/10/2023	14:40:00	16.057	4.608	0.422	
2/10/2023	14:41:00	16.059	4.597	0.067	
2/10/2023	14:42:00	16.058	4.591	0.07	
2/10/2023	14:43:00	16.062	4.585	0.032	
2/10/2023	14:44:00	16.063	4.585	0.017	
2/10/2023	14:45:00	16.041	4.608	0.156	
2/10/2023	14:46:00	16.06	4.591	0.15	10
2/10/2023	14:47:00	16.053	4.59	0.111	
2/10/2023	14:48:00	16.046	4.609	0.221	
2/10/2023	14:49:00	16.053	4.618	0.183	
2/10/2023	14:50:00	16.049	4.622	0.229	
2/10/2023	14:51:00	16.054	4.619	0.29	

2/10/2023	14:52:00	16.055	4.618	0.611	
2/10/2023	14:53:00	16.058	4.631	0.296	
2/10/2023	14:54:00	16.036	4.661	0.334	
2/10/2023	14:55:00	16.057	4.628	0.505	
2/10/2023	14:56:00	16.059	4.603	0.494	9
2/10/2023	14:57:00	16.05	4.614	0.211	
2/10/2023	14:58:00	16.057	4.618	0.012	
2/10/2023	14:59:00	16.061	4.61	0.008	
2/10/2023	15:00:00	16.061	4.614	0.006	
2/10/2023	15:01:00	16.059	4.608	0.22	
2/10/2023	15:02:00	16.055	4.62	0.267	
2/10/2023	15:03:00	16.054	4.623	0.112	
2/10/2023	15:04:00	16.052	4.627	0.153	
2/10/2023	15:05:00	16.059	4.61	0.074	
2/10/2023	15:06:00	16.057	4.605	0.167	8
2/10/2023	15:07:00	16.054	4.606	0.094	
2/10/2023	15:08:00	16.051	4.605	0.251	
2/10/2023	15:09:00	16.057	4.597	0.457	
2/10/2023	15:10:00	16.055	4.596	0.309	
2/10/2023	15:11:00	16.054	4.611	0.267	
2/10/2023	15:12:00	16.063	4.624	0.124	
2/10/2023	15:13:00	16.054	4.616	0.133	
2/10/2023	15:14:00	16.057	4.619	0.699	
2/10/2023	15:15:00	16.067	4.624	0.196	
2/10/2023	15:16:00	16.065	4.618	0.083	7
2/10/2023	15:17:00	16.064	4.604	0.045	
2/10/2023	15:18:00	16.058	4.602	0.033	
2/10/2023	15:19:00	16.057	4.619	0.089	
2/10/2023	15:20:00	16.065	4.616	0.07	
2/10/2023	15:21:00	16.058	4.629	0.01	
2/10/2023	15:22:00	16.059	4.619	0.255	
2/10/2023	15:23:00	16.058	4.626	0.013	
2/10/2023	15:24:00	16.057	4.64	0.101	
2/10/2023	15:25:00	16.052	4.653	0.35	
2/10/2023	15:26:00	16.053	4.646	0.233	6
2/10/2023	15:27:00	16.055	4.652	0.093	
2/10/2023	15:28:00	16.062	4.651	0.058	
2/10/2023	15:29:00	16.046	4.677	0.05	
2/10/2023	15:30:00	16.055	4.649	0.134	
2/10/2023	15:31:00	16.058	4.642	0.156	
2/10/2023	15:32:00	16.051	4.632	0.039	
2/10/2023	15:33:00	16.061	4.627	0.232	
2/10/2023	15:34:00	16.058	4.627	0.315	
2/10/2023	15:35:00	16.04	4.644	0.296	
2/10/2023	15:36:00	16.052	4.642	0.37	5
2/10/2023	15:37:00	16.061	4.632	0.112	
2/10/2023	15:38:00	16.055	4.641	0.05	
2/10/2023	15:39:00	16.062	4.638	0.164	
2/10/2023	15:40:00	16.062	4.635	0.231	
2/10/2023	15:41:00	16.066	4.609	0.012	
2/10/2023	15:42:00	16.066	4.615	0.02	
2/10/2023	15:43:00	16.06	4.619	0.055	
2/10/2023	15:44:00	16.054	4.625	0.075	
2/10/2023	15:45:00	16.038	4.636	0.063	
2/10/2023	15:46:00	16.052	4.626	0.021	4

2/10/2023	15:47:00	16.056	4.625	0.13	
2/10/2023	15:48:00	16.051	4.647	0.14	
2/10/2023	15:49:00	16.055	4.63	0.221	
2/10/2023	15:50:00	16.047	4.615	0.119	
2/10/2023	15:51:00	16.048	4.59	0.027	
2/10/2023	15:52:00	16.054	4.577	0.036	
2/10/2023	15:53:00	16.05	4.573	0.127	
2/10/2023	15:54:00	16.052	4.568	0.123	
2/10/2023	15:55:00	16.058	4.566	0.222	
2/10/2023	15:56:00	16.055	4.576	0.265	3
2/10/2023	15:57:00	16.059	4.576	0.415	
2/10/2023	15:58:00	16.055	4.569	0.17	
2/10/2023	15:59:00	16.056	4.55	0.149	
2/10/2023	16:00:00	16.061	4.542	0.243	
2/10/2023	16:01:00	16.059	4.548	0.195	
2/10/2023	16:02:00	16.056	4.554	0.274	
2/10/2023	16:03:00	16.055	4.562	0.3	
2/10/2023	16:04:00	16.053	4.567	0.311	
2/10/2023	16:05:00	16.048	4.564	0.326	
2/10/2023	16:06:00	16.057	4.545	0.332	2
2/10/2023	16:07:00	16.058	4.545	0.197	
2/10/2023	16:08:00	16.059	4.55	0.128	
2/10/2023	16:09:00	16.053	4.552	0.267	
2/10/2023	16:10:00	16.05	4.565	0.118	
2/10/2023	16:11:00	16.053	4.581	0.233	
2/10/2023	16:12:00	16.044	4.59	0.32	
2/10/2023	16:13:00	16.053	4.584	0.167	
2/10/2023	16:14:00	16.055	4.569	0.168	
2/10/2023	16:15:00	16.044	4.564	0.282	
2/10/2023	16:16:00	16.051	4.568	0.334	1
2/10/2023	16:17:00	16.048	4.562	0.19	
2/10/2023	16:18:00	16.059	4.565	0.165	
2/10/2023	16:19:00	16.051	4.573	0.061	
2/10/2023	16:20:00	16.051	4.566	0.202	
2/10/2023	16:21:00	16.053	4.554	0.23	
2/10/2023	16:22:00	16.053	4.544	0.12	
2/10/2023	16:23:00	16.052	4.545	0.224	
2/10/2023	16:24:00	16.052	4.542	0.095	
2/10/2023	16:25:00	16.045	4.549	0.194	
2/10/2023	16:26:00	16.044	4.544	0.467	
2/10/2023	16:27:00	16.049	4.535	0.131	
2/10/2023	16:28:00	16.04	4.551	0.087	
2/10/2023	16:29:00	16.047	4.551	0.154	
2/10/2023	16:30:00	16.037	4.552	0.159	
2/10/2023	16:31:00	10.842	4.998	-0.241	
2/10/2023	16:32:00	10.14	5.003	-0.058	< System O2, CO2
2/10/2023	16:33:00	10.136	5.109	-0.538	
2/10/2023	16:34:00	4.065	2.175	0.741	
2/10/2023	16:35:00	-0.003	-0.006	4.377	
2/10/2023	16:36:00	-0.002	-0.013	4.672	< System CO
2/10/2023	16:37:00	11.351	3.099	4.008	
2/10/2023	16:38:00	16.033	4.531	1.495	
2/10/2023	16:39:00	16.025	4.535	1.331	
2/10/2023	16:40:00	16.035	4.542	1.289	
2/10/2023	16:41:00	18.616	8.545	2.892	

2/10/2023	16:42:00	19.321	9.631	9.273	
2/10/2023	16:43:00	19.321	9.656	9.64	< Direct High
2/10/2023	16:44:00	10.604	4.582	6.915	
2/10/2023	16:45:00	10.15	4.998	4.679	< Direct Mid
2/10/2023	16:46:00	8.932	4.284	4.628	
2/10/2023	16:47:00	-0.019	-0.723	2.357	
2/10/2023	16:48:00	-0.008	-0.056	0.147	
2/10/2023	16:49:00	-0.007	-0.073	0.114	
2/10/2023	16:50:00	-0.008	-0.065	-0.004	< Direct Zero
2/10/2023	16:51:00	-0.008	-0.065	0.001	

Appendix A.2.2

CT-5 Data

Date	Time	O2%	CO2%	COppm	
2/14/2023	7:44:00	-0.027	-0.026	0.044	< Direct Zero
2/14/2023	7:45:00	11.991	7.517	0.587	
2/14/2023	7:46:00	19.237	11.33	8.005	
2/14/2023	7:47:00	19.28	9.631	9.652	< Direct High
2/14/2023	7:48:00	13.538	6.46	8.703	
2/14/2023	7:49:00	10.079	4.902	4.629	< Direct Mid
2/14/2023	7:50:00	13.61	4.559	4.348	
2/14/2023	7:51:00	16.081	4.311	2.345	
2/14/2023	7:52:00	16.078	4.305	2.153	
2/14/2023	7:53:00	13.397	4.515	1.923	
2/14/2023	7:54:00	10.071	4.928	-0.025	< system O2, CO2
2/14/2023	7:55:00	3.932	2.043	0.013	
2/14/2023	7:56:00	-0.044	-0.075	3.896	
2/14/2023	7:57:00	-0.044	-0.081	4.421	
2/14/2023	7:58:00	-0.043	-0.079	4.607	< system CO
2/14/2023	7:59:00	9.906	3.226	3.801	
2/14/2023	8:00:00	16.067	4.315	1.266	< Start Eng 5 Run 1 08:00
2/14/2023	8:01:00	16.074	4.316	1.162	
2/14/2023	8:02:00	16.072	4.316	1.703	
2/14/2023	8:03:00	16.076	4.314	2.009	
2/14/2023	8:04:00	16.081	4.318	1.546	
2/14/2023	8:05:00	16.083	4.321	1.351	
2/14/2023	8:06:00	16.075	4.32	1.54	
2/14/2023	8:07:00	16.079	4.323	1.512	
2/14/2023	8:08:00	16.078	4.314	1.235	
2/14/2023	8:09:00	16.076	4.313	1.182	
2/14/2023	8:10:00	16.08	4.309	0.986	
2/14/2023	8:11:00	16.082	4.315	0.981	
2/14/2023	8:12:00	16.084	4.317	1.156	
2/14/2023	8:13:00	16.087	4.323	0.919	
2/14/2023	8:14:00	16.084	4.321	0.985	
2/14/2023	8:15:00	16.081	4.323	0.817	
2/14/2023	8:16:00	16.089	4.316	0.932	
2/14/2023	8:17:00	16.084	4.321	1.138	
2/14/2023	8:18:00	16.083	4.306	1.277	
2/14/2023	8:19:00	16.084	4.306	1.371	
2/14/2023	8:20:00	16.085	4.29	1.825	
2/14/2023	8:21:00	16.088	4.286	1.85	
2/14/2023	8:22:00	16.084	4.293	1.312	
2/14/2023	8:23:00	16.086	4.309	1.12	
2/14/2023	8:24:00	16.087	4.316	0.948	
2/14/2023	8:25:00	16.088	4.315	1.34	
2/14/2023	8:26:00	16.088	4.322	1.443	
2/14/2023	8:27:00	16.086	4.314	0.81	
2/14/2023	8:28:00	16.085	4.309	0.673	
2/14/2023	8:29:00	16.087	4.308	0.767	
2/14/2023	8:30:00	16.089	4.301	1.126	
2/14/2023	8:31:00	16.089	4.302	1.124	
2/14/2023	8:32:00	16.089	4.318	0.753	
2/14/2023	8:33:00	16.087	4.336	0.668	
2/14/2023	8:34:00	16.086	4.335	0.968	
2/14/2023	8:35:00	16.091	4.33	0.947	
2/14/2023	8:36:00	16.09	4.333	1.267	
2/14/2023	8:37:00	16.09	4.316	1.143	

2/14/2023	8:38:00	16.085	4.317	0.88
2/14/2023	8:39:00	16.091	4.312	0.828
2/14/2023	8:40:00	16.085	4.316	0.671
2/14/2023	8:41:00	16.085	4.325	0.594
2/14/2023	8:42:00	16.092	4.327	0.746
2/14/2023	8:43:00	16.093	4.338	0.773
2/14/2023	8:44:00	16.092	4.33	0.743
2/14/2023	8:45:00	16.089	4.331	0.966
2/14/2023	8:46:00	16.087	4.331	0.706
2/14/2023	8:47:00	16.09	4.325	0.557
2/14/2023	8:48:00	16.089	4.32	0.6
2/14/2023	8:49:00	16.093	4.315	0.649
2/14/2023	8:50:00	16.086	4.323	0.769
2/14/2023	8:51:00	16.086	4.327	0.627
2/14/2023	8:52:00	16.086	4.346	0.537
2/14/2023	8:53:00	16.09	4.344	0.444
2/14/2023	8:54:00	16.086	4.348	0.521
2/14/2023	8:55:00	16.092	4.348	0.424
2/14/2023	8:56:00	16.092	4.339	0.391
2/14/2023	8:57:00	16.089	4.312	0.38
2/14/2023	8:58:00	16.088	4.307	0.499
2/14/2023	8:59:00	16.089	4.295	0.642
2/14/2023	9:00:00	16.093	4.278	0.826
2/14/2023	9:01:00	16.092	4.277	0.568
2/14/2023	9:02:00	16.093	4.291	0.371
2/14/2023	9:03:00	16.09	4.285	0.477
2/14/2023	9:04:00	16.095	4.294	0.697
2/14/2023	9:05:00	16.093	4.305	0.76
2/14/2023	9:06:00	16.098	4.304	0.699
2/14/2023	9:07:00	16.089	4.296	0.586
2/14/2023	9:08:00	16.097	4.292	0.476
2/14/2023	9:09:00	16.093	4.292	0.44
2/14/2023	9:10:00	16.091	4.29	0.531
2/14/2023	9:11:00	16.088	4.298	0.708
2/14/2023	9:12:00	16.087	4.283	0.661
2/14/2023	9:13:00	16.086	4.273	0.598
2/14/2023	9:14:00	16.09	4.269	0.54
2/14/2023	9:15:00	16.097	4.272	0.456
2/14/2023	9:16:00	16.099	4.272	0.401
2/14/2023	9:17:00	16.098	4.281	0.346
2/14/2023	9:18:00	16.087	4.295	0.347
2/14/2023	9:19:00	16.082	4.299	0.452
2/14/2023	9:20:00	16.078	4.297	0.349
2/14/2023	9:21:00	16.092	4.286	0.296
2/14/2023	9:22:00	16.085	4.283	0.28
2/14/2023	9:23:00	16.083	4.288	0.3
2/14/2023	9:24:00	16.078	4.29	0.275
2/14/2023	9:25:00	16.078	4.277	0.342
2/14/2023	9:26:00	16.077	4.293	0.305
2/14/2023	9:27:00	16.08	4.299	0.275
2/14/2023	9:28:00	16.078	4.31	0.303
2/14/2023	9:29:00	16.079	4.317	0.307
2/14/2023	9:30:00	16.082	4.315	0.314
2/14/2023	9:31:00	16.08	4.306	0.588
2/14/2023	9:32:00	16.09	4.294	0.578

2/14/2023	9:33:00	16.09	4.285	0.453	
2/14/2023	9:34:00	16.093	4.28	0.82	
2/14/2023	9:35:00	16.087	4.283	0.4	
2/14/2023	9:36:00	16.085	4.293	0.448	
2/14/2023	9:37:00	16.089	4.305	0.483	
2/14/2023	9:38:00	16.089	4.311	0.378	
2/14/2023	9:39:00	16.092	4.309	0.79	
2/14/2023	9:40:00	16.092	4.293	0.412	
2/14/2023	9:41:00	16.099	4.287	0.442	
2/14/2023	9:42:00	16.097	4.291	0.242	
2/14/2023	9:43:00	16.092	4.295	0.316	
2/14/2023	9:44:00	16.093	4.282	0.439	
2/14/2023	9:45:00	16.096	4.298	0.225	
2/14/2023	9:46:00	16.108	4.289	0.206	
2/14/2023	9:47:00	16.106	4.302	0.236	
2/14/2023	9:48:00	16.096	4.308	0.295	
2/14/2023	9:49:00	16.094	4.294	0.304	
2/14/2023	9:50:00	16.099	4.287	0.496	
2/14/2023	9:51:00	16.106	4.279	0.238	
2/14/2023	9:52:00	16.102	4.28	0.231	
2/14/2023	9:53:00	16.102	4.29	0.211	
2/14/2023	9:54:00	16.1	4.289	0.198	
2/14/2023	9:55:00	16.103	4.28	0.193	
2/14/2023	9:56:00	16.106	4.275	0.221	
2/14/2023	9:57:00	16.104	4.267	0.198	
2/14/2023	9:58:00	16.1	4.278	0.213	
2/14/2023	9:59:00	16.09	4.272	0.203	
2/14/2023	10:00:00	16.099	4.258	0.199	
2/14/2023	10:01:00	16.093	4.262	0.206	
2/14/2023	10:02:00	10.534	4.814	-0.203	
2/14/2023	10:03:00	10.094	4.94	-0.026	< System O2, CO2
2/14/2023	10:04:00	3.864	1.405	3.459	
2/14/2023	10:05:00	-0.025	-0.027	4.636	< System CO
2/14/2023	10:06:00	1.768	0.294	4.665	
2/14/2023	10:07:00	16.086	4.256	2.673	
2/14/2023	10:08:00	16.091	4.271	0.873	
2/14/2023	10:09:00	16.089	4.276	0.007	
2/14/2023	10:10:00	16.097	4.278	0.009	< Resume
2/14/2023	10:11:00	16.095	4.284	0.163	
2/14/2023	10:12:00	16.085	4.293	0.176	
2/14/2023	10:13:00	16.097	4.282	0.148	
2/14/2023	10:14:00	16.098	4.271	0.003	
2/14/2023	10:15:00	16.102	4.267	0.025	
2/14/2023	10:16:00	16.102	4.273	0.013	
2/14/2023	10:17:00	16.104	4.266	0.029	
2/14/2023	10:18:00	16.099	4.277	0.004	
2/14/2023	10:19:00	16.101	4.284	0.028	
2/14/2023	10:20:00	16.095	4.278	0.011	
2/14/2023	10:21:00	16.101	4.266	0.021	
2/14/2023	10:22:00	16.098	4.264	0.03	
2/14/2023	10:23:00	16.103	4.26	0.053	
2/14/2023	10:24:00	16.1	4.267	0.047	
2/14/2023	10:25:00	16.101	4.267	0.047	
2/14/2023	10:26:00	16.099	4.281	0.04	
2/14/2023	10:27:00	16.097	4.282	0.011	

2/14/2023	10:28:00	16.093	4.274	0.024
2/14/2023	10:29:00	16.101	4.253	0.045
2/14/2023	10:30:00	16.101	4.25	0.038
2/14/2023	10:31:00	16.099	4.257	0.002
2/14/2023	10:32:00	16.094	4.265	0.063
2/14/2023	10:33:00	16.104	4.275	0.031
2/14/2023	10:34:00	16.104	4.285	0.04
2/14/2023	10:35:00	16.099	4.282	0.04
2/14/2023	10:36:00	16.101	4.267	0.057
2/14/2023	10:37:00	16.095	4.272	0.045
2/14/2023	10:38:00	16.095	4.275	0.019
2/14/2023	10:39:00	16.096	4.272	0.019
2/14/2023	10:40:00	16.104	4.262	0.052
2/14/2023	10:41:00	16.11	4.268	0.062
2/14/2023	10:42:00	16.093	4.274	0.042
2/14/2023	10:43:00	16.098	4.262	0.026
2/14/2023	10:44:00	16.105	4.258	0.03
2/14/2023	10:45:00	16.104	4.254	0.024
2/14/2023	10:46:00	16.092	4.257	0.051
2/14/2023	10:47:00	16.107	4.246	0.057
2/14/2023	10:48:00	16.101	4.249	0.071
2/14/2023	10:49:00	16.106	4.253	0.051
2/14/2023	10:50:00	16.096	4.244	0.051
2/14/2023	10:51:00	16.11	4.234	0.052
2/14/2023	10:52:00	16.107	4.236	0.079
2/14/2023	10:53:00	16.1	4.232	0.066
2/14/2023	10:54:00	16.101	4.242	0.049
2/14/2023	10:55:00	16.099	4.255	0.023
2/14/2023	10:56:00	16.103	4.256	0.043
2/14/2023	10:57:00	16.095	4.262	0.036
2/14/2023	10:58:00	16.088	4.269	0.049
2/14/2023	10:59:00	16.077	4.287	0.007
2/14/2023	11:00:00	16.104	4.26	0.017
2/14/2023	11:01:00	16.107	4.251	0.063
2/14/2023	11:02:00	16.107	4.252	0.066
2/14/2023	11:03:00	16.098	4.266	0.063
2/14/2023	11:04:00	16.099	4.254	0.054
2/14/2023	11:05:00	16.101	4.254	0.062
2/14/2023	11:06:00	16.098	4.255	0.064
2/14/2023	11:07:00	16.104	4.257	0.063
2/14/2023	11:08:00	16.099	4.264	0.053
2/14/2023	11:09:00	16.104	4.265	0.073
2/14/2023	11:10:00	16.102	4.267	0.071
2/14/2023	11:11:00	16.1	4.264	0.082
2/14/2023	11:12:00	16.108	4.258	0.068
2/14/2023	11:13:00	16.091	4.272	0.187
2/14/2023	11:14:00	16.081	4.283	0.025
2/14/2023	11:15:00	16.098	4.271	0.359
2/14/2023	11:16:00	16.096	4.274	0.082
2/14/2023	11:17:00	16.086	4.301	0.387
2/14/2023	11:18:00	16.104	4.292	0.307
2/14/2023	11:19:00	16.106	4.285	0.224
2/14/2023	11:20:00	16.108	4.27	0.032
2/14/2023	11:21:00	16.104	4.273	0.141
2/14/2023	11:22:00	16.118	4.256	0.004

2/14/2023	11:23:00	16.119	4.255	0.08	
2/14/2023	11:24:00	16.116	4.26	0.091	
2/14/2023	11:25:00	16.113	4.272	0.081	
2/14/2023	11:26:00	16.115	4.272	0.095	
2/14/2023	11:27:00	16.103	4.263	0.011	
2/14/2023	11:28:00	16.112	4.251	0.042	
2/14/2023	11:29:00	16.111	4.243	0.081	
2/14/2023	11:30:00	16.113	4.243	0.097	
2/14/2023	11:31:00	16.105	4.243	0.077	
2/14/2023	11:32:00	16.108	4.255	0.087	
2/14/2023	11:33:00	16.108	4.266	0.091	
2/14/2023	11:34:00	16.112	4.258	0.063	
2/14/2023	11:35:00	16.105	4.259	0.043	
2/14/2023	11:36:00	16.09	4.275	0.157	
2/14/2023	11:37:00	16.115	4.246	0.156	
2/14/2023	11:38:00	16.117	4.251	0.029	
2/14/2023	11:39:00	16.118	4.258	0.066	
2/14/2023	11:40:00	16.114	4.27	0.09	
2/14/2023	11:41:00	16.114	4.268	0.1	
2/14/2023	11:42:00	16.102	4.271	0.072	
2/14/2023	11:43:00	16.111	4.261	0.086	
2/14/2023	11:44:00	16.111	4.265	0.094	
2/14/2023	11:45:00	16.11	4.261	0.053	
2/14/2023	11:46:00	16.113	4.267	0.095	
2/14/2023	11:47:00	16.114	4.27	0.087	
2/14/2023	11:48:00	16.115	4.275	0.096	
2/14/2023	11:49:00	16.11	4.274	0.09	
2/14/2023	11:50:00	16.117	4.269	0.104	
2/14/2023	11:51:00	16.102	4.284	0.103	
2/14/2023	11:52:00	16.114	4.267	0.103	
2/14/2023	11:53:00	16.111	4.26	0.012	
2/14/2023	11:54:00	16.117	4.255	0.226	
2/14/2023	11:55:00	16.122	4.264	0.057	
2/14/2023	11:56:00	16.121	4.271	0.071	
2/14/2023	11:57:00	16.119	4.265	0.065	
2/14/2023	11:58:00	16.117	4.267	0.079	
2/14/2023	11:59:00	16.106	4.271	0.326	
2/14/2023	12:00:00	16.115	4.264	0.226	
2/14/2023	12:01:00	16.109	4.261	0.026	
2/14/2023	12:02:00	16.12	4.252	0.039	
2/14/2023	12:03:00	16.124	4.256	0.114	
2/14/2023	12:04:00	16.123	4.261	0.061	
2/14/2023	12:05:00	16.119	4.251	0.085	
2/14/2023	12:06:00	16.122	4.246	0.091	
2/14/2023	12:07:00	16.115	4.246	0.094	
2/14/2023	12:08:00	16.116	4.25	0.077	
2/14/2023	12:09:00	16.163	4.285	0.247	
2/14/2023	12:10:00	16.082	4.226	0.276	
2/14/2023	12:11:00	10.078	4.745	0.009	
2/14/2023	12:12:00	10.182	4.926	0.015	< System O2, CO2
2/14/2023	12:13:00	7.247	2.005	1.353	
2/14/2023	12:14:00	-0.045	-0.115	4.536	
2/14/2023	12:15:00	-0.043	-0.128	4.693	
2/14/2023	12:16:00	-0.039	-0.033	4.675	< System CO
2/14/2023	12:17:00	-0.04	-0.12	4.703	

2/14/2023	12:18:00	6.176	1.405	4.558	
2/14/2023	12:19:00	16.129	4.268	1.552	
2/14/2023	12:20:00	16.13	4.27	0.017	< Start Eng 5 Run 2 12:20
2/14/2023	12:21:00	16.125	4.274	0.018	
2/14/2023	12:22:00	16.129	4.263	0.012	
2/14/2023	12:23:00	16.131	4.256	0.003	
2/14/2023	12:24:00	16.124	4.263	0.007	
2/14/2023	12:25:00	16.129	4.269	0.004	
2/14/2023	12:26:00	16.133	4.273	0.01	
2/14/2023	12:27:00	16.134	4.277	0.027	
2/14/2023	12:28:00	16.128	4.27	0.004	
2/14/2023	12:29:00	16.129	4.263	0.023	
2/14/2023	12:30:00	16.123	4.271	0.029	
2/14/2023	12:31:00	16.126	4.274	0.089	
2/14/2023	12:32:00	16.13	4.283	0.027	
2/14/2023	12:33:00	16.133	4.277	0.023	
2/14/2023	12:34:00	16.123	4.293	0.025	
2/14/2023	12:35:00	16.128	4.282	0.267	
2/14/2023	12:36:00	16.126	4.283	0.136	
2/14/2023	12:37:00	16.118	4.29	0.035	
2/14/2023	12:38:00	16.13	4.264	0.001	
2/14/2023	12:39:00	16.121	4.264	0.029	
2/14/2023	12:40:00	16.12	4.267	0.004	
2/14/2023	12:41:00	16.123	4.26	0.026	
2/14/2023	12:42:00	16.126	4.256	0.007	
2/14/2023	12:43:00	16.125	4.253	0.015	
2/14/2023	12:44:00	16.129	4.243	0.01	
2/14/2023	12:45:00	16.123	4.237	0.011	
2/14/2023	12:46:00	16.128	4.228	0.03	
2/14/2023	12:47:00	16.126	4.236	0.034	
2/14/2023	12:48:00	16.131	4.237	0.059	
2/14/2023	12:49:00	16.128	4.229	0.133	
2/14/2023	12:50:00	16.131	4.225	0.172	
2/14/2023	12:51:00	16.128	4.219	0.161	
2/14/2023	12:52:00	16.128	4.223	0.196	
2/14/2023	12:53:00	16.126	4.227	0.158	
2/14/2023	12:54:00	16.127	4.229	0.007	
2/14/2023	12:55:00	16.136	4.239	0.027	
2/14/2023	12:56:00	16.131	4.235	0.034	
2/14/2023	12:57:00	16.131	4.228	0.028	
2/14/2023	12:58:00	16.125	4.243	0.011	
2/14/2023	12:59:00	16.128	4.238	0.059	
2/14/2023	13:00:00	16.13	4.235	0.222	
2/14/2023	13:01:00	16.133	4.231	0.063	
2/14/2023	13:02:00	16.139	4.224	0.008	
2/14/2023	13:03:00	16.136	4.241	0.031	
2/14/2023	13:04:00	16.137	4.256	0.035	
2/14/2023	13:05:00	16.134	4.253	0.039	
2/14/2023	13:06:00	16.129	4.242	0.032	
2/14/2023	13:07:00	16.13	4.239	0.025	
2/14/2023	13:08:00	16.127	4.246	0.024	
2/14/2023	13:09:00	16.126	4.255	0.113	
2/14/2023	13:10:00	16.139	4.251	0.02	
2/14/2023	13:11:00	16.149	4.256	0.036	
2/14/2023	13:12:00	16.115	4.29	0.03	

2/14/2023	13:13:00	16.118	4.282	0.004
2/14/2023	13:14:00	16.128	4.255	0.229
2/14/2023	13:15:00	16.123	4.248	0.19
2/14/2023	13:16:00	16.122	4.244	0.276
2/14/2023	13:17:00	16.143	4.233	0.121
2/14/2023	13:18:00	16.118	4.255	0.092
2/14/2023	13:19:00	16.163	4.224	0.054
2/14/2023	13:20:00	16.116	4.256	0.12
2/14/2023	13:21:00	16.091	4.262	0.052
2/14/2023	13:22:00	16.091	4.221	0.02
2/14/2023	13:23:00	16.153	4.164	0.006
2/14/2023	13:24:00	16.145	4.182	0.005
2/14/2023	13:25:00	16.145	4.229	0.022
2/14/2023	13:26:00	16.093	4.259	0.034
2/14/2023	13:27:00	16.125	4.209	0.006
2/14/2023	13:28:00	16.136	4.186	0.03
2/14/2023	13:29:00	16.134	4.205	0.021
2/14/2023	13:30:00	16.113	4.224	0.031
2/14/2023	13:31:00	16.125	4.218	0.011
2/14/2023	13:32:00	16.13	4.225	0.02
2/14/2023	13:33:00	16.129	4.216	0.003
2/14/2023	13:34:00	16.125	4.228	0.012
2/14/2023	13:35:00	16.125	4.233	0.074
2/14/2023	13:36:00	16.123	4.223	0.018
2/14/2023	13:37:00	16.124	4.211	0.007
2/14/2023	13:38:00	16.122	4.216	0.036
2/14/2023	13:39:00	16.126	4.227	0.022
2/14/2023	13:40:00	16.13	4.236	0.012
2/14/2023	13:41:00	16.127	4.22	0.023
2/14/2023	13:42:00	16.124	4.208	0.025
2/14/2023	13:43:00	16.127	4.21	0.036
2/14/2023	13:44:00	16.123	4.213	0.419
2/14/2023	13:45:00	16.126	4.209	0.152
2/14/2023	13:46:00	16.134	4.199	0.052
2/14/2023	13:47:00	16.133	4.198	0.087
2/14/2023	13:48:00	16.119	4.212	0.063
2/14/2023	13:49:00	16.123	4.204	0.059
2/14/2023	13:50:00	16.129	4.206	0.091
2/14/2023	13:51:00	16.133	4.202	0.043
2/14/2023	13:52:00	16.13	4.203	0
2/14/2023	13:53:00	16.127	4.217	0.032
2/14/2023	13:54:00	16.124	4.222	0.013
2/14/2023	13:55:00	16.13	4.213	0.044
2/14/2023	13:56:00	16.113	4.221	0.018
2/14/2023	13:57:00	16.13	4.202	0.05
2/14/2023	13:58:00	16.127	4.192	0.049
2/14/2023	13:59:00	16.128	4.217	0.001
2/14/2023	14:00:00	16.123	4.229	0.04
2/14/2023	14:01:00	16.122	4.233	0.043
2/14/2023	14:02:00	16.122	4.215	0.039
2/14/2023	14:03:00	16.122	4.221	0.25
2/14/2023	14:04:00	16.13	4.213	0.455
2/14/2023	14:05:00	16.126	4.212	1.647
2/14/2023	14:06:00	16.126	4.221	0.368
2/14/2023	14:07:00	16.13	4.233	0.02

2/14/2023	14:08:00	16.126	4.234	0.06	
2/14/2023	14:09:00	16.126	4.234	0.021	
2/14/2023	14:10:00	16.125	4.234	0.008	
2/14/2023	14:11:00	16.126	4.234	0.002	
2/14/2023	14:12:00	16.129	4.239	0.019	
2/14/2023	14:13:00	16.123	4.249	0.035	
2/14/2023	14:14:00	16.13	4.249	0.015	
2/14/2023	14:15:00	16.127	4.251	0.003	
2/14/2023	14:16:00	16.127	4.257	0.021	
2/14/2023	14:17:00	16.121	4.255	0.046	
2/14/2023	14:18:00	16.117	4.263	0.092	
2/14/2023	14:19:00	16.109	4.265	0.016	
2/14/2023	14:20:00	16.121	4.252	0.001	
2/14/2023	14:21:00	16.13	4.254	0.046	
2/14/2023	14:22:00	12.47	4.566	0.195	
2/14/2023	14:23:00	10.094	4.919	0.246	
2/14/2023	14:24:00	10.091	4.914	0.007	System O2,CO2
2/14/2023	14:25:00	2.552	1.443	1.531	
2/14/2023	14:26:00	-0.029	-0.136	4.636	
2/14/2023	14:27:00	-0.027	-0.041	4.679	< System CO
2/14/2023	14:28:00	10.282	3.448	3.772	
2/14/2023	14:29:00	16.116	4.272	0.75	
2/14/2023	14:30:00	16.119	4.274	0.057	< Resume
2/14/2023	14:31:00	16.127	4.259	0.03	
2/14/2023	14:32:00	16.113	4.255	0.011	
2/14/2023	14:33:00	16.105	4.269	0.007	
2/14/2023	14:34:00	16.104	4.283	0.135	
2/14/2023	14:35:00	16.123	4.259	0.028	
2/14/2023	14:36:00	16.125	4.273	0.007	
2/14/2023	14:37:00	16.113	4.28	0.086	
2/14/2023	14:38:00	16.118	4.273	0.051	
2/14/2023	14:39:00	16.116	4.26	0.047	
2/14/2023	14:40:00	16.106	4.263	0.019	
2/14/2023	14:41:00	16.117	4.245	0.247	
2/14/2023	14:42:00	16.113	4.262	0.021	
2/14/2023	14:43:00	16.111	4.276	0.008	
2/14/2023	14:44:00	16.122	4.268	0.099	
2/14/2023	14:45:00	16.125	4.255	0.281	
2/14/2023	14:46:00	16.119	4.262	0.072	
2/14/2023	14:47:00	16.113	4.249	0.261	
2/14/2023	14:48:00	16.126	4.238	0.183	
2/14/2023	14:49:00	16.107	4.253	0.634	
2/14/2023	14:50:00	16.108	4.26	0.128	
2/14/2023	14:51:00	16.111	4.259	0.079	
2/14/2023	14:52:00	16.109	4.256	0.007	
2/14/2023	14:53:00	16.12	4.245	0.06	
2/14/2023	14:54:00	16.118	4.242	0.134	
2/14/2023	14:55:00	16.116	4.246	0.008	
2/14/2023	14:56:00	16.124	4.241	0.01	
2/14/2023	14:57:00	16.122	4.249	0.037	
2/14/2023	14:58:00	16.122	4.25	0.031	
2/14/2023	14:59:00	16.112	4.263	0.041	
2/14/2023	15:00:00	16.12	4.244	0.01	
2/14/2023	15:01:00	16.123	4.234	0.017	
2/14/2023	15:02:00	16.117	4.243	0.078	

2/14/2023	15:03:00	16.12	4.247	0.017
2/14/2023	15:04:00	16.121	4.252	0.039
2/14/2023	15:05:00	16.121	4.252	0.015
2/14/2023	15:06:00	16.127	4.25	0.054
2/14/2023	15:07:00	16.122	4.247	0.033
2/14/2023	15:08:00	16.125	4.238	0.05
2/14/2023	15:09:00	16.119	4.249	0.014
2/14/2023	15:10:00	16.114	4.253	0.033
2/14/2023	15:11:00	16.117	4.253	0.073
2/14/2023	15:12:00	16.121	4.249	0.056
2/14/2023	15:13:00	16.126	4.23	0.032
2/14/2023	15:14:00	16.1	4.253	0.076
2/14/2023	15:15:00	16.122	4.219	0.246
2/14/2023	15:16:00	16.122	4.234	0.036
2/14/2023	15:17:00	16.118	4.252	0.011
2/14/2023	15:18:00	16.11	4.264	0.218
2/14/2023	15:19:00	16.12	4.265	0.261
2/14/2023	15:20:00	16.128	4.243	0.435
2/14/2023	15:21:00	16.12	4.239	0.035
2/14/2023	15:22:00	16.125	4.221	0.01
2/14/2023	15:23:00	16.12	4.226	0.075
2/14/2023	15:24:00	16.118	4.228	0.105
2/14/2023	15:25:00	16.122	4.228	0.072
2/14/2023	15:26:00	16.116	4.239	0.025
2/14/2023	15:27:00	16.115	4.235	0.062
2/14/2023	15:28:00	16.118	4.245	0.015
2/14/2023	15:29:00	16.116	4.23	0.003
2/14/2023	15:30:00	16.112	4.232	0.096
2/14/2023	15:31:00	16.12	4.229	0.16
2/14/2023	15:32:00	16.099	4.255	0.064
2/14/2023	15:33:00	16.117	4.248	0.191
2/14/2023	15:34:00	16.123	4.242	0.121
2/14/2023	15:35:00	16.12	4.242	0.215
2/14/2023	15:36:00	16.125	4.224	0.059
2/14/2023	15:37:00	16.125	4.224	0.187
2/14/2023	15:38:00	16.128	4.226	0.056
2/14/2023	15:39:00	16.122	4.235	0.099
2/14/2023	15:40:00	16.124	4.235	0.049
2/14/2023	15:41:00	16.122	4.241	0.017
2/14/2023	15:42:00	16.129	4.226	0.054
2/14/2023	15:43:00	16.12	4.233	0.04
2/14/2023	15:44:00	16.101	4.245	0.038
2/14/2023	15:45:00	16.099	4.254	0.029
2/14/2023	15:46:00	16.111	4.255	0.037
2/14/2023	15:47:00	16.121	4.247	0.04
2/14/2023	15:48:00	16.11	4.263	0.06
2/14/2023	15:49:00	16.133	4.232	0.013
2/14/2023	15:50:00	16.106	4.244	0.058
2/14/2023	15:51:00	16.121	4.217	0.071
2/14/2023	15:52:00	16.107	4.24	0.038
2/14/2023	15:53:00	16.12	4.227	0.033
2/14/2023	15:54:00	16.119	4.237	0.008
2/14/2023	15:55:00	16.121	4.234	0.115
2/14/2023	15:56:00	16.119	4.227	0.095
2/14/2023	15:57:00	16.121	4.235	0.044

2/14/2023	15:58:00	16.1	4.26	0.058	
2/14/2023	15:59:00	16.102	4.257	0.198	
2/14/2023	16:00:00	16.125	4.237	0.035	
2/14/2023	16:01:00	16.114	4.25	0.193	
2/14/2023	16:02:00	16.123	4.239	0.07	
2/14/2023	16:03:00	16.113	4.241	0.032	
2/14/2023	16:04:00	16.118	4.23	0.01	
2/14/2023	16:05:00	16.106	4.248	0.014	
2/14/2023	16:06:00	16.11	4.241	0.049	
2/14/2023	16:07:00	16.105	4.247	0.05	
2/14/2023	16:08:00	16.085	4.269	0.008	
2/14/2023	16:09:00	16.116	4.24	0.155	
2/14/2023	16:10:00	16.121	4.231	0.061	
2/14/2023	16:11:00	16.104	4.231	0.138	
2/14/2023	16:12:00	16.126	4.216	0.071	
2/14/2023	16:13:00	16.117	4.238	0.042	
2/14/2023	16:14:00	16.125	4.239	0.041	
2/14/2023	16:15:00	16.119	4.236	0.135	
2/14/2023	16:16:00	16.123	4.218	0.213	
2/14/2023	16:17:00	16.106	4.248	0.288	
2/14/2023	16:18:00	16.081	4.256	0.086	
2/14/2023	16:19:00	16.125	4.197	0.371	
2/14/2023	16:20:00	16.124	4.206	0.023	
2/14/2023	16:21:00	16.112	4.23	0.038	
2/14/2023	16:22:00	16.11	4.236	0.174	
2/14/2023	16:23:00	16.114	4.235	0.02	
2/14/2023	16:24:00	16.113	4.231	0.064	
2/14/2023	16:25:00	16.115	4.207	0.343	
2/14/2023	16:26:00	16.127	4.191	0.344	
2/14/2023	16:27:00	16.122	4.183	0.303	
2/14/2023	16:28:00	16.104	4.184	0.067	
2/14/2023	16:29:00	16.11	4.188	0.021	
2/14/2023	16:30:00	16.1	4.205	0.081	
2/14/2023	16:31:00	12.092	4.54	0.086	
2/14/2023	16:32:00	10.092	4.895	-0.007	< System O2, CO2
2/14/2023	16:33:00	10.088	4.829	0.314	
2/14/2023	16:34:00	8.659	4.329	4.019	
2/14/2023	16:35:00	-0.057	-0.226	4.565	
2/14/2023	16:36:00	-0.056	-0.032	4.657	< System CO
2/14/2023	16:37:00	-0.058	-0.051	4.655	
2/14/2023	16:38:00	11.664	2.993	4.111	
2/14/2023	16:39:00	16.315	4.307	0.562	
2/14/2023	16:40:00	19.259	9.518	3.516	
2/14/2023	16:41:00	19.274	9.646	9.05	
2/14/2023	16:42:00	19.273	9.656	9.646	< Direct High
2/14/2023	16:43:00	16.012	7.909	9.525	
2/14/2023	16:44:00	10.114	4.711	5.142	
2/14/2023	16:45:00	10.113	4.902	4.613	< Direct Mid
2/14/2023	16:46:00	9.348	4.691	4.588	
2/14/2023	16:47:00	-0.034	-0.323	2.067	
2/14/2023	16:48:00	-0.037	-0.021	-0.023	
2/14/2023	16:49:00	-0.037	-0.01	0.011	< Direct Zero
2/14/2023	16:50:00	-0.038	0.001	0.002	

Date	Time	O2%	CO2%	COppm	
2/15/2023	7:14:00	-0.042	0.028	2.177	
2/15/2023	7:15:00	-0.032	-0.025	-0.031	
2/15/2023	7:16:00	-0.03	-0.031	-0.06	
2/15/2023	7:17:00	-0.03	-0.037	-0.064	
2/15/2023	7:18:00	-0.03	-0.054	2.858	
2/15/2023	7:19:00	-0.027	-0.056	1.1	
2/15/2023	7:20:00	-0.027	-0.038	-0.061	< Zero Direct
2/15/2023	7:21:00	15.851	8.633	2.449	
2/15/2023	7:22:00	19.281	9.83	10.373	
2/15/2023	7:23:00	19.284	9.616	9.622	< Direct High
2/15/2023	7:24:00	12.759	6.219	8.541	
2/15/2023	7:25:00	10.101	4.878	4.588	
2/15/2023	7:26:00	10.102	4.971	4.656	< Direct Mid
2/15/2023	7:27:00	12.922	4.586	4.545	
2/15/2023	7:28:00	16.075	4.266	1.478	
2/15/2023	7:29:00	13.064	4.534	0.532	
2/15/2023	7:30:00	10.094	4.913	-0.023	< System O2, CO2
2/15/2023	7:31:00	1.398	0.751	1.812	
2/15/2023	7:32:00	-0.041	-0.107	4.681	
2/15/2023	7:33:00	-0.041	-0.017	4.608	< System CO
2/15/2023	7:34:00	14.059	3.932	2.853	
2/15/2023	7:35:00	16.069	4.279	0.681	< Start Eng 5 Run 3 0735
2/15/2023	7:36:00	16.075	4.268	0.02	12
2/15/2023	7:37:00	16.068	4.27	0.021	
2/15/2023	7:38:00	16.058	4.283	0.027	
2/15/2023	7:39:00	16.067	4.27	0.044	
2/15/2023	7:40:00	16.071	4.266	0.056	
2/15/2023	7:41:00	16.068	4.273	0.074	
2/15/2023	7:42:00	16.061	4.277	0.046	
2/15/2023	7:43:00	16.061	4.281	0.006	
2/15/2023	7:44:00	16.071	4.272	0.008	
2/15/2023	7:45:00	16.071	4.259	0.008	
2/15/2023	7:46:00	16.074	4.252	0.011	11
2/15/2023	7:47:00	16.072	4.268	0.027	
2/15/2023	7:48:00	16.071	4.277	0.017	
2/15/2023	7:49:00	16.066	4.283	0.064	
2/15/2023	7:50:00	16.065	4.296	0.007	
2/15/2023	7:51:00	16.061	4.287	0.087	
2/15/2023	7:52:00	16.068	4.289	0.027	
2/15/2023	7:53:00	16.066	4.302	0.049	
2/15/2023	7:54:00	16.067	4.288	0.003	
2/15/2023	7:55:00	16.056	4.292	0.068	
2/15/2023	7:56:00	16.062	4.269	0.022	10
2/15/2023	7:57:00	16.065	4.256	0.139	
2/15/2023	7:58:00	16.061	4.243	0.196	
2/15/2023	7:59:00	16.065	4.248	0.16	
2/15/2023	8:00:00	16.061	4.259	0.113	
2/15/2023	8:01:00	16.058	4.269	0.122	
2/15/2023	8:02:00	16.067	4.259	0.149	
2/15/2023	8:03:00	16.052	4.273	0.162	
2/15/2023	8:04:00	16.064	4.253	0.146	
2/15/2023	8:05:00	16.062	4.251	0.17	
2/15/2023	8:06:00	16.057	4.267	0.186	9
2/15/2023	8:07:00	16.054	4.267	0.117	

2/15/2023	8:08:00	16.055	4.264	0.164	
2/15/2023	8:09:00	16.064	4.254	0.185	
2/15/2023	8:10:00	16.067	4.253	0.08	
2/15/2023	8:11:00	16.069	4.257	0.132	
2/15/2023	8:12:00	16.063	4.248	0.313	
2/15/2023	8:13:00	16.064	4.24	0.372	
2/15/2023	8:14:00	16.058	4.242	0.398	
2/15/2023	8:15:00	16.062	4.241	0.351	
2/15/2023	8:16:00	16.049	4.243	0.397	8
2/15/2023	8:17:00	16.073	4.218	0.428	
2/15/2023	8:18:00	16.059	4.236	0.41	
2/15/2023	8:19:00	16.06	4.237	0.421	
2/15/2023	8:20:00	16.059	4.235	0.426	
2/15/2023	8:21:00	16.061	4.215	0.427	
2/15/2023	8:22:00	16.058	4.212	0.427	
2/15/2023	8:23:00	16.052	4.242	0.448	
2/15/2023	8:24:00	16.054	4.236	0.454	
2/15/2023	8:25:00	16.067	4.217	0.454	
2/15/2023	8:26:00	16.067	4.223	0.442	7
2/15/2023	8:27:00	16.061	4.219	0.389	
2/15/2023	8:28:00	16.055	4.222	0.046	
2/15/2023	8:29:00	16.061	4.228	0.04	
2/15/2023	8:30:00	16.062	4.229	0.061	
2/15/2023	8:31:00	16.063	4.227	0.028	
2/15/2023	8:32:00	16.065	4.235	0.057	
2/15/2023	8:33:00	16.065	4.236	0.07	
2/15/2023	8:34:00	16.064	4.23	0.057	
2/15/2023	8:35:00	16.057	4.235	0.084	
2/15/2023	8:36:00	16.062	4.23	0.092	6
2/15/2023	8:37:00	16.043	4.256	0.097	
2/15/2023	8:38:00	16.045	4.262	0.094	
2/15/2023	8:39:00	16.027	4.281	0.083	
2/15/2023	8:40:00	16.074	4.141	0.081	
2/15/2023	8:41:00	16.287	4.018	0.266	
2/15/2023	8:42:00	16.247	4.024	0.278	
2/15/2023	8:43:00	16.238	4.049	0.274	
2/15/2023	8:44:00	16.214	4.093	0.261	
2/15/2023	8:45:00	16.218	4.1	0.273	
2/15/2023	8:46:00	16.208	4.09	0.256	5
2/15/2023	8:47:00	16.21	4.076	0.263	
2/15/2023	8:48:00	16.223	4.075	0.285	
2/15/2023	8:49:00	16.221	4.083	0.276	
2/15/2023	8:50:00	16.223	4.077	0.288	
2/15/2023	8:51:00	16.21	4.06	0.286	
2/15/2023	8:52:00	16.228	4.034	0.291	
2/15/2023	8:53:00	16.207	4.061	0.289	
2/15/2023	8:54:00	16.105	4.167	0.226	
2/15/2023	8:55:00	16.013	4.27	0.123	
2/15/2023	8:56:00	16.031	4.246	0.107	4
2/15/2023	8:57:00	16.039	4.23	0.146	
2/15/2023	8:58:00	16.053	4.199	0.151	
2/15/2023	8:59:00	16.054	4.203	0.167	
2/15/2023	9:00:00	16.055	4.217	0.183	
2/15/2023	9:01:00	16.053	4.227	0.17	
2/15/2023	9:02:00	16.059	4.216	0.178	

2/15/2023	9:03:00	16.054	4.216	0.181	
2/15/2023	9:04:00	16.059	4.198	0.178	
2/15/2023	9:05:00	16.065	4.19	0.195	
2/15/2023	9:06:00	16.059	4.203	0.183	3
2/15/2023	9:07:00	16.061	4.204	0.206	
2/15/2023	9:08:00	16.048	4.202	0.157	
2/15/2023	9:09:00	16.055	4.221	0.17	
2/15/2023	9:10:00	16.066	4.201	0.167	
2/15/2023	9:11:00	16.059	4.196	0.207	
2/15/2023	9:12:00	16.061	4.203	0.203	
2/15/2023	9:13:00	16.051	4.207	0.219	
2/15/2023	9:14:00	16.046	4.217	0.216	
2/15/2023	9:15:00	16.056	4.202	0.21	
2/15/2023	9:16:00	16.052	4.202	0.199	2
2/15/2023	9:17:00	16.059	4.198	0.203	
2/15/2023	9:18:00	16.062	4.199	0.217	
2/15/2023	9:19:00	16.058	4.201	0.222	
2/15/2023	9:20:00	16.063	4.204	0.191	
2/15/2023	9:21:00	16.062	4.193	0.008	
2/15/2023	9:22:00	16.064	4.189	0.029	
2/15/2023	9:23:00	16.065	4.188	0.002	
2/15/2023	9:24:00	16.063	4.189	0.017	
2/15/2023	9:25:00	16.054	4.191	0.011	
2/15/2023	9:26:00	16.053	4.196	0.019	1
2/15/2023	9:27:00	16.056	4.185	0.019	
2/15/2023	9:28:00	16.046	4.199	0.015	
2/15/2023	9:29:00	16.051	4.207	0.005	
2/15/2023	9:30:00	16.049	4.212	0.001	
2/15/2023	9:31:00	16.062	4.196	0.006	
2/15/2023	9:32:00	16.062	4.199	0.033	
2/15/2023	9:33:00	16.056	4.196	0.023	
2/15/2023	9:34:00	16.075	4.173	0.053	
2/15/2023	9:35:00	16.067	4.174	0.019	
2/15/2023	9:36:00	16.053	4.187	0.1	
2/15/2023	9:37:00	16.055	4.194	0.027	
2/15/2023	9:38:00	10.54	4.711	0.354	
2/15/2023	9:39:00	10.053	4.824	0.588	
2/15/2023	9:40:00	10.901	4.917	-0.006	
2/15/2023	9:41:00	10.05	4.814	-0.011	< System O2, CO2
2/15/2023	9:42:00	7.56	2.89	0.261	
2/15/2023	9:43:00	-0.04	-0.121	4.127	
2/15/2023	9:44:00	-0.041	-0.011	4.693	< System CO
2/15/2023	9:45:00	12.926	3.527	3.427	
2/15/2023	9:46:00	16.061	4.223	0.927	< Resume
2/15/2023	9:47:00	16.07	4.212	0.025	12
2/15/2023	9:48:00	16.065	4.215	0.032	
2/15/2023	9:49:00	16.068	4.206	0.033	
2/15/2023	9:50:00	16.074	4.195	0.032	
2/15/2023	9:51:00	16.061	4.189	0.034	
2/15/2023	9:52:00	16.069	4.179	0.043	
2/15/2023	9:53:00	16.068	4.184	0.044	
2/15/2023	9:54:00	16.072	4.178	0.051	
2/15/2023	9:55:00	16.072	4.181	0.045	
2/15/2023	9:56:00	16.073	4.175	0.032	
2/15/2023	9:57:00	16.073	4.172	0.044	11

2/15/2023	9:58:00	16.07	4.191	0.048	
2/15/2023	9:59:00	16.068	4.196	0.05	
2/15/2023	10:00:00	16.057	4.212	0.046	
2/15/2023	10:01:00	16.049	4.211	0.039	
2/15/2023	10:02:00	16.068	4.197	0.008	
2/15/2023	10:03:00	16.075	4.199	0.019	
2/15/2023	10:04:00	16.075	4.203	0.002	
2/15/2023	10:05:00	16.066	4.197	0.036	
2/15/2023	10:06:00	16.068	4.184	0.035	
2/15/2023	10:07:00	16.07	4.181	0.032	10
2/15/2023	10:08:00	16.074	4.172	0.048	
2/15/2023	10:09:00	16.084	4.184	0.053	
2/15/2023	10:10:00	16.074	4.204	0.039	
2/15/2023	10:11:00	16.075	4.203	0.036	
2/15/2023	10:12:00	16.066	4.206	0.029	
2/15/2023	10:13:00	16.069	4.203	0.047	
2/15/2023	10:14:00	16.067	4.198	0.052	
2/15/2023	10:15:00	16.067	4.194	0.055	
2/15/2023	10:16:00	16.073	4.19	0.056	
2/15/2023	10:17:00	16.074	4.202	0.04	9
2/15/2023	10:18:00	16.068	4.217	0.039	
2/15/2023	10:19:00	16.064	4.221	0.042	
2/15/2023	10:20:00	16.064	4.219	0.059	
2/15/2023	10:21:00	16.049	4.225	0.057	
2/15/2023	10:22:00	16.066	4.201	0.017	
2/15/2023	10:23:00	16.066	4.204	0.031	
2/15/2023	10:24:00	16.06	4.216	0.018	
2/15/2023	10:25:00	16.057	4.231	0.059	
2/15/2023	10:26:00	16.065	4.221	0.052	
2/15/2023	10:27:00	16.07	4.22	0.056	8
2/15/2023	10:28:00	16.078	4.203	0.089	
2/15/2023	10:29:00	16.067	4.226	0.056	
2/15/2023	10:30:00	16.069	4.22	0.077	
2/15/2023	10:31:00	16.064	4.211	0.082	
2/15/2023	10:32:00	16.069	4.217	0.074	
2/15/2023	10:33:00	16.056	4.236	0.076	
2/15/2023	10:34:00	16.066	4.234	0.057	
2/15/2023	10:35:00	16.076	4.229	0.082	
2/15/2023	10:36:00	16.064	4.231	0.048	
2/15/2023	10:37:00	16.075	4.212	0.048	7
2/15/2023	10:38:00	16.071	4.209	0.087	
2/15/2023	10:39:00	16.073	4.203	0.093	
2/15/2023	10:40:00	16.073	4.193	0.072	
2/15/2023	10:41:00	16.076	4.193	0.049	
2/15/2023	10:42:00	16.069	4.225	0.024	
2/15/2023	10:43:00	16.086	4.215	0.075	
2/15/2023	10:44:00	16.077	4.218	0.101	
2/15/2023	10:45:00	16.075	4.214	0.095	
2/15/2023	10:46:00	16.071	4.207	0.078	
2/15/2023	10:47:00	16.083	4.193	0.093	6
2/15/2023	10:48:00	16.073	4.208	0.077	
2/15/2023	10:49:00	16.075	4.215	0.054	
2/15/2023	10:50:00	16.077	4.22	0.06	
2/15/2023	10:51:00	16.083	4.228	0.097	
2/15/2023	10:52:00	16.071	4.224	0.092	

2/15/2023	10:53:00	16.075	4.221	0.09	
2/15/2023	10:54:00	16.07	4.222	0.104	
2/15/2023	10:55:00	16.081	4.218	0.097	
2/15/2023	10:56:00	16.074	4.223	0.086	
2/15/2023	10:57:00	16.068	4.236	0.091	5
2/15/2023	10:58:00	16.075	4.239	0.047	
2/15/2023	10:59:00	16.082	4.246	0.068	
2/15/2023	11:00:00	16.069	4.247	0.083	
2/15/2023	11:01:00	16.077	4.231	0.093	
2/15/2023	11:02:00	16.076	4.23	0.019	
2/15/2023	11:03:00	16.079	4.248	0.006	
2/15/2023	11:04:00	16.077	4.245	0.104	
2/15/2023	11:05:00	16.092	4.234	0.105	
2/15/2023	11:06:00	16.084	4.233	0.111	
2/15/2023	11:07:00	16.073	4.233	0.096	4
2/15/2023	11:08:00	16.091	4.218	0.048	
2/15/2023	11:09:00	16.085	4.229	0.089	
2/15/2023	11:10:00	16.074	4.246	0.153	
2/15/2023	11:11:00	16.06	4.26	0.003	
2/15/2023	11:12:00	16.071	4.248	0.068	
2/15/2023	11:13:00	16.081	4.233	0.035	
2/15/2023	11:14:00	16.088	4.223	0.049	
2/15/2023	11:15:00	16.088	4.218	0.097	
2/15/2023	11:16:00	16.085	4.224	0.092	
2/15/2023	11:17:00	16.084	4.233	0.066	3
2/15/2023	11:18:00	16.08	4.228	0.078	
2/15/2023	11:19:00	16.092	4.214	0.105	
2/15/2023	11:20:00	16.092	4.202	0.093	
2/15/2023	11:21:00	16.09	4.208	0.091	
2/15/2023	11:22:00	16.094	4.207	0.101	
2/15/2023	11:23:00	16.092	4.219	0.092	
2/15/2023	11:24:00	16.096	4.225	0.072	
2/15/2023	11:25:00	16.098	4.217	0.093	
2/15/2023	11:26:00	16.097	4.216	0.089	
2/15/2023	11:27:00	16.086	4.215	0.079	2
2/15/2023	11:28:00	16.09	4.206	0.111	
2/15/2023	11:29:00	16.098	4.213	0.094	
2/15/2023	11:30:00	16.099	4.225	0.097	
2/15/2023	11:31:00	16.098	4.22	0.099	
2/15/2023	11:32:00	16.082	4.233	0.087	
2/15/2023	11:33:00	16.096	4.215	0.098	
2/15/2023	11:34:00	16.089	4.227	0.097	
2/15/2023	11:35:00	16.104	4.223	0.112	
2/15/2023	11:36:00	16.1	4.233	0.108	
2/15/2023	11:37:00	16.102	4.222	0.097	1
2/15/2023	11:38:00	16.102	4.211	0.079	
2/15/2023	11:39:00	16.098	4.211	0.071	
2/15/2023	11:40:00	16.099	4.21	0.078	
2/15/2023	11:41:00	16.104	4.214	0.066	
2/15/2023	11:42:00	16.103	4.21	0.064	
2/15/2023	11:43:00	16.101	4.22	0.051	
2/15/2023	11:44:00	16.096	4.216	0.078	
2/15/2023	11:45:00	16.089	4.213	0.079	
2/15/2023	11:46:00	16.099	4.202	0.065	
2/15/2023	11:47:00	12.766	4.492	0.127	

2/15/2023	11:48:00	10.094	4.898	-0.031	< System O2, CO2
2/15/2023	11:49:00	12.335	4.606	-0.031	
2/15/2023	11:50:00	16.083	4.199	0.231	
2/15/2023	11:51:00	15.315	4.259	0.114	
2/15/2023	11:52:00	0.28	0.182	2.594	
2/15/2023	11:53:00	-0.039	-0.138	4.335	
2/15/2023	11:54:00	-0.037	-0.039	4.628	< System CO
2/15/2023	11:55:00	4.597	0.989	4.606	
2/15/2023	11:56:00	16.1	4.171	1.61	
2/15/2023	11:57:00	16.089	4.173	0.213	
2/15/2023	11:58:00	16.101	4.174	0.069	
2/15/2023	11:59:00	16.11	4.179	0.17	
2/15/2023	12:00:00	16.108	4.179	0.191	< Start Eng 5 Run 4
2/15/2023	12:01:00	16.109	4.175	0.212	12
2/15/2023	12:02:00	16.108	4.166	0.046	
2/15/2023	12:03:00	16.111	4.163	0.005	
2/15/2023	12:04:00	16.104	4.174	0	
2/15/2023	12:05:00	16.109	4.173	0.001	
2/15/2023	12:06:00	16.108	4.178	0.002	
2/15/2023	12:07:00	16.111	4.183	0.005	
2/15/2023	12:08:00	16.105	4.179	0.006	
2/15/2023	12:09:00	16.111	4.179	0.033	
2/15/2023	12:10:00	16.111	4.172	0.022	
2/15/2023	12:11:00	16.106	4.18	0.019	11
2/15/2023	12:12:00	16.111	4.186	0.016	
2/15/2023	12:13:00	16.112	4.176	0.024	
2/15/2023	12:14:00	16.116	4.175	0.062	
2/15/2023	12:15:00	16.107	4.176	0.029	
2/15/2023	12:16:00	16.106	4.188	0.003	
2/15/2023	12:17:00	16.112	4.196	0.016	
2/15/2023	12:18:00	16.112	4.199	0.029	
2/15/2023	12:19:00	16.103	4.211	0.045	
2/15/2023	12:20:00	16.109	4.2	0.021	
2/15/2023	12:21:00	16.109	4.193	0.016	10
2/15/2023	12:22:00	16.105	4.199	0.01	
2/15/2023	12:23:00	16.107	4.202	0.023	
2/15/2023	12:24:00	16.091	4.227	0.048	
2/15/2023	12:25:00	16.095	4.221	0.041	
2/15/2023	12:26:00	16.103	4.226	0.037	
2/15/2023	12:27:00	16.105	4.233	0.025	
2/15/2023	12:28:00	16.101	4.224	0.042	
2/15/2023	12:29:00	16.111	4.221	0.013	
2/15/2023	12:30:00	16.108	4.232	0.021	
2/15/2023	12:31:00	16.111	4.24	0.039	9
2/15/2023	12:32:00	16.104	4.26	0.033	
2/15/2023	12:33:00	16.116	4.25	0.052	
2/15/2023	12:34:00	16.114	4.25	0.046	
2/15/2023	12:35:00	16.115	4.238	0.044	
2/15/2023	12:36:00	16.116	4.244	0.004	
2/15/2023	12:37:00	16.116	4.24	0.001	
2/15/2023	12:38:00	16.112	4.247	0.02	
2/15/2023	12:39:00	16.111	4.257	0.038	
2/15/2023	12:40:00	16.098	4.246	0.03	
2/15/2023	12:41:00	16.112	4.226	0.031	8
2/15/2023	12:42:00	16.111	4.245	0.037	

2/15/2023	12:43:00	16.101	4.263	0.021	
2/15/2023	12:44:00	16.107	4.266	0.041	
2/15/2023	12:45:00	16.111	4.256	0.039	
2/15/2023	12:46:00	16.109	4.237	0.12	
2/15/2023	12:47:00	16.108	4.228	0.005	
2/15/2023	12:48:00	16.101	4.229	0.023	
2/15/2023	12:49:00	16.118	4.227	0.046	
2/15/2023	12:50:00	16.113	4.233	0.067	
2/15/2023	12:51:00	16.113	4.244	0.052	7
2/15/2023	12:52:00	16.116	4.232	0.043	
2/15/2023	12:53:00	16.108	4.215	0.014	
2/15/2023	12:54:00	16.11	4.175	0.04	
2/15/2023	12:55:00	16.112	4.157	0.035	
2/15/2023	12:56:00	16.103	4.166	0.002	
2/15/2023	12:57:00	16.103	4.163	0.056	
2/15/2023	12:58:00	16.1	4.177	0.026	
2/15/2023	12:59:00	16.104	4.164	0.173	
2/15/2023	13:00:00	16.105	4.15	0.085	
2/15/2023	13:01:00	16.11	4.144	0.1	6
2/15/2023	13:02:00	16.112	4.139	0.087	
2/15/2023	13:03:00	16.109	4.156	0.08	
2/15/2023	13:04:00	16.107	4.156	0.091	
2/15/2023	13:05:00	16.103	4.147	0.102	
2/15/2023	13:06:00	16.102	4.132	0.111	
2/15/2023	13:07:00	16.104	4.108	0.087	
2/15/2023	13:08:00	16.104	4.106	0.11	
2/15/2023	13:09:00	16.101	4.105	0.09	
2/15/2023	13:10:00	16.105	4.114	0.097	
2/15/2023	13:11:00	16.106	4.107	0.096	5
2/15/2023	13:12:00	16.088	4.118	0.039	
2/15/2023	13:13:00	16.108	4.101	0.072	
2/15/2023	13:14:00	16.106	4.088	0.08	
2/15/2023	13:15:00	16.112	4.092	0.06	
2/15/2023	13:16:00	16.107	4.102	0.072	
2/15/2023	13:17:00	16.103	4.096	0.062	
2/15/2023	13:18:00	16.09	4.103	0.07	
2/15/2023	13:19:00	16.105	4.092	0.077	
2/15/2023	13:20:00	16.108	4.099	0.076	
2/15/2023	13:21:00	16.093	4.11	0.092	4
2/15/2023	13:22:00	16.108	4.109	0.076	
2/15/2023	13:23:00	16.115	4.099	0.074	
2/15/2023	13:24:00	16.116	4.087	0.087	
2/15/2023	13:25:00	16.112	4.08	0.093	
2/15/2023	13:26:00	16.107	4.084	0.075	
2/15/2023	13:27:00	16.111	4.089	0.085	
2/15/2023	13:28:00	16.11	4.1	0.084	
2/15/2023	13:29:00	16.113	4.104	0.076	
2/15/2023	13:30:00	16.117	4.076	0.073	
2/15/2023	13:31:00	16.114	4.07	0.073	3
2/15/2023	13:32:00	16.112	4.071	0.078	
2/15/2023	13:33:00	16.113	4.066	0.044	
2/15/2023	13:34:00	16.114	4.07	0.062	
2/15/2023	13:35:00	16.108	4.083	0.038	
2/15/2023	13:36:00	16.113	4.071	0.045	
2/15/2023	13:37:00	16.107	4.076	0.082	

2/15/2023	13:38:00	16.101	4.08	0.115	
2/15/2023	13:39:00	16.112	4.061	0.08	
2/15/2023	13:40:00	16.103	4.048	0.084	
2/15/2023	13:41:00	16.102	4.062	0.085	2
2/15/2023	13:42:00	16.111	4.077	0.094	
2/15/2023	13:43:00	16.117	4.083	0.061	
2/15/2023	13:44:00	16.118	4.111	0.057	
2/15/2023	13:45:00	16.118	4.102	0.051	
2/15/2023	13:46:00	16.125	4.104	0.007	
2/15/2023	13:47:00	16.116	4.11	0.034	
2/15/2023	13:48:00	16.112	4.124	0.094	
2/15/2023	13:49:00	16.118	4.142	0.065	
2/15/2023	13:50:00	16.112	4.151	0.039	
2/15/2023	13:51:00	16.106	4.151	0.061	1
2/15/2023	13:52:00	16.11	4.141	0.066	
2/15/2023	13:53:00	16.116	4.135	0.08	
2/15/2023	13:54:00	16.116	4.144	0.051	
2/15/2023	13:55:00	16.113	4.154	0.097	
2/15/2023	13:56:00	16.116	4.166	0.096	
2/15/2023	13:57:00	16.127	4.152	0.096	
2/15/2023	13:58:00	16.111	4.156	0.062	
2/15/2023	13:59:00	16.107	4.141	0.011	
2/15/2023	14:00:00	16.116	4.141	0.057	
2/15/2023	14:01:00	14.572	4.253	0.124	
2/15/2023	14:02:00	10.088	4.826	0.553	
2/15/2023	14:03:00	10.083	4.816	0.588	
2/15/2023	14:04:00	10.082	4.816	0.588	
2/15/2023	14:05:00	10.081	4.811	0.588	
2/15/2023	14:06:00	10.091	4.905	-0.019	< System O2, CO2
2/15/2023	14:07:00	6.491	3.239	1.705	
2/15/2023	14:08:00	-0.044	-0.181	4.821	
2/15/2023	14:09:00	-0.041	-0.011	4.637	< System CO
2/15/2023	14:10:00	0.719	-0.148	4.749	
2/15/2023	14:11:00	16.071	4.137	2.371	< Resume
2/15/2023	14:12:00	16.103	4.157	0.914	12
2/15/2023	14:13:00	16.102	4.166	0.932	
2/15/2023	14:14:00	16.103	4.174	0.896	
2/15/2023	14:15:00	16.109	4.166	0.764	
2/15/2023	14:16:00	16.105	4.159	0.01	
2/15/2023	14:17:00	16.116	4.166	0.002	
2/15/2023	14:18:00	16.097	4.188	0.014	
2/15/2023	14:19:00	16.1	4.189	0.031	
2/15/2023	14:20:00	16.105	4.195	0.036	
2/15/2023	14:21:00	16.099	4.205	0.019	
2/15/2023	14:22:00	16.095	4.198	0.01	11
2/15/2023	14:23:00	16.105	4.175	0.028	
2/15/2023	14:24:00	16.103	4.181	0.001	
2/15/2023	14:25:00	16.09	4.194	0.019	
2/15/2023	14:26:00	16.104	4.203	0.022	
2/15/2023	14:27:00	16.115	4.179	0.034	
2/15/2023	14:28:00	16.113	4.177	0.03	
2/15/2023	14:29:00	16.107	4.178	0.046	
2/15/2023	14:30:00	16.111	4.177	0.017	
2/15/2023	14:31:00	16.103	4.198	0.005	
2/15/2023	14:32:00	16.104	4.2	0.029	10

2/15/2023	14:33:00	16.11	4.181	0.031	
2/15/2023	14:34:00	16.113	4.176	0.033	
2/15/2023	14:35:00	16.111	4.17	0.027	
2/15/2023	14:36:00	16.104	4.17	0.047	
2/15/2023	14:37:00	16.091	4.216	0.055	
2/15/2023	14:38:00	16.091	4.227	0.051	
2/15/2023	14:39:00	16.103	4.202	0.058	
2/15/2023	14:40:00	16.108	4.185	0.071	
2/15/2023	14:41:00	16.109	4.177	0.059	
2/15/2023	14:42:00	16.108	4.17	0.066	9
2/15/2023	14:43:00	16.092	4.188	0.063	
2/15/2023	14:44:00	16.104	4.181	0.052	
2/15/2023	14:45:00	16.115	4.189	0.053	
2/15/2023	14:46:00	16.116	4.185	0.071	
2/15/2023	14:47:00	16.104	4.185	0.047	
2/15/2023	14:48:00	16.11	4.18	0.04	
2/15/2023	14:49:00	16.108	4.181	0.057	
2/15/2023	14:50:00	16.109	4.186	0.058	
2/15/2023	14:51:00	16.108	4.188	0.063	
2/15/2023	14:52:00	16.109	4.161	0.065	8
2/15/2023	14:53:00	16.116	4.15	0.07	
2/15/2023	14:54:00	16.103	4.164	0.075	
2/15/2023	14:55:00	16.105	4.164	0.07	
2/15/2023	14:56:00	16.101	4.189	0.061	
2/15/2023	14:57:00	16.106	4.18	0.061	
2/15/2023	14:58:00	16.107	4.17	0.045	
2/15/2023	14:59:00	16.109	4.175	0.034	
2/15/2023	15:00:00	16.105	4.178	0.04	
2/15/2023	15:01:00	16.111	4.17	0.038	
2/15/2023	15:02:00	16.108	4.186	0.041	7
2/15/2023	15:03:00	16.106	4.186	0.029	
2/15/2023	15:04:00	16.113	4.175	0.001	
2/15/2023	15:05:00	16.116	4.169	0.011	
2/15/2023	15:06:00	16.112	4.166	0.022	
2/15/2023	15:07:00	16.111	4.169	0.013	
2/15/2023	15:08:00	16.113	4.189	0.045	
2/15/2023	15:09:00	16.112	4.176	0.048	
2/15/2023	15:10:00	16.105	4.168	0.046	
2/15/2023	15:11:00	16.104	4.155	0.053	
2/15/2023	15:12:00	16.109	4.161	0.026	6
2/15/2023	15:13:00	16.106	4.177	0.066	
2/15/2023	15:14:00	16.106	4.193	0.055	
2/15/2023	15:15:00	16.103	4.186	0.071	
2/15/2023	15:16:00	16.106	4.181	0.078	
2/15/2023	15:17:00	16.109	4.179	0.082	
2/15/2023	15:18:00	16.112	4.17	0.081	
2/15/2023	15:19:00	16.115	4.177	0.072	
2/15/2023	15:20:00	16.084	4.221	0.076	
2/15/2023	15:21:00	16.103	4.193	0.055	
2/15/2023	15:22:00	16.102	4.177	0.076	5
2/15/2023	15:23:00	16.107	4.162	0.066	
2/15/2023	15:24:00	16.118	4.152	0.071	
2/15/2023	15:25:00	16.12	4.18	0.065	
2/15/2023	15:26:00	16.094	4.213	0.028	
2/15/2023	15:27:00	16.087	4.208	0.065	

2/15/2023	15:28:00	16.11	4.17	0.06	
2/15/2023	15:29:00	16.111	4.161	0.083	
2/15/2023	15:30:00	16.118	4.157	0.079	
2/15/2023	15:31:00	16.098	4.188	0.08	
2/15/2023	15:32:00	16.097	4.208	0.073	4
2/15/2023	15:33:00	16.108	4.188	0.057	
2/15/2023	15:34:00	16.112	4.171	0.073	
2/15/2023	15:35:00	16.111	4.169	0.051	
2/15/2023	15:36:00	16.112	4.175	0.056	
2/15/2023	15:37:00	16.111	4.187	0.07	
2/15/2023	15:38:00	16.113	4.204	0.07	
2/15/2023	15:39:00	16.105	4.206	0.061	
2/15/2023	15:40:00	16.108	4.177	0.043	
2/15/2023	15:41:00	16.128	4.155	0.025	
2/15/2023	15:42:00	16.127	4.149	0.036	3
2/15/2023	15:43:00	16.115	4.161	0.051	
2/15/2023	15:44:00	16.106	4.187	0.046	
2/15/2023	15:45:00	16.105	4.202	0.05	
2/15/2023	15:46:00	16.098	4.194	0.063	
2/15/2023	15:47:00	16.119	4.166	0.074	
2/15/2023	15:48:00	16.119	4.16	0.081	
2/15/2023	15:49:00	16.11	4.15	0.08	
2/15/2023	15:50:00	16.108	4.164	0.066	
2/15/2023	15:51:00	16.103	4.181	0.053	
2/15/2023	15:52:00	16.104	4.194	0.032	2
2/15/2023	15:53:00	16.112	4.173	0.011	
2/15/2023	15:54:00	16.11	4.155	0.044	
2/15/2023	15:55:00	16.116	4.149	0.079	
2/15/2023	15:56:00	16.106	4.161	0.077	
2/15/2023	15:57:00	16.107	4.171	0.082	
2/15/2023	15:58:00	16.108	4.177	0.06	
2/15/2023	15:59:00	16.109	4.177	0.053	
2/15/2023	16:00:00	16.104	4.16	0.024	
2/15/2023	16:01:00	16.096	4.168	0.001	
2/15/2023	16:02:00	16.117	4.156	0.051	1
2/15/2023	16:03:00	16.114	4.167	0.071	
2/15/2023	16:04:00	16.111	4.168	0.054	
2/15/2023	16:05:00	16.11	4.162	0.065	
2/15/2023	16:06:00	16.103	4.172	0.062	
2/15/2023	16:07:00	16.114	4.15	0.059	
2/15/2023	16:08:00	16.099	4.157	0.018	
2/15/2023	16:09:00	16.108	4.156	0.031	
2/15/2023	16:10:00	16.094	4.178	0.039	
2/15/2023	16:11:00	16.103	4.161	0.025	
2/15/2023	16:12:00	16.107	4.151	0.017	
2/15/2023	16:13:00	16.102	4.151	0.018	
2/15/2023	16:14:00	10.976	4.652	-0.315	
2/15/2023	16:15:00	10.093	4.925	-0.08	< System O2, CO2
2/15/2023	16:16:00	7.497	3.829	0.753	
2/15/2023	16:17:00	-0.026	-0.013	4.603	< System CO
2/15/2023	16:18:00	1.738	0.141	4.584	
2/15/2023	16:19:00	17.516	6.327	2.305	
2/15/2023	16:20:00	19.276	9.619	7.52	
2/15/2023	16:21:00	19.278	9.647	9.652	
2/15/2023	16:22:00	19.282	9.647	9.655	< Direct High

2/15/2023	16:23:00	14.848	7.47	9.387	
2/15/2023	16:24:00	10.096	4.981	5.177	
2/15/2023	16:25:00	10.096	4.978	4.582	< Direct Mid
2/15/2023	16:26:00	10.094	4.964	4.605	
2/15/2023	16:27:00	2.206	1.271	3.745	
2/15/2023	16:28:00	-0.023	0.049	0.222	
2/15/2023	16:29:00	-0.025	0.061	0.108	
2/15/2023	16:30:00	-0.026	0.067	-0.014	< Direct Zero
2/15/2023	16:31:00	-0.027	0.07	-0.024	

Date	Time	O2%	CO2%	COppm	
2/16/2023	7:17:00	-0.031	-0.009	0.708	
2/16/2023	7:18:00	-0.033	-0.036	-0.032	< Direct Zero
2/16/2023	7:19:00	5.38	2.355	-0.022	
2/16/2023	7:20:00	19.328	9.642	6.294	
2/16/2023	7:21:00	19.287	9.635	9.553	
2/16/2023	7:22:00	19.291	9.63	9.6	< Direct High
2/16/2023	7:23:00	11.442	5.327	7.028	
2/16/2023	7:24:00	10.099	4.911	4.52	
2/16/2023	7:25:00	10.103	4.906	4.611	< Direct Mid
2/16/2023	7:26:00	15.714	3.566	3.882	
2/16/2023	7:27:00	16.094	4.294	0.55	
2/16/2023	7:28:00	10.694	4.827	-0.033	
2/16/2023	7:29:00	10.065	4.943	-0.052	< System O2, CO2
2/16/2023	7:30:00	3.994	1.677	1.918	
2/16/2023	7:31:00	-0.043	-0.048	4.699	
2/16/2023	7:32:00	-0.041	-0.053	4.645	< System CO
2/16/2023	7:33:00	10.46	2.763	3.904	
2/16/2023	7:34:00	16.113	4.28	0.974	
2/16/2023	7:35:00	16.11	4.275	0.813	< Start Eng 5 Run 5 0735
2/16/2023	7:36:00	16.109	4.283	0.802	12
2/16/2023	7:37:00	16.109	4.276	0.773	
2/16/2023	7:38:00	16.109	4.274	0.417	
2/16/2023	7:39:00	16.119	4.276	0.04	
2/16/2023	7:40:00	16.116	4.29	0.04	
2/16/2023	7:41:00	16.099	4.29	0.064	
2/16/2023	7:42:00	16.1	4.292	0.046	
2/16/2023	7:43:00	16.099	4.302	0.041	
2/16/2023	7:44:00	16.103	4.298	0.113	
2/16/2023	7:45:00	16.103	4.292	0.108	
2/16/2023	7:46:00	16.104	4.29	0.084	11
2/16/2023	7:47:00	16.106	4.285	0.052	
2/16/2023	7:48:00	16.111	4.287	0.029	
2/16/2023	7:49:00	16.1	4.293	0.064	
2/16/2023	7:50:00	16.107	4.278	0.058	
2/16/2023	7:51:00	16.106	4.28	0.19	
2/16/2023	7:52:00	16.083	4.296	0.056	
2/16/2023	7:53:00	16.105	4.277	0.047	
2/16/2023	7:54:00	16.111	4.277	0.186	
2/16/2023	7:55:00	16.103	4.275	0.081	
2/16/2023	7:56:00	16.113	4.262	0.081	10
2/16/2023	7:57:00	16.109	4.269	0.102	
2/16/2023	7:58:00	16.117	4.275	0.169	
2/16/2023	7:59:00	16.119	4.259	0.254	
2/16/2023	8:00:00	16.106	4.268	0.328	
2/16/2023	8:01:00	16.106	4.276	0.253	
2/16/2023	8:02:00	16.099	4.282	0.191	
2/16/2023	8:03:00	16.106	4.279	0.295	
2/16/2023	8:04:00	16.115	4.277	0.33	
2/16/2023	8:05:00	16.09	4.296	0.149	
2/16/2023	8:06:00	16.107	4.274	0.09	9
2/16/2023	8:07:00	16.121	4.248	0.027	
2/16/2023	8:08:00	16.133	4.235	0.159	
2/16/2023	8:09:00	16.132	4.24	0.18	
2/16/2023	8:10:00	16.125	4.256	0.156	

2/16/2023	8:11:00	16.117	4.272	0.165	
2/16/2023	8:12:00	16.11	4.275	0.161	
2/16/2023	8:13:00	16.113	4.254	0.196	
2/16/2023	8:14:00	16.111	4.258	0.222	
2/16/2023	8:15:00	16.095	4.26	0.135	
2/16/2023	8:16:00	16.102	4.251	0.1	8
2/16/2023	8:17:00	16.104	4.255	0.204	
2/16/2023	8:18:00	16.109	4.25	0.231	
2/16/2023	8:19:00	16.111	4.241	0.241	
2/16/2023	8:20:00	16.116	4.23	0.244	
2/16/2023	8:21:00	16.109	4.244	0.212	
2/16/2023	8:22:00	16.112	4.249	0.188	
2/16/2023	8:23:00	16.114	4.25	0.194	
2/16/2023	8:24:00	16.111	4.24	0.282	
2/16/2023	8:25:00	16.11	4.242	0.249	
2/16/2023	8:26:00	16.112	4.247	0.063	7
2/16/2023	8:27:00	16.119	4.226	0.166	
2/16/2023	8:28:00	16.116	4.236	0.249	
2/16/2023	8:29:00	16.125	4.228	0.292	
2/16/2023	8:30:00	16.115	4.227	0.242	
2/16/2023	8:31:00	16.116	4.222	0.223	
2/16/2023	8:32:00	16.118	4.227	0.267	
2/16/2023	8:33:00	16.114	4.235	0.217	
2/16/2023	8:34:00	16.114	4.235	0.084	
2/16/2023	8:35:00	16.124	4.218	0.018	
2/16/2023	8:36:00	16.125	4.215	0.037	6
2/16/2023	8:37:00	16.124	4.218	0.002	
2/16/2023	8:38:00	16.113	4.226	0.058	
2/16/2023	8:39:00	16.115	4.224	0.076	
2/16/2023	8:40:00	16.112	4.227	0.078	
2/16/2023	8:41:00	16.113	4.217	0.112	
2/16/2023	8:42:00	16.112	4.228	0.021	
2/16/2023	8:43:00	16.111	4.225	0.029	
2/16/2023	8:44:00	16.104	4.232	0.004	
2/16/2023	8:45:00	16.087	4.243	0.062	
2/16/2023	8:46:00	16.103	4.224	0.04	5
2/16/2023	8:47:00	16.107	4.229	0.096	
2/16/2023	8:48:00	16.119	4.216	0.026	
2/16/2023	8:49:00	16.112	4.221	0.022	
2/16/2023	8:50:00	16.114	4.223	0.062	
2/16/2023	8:51:00	16.06	4.273	0.025	
2/16/2023	8:52:00	16.082	4.244	0.098	
2/16/2023	8:53:00	16.101	4.225	0.096	
2/16/2023	8:54:00	16.105	4.216	0.016	
2/16/2023	8:55:00	16.113	4.208	0.054	
2/16/2023	8:56:00	16.119	4.21	0.006	4
2/16/2023	8:57:00	16.125	4.211	0.07	
2/16/2023	8:58:00	16.116	4.213	0.098	
2/16/2023	8:59:00	16.117	4.212	0.072	
2/16/2023	9:00:00	16.116	4.203	0.068	
2/16/2023	9:01:00	16.111	4.222	0.056	
2/16/2023	9:02:00	16.118	4.215	0.026	
2/16/2023	9:03:00	16.099	4.225	0.008	
2/16/2023	9:04:00	16.114	4.225	0.005	
2/16/2023	9:05:00	16.085	4.242	0.036	

2/16/2023	9:06:00	16.11	4.229	0.049	3
2/16/2023	9:07:00	16.107	4.224	0.092	
2/16/2023	9:08:00	16.115	4.221	0.014	
2/16/2023	9:09:00	16.113	4.225	0.001	
2/16/2023	9:10:00	16.123	4.221	0.098	
2/16/2023	9:11:00	16.107	4.231	0.005	
2/16/2023	9:12:00	16.102	4.231	0.065	
2/16/2023	9:13:00	16.099	4.229	0.036	
2/16/2023	9:14:00	16.113	4.21	0.096	
2/16/2023	9:15:00	16.113	4.224	0.006	
2/16/2023	9:16:00	16.115	4.217	0.139	2
2/16/2023	9:17:00	16.11	4.221	0.099	
2/16/2023	9:18:00	16.115	4.208	0.049	
2/16/2023	9:19:00	16.119	4.213	0.072	
2/16/2023	9:20:00	16.113	4.216	0.073	
2/16/2023	9:21:00	16.105	4.214	0.305	
2/16/2023	9:22:00	16.108	4.203	0.148	
2/16/2023	9:23:00	16.109	4.205	0.125	
2/16/2023	9:24:00	16.107	4.195	0.049	
2/16/2023	9:25:00	16.125	4.173	0.009	
2/16/2023	9:26:00	16.105	4.184	0.147	1
2/16/2023	9:27:00	16.115	4.165	0.196	
2/16/2023	9:28:00	16.122	4.134	0.056	
2/16/2023	9:29:00	16.092	4.157	0.184	
2/16/2023	9:30:00	16.103	4.142	0.335	
2/16/2023	9:31:00	16.109	4.133	0.108	
2/16/2023	9:32:00	16.115	4.137	0.191	
2/16/2023	9:33:00	16.073	4.161	0.017	
2/16/2023	9:34:00	16.116	4.122	0.116	
2/16/2023	9:35:00	16.066	4.169	0.072	
2/16/2023	9:36:00	12.044	4.535	0.206	
2/16/2023	9:37:00	10.051	4.794	0.399	
2/16/2023	9:38:00	10.053	4.9	-0.021	< System O2, CO2
2/16/2023	9:39:00	2.036	1.05	1.779	
2/16/2023	9:40:00	-0.034	-0.025	4.707	< System CO
2/16/2023	9:41:00	1.021	0.119	4.609	
2/16/2023	9:42:00	15.403	4.222	2.841	
2/16/2023	9:43:00	16.089	4.154	1.075	
2/16/2023	9:44:00	16.113	4.159	1.11	
2/16/2023	9:45:00	16.112	4.158	1.07	< Resume
2/16/2023	9:46:00	16.105	4.168	0.93	12
2/16/2023	9:47:00	16.088	4.176	1.151	
2/16/2023	9:48:00	16.105	4.156	0.19	
2/16/2023	9:49:00	16.107	4.16	0.056	
2/16/2023	9:50:00	16.105	4.178	0.053	
2/16/2023	9:51:00	16.108	4.187	0.024	
2/16/2023	9:52:00	16.049	4.255	0.05	
2/16/2023	9:53:00	16.069	4.231	0.073	
2/16/2023	9:54:00	16.082	4.203	0.022	
2/16/2023	9:55:00	16.057	4.231	0.11	
2/16/2023	9:56:00	16.076	4.216	0.315	11
2/16/2023	9:57:00	16.108	4.197	0.635	
2/16/2023	9:58:00	16.081	4.227	0.071	
2/16/2023	9:59:00	16.067	4.236	0.098	
2/16/2023	10:00:00	16.09	4.197	0.158	

2/16/2023	10:01:00	16.102	4.18	0.018	
2/16/2023	10:02:00	16.105	4.178	0.158	
2/16/2023	10:03:00	16.102	4.179	0.097	
2/16/2023	10:04:00	16.049	4.241	0.379	
2/16/2023	10:05:00	16.09	4.193	0.144	
2/16/2023	10:06:00	16.108	4.185	0.04	10
2/16/2023	10:07:00	16.115	4.191	0.06	
2/16/2023	10:08:00	16.103	4.2	0.079	
2/16/2023	10:09:00	16.084	4.216	0.096	
2/16/2023	10:10:00	16.095	4.216	0.076	
2/16/2023	10:11:00	16.079	4.229	0.304	
2/16/2023	10:12:00	16.097	4.212	0.416	
2/16/2023	10:13:00	16.093	4.22	0.142	
2/16/2023	10:14:00	16.092	4.228	0.085	
2/16/2023	10:15:00	16.099	4.222	0.049	
2/16/2023	10:16:00	16.083	4.228	0.039	9
2/16/2023	10:17:00	16.081	4.23	0.133	
2/16/2023	10:18:00	16.082	4.219	0.381	
2/16/2023	10:19:00	16.087	4.203	0.003	
2/16/2023	10:20:00	16.095	4.19	0.151	
2/16/2023	10:21:00	16.069	4.215	0.037	
2/16/2023	10:22:00	16.079	4.203	0.059	
2/16/2023	10:23:00	16.088	4.202	0.049	
2/16/2023	10:24:00	16.095	4.199	0.032	
2/16/2023	10:25:00	16.086	4.206	0.102	
2/16/2023	10:26:00	16.09	4.197	0.02	8
2/16/2023	10:27:00	16.093	4.2	0.06	
2/16/2023	10:28:00	16.09	4.192	0.004	
2/16/2023	10:29:00	16.094	4.182	0.033	
2/16/2023	10:30:00	16.088	4.19	0.029	
2/16/2023	10:31:00	16.1	4.173	0.095	
2/16/2023	10:32:00	16.083	4.18	0.153	
2/16/2023	10:33:00	16.075	4.192	0.029	
2/16/2023	10:34:00	16.07	4.197	0.42	
2/16/2023	10:35:00	16.091	4.176	0.109	
2/16/2023	10:36:00	16.082	4.177	0.005	7
2/16/2023	10:37:00	16.084	4.172	0.163	
2/16/2023	10:38:00	16.089	4.169	0.016	
2/16/2023	10:39:00	16.104	4.162	0.067	
2/16/2023	10:40:00	16.066	4.188	0.11	
2/16/2023	10:41:00	16.084	4.165	0.165	
2/16/2023	10:42:00	16.112	4.144	0.03	
2/16/2023	10:43:00	16.082	4.161	0.095	
2/16/2023	10:44:00	16.096	4.152	0.103	
2/16/2023	10:45:00	16.095	4.152	0.124	
2/16/2023	10:46:00	16.079	4.162	0.03	6
2/16/2023	10:47:00	16.108	4.145	0.134	
2/16/2023	10:48:00	16.101	4.154	0.163	
2/16/2023	10:49:00	16.095	4.152	0.1	
2/16/2023	10:50:00	16.101	4.156	0.086	
2/16/2023	10:51:00	16.112	4.142	0.19	
2/16/2023	10:52:00	16.098	4.145	0.204	
2/16/2023	10:53:00	16.098	4.148	0.195	
2/16/2023	10:54:00	16.093	4.151	0.197	
2/16/2023	10:55:00	16.101	4.148	0.189	

2/16/2023	10:56:00	16.107	4.155	0.162	5
2/16/2023	10:57:00	16.105	4.159	0.106	
2/16/2023	10:58:00	16.087	4.145	0.139	
2/16/2023	10:59:00	16.077	4.152	0.173	
2/16/2023	11:00:00	16.115	4.143	0.197	
2/16/2023	11:01:00	16.102	4.148	0.149	
2/16/2023	11:02:00	16.091	4.153	0.208	
2/16/2023	11:03:00	16.1	4.139	0.188	
2/16/2023	11:04:00	16.093	4.149	0.211	
2/16/2023	11:05:00	16.078	4.158	0.173	
2/16/2023	11:06:00	16.099	4.139	0.037	4
2/16/2023	11:07:00	16.092	4.142	0.153	
2/16/2023	11:08:00	16.088	4.139	0.058	
2/16/2023	11:09:00	16.092	4.132	0.073	
2/16/2023	11:10:00	16.085	4.152	0.053	
2/16/2023	11:11:00	16.108	4.16	0.017	
2/16/2023	11:12:00	16.091	4.173	0.071	
2/16/2023	11:13:00	16.096	4.178	0.267	
2/16/2023	11:14:00	16.092	4.173	0.028	
2/16/2023	11:15:00	16.092	4.164	0.023	
2/16/2023	11:16:00	16.095	4.152	0.003	3
2/16/2023	11:17:00	16.092	4.151	0.022	
2/16/2023	11:18:00	16.097	4.152	0.199	
2/16/2023	11:19:00	16.088	4.153	0.027	
2/16/2023	11:20:00	16.091	4.175	0.168	
2/16/2023	11:21:00	16.087	4.184	0.058	
2/16/2023	11:22:00	16.1	4.188	0.047	
2/16/2023	11:23:00	16.105	4.192	0.018	
2/16/2023	11:24:00	16.097	4.196	0.031	
2/16/2023	11:25:00	16.101	4.179	0.117	
2/16/2023	11:26:00	16.102	4.181	0.074	2
2/16/2023	11:27:00	16.094	4.176	0.022	
2/16/2023	11:28:00	16.101	4.167	0.053	
2/16/2023	11:29:00	16.099	4.176	0.02	
2/16/2023	11:30:00	16.079	4.178	0.386	
2/16/2023	11:31:00	16.105	4.171	0.059	
2/16/2023	11:32:00	16.105	4.152	0.063	
2/16/2023	11:33:00	16.105	4.142	0.007	
2/16/2023	11:34:00	16.103	4.134	0.132	
2/16/2023	11:35:00	16.103	4.124	0.018	
2/16/2023	11:36:00	16.098	4.107	0.061	1
2/16/2023	11:37:00	16.081	4.098	0.083	
2/16/2023	11:38:00	16.12	4.087	0.077	
2/16/2023	11:39:00	16.108	4.101	0.068	
2/16/2023	11:40:00	16.093	4.093	0.014	
2/16/2023	11:41:00	16.104	4.073	0.017	
2/16/2023	11:42:00	16.094	4.069	0.012	
2/16/2023	11:43:00	16.07	4.079	0.008	
2/16/2023	11:44:00	16.089	4.084	0.016	
2/16/2023	11:45:00	16.1	4.1	0.027	
2/16/2023	11:46:00	14.41	4.229	0.083	
2/16/2023	11:47:00	10.086	4.756	0.481	
2/16/2023	11:48:00	10.052	4.952	-0.007	< System O2, CO2
2/16/2023	11:49:00	6.402	3.119	0.162	
2/16/2023	11:50:00	-0.041	-0.142	3.882	

2/16/2023	11:51:00	-0.01	-0.047	4.648	< System CO
2/16/2023	11:52:00	-0.031	-0.049	4.652	
2/16/2023	11:53:00	-0.044	-0.048	4.648	
2/16/2023	11:54:00	14.54	3.635	3.012	
2/16/2023	11:55:00	16.095	4.105	1.085	
2/16/2023	11:56:00	16.091	4.114	0.433	
2/16/2023	11:57:00	16.094	4.111	0.02	
2/16/2023	11:58:00	16.103	4.096	0.168	
2/16/2023	11:59:00	16.088	4.107	0.021	
2/16/2023	12:00:00	16.098	4.096	0.025	< Start Eng 5 Run 6 1200
2/16/2023	12:01:00	16.085	4.112	0.003	12
2/16/2023	12:02:00	16.084	4.125	0.134	
2/16/2023	12:03:00	16.086	4.138	0.02	
2/16/2023	12:04:00	16.09	4.146	0.028	
2/16/2023	12:05:00	16.093	4.127	0.003	
2/16/2023	12:06:00	16.108	4.105	0.034	
2/16/2023	12:07:00	16.092	4.107	0.002	
2/16/2023	12:08:00	16.109	4.076	0.028	
2/16/2023	12:09:00	16.105	4.081	0.275	
2/16/2023	12:10:00	16.093	4.088	0.107	
2/16/2023	12:11:00	16.081	4.097	0.062	11
2/16/2023	12:12:00	16.092	4.095	0.005	
2/16/2023	12:13:00	16.092	4.111	0.02	
2/16/2023	12:14:00	16.099	4.104	0.07	
2/16/2023	12:15:00	16.097	4.106	0.066	
2/16/2023	12:16:00	16.093	4.101	0.037	
2/16/2023	12:17:00	16.091	4.097	0.245	
2/16/2023	12:18:00	16.115	4.101	0.013	
2/16/2023	12:19:00	16.088	4.086	0.027	
2/16/2023	12:20:00	16.092	4.089	0.048	
2/16/2023	12:21:00	16.084	4.105	0.163	10
2/16/2023	12:22:00	16.096	4.11	0.117	
2/16/2023	12:23:00	16.091	4.119	0.058	
2/16/2023	12:24:00	16.083	4.116	0.009	
2/16/2023	12:25:00	16.095	4.101	0.017	
2/16/2023	12:26:00	16.098	4.099	0.068	
2/16/2023	12:27:00	16.079	4.115	0.061	
2/16/2023	12:28:00	16.089	4.118	0.051	
2/16/2023	12:29:00	16.088	4.137	0.003	
2/16/2023	12:30:00	16.097	4.139	0.014	
2/16/2023	12:31:00	16.091	4.143	0.03	9
2/16/2023	12:32:00	16.095	4.135	0.056	
2/16/2023	12:33:00	16.095	4.126	0.036	
2/16/2023	12:34:00	16.09	4.128	0.013	
2/16/2023	12:35:00	16.091	4.119	0.09	
2/16/2023	12:36:00	16.085	4.138	0.024	
2/16/2023	12:37:00	16.093	4.143	0.052	
2/16/2023	12:38:00	16.104	4.142	0.03	
2/16/2023	12:39:00	16.094	4.153	0.054	
2/16/2023	12:40:00	16.083	4.152	0.045	
2/16/2023	12:41:00	16.09	4.138	0.014	8
2/16/2023	12:42:00	16.093	4.124	0.046	
2/16/2023	12:43:00	16.1	4.121	0.037	
2/16/2023	12:44:00	16.096	4.145	0.055	
2/16/2023	12:45:00	16.101	4.16	0.01	

2/16/2023	12:46:00	16.111	4.146	0.048	
2/16/2023	12:47:00	16.104	4.157	0.039	
2/16/2023	12:48:00	16.104	4.152	0.006	
2/16/2023	12:49:00	16.112	4.141	0.013	
2/16/2023	12:50:00	16.106	4.137	0.048	
2/16/2023	12:51:00	16.104	4.137	0.034	7
2/16/2023	12:52:00	16.096	4.153	0.066	
2/16/2023	12:53:00	16.097	4.159	0.038	
2/16/2023	12:54:00	16.105	4.155	0.072	
2/16/2023	12:55:00	16.109	4.135	0.021	
2/16/2023	12:56:00	16.112	4.141	0.079	
2/16/2023	12:57:00	16.104	4.148	0.088	
2/16/2023	12:58:00	16.107	4.129	0.076	
2/16/2023	12:59:00	16.11	4.131	0.087	
2/16/2023	13:00:00	16.1	4.15	0.077	
2/16/2023	13:01:00	16.108	4.154	0.056	6
2/16/2023	13:02:00	16.106	4.16	0.033	
2/16/2023	13:03:00	16.109	4.168	0.093	
2/16/2023	13:04:00	16.111	4.166	0.107	
2/16/2023	13:05:00	16.103	4.169	0.089	
2/16/2023	13:06:00	16.104	4.171	0.056	
2/16/2023	13:07:00	16.085	4.202	0.055	
2/16/2023	13:08:00	16.1	4.192	0.077	
2/16/2023	13:09:00	16.109	4.195	0.082	
2/16/2023	13:10:00	16.109	4.188	0.061	
2/16/2023	13:11:00	16.113	4.17	0.043	5
2/16/2023	13:12:00	16.115	4.174	0.119	
2/16/2023	13:13:00	16.103	4.185	0.088	
2/16/2023	13:14:00	16.109	4.19	0.104	
2/16/2023	13:15:00	16.11	4.2	0.086	
2/16/2023	13:16:00	16.109	4.193	0.067	
2/16/2023	13:17:00	16.096	4.187	0.104	
2/16/2023	13:18:00	16.105	4.168	0.112	
2/16/2023	13:19:00	16.103	4.167	0.094	
2/16/2023	13:20:00	16.113	4.16	0.043	
2/16/2023	13:21:00	16.101	4.175	0.028	4
2/16/2023	13:22:00	16.107	4.183	0.193	
2/16/2023	13:23:00	16.113	4.171	0.058	
2/16/2023	13:24:00	16.1	4.17	0.111	
2/16/2023	13:25:00	16.111	4.155	0.126	
2/16/2023	13:26:00	16.099	4.158	0.112	
2/16/2023	13:27:00	16.102	4.151	0.081	
2/16/2023	13:28:00	16.102	4.156	0.035	
2/16/2023	13:29:00	16.098	4.166	0.044	
2/16/2023	13:30:00	16.105	4.158	0.041	
2/16/2023	13:31:00	16.11	4.154	0.071	3
2/16/2023	13:32:00	16.091	4.165	0.047	
2/16/2023	13:33:00	16.114	4.145	0.294	
2/16/2023	13:34:00	16.099	4.152	0.01	
2/16/2023	13:35:00	16.108	4.155	0.065	
2/16/2023	13:36:00	16.105	4.171	0.067	
2/16/2023	13:37:00	16.092	4.188	0.099	
2/16/2023	13:38:00	16.102	4.168	0.115	
2/16/2023	13:39:00	16.105	4.161	0.074	
2/16/2023	13:40:00	16.105	4.154	0.107	

2/16/2023	13:41:00	16.107	4.158	0.092	2
2/16/2023	13:42:00	16.104	4.178	0.07	
2/16/2023	13:43:00	16.102	4.187	0.076	
2/16/2023	13:44:00	16.104	4.187	0.097	
2/16/2023	13:45:00	16.108	4.182	0.085	
2/16/2023	13:46:00	16.112	4.162	0.109	
2/16/2023	13:47:00	16.11	4.156	0.099	
2/16/2023	13:48:00	16.123	4.148	0.1	
2/16/2023	13:49:00	16.05	4.231	0.008	
2/16/2023	13:50:00	16.083	4.194	0.045	
2/16/2023	13:51:00	16.096	4.166	0.067	1
2/16/2023	13:52:00	16.114	4.139	0.055	
2/16/2023	13:53:00	16.13	4.129	0.099	
2/16/2023	13:54:00	16.121	4.143	0.108	
2/16/2023	13:55:00	16.096	4.179	0.096	
2/16/2023	13:56:00	16.095	4.18	0.077	
2/16/2023	13:57:00	16.121	4.161	0.092	
2/16/2023	13:58:00	16.098	4.183	0.106	
2/16/2023	13:59:00	16.09	4.166	0.056	
2/16/2023	14:00:00	16.099	4.152	0.049	
2/16/2023	14:01:00	16.103	4.152	0.195	
2/16/2023	14:02:00	12.126	4.543	0.139	
2/16/2023	14:03:00	10.076	4.929	-0.027	< System O2, CO2
2/16/2023	14:04:00	8.916	4.532	-0.052	
2/16/2023	14:05:00	-0.036	-0.064	3.095	
2/16/2023	14:06:00	-0.034	-0.072	4.643	
2/16/2023	14:07:00	-0.034	-0.067	4.671	< System CO
2/16/2023	14:08:00	13.042	3.974	3.042	
2/16/2023	14:09:00	16.095	4.192	0.432	
2/16/2023	14:10:00	16.112	4.177	0.013	< Resume
2/16/2023	14:11:00	16.115	4.17	0.113	12
2/16/2023	14:12:00	16.116	4.158	0.357	
2/16/2023	14:13:00	16.12	4.152	0.375	
2/16/2023	14:14:00	16.098	4.182	0.059	
2/16/2023	14:15:00	16.103	4.194	0.23	
2/16/2023	14:16:00	16.098	4.182	0.005	
2/16/2023	14:17:00	16.124	4.154	0.015	
2/16/2023	14:18:00	16.122	4.151	0.002	
2/16/2023	14:19:00	16.113	4.159	0.014	
2/16/2023	14:20:00	16.092	4.193	0.031	
2/16/2023	14:21:00	16.107	4.188	0.013	11
2/16/2023	14:22:00	16.118	4.166	0.044	
2/16/2023	14:23:00	16.115	4.16	0.006	
2/16/2023	14:24:00	16.114	4.166	0.154	
2/16/2023	14:25:00	16.085	4.175	0.03	
2/16/2023	14:26:00	16.109	4.154	0.001	
2/16/2023	14:27:00	16.11	4.166	0.141	
2/16/2023	14:28:00	16.101	4.18	0.04	
2/16/2023	14:29:00	16.107	4.174	0.015	
2/16/2023	14:30:00	16.113	4.172	0.002	
2/16/2023	14:31:00	16.115	4.155	0.062	10
2/16/2023	14:32:00	16.102	4.161	0.076	
2/16/2023	14:33:00	16.099	4.166	0.098	
2/16/2023	14:34:00	16.106	4.193	0.05	
2/16/2023	14:35:00	16.102	4.202	0.049	

2/16/2023	14:36:00	16.113	4.18	0.015	
2/16/2023	14:37:00	16.119	4.165	0.077	
2/16/2023	14:38:00	16.113	4.159	0.001	
2/16/2023	14:39:00	16.113	4.16	0.025	
2/16/2023	14:40:00	16.117	4.173	0.054	
2/16/2023	14:41:00	16.11	4.198	0.011	9
2/16/2023	14:42:00	16.111	4.184	0.009	
2/16/2023	14:43:00	16.119	4.162	0.121	
2/16/2023	14:44:00	16.114	4.16	0.017	
2/16/2023	14:45:00	16.108	4.163	0.001	
2/16/2023	14:46:00	16.099	4.186	0.145	
2/16/2023	14:47:00	16.114	4.18	0.215	
2/16/2023	14:48:00	16.124	4.181	0.149	
2/16/2023	14:49:00	16.125	4.171	0.039	
2/16/2023	14:50:00	16.12	4.158	0.028	
2/16/2023	14:51:00	16.111	4.153	0.052	8
2/16/2023	14:52:00	16.109	4.148	0.062	
2/16/2023	14:53:00	16.112	4.157	0.05	
2/16/2023	14:54:00	16.12	4.164	0.058	
2/16/2023	14:55:00	16.115	4.171	0.057	
2/16/2023	14:56:00	16.107	4.176	0.067	
2/16/2023	14:57:00	16.115	4.162	0.038	
2/16/2023	14:58:00	16.112	4.149	0.013	
2/16/2023	14:59:00	16.118	4.154	0.034	
2/16/2023	15:00:00	16.105	4.177	0.043	
2/16/2023	15:01:00	16.087	4.192	0.029	7
2/16/2023	15:02:00	16.118	4.165	0.039	
2/16/2023	15:03:00	16.11	4.167	0.057	
2/16/2023	15:04:00	16.121	4.146	0.072	
2/16/2023	15:05:00	16.124	4.154	0.063	
2/16/2023	15:06:00	16.117	4.169	0.064	
2/16/2023	15:07:00	16.117	4.173	0.011	
2/16/2023	15:08:00	16.111	4.185	0.003	
2/16/2023	15:09:00	16.115	4.175	0.026	
2/16/2023	15:10:00	16.105	4.172	0.024	
2/16/2023	15:11:00	16.117	4.162	0.059	6
2/16/2023	15:12:00	16.116	4.174	0.038	
2/16/2023	15:13:00	16.119	4.19	0.066	
2/16/2023	15:14:00	16.121	4.182	0.06	
2/16/2023	15:15:00	16.114	4.181	0.003	
2/16/2023	15:16:00	16.105	4.17	0.052	
2/16/2023	15:17:00	16.115	4.165	0.063	
2/16/2023	15:18:00	16.11	4.181	0.041	
2/16/2023	15:19:00	16.115	4.179	0.057	
2/16/2023	15:20:00	16.115	4.183	0.066	
2/16/2023	15:21:00	16.109	4.181	0.028	5
2/16/2023	15:22:00	16.112	4.17	0.06	
2/16/2023	15:23:00	16.115	4.168	0.039	
2/16/2023	15:24:00	16.103	4.202	0.021	
2/16/2023	15:25:00	16.109	4.207	0	
2/16/2023	15:26:00	16.11	4.204	0.077	
2/16/2023	15:27:00	16.122	4.183	0	
2/16/2023	15:28:00	16.122	4.166	0.006	
2/16/2023	15:29:00	16.121	4.158	0.007	
2/16/2023	15:30:00	16.118	4.16	0.046	

2/16/2023	15:31:00	16.117	4.172	0.013	4
2/16/2023	15:32:00	16.112	4.185	0.228	
2/16/2023	15:33:00	16.113	4.171	0.018	
2/16/2023	15:34:00	16.119	4.155	0.022	
2/16/2023	15:35:00	16.11	4.161	0.041	
2/16/2023	15:36:00	16.111	4.159	0.371	
2/16/2023	15:37:00	16.126	4.156	0.011	
2/16/2023	15:38:00	16.117	4.18	0.043	
2/16/2023	15:39:00	16.124	4.171	0.034	
2/16/2023	15:40:00	16.125	4.157	0.071	
2/16/2023	15:41:00	16.117	4.157	0.032	3
2/16/2023	15:42:00	16.121	4.161	0.021	
2/16/2023	15:43:00	16.111	4.179	0.033	
2/16/2023	15:44:00	16.121	4.173	0.049	
2/16/2023	15:45:00	16.111	4.167	0.06	
2/16/2023	15:46:00	16.114	4.159	0.066	
2/16/2023	15:47:00	16.108	4.161	0.07	
2/16/2023	15:48:00	16.111	4.158	0.053	
2/16/2023	15:49:00	16.109	4.181	0.058	
2/16/2023	15:50:00	16.109	4.185	0.016	
2/16/2023	15:51:00	16.112	4.167	0.009	2
2/16/2023	15:52:00	16.114	4.158	0.027	
2/16/2023	15:53:00	16.114	4.148	0.064	
2/16/2023	15:54:00	16.111	4.146	0.065	
2/16/2023	15:55:00	16.106	4.157	0.022	
2/16/2023	15:56:00	16.112	4.146	0.031	
2/16/2023	15:57:00	16.108	4.152	0.052	
2/16/2023	15:58:00	16.115	4.138	0.035	
2/16/2023	15:59:00	16.113	4.139	0.151	
2/16/2023	16:00:00	16.108	4.135	0.023	
2/16/2023	16:01:00	16.102	4.131	0.056	1
2/16/2023	16:02:00	16.102	4.142	0.054	
2/16/2023	16:03:00	16.1	4.15	0.038	
2/16/2023	16:04:00	16.104	4.133	0.066	
2/16/2023	16:05:00	16.107	4.128	0.042	
2/16/2023	16:06:00	16.102	4.114	0.071	
2/16/2023	16:07:00	16.101	4.111	0.038	
2/16/2023	16:08:00	16.105	4.103	0.026	
2/16/2023	16:09:00	16.103	4.121	0.036	
2/16/2023	16:10:00	16.102	4.121	0.045	
2/16/2023	16:11:00	16.108	4.106	0.065	
2/16/2023	16:12:00	16.088	4.113	0.056	
2/16/2023	16:13:00	13.647	4.298	0.104	
2/16/2023	16:14:00	10.077	4.731	0.285	
2/16/2023	16:15:00	10.071	4.931	-0.143	
2/16/2023	16:16:00	10.069	4.937	-0.024	< System O2, CO2
2/16/2023	16:17:00	4.357	2.094	0.619	
2/16/2023	16:18:00	-0.033	-0.052	4.459	
2/16/2023	16:19:00	0.033	-0.071	4.627	< System CO
2/16/2023	16:20:00	15.402	5.866	3.221	
2/16/2023	16:21:00	19.248	9.357	7.31	
2/16/2023	16:22:00	19.277	9.627	9.626	
2/16/2023	16:23:00	19.282	9.639	9.62	< Direct High
2/16/2023	16:24:00	10.679	5.506	6.798	
2/16/2023	16:25:00	10.111	5.322	4.695	

2/16/2023	16:26:00	10.112	4.895	4.694	< Direct Mid
2/16/2023	16:27:00	10.111	4.892	4.698	
2/16/2023	16:28:00	1.137	1.513	3.428	
2/16/2023	16:29:00	-0.037	-0.04	0.07	< Direct Zero
2/16/2023	16:30:00	-0.037	-0.02	-0.001	

Date	Time	O2%	CO2%	COppm	
2/17/2023	6:57:00	-0.033	-0.052	-0.094	
2/17/2023	6:58:00	-0.033	-0.049	-0.155	
2/17/2023	6:59:00	-0.033	-0.045	-0.213	
2/17/2023	7:00:00	-0.031	-0.044	-0.286	
2/17/2023	7:01:00	-0.032	-0.044	-0.337	
2/17/2023	7:02:00	-0.032	-0.051	-0.399	
2/17/2023	7:03:00	-0.03	-0.049	-0.446	
2/17/2023	7:04:00	-0.03	-0.038	-0.495	
2/17/2023	7:05:00	-0.031	-0.051	-0.553	
2/17/2023	7:06:00	-0.03	-0.056	-0.588	
2/17/2023	7:07:00	-0.032	-0.056	-0.589	
2/17/2023	7:08:00	-0.03	-0.054	-0.589	
2/17/2023	7:09:00	-0.03	-0.052	-0.589	
2/17/2023	7:10:00	-0.03	-0.043	-0.589	
2/17/2023	7:11:00	-0.03	-0.046	-0.46	
2/17/2023	7:12:00	-0.032	-0.023	-0.033	< Direct Zero
2/17/2023	7:13:00	6.312	2.148	0.011	
2/17/2023	7:14:00	19.282	8.471	6.733	
2/17/2023	7:15:00	19.275	9.632	9.601	< Direct High
2/17/2023	7:16:00	12.819	6.341	8.472	
2/17/2023	7:17:00	10.101	4.909	4.559	
2/17/2023	7:18:00	10.102	4.912	4.591	< Direct Mid
2/17/2023	7:19:00	14.697	4.458	3.773	
2/17/2023	7:20:00	16.085	4.303	0.711	
2/17/2023	7:21:00	16.095	4.256	0.59	
2/17/2023	7:22:00	10.407	4.86	-0.191	
2/17/2023	7:23:00	10.085	4.945	-0.029	< System O2, CO2
2/17/2023	7:24:00	8.415	4.247	1.385	
2/17/2023	7:25:00	-0.039	-0.027	4.674	< System CO
2/17/2023	7:26:00	11.392	2.931	4.126	
2/17/2023	7:27:00	16.102	4.298	0.865	
2/17/2023	7:28:00	16.118	4.287	-0.048	
2/17/2023	7:29:00	16.124	4.291	0	
2/17/2023	7:30:00	16.111	4.296	0.182	< Start Run 7 Eng 5
2/17/2023	7:31:00	16.078	4.328	0.206	12
2/17/2023	7:32:00	16.103	4.302	0.031	
2/17/2023	7:33:00	16.111	4.299	0.094	
2/17/2023	7:34:00	16.113	4.289	0.146	
2/17/2023	7:35:00	16.115	4.283	0.061	
2/17/2023	7:36:00	16.12	4.282	0.041	
2/17/2023	7:37:00	16.096	4.312	0.005	
2/17/2023	7:38:00	16.113	4.291	0.017	
2/17/2023	7:39:00	16.076	4.328	0.013	
2/17/2023	7:40:00	16.082	4.328	0.048	
2/17/2023	7:41:00	16.119	4.301	0.096	11
2/17/2023	7:42:00	16.087	4.334	0.16	

2/17/2023	7:43:00	16.088	4.326	0.018	
2/17/2023	7:44:00	16.071	4.335	0.016	
2/17/2023	7:45:00	16.12	4.291	0.023	
2/17/2023	7:46:00	16.103	4.309	0.031	
2/17/2023	7:47:00	16.067	4.348	0.08	
2/17/2023	7:48:00	16.103	4.318	0.082	
2/17/2023	7:49:00	16.111	4.316	0.064	
2/17/2023	7:50:00	16.085	4.335	0.051	
2/17/2023	7:51:00	16.029	4.381	0.171	10
2/17/2023	7:52:00	16.056	4.35	0.14	
2/17/2023	7:53:00	16.068	4.334	0.161	
2/17/2023	7:54:00	16.119	4.289	0.015	
2/17/2023	7:55:00	16.1	4.312	0.077	
2/17/2023	7:56:00	16.088	4.319	0.144	
2/17/2023	7:57:00	16.089	4.309	0.163	
2/17/2023	7:58:00	16.103	4.305	0.222	
2/17/2023	7:59:00	16.094	4.314	0.153	
2/17/2023	8:00:00	16.093	4.319	0.145	
2/17/2023	8:01:00	16.107	4.307	0.2	9
2/17/2023	8:02:00	16.105	4.309	0.207	
2/17/2023	8:03:00	16.118	4.305	0.361	
2/17/2023	8:04:00	16.117	4.304	0.327	
2/17/2023	8:05:00	16.075	4.33	0.275	
2/17/2023	8:06:00	16.103	4.305	0.357	
2/17/2023	8:07:00	16.096	4.311	0.084	
2/17/2023	8:08:00	16.088	4.306	0.254	
2/17/2023	8:09:00	16.099	4.308	0.052	
2/17/2023	8:10:00	16.131	4.291	0.307	
2/17/2023	8:11:00	16.119	4.303	0.301	8
2/17/2023	8:12:00	16.121	4.295	0.241	
2/17/2023	8:13:00	16.095	4.318	0.319	
2/17/2023	8:14:00	16.127	4.305	0.333	
2/17/2023	8:15:00	16.076	4.346	0.354	
2/17/2023	8:16:00	16.063	4.343	0.353	
2/17/2023	8:17:00	16.122	4.292	0.364	
2/17/2023	8:18:00	16.109	4.306	0.097	
2/17/2023	8:19:00	16.028	4.376	0.375	
2/17/2023	8:20:00	16.097	4.322	0.402	
2/17/2023	8:21:00	16.103	4.313	0.357	7
2/17/2023	8:22:00	16.094	4.321	0.413	
2/17/2023	8:23:00	16.097	4.311	0.428	
2/17/2023	8:24:00	16.067	4.342	0.404	
2/17/2023	8:25:00	16.11	4.296	0.35	
2/17/2023	8:26:00	16.113	4.293	0.446	
2/17/2023	8:27:00	16.102	4.307	0.435	
2/17/2023	8:28:00	16.109	4.298	0.319	
2/17/2023	8:29:00	16.07	4.326	0.006	

2/17/2023	8:30:00	16.074	4.321	0.073	6
2/17/2023	8:31:00	16.106	4.294	0.028	
2/17/2023	8:32:00	16.135	4.28	0.073	
2/17/2023	8:33:00	16.125	4.281	0.124	
2/17/2023	8:34:00	16.124	4.28	0.198	
2/17/2023	8:35:00	16.121	4.289	0.165	
2/17/2023	8:36:00	16.059	4.342	0.098	5
2/17/2023	8:37:00	16.108	4.304	0.023	
2/17/2023	8:38:00	16.109	4.298	0.02	
2/17/2023	8:39:00	16.069	4.341	0.082	
2/17/2023	8:40:00	16.125	4.28	0.135	
2/17/2023	8:41:00	16.115	4.281	0.123	
2/17/2023	8:42:00	16.07	4.319	0.103	4
2/17/2023	8:43:00	16.12	4.285	0.044	
2/17/2023	8:44:00	16.096	4.31	0.083	
2/17/2023	8:45:00	16.115	4.304	0.063	
2/17/2023	8:46:00	16.111	4.303	0.06	
2/17/2023	8:47:00	16.115	4.294	0.146	
2/17/2023	8:48:00	16.103	4.296	0.075	3
2/17/2023	8:49:00	16.11	4.298	0.117	
2/17/2023	8:50:00	16.124	4.291	0.066	
2/17/2023	8:51:00	16.106	4.298	0.062	
2/17/2023	8:52:00	16.104	4.289	0.109	
2/17/2023	8:53:00	16.077	4.317	0.069	
2/17/2023	8:54:00	16.106	4.293	0.152	2
2/17/2023	8:55:00	16.125	4.28	0.042	
2/17/2023	8:56:00	16.102	4.302	0.177	
2/17/2023	8:57:00	16.112	4.293	0.067	
2/17/2023	8:58:00	16.117	4.28	0.14	
2/17/2023	8:59:00	16.073	4.316	0.167	
2/17/2023	9:00:00	16.085	4.295	0.12	2
2/17/2023	9:01:00	16.105	4.286	0.015	
2/17/2023	9:02:00	16.069	4.319	0.076	
2/17/2023	9:03:00	16.096	4.286	0.076	
2/17/2023	9:04:00	16.078	4.294	0.111	
2/17/2023	9:05:00	16.082	4.294	0.128	
2/17/2023	9:06:00	16.118	4.261	0.084	2
2/17/2023	9:07:00	16.103	4.267	0.205	
2/17/2023	9:08:00	16.093	4.279	0.2	
2/17/2023	9:09:00	16.1	4.265	0.027	
2/17/2023	9:10:00	16.112	4.263	0.233	
2/17/2023	9:11:00	16.09	4.286	0.255	
2/17/2023	9:12:00	16.052	4.309	0.211	2
2/17/2023	9:13:00	16.082	4.278	0.062	
2/17/2023	9:14:00	16.108	4.25	0.104	
2/17/2023	9:15:00	16.069	4.271	0.195	
2/17/2023	9:16:00	16.113	4.24	0.249	

2/17/2023	9:17:00	16.085	4.274	0.194	
2/17/2023	9:18:00	16.084	4.277	0.007	
2/17/2023	9:19:00	16.09	4.268	0.407	
2/17/2023	9:20:00	16.086	4.28	0.022	
2/17/2023	9:21:00	16.087	4.273	0.04	1
2/17/2023	9:22:00	16.081	4.285	0.074	
2/17/2023	9:23:00	16.084	4.273	0.06	
2/17/2023	9:24:00	16.064	4.3	0.16	
2/17/2023	9:25:00	16.036	4.313	0.182	
2/17/2023	9:26:00	16.052	4.303	0.209	
2/17/2023	9:27:00	16.091	4.272	0.123	
2/17/2023	9:28:00	16.072	4.286	0.273	
2/17/2023	9:29:00	16.097	4.271	0.21	
2/17/2023	9:30:00	16.105	4.256	0.18	
2/17/2023	9:31:00	16.089	4.266	0.114	
2/17/2023	9:32:00	14.483	4.359	0.093	
2/17/2023	9:33:00	10.075	4.908	-0.281	
2/17/2023	9:34:00	10.072	4.913	-0.03	< System O2, CO2
2/17/2023	9:35:00	8.224	3.451	0.21	
2/17/2023	9:36:00	-0.048	0.001	4.113	
2/17/2023	9:37:00	-0.047	0.002	4.617	< System Co
2/17/2023	9:38:00	9.973	2.522	4.3	
2/17/2023	9:39:00	16.075	4.282	1.055	
2/17/2023	9:40:00	16.066	4.296	0.004	< Resume
2/17/2023	9:41:00	16.068	4.295	0.335	12
2/17/2023	9:42:00	16.067	4.297	0.104	
2/17/2023	9:43:00	16.09	4.28	0.242	
2/17/2023	9:44:00	16.055	4.32	0.355	
2/17/2023	9:45:00	15.999	4.361	0.339	
2/17/2023	9:46:00	16.094	4.281	0.282	
2/17/2023	9:47:00	16.07	4.292	0.1	
2/17/2023	9:48:00	16.064	4.296	0.195	
2/17/2023	9:49:00	16.072	4.291	0.262	
2/17/2023	9:50:00	16.071	4.28	0.038	
2/17/2023	9:51:00	16.072	4.286	0.206	11
2/17/2023	9:52:00	16.072	4.276	0.017	
2/17/2023	9:53:00	16.087	4.256	0.286	
2/17/2023	9:54:00	16.061	4.282	0.413	
2/17/2023	9:55:00	16.057	4.287	0.095	
2/17/2023	9:56:00	16.041	4.303	0.034	
2/17/2023	9:57:00	16.087	4.27	0.288	
2/17/2023	9:58:00	16.082	4.282	0.448	
2/17/2023	9:59:00	16.067	4.302	0.176	
2/17/2023	10:00:00	16.08	4.283	0.298	
2/17/2023	10:01:00	16.084	4.276	0.388	10
2/17/2023	10:02:00	16.085	4.284	0.476	
2/17/2023	10:03:00	16.03	4.327	0.423	

2/17/2023	10:04:00	16.056	4.297	0.146	
2/17/2023	10:05:00	16.081	4.281	0.243	
2/17/2023	10:06:00	16.079	4.279	0.462	
2/17/2023	10:07:00	16.083	4.288	0.438	
2/17/2023	10:08:00	16.068	4.299	0.11	
2/17/2023	10:09:00	16.021	4.335	0.338	
2/17/2023	10:10:00	16.063	4.299	0.342	
2/17/2023	10:11:00	16.081	4.283	0.294	9
2/17/2023	10:12:00	16.084	4.29	0.502	
2/17/2023	10:13:00	16.036	4.339	0.489	
2/17/2023	10:14:00	16.063	4.292	0.284	
2/17/2023	10:15:00	16.078	4.279	0.279	
2/17/2023	10:16:00	16.101	4.266	0.258	
2/17/2023	10:17:00	16.076	4.294	0.385	
2/17/2023	10:18:00	16.054	4.311	0.278	
2/17/2023	10:19:00	16.065	4.301	0.134	
2/17/2023	10:20:00	16.087	4.266	0.249	
2/17/2023	10:21:00	16.092	4.264	0.488	8
2/17/2023	10:22:00	16.089	4.27	0.41	
2/17/2023	10:23:00	16.069	4.283	0.401	
2/17/2023	10:24:00	16.078	4.287	0.454	
2/17/2023	10:25:00	16.102	4.268	0.562	
2/17/2023	10:26:00	16.097	4.279	0.196	
2/17/2023	10:27:00	16.075	4.293	0.485	
2/17/2023	10:28:00	16.081	4.277	0.411	
2/17/2023	10:29:00	16.072	4.279	0.47	
2/17/2023	10:30:00	16.095	4.264	0.411	
2/17/2023	10:31:00	16.078	4.276	0.49	7
2/17/2023	10:32:00	16.085	4.273	0.506	
2/17/2023	10:33:00	16.077	4.267	0.484	
2/17/2023	10:34:00	16.075	4.256	0.435	
2/17/2023	10:35:00	16.068	4.259	0.49	
2/17/2023	10:36:00	16.099	4.233	0.492	
2/17/2023	10:37:00	16.098	4.237	0.586	
2/17/2023	10:38:00	16.098	4.236	0.552	
2/17/2023	10:39:00	16.08	4.249	0.56	
2/17/2023	10:40:00	16.079	4.248	0.543	
2/17/2023	10:41:00	16.086	4.238	0.57	6
2/17/2023	10:42:00	16.066	4.251	0.504	
2/17/2023	10:43:00	16.082	4.23	0.479	
2/17/2023	10:44:00	16.089	4.223	0.498	
2/17/2023	10:45:00	16.088	4.222	0.536	
2/17/2023	10:46:00	16.091	4.22	0.419	
2/17/2023	10:47:00	16.097	4.216	0.551	
2/17/2023	10:48:00	16.094	4.207	0.492	
2/17/2023	10:49:00	16.09	4.211	0.525	
2/17/2023	10:50:00	16.084	4.213	0.48	

2/17/2023	10:51:00	16.086	4.224	0.539	5
2/17/2023	10:52:00	16.074	4.234	0.518	
2/17/2023	10:53:00	16.089	4.226	0.497	
2/17/2023	10:54:00	16.093	4.216	0.581	
2/17/2023	10:55:00	16.097	4.196	0.587	
2/17/2023	10:56:00	16.095	4.192	0.585	
2/17/2023	10:57:00	16.091	4.184	0.583	
2/17/2023	10:58:00	16.09	4.174	0.577	
2/17/2023	10:59:00	16.079	4.178	0.527	
2/17/2023	11:00:00	16.092	4.169	0.548	
2/17/2023	11:01:00	16.094	4.165	0.584	4
2/17/2023	11:02:00	16.091	4.161	0.576	
2/17/2023	11:03:00	16.091	4.16	0.564	
2/17/2023	11:04:00	16.086	4.16	0.562	
2/17/2023	11:05:00	16.088	4.169	0.341	
2/17/2023	11:06:00	16.091	4.167	0.57	
2/17/2023	11:07:00	16.087	4.16	0.51	
2/17/2023	11:08:00	16.091	4.165	0.443	
2/17/2023	11:09:00	16.093	4.163	0.449	
2/17/2023	11:10:00	16.089	4.165	0.582	
2/17/2023	11:11:00	16.092	4.161	0.578	3
2/17/2023	11:12:00	16.082	4.171	0.491	
2/17/2023	11:13:00	16.093	4.152	0.556	
2/17/2023	11:14:00	16.079	4.168	0.153	
2/17/2023	11:15:00	16.087	4.159	0.388	
2/17/2023	11:16:00	16.083	4.152	0.571	
2/17/2023	11:17:00	16.085	4.149	0.498	
2/17/2023	11:18:00	16.093	4.136	0.588	
2/17/2023	11:19:00	16.091	4.146	0.588	
2/17/2023	11:20:00	16.089	4.152	0.585	
2/17/2023	11:21:00	16.092	4.162	0.588	2
2/17/2023	11:22:00	16.084	4.16	0.588	
2/17/2023	11:23:00	16.086	4.168	0.044	
2/17/2023	11:24:00	16.076	4.176	0.104	
2/17/2023	11:25:00	16.084	4.166	0.226	
2/17/2023	11:26:00	16.097	4.152	0.108	
2/17/2023	11:27:00	16.093	4.15	0.085	
2/17/2023	11:28:00	16.097	4.142	0.089	
2/17/2023	11:29:00	16.091	4.149	0.052	
2/17/2023	11:30:00	16.09	4.143	0.008	
2/17/2023	11:31:00	16.091	4.149	0.01	1
2/17/2023	11:32:00	16.09	4.148	0.016	
2/17/2023	11:33:00	16.078	4.159	0.054	
2/17/2023	11:34:00	16.086	4.141	0.016	
2/17/2023	11:35:00	16.083	4.149	0.02	
2/17/2023	11:36:00	16.08	4.16	0.012	
2/17/2023	11:37:00	16.076	4.156	0.017	

2/17/2023	11:38:00	16.086	4.144	0.043	
2/17/2023	11:39:00	16.087	4.136	0.024	
2/17/2023	11:40:00	16.084	4.128	0.027	
2/17/2023	11:41:00	16.081	4.138	0.017	
2/17/2023	11:42:00	14.47	4.252	0.214	
2/17/2023	11:43:00	10.064	4.772	0.472	
2/17/2023	11:44:00	10.039	4.904	0.027	< System O2, CO2
2/17/2023	11:45:00	11.87	4.585	0.022	
2/17/2023	11:46:00	1.223	0.382	2.376	
2/17/2023	11:47:00	-0.044	-0.05	4.653	< System CO
2/17/2023	11:48:00	11.519	3.264	4.272	
2/17/2023	11:49:00	19.249	9.514	5.941	
2/17/2023	11:50:00	19.275	9.636	9.615	
2/17/2023	11:51:00	19.279	9.633	9.648	< Direct High
2/17/2023	11:52:00	11.507	6.393	7.485	
2/17/2023	11:53:00	10.101	5.357	4.705	
2/17/2023	11:54:00	10.103	4.898	4.612	
2/17/2023	11:55:00	10.097	4.897	4.633	< Direct Mid
2/17/2023	11:56:00	1.773	1.385	2.887	
2/17/2023	11:57:00	-0.039	-0.025	-0.036	
2/17/2023	11:58:00	-0.033	-0.024	-0.032	< Direct Zero
2/17/2023	11:59:00	-0.023	-0.03	-0.025	

Appendix A.3

Particulate Field and Laboratory Data

Appendix A.3.1

CT-4 Field Data

End 4 R1

M5

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Sunshine
 LOCATION: ENGINE
 DATE: 2/2/23
 RUN NO: EPH 4 RUN 1
 OPERATOR: PH/20
 METER BOX NO: 12606
 METER ΔH@: 1.786
 METER Yd: 0.282
 STACK AREA, FT²: 55"
 TRAVERSE POINTS, MIN/POINT: 10/24
 ΔH= X ΔP: 1.788
 Probe Condition, pre/post test: —
 Silica Gel Expended, Y/N: —
 Filter Condition after Test: —
 Check Weight: 500.150

AMBIENT TEMPERATURE: 55°
 BAROMETRIC PRESSURE: 28.36
 ASSUMED MOISTURE: 5%
 PITOT TUBE COEFF, Cp: 0.84
 PROBE ID NO/MATERIAL: 000/6144
 PROBE LENGTH: 5'
 NOZZLE ID NO/MATERIAL: N92-2
 NOZZLE DIAMETER: 0.267
 FILTER NO/TY: 83-4417
 PRE-TEST LEAK RATE: 0.008 CFM@ 10 in. Hg.
 POST-TEST LEAK RATE: 0.008 CFM@ 10 in. Hg.
 PITOT LEAK CHECK - PRE: 0 POST: 0
 CHAIN OF CUSTODY: SAMPLE CUSTODIAN 08
 SAMPLER 08
 SAMPLE CUSTODIAN 08

Imp. # Contents Post-Test - Pre-Test = Difference
 1 D-I 858.5 / 207.2
 2 D-I 647.0 / 633.4
 3 M-T 614.4 / 608.1
 4 S-G 943.9 / 936.5
 Total: _____

Point	Time	Meter Volume, ft³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	1050	0.191	0.95	1.9	705		248	53	24 75	6		-0.55
2	1100	0.79	0.97	2.0	703		247	49	77	6		
3	1110	1.53	1.0	2.0	704		247	51	81	6		
4	1120	2.39	1.1	2.2	704		249	53	85	7		
5	1130	3.24	1.2	2.4	702		248	53	87	7		
6	1140	4.14	1.1	2.2	703		249	55	88	6		
7	1150	5.03	1.1	2.2	701		249	54	89	6		
8	1200	58.2	1.0	2.0	703		249	54	89	6		
9	1210	64.7	1.1	2.2	704		247	55	87	4		
10	1220	75.1	1.0	2.0	702		249	54	86	6		
11	1230	83.3	0.98	1.9	703		250	54	87	6		
12	1240	91.5	0.75	1.5	704		248	56	88	5		
1	1250/1300	97.743	0.98	2.0	703		249	57	88	6		
2	1310	107.9	1.0	2.0	704		248	56	87	6		
3	1320	116.7	1.1	2.2	704		247	56	88	7		
4	1330	124.4	0.97	1.9	703		249	55	83	7		
5	1340	132.6	0.96	1.9	704		249	56	83	6		
6	1350	140.6	0.96	1.9	704		250	55	82	6		
7	1400	148.3	0.99	2.0	704		248	56	84	6		
8	1410	157.0	1.1	2.2	703		247	57	85	6		
9	1420	165.6	1.1	2.2	705		248	56	84	6		
10	1430	174.2	1.0	2.0	703		248	57	85	6		
11	1440	182.8	0.95	1.9	704		247	57	86	6		
12	1450	191.3	0.82	1.4	704		249	57	86	5		
Average: 1500		200.182										

Comments: _____

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

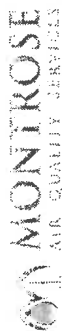
CLIENT: Sunshine
 LOCATION: ENHANCING #4
 DATE: 2/8/23
 RUN NO: ENH 4 RUN 2
 OPERATOR: DA/AD
 METER BOX NO: 42505
 METER ΔH@: 1.786
 METER Yd: 0.992
 STACK AREA, FT²: 53"
 TRAVERSE POINTS, MIN/POINT: 10/24
 ΔH= 1.96 X ΔP: 1988
 Probe Condition, pre/post test: /
 Silica Gel Expended, Y/N: /
 Filter Condition after Test: /
 Check Weight: 500/500

AMBIENT TEMPERATURE: 52°
 BAROMETRIC PRESSURE: 28.34
 ASSUMED MOISTURE: 58
 PITOT TUBE COEFF, Cp: 0.84
 PROBE ID NO/MATERIAL: 006
 PROBE LENGTH: 5'
 NOZZLE ID NO/MATERIAL: N612 61083
 NOZZLE DIAMETER: 0.257
 FILTER NO/TYPE: 6K 4418
 PRE-TEST LEAK RATE: 0.009 CFM@ 10 in. Hg.
 POST-TEST LEAK RATE: 0.009 CFM@ 10 in. Hg.
 PITOT LEAK CHECK - PRE: 0.00 POST: 0.00
 CHAIN OF CUSTODY: 0.00
 SAMPLER: 14/140
 SAMPLE CUSTODIAN: AD

Imp. # Contents Post-Test - Pre-Test = Difference
 1 DI 858.5 704.8
 2 11 635.4 623.2
 3 MT 611.4 600.8
 4 SC 1015.2 971.9
 Total: _____

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	08:00	200.579	0.96	1.7	704	247	247	57	24 64	7		-0.54
2	08:20	208.5	1.0	2.0	703	247	247	52	65	7		
3	08:30	216.4	1.1	2.2	703	248	248	52	67	8		
4	08:40	225.0	1.0	2.0	703	249	249	51	69	7		
5	08:50	233.2	1.1	2.2	704	249	249	51	70	8		
6	09:00	241.7	1.1	2.2	702	249	249	52	72	8		
7	09:10	250.4	1.0	2.0	704	247	247	53	73	8		
8	09:20	258.5	0.98	1.9	704	248	248	53	74	7		
9	09:30	266.7	1.0	2.0	704	250	250	52	75	7		
10	09:40	275.0	1.1	2.2	704	249	249	53	75	8		
11	09:50	283.6	0.96	1.9	705	249	249	54	76	7		
12	10:00	291.5	0.77	1.5	703	248	248	54	75	6		
1	10:00/10:00	299.085	0.96	1.9	700	249	249	55	76	7		
2	10:30	306.9	1.1	2.2	700	248	248	55	77	8		
3	10:40	314.9	1.1	2.2	701	248	248	54	76	8		
4	10:50	322.4	0.92	1.9	699	247	247	55	77	7		
5	11:00	331.2	0.95	1.9	700	248	248	53	79	7		
6	11:10	340.0	0.92	1.9	700	248	248	54	82	7		
7	11:20	347.5	1.0	2.0	700	249	249	53	83	7		
8	11:30	356.9	1.1	2.2	699	250	250	51	84	8		
9	11:40	365.5	1.0	2.0	699	250	250	51	86	7		
10	11:50	373.9	1.1	2.2	699	248	248	55	87	8		
11	12:00	382.4	0.92	1.9	701	247	247	50	88	7		
12	12:10	390.8	0.84	1.7	700	247	247	58	90	6		
Average:	12:00	398.872										

Comments: _____



M-5

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

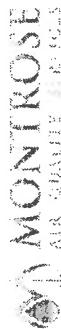
CLIENT: Sunshine
 LOCATION: Engine #4
 DATE: 2/8/21
 RUN NO: 3
 OPERATOR: DL/AD
 METER BOX NO: 420003
 METER ΔH@: 1.376
 METER Yd: 0.932
 STACK AREA, FT²: 55.11
 TRAVERSE POINTS, MIN/POINT: 10/24
 ΔH= 1.988 X ΔP: 1.988
 Probe Condition, pre/post test: —
 Silica Gel Expended, Y/N: —
 Filter Condition after Test: —
 Check Weight: 202.500

AMBIENT TEMPERATURE: 66°
 BAROMETRIC PRESSURE: 28.34
 ASSUMED MOISTURE: 8%
 PITOT TUBE COEFF. Cp: 0.84
 PROBE ID NO/MATERIAL: 007/01055
 PROBE LENGTH: 5'
 NOZZLE ID NO/MATERIAL: 266/01044
 NOZZLE DIAMETER: 0.757
 FILTER NO/TYPE: 96-4419
 PRE-TEST LEAK RATE: 0.008 CFM@ 10 in. Hg.
 POST-TEST LEAK RATE: 0.008 CFM@ 10 in. Hg.
 PITOT LEAK CHECK - PRE: OK POST: OK
 CHAIN OF CUSTODY: SAMPLE CUSTODIAN AD
 SAMPLER MC
 SAMPLE CUSTODIAN AD

Imp. # Contents Post-Test - Pre-Test = Difference
 1 DT 869.1 736.5
 2 11 647.4 620.6
 3 MT 635.6 634.7
 4 SG 948.8 903.0
 Total: —

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	1305	400.681	0.95	1.9	692		248	58	85	5		-0.54
2	1315	409.4	1.1	2.2	657		249	56	88	6		
3	1325	417.7	1.1	2.2	696		249	55	90	6		
4	1335	426.0	1.0	2.0	698		248	54	91	6		
5	1345	434.4	1.0	2.0	692		248	52	92	6		
6	1355	443.0	1.1	2.2	686		247	53	92	7		
7	1405	452.8	1.0	2.0	698		248	53	92	6		
8	1415	459.9	1.0	2.0	686		249	54	91	6		
9	1425	468.0	0.98	1.9	692		248	53	90	6		
10	1435	476.3	0.96	1.9	697		250	54	91	5		
11	1445	483.9	0.96	1.9	697		249	54	91	6		
12	1455	492.0	0.98	1.9	698		248	55	92	5		
1	1505/1515	499.294	0.96	1.9	698		248	55	91	5		
2	1525	502.1	1.1	2.2	703		249	54	90	7		
3	1535	515.0	1.0	2.0	704		249	56	90	6		
4	1545	523.7	0.97	1.9	704		248	55	91	6		
5	1555	530.8	0.95	1.9	705		247	55	92	6		
6	1605	538.5	0.96	1.9	705		247	54	93	4		
7	1615	546.7	1.1	2.2	705		245	55	93	7		
8	1625	555.1	1.1	2.2	705		247	54	94	7		
9	1635	563.4	1.0	2.0	704		246	54	93	6		
10	1645	571.6	1.0	2.0	708		249	57	95	6		
11	1655	580.1	0.97	1.9	705		246	56	95	6		
12	1705	588.5	0.95	1.7	703		249	57	94	5		
Average:	1715	596.977					END	TE ST				

Comments: —



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Sunshine
 LOCATION: Engage way
 DATE: 2/9/23
 RUN NO: ENG 4 RUN 4
 OPERATOR: OH/AJ
 METER BOX NO: 42 wos
 METER ΔH@: 1.786
 METER Yd: 0.992
 STACK AREA, FT²: 55"
 TRAVERSE POINTS, MIN/POINT: 10/24
 ΔH = 1.986 X ΔP: 1.988
 Probe Condition, pre/post test: —
 Silica Gel Expended, Y/N: —
 Filter Condition after Test: —
 Check Weight: 500/500

AMBIENT TEMPERATURE: 53°
 BAROMETRIC PRESSURE: 28.32
 ASSUMED MOISTURE: 5%
 PITOT TUBE COEFF, Cp: 0.84
 PROBE ID NO/MATERIAL: 206/91553
 PROBE LENGTH: 5'
 NOZZLE ID NO/MATERIAL: N42-2/41553
 NOZZLE DIAMETER: 0.257
 FILTER NO/TYPE: GF 4420
 PRE-TEST LEAK RATE: 0.007 CFM@ 10 in. Hg.
 POST-TEST LEAK RATE: 0.007 CFM@ 10 in. Hg.
 PITOT LEAK CHECK - PRE: 0.12 POST: 0.1
 CHAIN OF CUSTODY: —
 SAMPLE CUSTODIAN: —
 SAMPLER: 104/44
 SAMPLE CUSTODIAN: —

Imp. # Contents Post-Test - Pre-Test = Difference
 1 DE 420 8440.5 708.5
 2 1158 6038.0 625.5
 3 MT 613.3 6049.0 608.9
 4 509 1082.2 972.9
6 612.2
 Total: —

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	0805	592.719	1.55	1.9	70.1	—	247	59	70	7	—	-0.57
2	0815	608.4	0.97	1.9	70.1	—	248	55	72	6	—	—
3	0825	616.4	1.1	2.2	70.3	—	248	53	73	7	—	—
4	0835	624.9	1.1	2.2	70.3	—	247	54	75	7	—	—
5	0845	632.5	1.2	2.4	70.3	—	249	55	77	8	—	—
6	0855	642.2	1.0	2.0	70.3	—	249	56	78	6	—	—
7	0905	650.8	1.1	2.2	70.3	—	248	55	80	8	—	—
8	0915	653.4	1.0	2.0	70.3	—	248	55	82	6	—	—
9	0925	662.7	0.99	2.0	70.6	—	249	56	83	6	—	—
10	0935	674.1	1.0	2.0	70.4	—	248	56	84	6	—	—
11	0945	684.2	1.0	2.0	70.5	—	247	56	86	4	—	—
12	0955	692.4	0.76	1.5	70.4	—	249	55	86	5	—	—
1	1005/1015	700.083	0.98	1.9	70.3	—	248	55	87	5	—	—
2	1025	708.4	1.1	2.2	70.4	—	248	56	86	8	—	—
3	1035	716.0	1.1	2.2	70.4	—	249	55	86	8	—	—
4	1045	724.6	0.97	1.9	70.3	—	247	57	87	7	—	—
5	1055	732.8	0.95	1.9	70.3	—	247	56	87	7	—	—
6	1105	740.1	0.96	1.9	70.2	—	248	57	90	7	—	—
7	1115	749.7	0.99	2.0	70.3	—	250	58	92	7	—	—
8	1125	757.4	1.0	2.0	70.2	—	249	57	93	7	—	—
9	1135	765.7	1.1	2.2	69.9	—	248	58	93	8	—	—
10	1145	774.2	1.0	2.0	69.8	—	247	57	95	7	—	—
11	1155	782.7	0.96	1.9	70.1	—	248	58	95	7	—	—
12	1205	790.8	0.83	1.7	70.2	—	248	58	95	6	—	—
Average:	1205	799.014	—	—	—	—	—	—	—	—	—	—

Comments: —

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Sunshine
LOCATION: Engine 44
DATE: 2/5/23
RUN NO.: DWN 5
OPERATOR: 04/12/20
METER BOX NO: 42 WWS
METER ΔH@: 1786
METER Yd: 0.952
STACK AREA, FT²: 55"
TRAVERSE POINTS, MIN/POINT: 10/64
ΔH= 1114 X ΔP: 1.788
Probe Condition, pre/post test: ✓
Silica Gel Expended, Y/N: ✓
Filter Condition after Test: ✓
Check Weight: 500/500

AMBIENT TEMPERATURE: 73°
BAROMETRIC PRESSURE: 29.72
ASSUMED MOISTURE: 5%
PITOT TUBE COEFF. Cp: 0.84
PROBE ID NO/MATERIAL: 006/glass
PROBE LENGTH: 5'
NOZZLE ID NO/MATERIAL: 2641/Glass
NOZZLE DIAMETER: 0.257
FILTER NO/TYPE: 0F 4421
PRE-TEST LEAK RATE: 2007 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 1806 CFM@ 10 in. Hg.
PITOT LEAK CHECK - PRE: 0 POST: 0
CHAIN OF CUSTODY: SAMPLE CUSTODIAN 48
SAMPLER 04/12/20
SAMPLE CUSTODIAN

Imp. # Contents Post-Test - Pre-Test = Difference
1 DEHGO 872.6 752.2
2 11 634.1 618.7
3 MT 640.7 636.1
4 Don 910.4 911.7
Total: _____

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	1240	795.327	0.77	1.9	703	249	249	59	89	89	6		-0.57
2	1250	817.4	1.0	2.0	704	250	250	58	92	92	6		
3	1300	815.2	1.0	2.0	704	249	249	56	93	93	6		
4	1310	823.2	1.1	2.2	704	250	250	56	92	92	7		
5	1320	821.6	1.2	2.4	704	248	248	55	93	93	8		
6	1330	840.2	1.2	2.4	704	249	249	54	92	92	8		
7	1340	849.5	1.0	2.0	704	248	248	54	91	91	6		
8	1350	858.1	1.0	2.0	704	249	249	55	93	93	6		
9	1400	864.3	1.1	2.2	704	250	250	55	92	92	7		
10	1410	875.7	0.97	1.9	703	250	250	55	91	91	6		
11	1410	887.8	0.99	1.7	703	249	249	54	90	90	6		
12	1430	891.9	0.76	1.5	703	249	249	55	91	91	5		
1	1440/1450	899.844	0.96	1.9	704	248	248	56	91	91	6		
2	1500	907.9	0.99	1.7	704	248	248	55	92	92	6		
3	1510	915.7	1.0	2.0	704	247	247	56	92	92	6		
4	1520	914.2	1.1	2.2	703	248	248	56	91	91	7		
5	1530	927.7	0.98	1.7	703	247	247	55	92	92	6		
6	1540	941.0	0.96	1.9	703	248	248	57	93	93	6		
7	1550	949.0	0.95	1.9	703	250	250	56	92	92	6		
8	1600	957.2	1.0	2.0	703	249	249	56	91	91	7		
9	1610	965.4	1.0	2.0	703	249	249	57	90	90	7		
10	1620	973.7	1.2	2.4	703	247	247	57	90	90	8		
11	1630	982.4	1.0	2.0	703	249	249	58	92	92	7		
12	1640	990.9	0.83	1.7	704	248	248	57	91	91	6		
Average: 16.00		998.624	0										

Comments: _____

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Sunshine
 LOCATION: Engine #4
 DATE: 2/10/23
 RUN NO: 2164
 OPERATOR: DAVID
 METER BOX NO: 42005
 METER ΔH@: 1.386
 METER Yd: 0.972
 STACK AREA, FT²: 55"
 TRAVERSE POINTS, MIN/POINT: 10/44
 ΔH= X ΔP: 1.988
 Probe Condition, pre/post test: —
 Silica Gel Expended, Y/N: —
 Filter Condition after Test: —
 Check Weight: 500/500

AMBIENT TEMPERATURE: 53°
 BAROMETRIC PRESSURE: 29.26
 ASSUMED MOISTURE: 5%
 PITOT TUBE COEFF. Cp: 0.55
 PROBE ID NO/MATERIAL: 107/16mm
 PROBE LENGTH: 57
 NOZZLE ID NO/MATERIAL: 266/6mm
 NOZZLE DIAMETER: 0.237
 FILTER NO/TYPE: GP 4422
 PRE-TEST LEAK RATE: 0.005 CFM@ 10 in. Hg.
 POST-TEST LEAK RATE: 0.002 CFM@ 10 in. Hg.
 PITOT LEAK CHECK - PRE: 0 POST: 0
 CHAIN OF CUSTODY: —
 SAMPLE CUSTODIAN: —
 SAMPLER: DAVID
 SAMPLE CUSTODIAN: DAVID

Imp. # Contents Post-Test - Pre-Test = Difference
1 DEH2O 847.0 708.3
2 " 626.3 609.9
3 MT 610.3 606.7
4 SL 1052.2 999.7
 Total: —

Point	Time	Meter Volume, ft³	ΔP in. H₂O	ΔH in. H₂O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O₂ %	Pstatic in. H₂O
1	0750	998.799	0.97	1.9	716		247	58		5		-0.55
2	0800	1006.2	1.0	2.0	710		248	56		5		
3	0810	1014.5	1.1	2.2	715		248	55		5		
4	0820	1022.5	1.1	2.2	715		247	54		6		
5	0830	1030.4	1.2	2.4	716		248	53		7		
6	0840	1039.0	1.0	2.0	716		249	52		5		
7	0850	1047.1	1.0	2.0	717		247	52		5		
8	0900	1055.2	0.98	1.9	717		248	53		5		
9	0910	1063.7	1.1	2.2	718		248	54		6		
10	0920	1071.7	0.99	2.0	716		249	54		5		
11	0930	1079.9	0.96	1.9	715		247	54		5		
12	0940	1088.0	0.94	1.5	714		247	55		4		
1	0950/005	1096.191	1.0	2.0	715		248	55		5		
2	1010	1104.2	1.0	2.0	714		249	54		5		
3	1020	1112.3	1.2	2.4	715		250	54		7		
4	1030	1120.4	0.98	1.9	714		250	56		5		
5	1040	1128.6	0.97	1.9	715		249	55		5		
6	1050	1136.7	0.96	1.5	715		241	56		5		
7	1100	1144.7	1.0	2.0	715		248	54		5		
8	1110	1152.8	1.1	2.2	716		249	57		5		
9	1120	1160.0	1.2	2.4	715		248	56		7		
10	1130	1168.4	0.98	1.9	715		249	56		5		
11	1140	1176.4	0.94	1.9	715		247	57		5		
12	1150	1185.5	0.80	1.0	713		247	57		5		
Average: 1200		1193.344			713		247	57		5		

Comments: END TEST

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Sunshine
 LOCATION: Engine Bay
 DATE: 2/10/13
 RUN NO: ENG 4 RUN 7
 OPERATOR: DA/AS
 METER BOX NO: 422003
 METER ΔH@: 1.786
 METER Yd: 0.552
 STACK AREA, FT²: 55.1
 TRAVERSE POINTS, MIN/POINT: 10/24
 ΔH= X ΔP: 1.988
 Probe Condition, pre/post test: /
 Silica Gel Expended, Y/N: /
 Filter Condition after Test: /
 Check Weight: 500/500

AMBIENT TEMPERATURE: 67°
 BAROMETRIC PRESSURE: 28.24
 ASSUMED MOISTURE: 5%
 PITOT TUBE COEFF. Cp: 0.84
 PROBE ID NO/MATERIAL: 006/glass
 PROBE LENGTH: 5'
 NOZZLE ID NO/MATERIAL: 1032-2/6/103
 NOZZLE DIAMETER: 0.253
 FILTER NO/TYPE: 65 4433
 PRE-TEST LEAK RATE: 0.003 CFM@ 10 in. Hg.
 POST-TEST LEAK RATE: 0.003 CFM@ 10 in. Hg.
 PITOT LEAK CHECK - PRE: 0 POST: 0
 CHAIN OF CUSTODY: SAMPLE CUSTODIAN
 SAMPLER: DA/AS
 SAMPLE CUSTODIAN: DA

Imp. # Contents Post-Test - Pre-Test = Difference
1 DIH26 866.5 740.6
2 11 644.2 625.7
3 MMT 633.3 635.5
4 56 989.6 940.2
 Total: _____

Point	Time	Meter Volume, ft³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	1215	1193.601	0.93	1.8	715		249	57	81	6		-0.55
2	1225	1201.5	0.98	1.9	717		240	57	80	6		
3	1235	1209.5	1.0	2.0	716		250	56	81	6		
4	1245	1217.6	1.0	2.0	716		250	56	81	6		
5	1255	1228.7	1.2	2.4	717		249	55	82	7		
6	1305	1234.0	1.2	2.4	716		249	54	82	7		
7	1315	1242.3	1.1	2.2	716		247	55	83	7		
8	1325	1250.4	1.0	2.0	716		248	56	83	6		
9	1335	1258.5	1.0	2.0	715		249	56	82	6		
10	1345	1266.7	1.1	2.2	717		249	55	84	7		
11	1355	1274.8	0.97	1.9	716		248	56	85	6		
12	1405	1282.7	0.78	1.6	717		248	57	88	5		
1	1415/15	1290.4	0.96	1.9	716		249	57	87	6		
2	1435	1298.3	0.88	1.9	716		248	56	87	6		
3	1445	1306.3	1.0	2.0	716		247	54	89	6		
4	1455	1314.3	0.99	2.0	717		248	54	88	6		
5	1505	1322.2	0.96	1.9	715		247	55	90	6		
6	1515	1330.1	0.97	1.9	718		247	56	91	6		
7	1525	1338.0	1.0	2.0	716		249	57	91	6		
8	1535	1346.0	1.1	2.2	717		249	57	92	7		
9	1545	1354.1	1.2	2.4	716		248	56	92	7		
10	1555	1362.4	1.1	2.2	716		245	54	91	7		
11	1605	1370.6	0.95	1.9	717		248	57	90	6		
12	1615	1378.6	0.80	1.6	714		249	57	91	5		
Average:	1425	1386.269							85.37			

Comments: _____

Appendix A.3.2

CT-5 Field Data

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Eni Sunshine
 LOCATION: Engine # 5
 DATE: 2/14/23
 RUN NO: EN6 5 RUN 1
 OPERATOR: DA/AD
 METER BOX NO: 42005
 METER ΔH@: 1.280
 METER Yd: 0.552
 STACK AREA, FT²: 55"
 TRAVERSE POINTS, MIN/POINT: 10/24
 ΔH= X ΔP: 203
 Probe Condition, pre/post test: —
 Silica Gel Expended, Y/N: —
 Filter Condition after Test: —
 Check Weight: 820/520

AMBIENT TEMPERATURE: 48°
 BAROMETRIC PRESSURE: 32.988"
 ASSUMED MOISTURE: 5%
 PITOT TUBE COEFF, Cp: 0.84
 PROBE ID NO/MATERIAL: 000/6063
 PROBE LENGTH: 5'
 NOZZLE ID NO/MATERIAL: N61-2 Glass
 NOZZLE DIAMETER: 0.352
 FILTER NO/TYPE: GF 4483
 PRE-TEST LEAK RATE: 0.002 CFM@ 10 in. Hg.
 POST-TEST LEAK RATE: 0.002 CFM@ 10 in. Hg.
 PITOT LEAK CHECK - PRE: 0.002 POST: 0.002
 CHAIN OF CUSTODY: —
 SAMPLE CUSTODIAN: —
 SAMPLER: 04/04
 SAMPLE CUSTODIAN: —

Imp. # Contents Post-Test - Pre-Test = Difference
 1 DI 428 871.1 702.8
 2 1 631.0 626.0
 3 MR 688.1 606.3
 4 SG 1053.0 1000.7
 Total: —

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	0500	0.103	0.84	1.4	700	250	250	56	56	648.6	—	-0.58
2	0510	7.0	0.81	1.6	701	248	248	53	53	6	—	—
3	0520	14.8	0.85	1.7	700	248	248	52	52	6	—	—
4	0530	22.5	0.92	1.9	700	248	248	52	52	6	—	—
5	0540	30.5	1.1	2.2	701	248	248	51	51	6	—	—
6	0550	38.4	1.1	2.2	701	248	248	50	50	7	—	—
7	0600	46.3	1.3	2.6	701	249	249	51	51	8	—	—
8	0610	54.0	1.4	2.8	701	249	249	52	52	8	—	—
9	0620	63.0	1.1	2.7	700	248	248	53	53	7	—	—
10	0630	70.9	0.97	2.0	701	248	248	54	54	7	—	—
11	0640	79.2	0.85	1.7	701	247	247	55	55	6	—	—
12	0650	86.6	0.76	1.5	701	247	247	55	55	6	—	—
1	1000/10	93.681	0.92	1.9	701	248	248	55	55	6	—	—
2	1020	101.5	0.83	1.7	701	249	249	55	55	6	—	—
3	1030	109.5	0.86	1.7	702	248	248	54	54	6	—	—
4	1040	117.1	0.95	1.9	702	248	248	56	56	6	—	—
5	1050	125.0	1.0	2.0	702	248	248	55	55	6	—	—
6	1100	133.0	1.1	2.2	702	247	247	56	56	7	—	—
7	1110	141.4	1.2	2.4	702	246	246	56	56	8	—	—
8	1120	149.4	1.3	2.6	703	246	246	57	57	8	—	—
9	1130	157.4	1.0	2.0	703	241	241	56	56	7	—	—
10	1140	166.1	0.99	2.0	703	240	240	57	57	7	—	—
11	1150	174.1	0.83	1.7	703	250	250	57	57	6	—	—
12	1200	181.9	0.74	1.5	703	248	248	58	58	6	—	—
Average:	1210	187.437	—	—	—	—	—	—	—	—	—	—

Comments: END TEST

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Sunshine
 LOCATION: ENGINE #5
 DATE: 2/14/23
 RUN NO: ENG 5 RUN 2
 OPERATOR: DA/AD
 METER BOX NO: 420005
 METER ΔH@: 1.780
 METER Yd: 0.972
 STACK AREA, FT²: 55"
 TRAVERSE POINTS, MIN/POINT: 10/2Y
 ΔH= X ΔP: 2.03
 Probe Condition, pre/post test: /
 Silica Gel Expended, Y/N: /
 Filter Condition after Test: /
 Check Weight: 500.50

AMBIENT TEMPERATURE: 55
 BAROMETRIC PRESSURE: 27.98
 ASSUMED MOISTURE: 5%
 PITOT TUBE COEFF, Cp: 0.51
 PROBE ID NO/MATERIAL: 606 / 91603
 PROBE LENGTH: 5"
 NOZZLE ID NO/MATERIAL: 2641 G1685
 NOZZLE DIAMETER: 0.257
 FILTER NO/TYPE: GF-4484
 PRE-TEST LEAK RATE: 1009 CFM@ 10 in. Hg.
 POST-TEST LEAK RATE: 808 CFM@ 10 in. Hg.
 PITOT LEAK CHECK - PRE: 0 POST: 0.5
 CHAIN OF CUSTODY: SAMPLE CUSTODIAN
 SAMPLER: DA/AD
 SAMPLE CUSTODIAN: DA/AD

Imp. # Contents Post-Test - Pre-Test = Difference
 1 DEH2O 9038 744.0
 2 11 6228 614.9
 3 MT 638.0 635.0
 4 SG 10074 950.3
 Total: _____

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	1220	150.018	0.90	1.8	702	243	249	59	741	6		-0.58
2	1230	177.7	0.80	1.6	702	248	249	58	735	6		
3	1240	205.3	0.85	1.7	701	247	249	58	732	6		
4	1250	213.0	0.93	1.9	702	246	249	55	732	6		
5	1300	220.8	1.0	2.0	701	243	249	54	732	7		
6	1310	228.7	1.1	2.2	702	243	249	54	733	7		
7	1320	236.7	1.3	2.6	702	243	249	55	734	7		
8	1330	244.9	1.4	2.8	702	243	249	55	734	7		
9	1340	253.2	1.0	2.0	702	243	249	55	735	7		
10	1350	261.6	0.98	2.0	701	243	249	54	738	7		
11	1400	269.0	0.85	1.7	701	243	249	55	735	6		
12	1410	278.6	0.75	1.5	701	243	249	56	736	6		
1	1420/50	284.377	0.92	1.9	702	243	249	56	736	6		
2	1430	292.1	0.84	1.7	702	243	249	57	737	6		
3	1440	299.9	0.88	1.8	703	243	249	58	737	6		
4	1450	307.7	0.94	2.0	702	243	249	57	738	6		
5	1460	315.5	1.0	2.0	702	243	249	57	738	6		
6	1470	323.4	1.0	2.0	701	243	249	58	738	6		
7	1480	331.5	1.2	2.4	701	243	249	58	738	8		
8	1490	339.6	1.3	2.4	701	243	249	58	738	8		
9	1500	347.9	1.0	2.0	700	243	249	59	738	7		
10	1510	355.9	0.97	2.0	700	243	249	60	738	7		
11	1520	363.8	0.82	1.7	700	243	249	59	738	6		
12	1530	371.8	0.75	1.5	700	243	249	58	738	6		
Average: 1630		382.279						TEST				

Comments:



EPA 5

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

Imp. # Contents Post-Test - Pre-Test = Difference

CLIENT: Sunshine
 LOCATION: Engine #5
 DATE: 2/15/23
 RUN NO: ENG 5 RUN 3
 OPERATOR: DA/AD
 METER BOX NO: 412463
 METER ΔH@: 1.786
 METER Yd: 0.992
 STACK AREA, FT²: 55
 TRAVERSE POINTS, MIN/POINT: 10/24
 ΔH = 2.03 X ΔP: 2.03
 Probe Condition, pre/post test: ✓
 Silica Gel Expended, Y/N: ✓
 Filter Condition after Test: ✓
 Check Weight: 500/500

AMBIENT TEMPERATURE: 35°
 BAROMETRIC PRESSURE: 28.15
 ASSUMED MOISTURE: 5%
 PITOT TUBE COEFF, Cp: 0.34
 PROBE ID NO/MATERIAL: 5' / 91433
 PROBE LENGTH: 5'
 NOZZLE ID NO/MATERIAL: 11422 / 98 51455
 NOZZLE DIAMETER: 0.157
 FILTER NO/TYPE: 146 / 1435
 PRE-TEST LEAK RATE: 0.003 CFM@ 10 in. Hg.
 POST-TEST LEAK RATE: 0.004 CFM@ 10 in. Hg.
 PITOT LEAK CHECK - PRE: 0.00 POST: 0.00
 CHAIN OF CUSTODY: SAMPLE CUSTODIAN DA/AD
 SAMPLER DA/AD
 SAMPLE CUSTODIAN DA/AD

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	0235	385.717	0.88	1.9	702	247	247	47	46	6		-0.88
2	0245	393.5	0.80	1.6	700	249	249	46	45	6		
3	0255	401.2	0.85	1.7	701	249	249	44	47	6		
4	0305	408.9	0.94	1.9	700	248	248	46	48	7		
5	0315	416.7	1.0	2.0	692	249	249	48	48	8		
6	0325	424.4	1.2	2.4	692	248	248	49	50	8		
7	0335	432.8	1.3	2.6	682	250	250	50	53	8		
8	0345	441.1	1.3	2.6	695	249	249	50	53	8		
9	0355	449.4	1.0	2.0	698	250	250	51	52	8		
10	0405	457.3	0.88	2.0	698	249	249	50	54	8		
11	0415	465.2	0.85	1.7	701	248	248	52	56	8		
12	0425	472.9	0.75	1.5	702	248	248	53	57	8		
1	0435	480.517	0.90	1.8	702	249	249	53	57	8		
2	0445	488.3	0.84	1.7	702	249	249	54	60	8		
3	0455	496.0	0.86	1.7	702	248	248	54	62	8		
4	0505	503.7	0.94	1.9	703	248	248	55	63	8		
5	0515	511.4	1.0	2.0	703	248	248	55	65	8		
6	0525	519.5	1.1	2.2	703	248	248	56	65	8		
7	0535	527.6	1.2	2.4	704	248	248	56	67	8		
8	0545	535.8	1.2	2.4	704	248	248	57	69	8		
9	0555	544.0	1.1	2.2	705	248	248	57	71	8		
10	0605	552.9	0.98	2.0	705	248	248	57	73	8		
11	0615	560.7	0.84	1.7	705	248	248	57	75	8		
12	0625	568.9	0.73	1.5	706	248	248	57	77	8		
Average: 1145		576.542						TEST				

Comments: 170.825

Date of last revision 2/14/2017

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DS834048

CPA-5

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Sunshine
LOCATION: Edgemoor #5
DATE: 2/15/23
RUN NO: ENG 5 RUN 4
OPERATOR: DA/AD
METER BOX NO: 42005
METER ΔH@: 1786
METER Yd: 0.952
STACK AREA, FT²: 55"
TRAVERSE POINTS, MIN/POINT: 10/24
ΔH = X ΔP: 2.03
Probe Condition, pre/post test: —
Silica Gel Expended, Y/N: —
Filter Condition after Test: —
Check Weight: 500/500

AMBIENT TEMPERATURE: 54°
BAROMETRIC PRESSURE: 04-20.85 28.15
ASSUMED MOISTURE: —
PITOT TUBE COEFF. Cp: 0.87
PROBE ID NO/MATERIAL: 006 / glass
PROBE LENGTH: —
NOZZLE ID NO/MATERIAL: 266 / 38 glass
NOZZLE DIAMETER: 0.251
FILTER NO/TYPE: 68 4486
PRE-TEST LEAK RATE: 0.008 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 0.007 CFM@ 10 in. Hg.
PITOT LEAK CHECK - PRE: — POST: —
CHAIN OF CUSTODY: —
SAMPLE CUSTODIAN: —
SAMPLER: —
SAMPLE CUSTODIAN: —

Imp. # Contents Post-Test - Pre-Test = Difference
1 WDE #20 911.1 7565
2 WDE #20 6489 639.4
3 WT 6380 634.5
4 SC 985.3 934.4
Total: —

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	1120	572.306	0.90	1.8	309	—	246	58	70	6	—	-0.48
2	1210	585.1	0.80	1.6	309	—	248	54	69	6	—	—
3	1220	592.7	0.85	1.7	309	—	248	52	68	6	—	—
4	1230	600.4	0.93	1.9	308	—	249	50	69	6	—	—
5	1240	608.3	1.0	2.0	308	—	250	49	70	6	—	—
6	1250	616.3	1.1	2.2	308	—	250	49	71	8	—	—
7	1300	624.4	1.3	2.6	307	—	248	50	70	8	—	—
8	1310	632.2	1.4	2.8	308	—	247	51	70	8	—	—
9	1320	641.1	1.0	2.0	307	—	249	52	70	6	—	—
10	1330	649.0	0.96	1.9	307	—	249	54	71	6	—	—
11	1340	656.9	0.85	1.7	307	—	247	55	70	6	—	—
12	1350	664.7	0.74	1.5	307	—	247	55	69	6	—	—
1	1400/10	672.3	0.92	1.9	307	—	248	54	71	6	—	—
2	1420	680.1	0.84	1.7	307	—	248	54	72	6	—	—
3	1430	687.8	0.88	1.8	307	—	248	53	72	6	—	—
4	1440	695.5	0.95	1.9	307	—	249	54	73	6	—	—
5	1450	703.3	1.0	2.0	307	—	249	55	75	6	—	—
6	1500	711.3	1.0	2.0	307	—	250	55	76	6	—	—
7	1510	719.3	1.2	2.4	306	—	250	54	77	8	—	—
8	1520	727.5	1.3	2.6	306	—	248	55	76	8	—	—
9	1530	735.9	1.0	2.0	308	—	249	56	77	6	—	—
10	1540	743.8	0.97	2.0	308	—	247	56	76	6	—	—
11	1550	751.8	0.80	1.4	307	—	247	55	75	6	—	—
12	1600	760.9	0.74	1.5	306	—	249	55	74	6	—	—
Average: 1610		768.64					249	55	74	6	—	—

Comments: 191.208



EPA 5

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Sunshine
LOCATION: Enclave #5
DATE: 2/10/23
RUN NO: ENL 07 RUN 5
OPERATOR: DH/ao
METER BOX NO: 420005
METER ΔH@: 1.386
METER Yd: 0.992
STACK AREA, FT²: 55.11
TRAVERSE POINTS, MIN/POINT: 10/24
ΔH= 2.03 X ΔP: 2.03
Probe Condition, pre/post test: ✓
Silica Gel Expended, Y/N: ✓
Filter Condition after Test: ✓
Check Weight: 502.500

AMBIENT TEMPERATURE: 40°
BAROMETRIC PRESSURE: 28.33
ASSUMED MOISTURE: 5%
PITOT TUBE COEFF. Cp: 0.84
PROBE ID NO/MATERIAL: 075/9148
PROBE LENGTH: 5'
NOZZLE ID NO/MATERIAL: N42-2 / 61055
NOZZLE DIAMETER: 0.253
FILTER NO/TYPE: GF 4437
PRE-TEST LEAK RATE: 0.003 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 0.037 CFM@ 10 in. Hg.
PITOT LEAK CHECK - PRE: ✓ POST: ✓
CHAIN OF CUSTODY: QA
SAMPLE CUSTODIAN: QA
SAMPLER: QA
SAMPLE CUSTODIAN: QA

Imp. # Contents Post-Test - Pre-Test = Difference
1 D24p 866.0 / 704.2
2 v1 630.1 / 631.6
3 W1 610.4 / 607.8
4 S29 1030.6 / 979.0
Total: _____

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Meter Temp, °F Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	0735	769.011	0.90	1.8	710		250	50	N/A	52	6		-0.45
2	0745	776.7	0.82	1.7	710		249	49		54	6		
3	0755	784.4	0.85	1.7	709		249	48		55	6		
4	0805	792.0	0.92	1.9	709		247	49		56	6		
5	0815	799.8	1.1	2.0	707		248	50		58	7		
6	0825	807.8	1.0	2.0	710		248	50		58	7		
7	0835	815.7	1.3	2.6	710		248	49		59	8		
8	0845	824.1	1.4	2.8	710		247	51		58	8		
9	0855	832.4	1.2	2.4	711		247	52		59	8		
10	0905	840.8	0.95	1.9	710		246	52		60	6		
11	0915	848.7	0.84	1.7	709		248	51		61	6		
12	0925	856.5	0.75	1.5	709		248	52		62	5		
1	0935	864.071	0.92	1.9	709		249	51		63	6		
2	0945	871.9	0.80	1.6	709		250	53		66	6		
3	1005	879.5	0.86	1.7	710		250	53		65	6		
4	1015	887.2	0.96	1.9	710		248	54		65	6		
5	1025	895.1	1.0	2.0	709		249	55		64	6		
6	1035	903.0	1.0	2.0	709		249	54		65	6		
7	1045	911.0	1.2	2.4	709		247	55		66	8		
8	1055	919.2	1.2	2.4	708		248	56		67	8		
9	1105	927.5	1.0	2.0	708		249	56		68	6		
10	1115	935.6	0.98	2.0	707		249	55		66	6		
11	1125	943.5	0.84	1.7	707		247	56		67	6		
12	1135	951.2	0.75	1.5	707		249	56		67	5		
Average:	1145	958.564					249	56		67			

Comments: 187.553

EDA 5

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

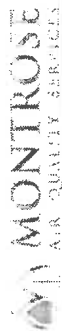
CLIENT: Sunshine
LOCATION: Engage #5
DATE: 2/12/13
RUN NO: 6246 5 JUN 6
OPERATOR: DH/AD
METER BOX NO: 422023
METER ΔH@: 1.380
METER Yd: 0.592
STACK AREA, FT²: 55.1
TRAVERSE POINTS, MIN/POINT: 10/24
ΔH= X ΔP: 2.03
Probe Condition, pre/post test: —
Silica Gel Expended, Y/N: —
Filter Condition after Test: —
Check Weight: 500/500

AMBIENT TEMPERATURE: 58.0
BAROMETRIC PRESSURE: 28.33
ASSUMED MOISTURE: 54
PITOT TUBE COEFF, Cp: 0.84
PROBE ID NO/MATERIAL: 075 / 9/45
PROBE LENGTH: 5
NOZZLE ID NO/MATERIAL: 246 / 6/45
NOZZLE DIAMETER: 0.259
FILTER NO/TYPER: 4488
PRE-TEST LEAK RATE: 0.009 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 0.008 CFM@ 10 in. Hg.
PITOT LEAK CHECK - PRE: 0.2 POST: 0.2
CHAIN OF CUSTODY: SAMPLE CUSTODIAN AV
SAMPLER 04-12-13
SAMPLE CUSTODIAN

Imp. # Contents Post-Test - Pre-Test = Difference
1 DEH20 9813.5 759.7
2 11 6330 630.9
3 MT 6352-635.8
4 SG 9336 915.5
Total:

Point	Time	Meter Volume, ft³	ΔP in. H₂O	ΔH in. H₂O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O₂ %	Pstatic in. H₂O
1	1700	958.811	0.70	1.8	207	249	249	56	71	6		10.49
2	1710	966.6	0.82	1.7	207	248	248	54	70	6		
3	1720	974.3	0.54	1.7	208	247	247	53	70	6		
4	1730	982.0	0.52	1.9	208	246	246	50	71	6		
5	1740	989.8	1.0	2.0	208	250	250	51	73	6		
6	1750	997.7	1.1	2.3	207	250	250	52	73	7		
7	1800	1005.8	1.3	2.6	207	249	249	51	73	8		
8	1810	1014.1	1.4	2.8	206	249	249	52	73	8		
9	1820	1022.4	1.0	2.0	207	249	249	53	75	6		
10	1830	1030.6	0.98	2.0	206	249	249	54	76	6		
11	1840	1038.5	0.82	1.7	206	248	248	54	75	6		
12	1850	1046.2	0.75	1.5	206	248	248	56	77	5		
1	1900/10	1053.859	0.91	1.8	206	247	247	55	77	6		
2	1910	1061.6	0.84	1.7	207	248	248	56	78	6		
3	1930	1069.3	0.86	1.7	208	250	250	57	79	6		
4	1940	1077.0	0.95	2.0	208	249	249	56	78	6		
5	1950	1084.9	0.99	2.0	208	249	249	56	79	7		
6	1960	1092.9	1.1	2.8	207	248	248	55	80	7		
7	1970	1100.9	1.1	2.8	207	249	249	53	79	8		
8	1980	1109.0	1.3	2.6	207	248	248	55	78	6		
9	1990	1117.0	1.0	2.0	207	248	248	56	80	6		
10	1940	1125.3	0.97	2.0	207	248	248	57	81	6		
11	1950	1133.7	0.80	1.0	207	249	249	57	80	6		
12	1960	1141.9	0.76	1.5	208	249	249	58	80	5		
Average: 16/10		1149.748				EN	RES					

Comments: 170.737



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Sunshine
LOCATION: Engine #3
DATE: 2/12/23
RUN NO: ENG 5 Run 7
OPERATOR: DH/AS
METER BOX NO: 420053
METER ΔH@: 1.786
METER Yd: 0.952
STACK AREA, FT²: 55.11
TRAVERSE POINTS, MIN/POINT: 10/24
ΔH= X ΔP: 2.03
Probe Condition, pre/post test: —
Silica Gel Expended, Y/N: —
Filter Condition after Test: —
Check Weight: 520/500

AMBIENT TEMPERATURE: 45°
BAROMETRIC PRESSURE: 28.14
ASSUMED MOISTURE: 68%
PITOT TUBE COEFF. Cp: 0.84
PROBE ID NO/MATERIAL: 075/ep/155
PROBE LENGTH: 5'
NOZZLE ID NO/MATERIAL: N42-2/GH55
NOZZLE DIAMETER: 0.252
FILTER NO/TYPE: GF 4489
PRE-TEST LEAK RATE: 0.007 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 0.007 CFM@ 10 in. Hg.
PITOT LEAK CHECK - PRE: 0.0 POST: 0.0
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER: 04/AS
SAMPLE CUSTODIAN: [Signature]

Imp. # Contents Post-Test - Pre-Test = Difference
1 DEHb 67.0 709.0
2 11 639.1 634.6
3 MT 611.1 608.7
4 Sc 103.3 980.3
Total: —

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	0730	1150.147	0.90	1.8	703	249	249	51	63	6	—	-0.49
2	0740	1157.9	0.83	1.7	703	249	249	50	61	6	—	—
3	0750	1165.6	0.85	1.7	703	249	249	47	62	6	—	—
4	0800	1173.4	0.90	1.8	703	249	249	46	62	6	—	—
5	0810	1181.3	1.0	2.0	704	249	249	46	63	7	—	—
6	0820	1189.2	1.1	2.3	705	247	247	47	62	7	—	—
7	0830	1197.3	1.3	2.6	704	248	248	48	63	8	—	—
8	0840	1205.7	1.4	3.8	705	250	250	47	64	8	—	—
9	0850	1214.1	1.2	3.0	705	249	249	49	64	7	—	—
10	0900	1222.1	0.99	2.0	705	248	248	49	66	7	—	—
11	0910	1230.0	0.82	1.7	705	248	248	50	65	6	—	—
12	0920	1237.8	0.74	1.5	705	247	247	50	67	5	—	—
1	0930/40	1245.469	0.90	1.8	703	248	248	50	67	6	—	—
2	0950	1253.2	0.81	1.6	704	249	249	51	69	6	—	—
3	1000	1260.8	0.85	1.7	704	248	248	53	70	6	—	—
4	1010	1268.5	0.96	1.9	705	250	250	54	71	6	—	—
5	1020	1276.4	1.0	2.0	705	250	250	54	72	7	—	—
6	1030	1284.4	1.1	2.3	705	249	249	54	74	7	—	—
7	1040	1292.5	1.1	2.2	706	247	247	55	75	8	—	—
8	1050	1300.6	1.3	2.6	706	248	248	57	74	8	—	—
9	1100	1309.0	1.0	2.0	706	249	249	56	75	7	—	—
10	1110	1317.0	1.0	2.0	706	249	249	55	76	7	—	—
11	1120	1324.9	0.80	1.6	706	249	249	57	77	6	—	—
12	1130	1332.9	0.72	1.6	706	248	248	56	78	5	—	—
Average: 1140		1341.375										

Comments: 191.238

Appendix A.3.3

CT4 and CT-5 Laboratory Data

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 1 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 7, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4417	0.3496	0.3496	0.0	-----	-----	0.0
2. Probe and Nozzle Wash	9293	31.1518	31.1511	0.7	0.00	100	0.70
						100	
Acetone Blank	9309	28.9133	28.9133	0.0		200	
						200	

Total Particulate = 0.7

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 1

Sample Date: Feb 7, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Acetone Blank (mg/ml) 0.0000

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4417	0.3496	0.3496	0.0	-----	-----	0.0
2. Probe and Nozzle Wash	9293	31.1518	31.1511	0.7	0.00	100	0.7
						100	
Acetone Blank	9309	28.9133	28.9133	0.6		200	
						200	

Total Particulate = 0.7

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 2

Sample Date: Feb 8, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Acetone Blank (mg/ml) 0.0000

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4418	0.3470	0.3457	1.3	-----	-----	1.3
2. Probe and Nozzle Wash	9295	28.3014	28.3012	0.2	0.00	25	0.2
						25	

Total Particulate = 1.5

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 2

Sample Date: Feb 7th, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Acetone Blank (mg/ml) 0.0000

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	93-4418	0.3470	0.3457	1.3	-----	-----	1.3
2. Probe and Nozzle Wash	9295	AE 24.2315 28.3014	AE 24.2312 28.3012	0.2	0.00	25 25	0.2

* VM 3/1/23

Total Particulate = 1.5

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 3 **Acetone Blank (mg/ml)** 0.0000
Sample Date: Feb 8, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4419	0.3466	0.3457	0.9	-----	-----	0.9
2. Probe and Nozzle Wash	9296	29.2315	29.2312	0.3	0.00	60	0.3
						60	

Total Particulate = 1.2

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 3

Sample Date: Feb 7th, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Acetone Blank (mg/ml) 0.0000

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4419	0.3466	0.3457	0.9	-----	-----	0.9
2. Probe and Nozzle Wash	9296	29.2315	29.2312	0.3	0.00	60	0.3
						60	

* VM 3/1/23

Total Particulate = 1.2

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 4 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 9, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4420	0.3431	0.3431	0.0	-----	-----	0.0
2. Probe and Nozzle Wash	9297	28.2545	28.2538	0.7	0.00	40	0.7
						40	

Total Particulate = 0.7

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 4

Sample Date: Feb 7^{9*}, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Acetone Blank (mg/ml) 0.0000

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	483-4430	0.3431	0.3437	0.0	-----	-----	0.0
2. Probe and Nozzle Wash	9297	29.2545	29.2538	0.7	0.00	40 40	0.7

* in 3/6/23

Total Particulate = 0.7

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 5 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 9, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4421	0.3493	0.3485	0.8	-----	-----	0.80
2. Probe and Nozzle Wash	9298	28.9515	28.9510	0.5	0.00	40	0.50
						40	

Total Particulate = 1.3

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 5 **Acetone Blank (mg/ml)** 0.0000
Sample Date: Feb 7, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	93-4421	0.3443	0.3485	0.8	-----	-----	0.80
2. Probe and Nozzle Wash	9298	28.9515	28.9510	0.5	0.00	40 40	0.50

X m 3/1/23

Total Particulate = 1.3

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 6 Acetone Blank (mg/ml) 0.0000 **Sample Date:** Feb 10, 2023
Analysis Date: Feb 23, 2023 **Analyst:** AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4422	0.3503	0.3499	0.4	-----	-----	0.4
2. Probe and Nozzle Wash	9299	28.7119	28.7118	0.1	0.00	50	0.1
						50	

Total Particulate = 0.5

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 6

Sample Date: Feb 7th, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Acetone Blank (mg/ml) 0.0000

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	923-400	0.3503	0.3499	0.4	-----	-----	0.4
2. Probe and Nozzle Wash	9299	28.7119	28.7118	0.1	0.00	50	0.1
						50	

* Ver 3/1/23

Total Particulate = 0.5

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 7 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 10, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4433	0.3509	0.3496	1.3	-----	-----	1.3
2. Probe and Nozzle Wash	9300	31.3633	31.3632	0.1	0.00	50	0.1
						50	

Total Particulate = 1.4

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 Run 7 Acetone Blank (mg/ml) 0.0000
Sample Date: ^{10*} Feb 7, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	834433	0.3509	0.3496	1.3	-----	-----	1.3
2. Probe and Nozzle Wash	9300	31.3633	31.3632	0.1	0.00	50 50	0.1

* vm 3/1/23

Total Particulate = 1.4

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 FB Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 10, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4499	0.3666	0.3666	0.0	-----	-----	0.0
2. Probe and Nozzle Wash	9294	29.7746	29.7743	0.3	0.00	45	0.3
						45	

Total Particulate = 0.3

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 4
Test # Eng 4 FB **Acetone Blank (mg/ml)** 0.0000
Sample Date: Feb 10^{*}, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4444	0.3666	0.3666	0.0	-----	-----	0.0
2. Probe and Nozzle Wash	Q294	29.7746	29.7743	0.3	0.00	45	0.3
						45	

* Vm 3/1/23

Total Particulate = 0.3

Method of Sample Prep/Analysis Notes

CHAIN OF CUSTODY

CLIENT: DTE Energy

PROJ #: 023392

TEST DATE(S): 2/7/2023 - 2/10/2023

LOCATION: Sunshine

SAMPLER(S): DH/AD/PSJ

SAMPLE LOCATION: SGT Eng 4 Exhaust

PROJECT MANAGER: PSJ

TEST METHOD(S): EPA 5

DATE DUE: ASAP

OUTSIDE LAB REQUIRED?: Yes

COMPLIANCE TEST?: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
2/7/2023	10:50	1	Eng 4 Run1	3	DH,AD,PSJ	
2/8/2023	8:10	2	Eng 4 Run2	3	DH,AD,PSJ	
2/8/2023	13:05	3	Eng 4 Run3	3	DH,AD,PSJ	
2/9/2023	8:05	4	Eng 4 Run4	3	DH,AD,PSJ	
2/9/2023	12:40	5	Eng 4 Run5	3	DH,AD,PSJ	
2/10/2023	7:50	6	Eng 4 Run6	3	DH,AD,PSJ	
2/10/2023	12:15	7	Eng 4 Run7	3	DH,AD,PSJ	
2/10/2023		FB	Eng 4 Field Blank	3	DH,AD,PSJ	

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
<i>[Signature]</i>	2/20/23 1300	Adrian Enright	02/23/23 1030

ANALYSIS REQUIRED: EPA 5



Date of Last Revision 9/1/2017

Chain of Custody - DS834001 - Excel
Master Document Storage\Forms\Datasheets\Lab Forms

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 1 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 14, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4483	0.3642	0.3636	0.6	-----	-----	0.6
2. Probe and Nozzle Wash	9301	28.5975	28.5975	0.0	0.00	50	0.00
						50	
Acetone Blank	9309	28.9133	28.9133	0.0		200	
						200	

Total Particulate = 0.6

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 1 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 14, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	934483	0.3642	0.3636	0.6	-----	-----	0.6
2. Probe and Nozzle Wash	9301	29.5975	29.5975	0.0	0.00	50	0.00
						50	
Acetone Blank	9309	28.9133	28.9133	0.0		200	
						200	

Total Particulate = 0.6

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 2 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 15, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4484	0.3646	0.3635	1.1	-----	-----	1.1
2. Probe and Nozzle Wash	9303	29.9323	29.9323	0.0	0.00	50	0.0
						50	

Total Particulate = 1.1

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 2 **Acetone Blank (mg/ml)** 0.0000
Sample Date: ^{15*} Feb 14, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4484	0.3646	0.3635	1.1	-----	-----	1.1
2. Probe and Nozzle Wash	9303	29.9323	29.9323	0.0	0.00	50 50	0.0

* v m 3/1/23

Total Particulate = 1.1

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 3 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 15, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4485	0.3709	0.3701	0.8	-----	-----	0.8
2. Probe and Nozzle Wash	9304	30.6492	30.6492	0.0	0.00	45	0.0
						45	

Total Particulate = 0.8

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 3 **Acetone Blank (mg/ml)** 0.0000
Sample Date: Feb 14, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4485	0.3709	0.3701	0.8	-----	-----	0.8
2. Probe and Nozzle Wash	9304 9305 AE	30.6492	30.6492	0.0	0.00	45 45	0.0

* VM 3/1/23

Total Particulate = 0.8

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 4 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 16, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4486	0.3684	0.3678	0.6	-----	-----	0.6
2. Probe and Nozzle Wash	9305	28.7316	28.7315	0.1	0.00	60	0.1
						60	

Total Particulate = 0.7

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 4 **Acetone Blank (mg/ml)** 0.0000
Sample Date: Feb 14, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	43-4496	0.3684	0.3678	0.6	-----	-----	0.6
2. Probe and Nozzle Wash	9305 4306 45	28.7316	28.7315	0.1	0.00	60 60	0.1

X VM 3/1/23

Total Particulate = 0.7

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 5 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 16, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4487	0.3677	0.3677	0.0	-----	-----	0.0
2. Probe and Nozzle Wash	9306	28.0209	28.0209	0.0	0.00	60	0.00
						60	

Total Particulate = 0.0

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 5

Sample Date: ^{16*}Feb 14, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Acetone Blank (mg/ml) 0.0000

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4487	0.3677	0.3677	0.0	-----	-----	0.0
2. Probe and Nozzle Wash	9306 9307 4E	28.0209	28.0209	0.0	0.00	60 60	0.00

* Vm 3/1/23

Total Particulate = 0.0

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 6 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 17, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4488	0.3672	0.3667	0.5	-----	-----	0.5
2. Probe and Nozzle Wash	9307	30.0686	30.0674	1.2	0.00	70	1.2
						70	

Total Particulate = 1.7

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 6 **Acetone Blank (mg/ml)** 0.0000
Sample Date: Feb 14, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	483-4488	0.3672	0.3667	0.5	-----	-----	0.5
2. Probe and Nozzle Wash	AE 9308 9307	30.0686	30.0674	1.2	0.00	70 70	1.2

* VM 3/1/23

Total Particulate = 1.7

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 7 Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 17, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4489	0.3696	0.3689	0.7	-----	-----	0.7
2. Probe and Nozzle Wash	9308	29.3233	29.3233	0.0	0.00	70	0.0
						70	

Total Particulate = 0.7

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 Run 7 **Acetone Blank (mg/ml)** 0.0000
Sample Date: ¹⁷Feb 14, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4489	0.3696	0.3689	0.7	-----	-----	0.7
2. Probe and Nozzle Wash	9308 4304 AE	29.3233	29.3233	0.0	0.00	70 70	0.0

* vm 3/1/23

Total Particulate = 0.7

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project # PROJ-023392
Client/Location: DTE Energy
Sample Location: Engine 5
Test # Eng 5 FB Acetone Blank (mg/ml) 0.0000
Sample Date: Feb 17, 2023
Analysis Date: Feb 23, 2023
Analyst: AE

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	83-4490	0.3691	0.3691	0.0	-----	-----	0.0
2. Probe and Nozzle Wash	9302	29.3013	29.3013	0.0	0.00	45	0.0
						45	

Total Particulate = 0.0

Method of Sample Prep/Analysis Notes

PARTICULATE EPA METHOD 5

Project #	<u>PROJ-023392</u>			
Client/Location:	<u>DTE Energy</u>	Sample Date:	<u>Feb 17, 2023</u>	
Sample Location:	<u>Engine 5</u>	Analysis Date:	<u>Feb 23, 2023</u>	
Test #	<u>Eng 5 FB</u>	Acetone Blank (mg/ml)	<u>0.0000</u>	Analyst: <u>AE</u>

Item	Item Number	Final Weight (g)	Tare Weight (g)	Gain Weight (mg)	Blank Correction (mg)	Aliquot Correction (ml/ml)	Net Gain (mg/sample)
1. Glass Fiber Filter	834440	0.3641	0.3641	0.0	-----	-----	0.0
2. Probe and Nozzle Wash	9302	29.3013	29.3013	0.0	0.00	415	0.0
						45	

* vm 3/1/23

Total Particulate = 0.0

Method of Sample Prep/Analysis Notes

CHAIN OF CUSTODY

CLIENT: DTE Energy

PROJ #: 023392

TEST DATE(S): 2/14/2023 - 2/17/2023

LOCATION: Sunshine

SAMPLER(S): DH/AD/PSJ

SAMPLE LOCATION: SGT Eng 5 Exhaust

PROJECT MANAGER: PSJ


TEST METHOD(S): EPA 5

DATE DUE: ASAP

OUTSIDE LAB REQUIRED?: Yes

COMPLIANCE TEST?: EPA

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
2/14/2023	8:00	1	Eng 5 Run1	3	DH,AD,PSJ	
2/15/2023	12:20	2	Eng 5 Run2	3	DH,AD,PSJ	
2/15/2023	7:35	3	Eng 5 Run3	3	DH,AD,PSJ	
2/16/2023	12:00	4	Eng 5 Run4	3	DH,AD,PSJ	
2/16/2023	7:35	5	Eng 5 Run5	3	DH,AD,PSJ	
2/17/2023	12:00	6	Eng 5 Run6	3	DH,AD,PSJ	
2/17/2023	7:30	7	Eng 5 Run7	3	DH,AD,PSJ	
2/17/2023		FB	Eng 5 Field Blank	3	DH,AD,PSJ	

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
	2/23/23 1300	Adrian Enwright	02/23/23 1030

ANALYSIS REQUIRED: EPA 5



Date of Last Revision 9/1/2017

Chain of Custody - DS834001 - Excel
Master Document Storage\Forms\Datasheets\Lab Forms

Appendix A.4

Metals Field and Laboratory Data

Appendix A.4.1

CT-4 Field Data



EN6 4 R1

20A 29

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

CLIENT: SUBHAR
LOCATION: 211/23
DATE: EN6 4 R1
RUN NO: 04/AD
OPERATOR: 45 WGS
METER BOX NO: 1.771
METER ΔH@: 10/4
METER Yd: 55
STACK AREA, FT²: 10/24
TRAVERSE POINTS, MIN/POINT: 1.950
ΔH= X ΔP: 1.950
Probe Condition, pre/post test: —
Silica Gel Expended, Y/N: —
Filter Condition after Test: —
Check Weight: 500/500

AMBIENT TEMPERATURE: 55.0
BAROMETRIC PRESSURE: 28.36
ASSUMED MOISTURE: 5%
PITOT TUBE COEFF, Cp: 0.84
PROBE ID NO/MATERIAL: 120/61483
PROBE LENGTH: 5
NOZZLE ID NO/MATERIAL: N02-15
NOZZLE DIAMETER: 0.024
FILTER NO/TY: 6-4 2-1
PRE-TEST LEAK RATE: 2.007 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 1.008 CFM@ 10 in. Hg.
PITOT LEAK CHECK - PRE: 0.02 POST: 0.02
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER
SAMPLE CUSTODIAN

Imp. # Contents Post-Test - Pre-Test = Difference
1 mt 763.1 638.1
2 5% HND/100% H2O 770.1 740.6
3 1 1 752.0 746.2
4 mt 648.9 646.5
5 400004/1084604 719.9 719.9
6 1 1 744.5 744.5
7 5a 950.2 912.5

Total:

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	1050	230.208	0.97	1.9	305	247	247	54	68	5		0.55
2	1100	237.9	1.1	2.1	303	248	248	52	74	5		
3	1110	245.5	1.1	2.1	304	248	248	53	78	5		
4	1120	253.7	0.99	1.9	304	247	247	53	81	5		
5	1130	261.1	0.97	1.9	302	249	249	51	83	5		
6	1140	265.2	0.95	1.9	303	247	247	53	84	5		
7	1150	277.8	1.0	2.0	301	248	248	56	85	5		
8	1200	284.6	1.2	2.2	303	250	250	55	85	6		
9	1210	288.8	1.1	2.1	304	247	247	56	87	5		
10	1220	290.9	0.75	1.9	302	248	248	52	85	5		
11	1230	298.5	0.94	1.8	303	248	248	56	84	5		
12	1240	315.9	0.80	1.6	304	249	249	56	84	4		
~	1250	323.611										
Average:												

Comments:

Date of last revision 4/15/2022

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Master Document Storage\Forms\Datasheets\Field Datasheets

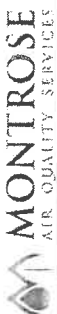
DS834071



W002AS-023392-RT-4542-R1

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Comments:



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

EPD 29

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

CLIENT: Southwest
LOCATION: Engine 64
DATE: 2/18/23
RUN NO: 2
OPERATOR: 94/29
METER BOX NO: 45205
METER ΔH@: 1.791
METER Yd: 1.014
STACK AREA, FT²: 55"
TRAVERSE POINTS, MIN/POINT: 10/24
ΔH= 1.950 X ΔP: 1.950
Probe Condition, pre/post test: -
Silica Gel Expended, Y/N: -
Filter Condition after Test: -
Check Weight: 500/500

AMBIENT TEMPERATURE: 52°
BAROMETRIC PRESSURE: 29.34
ASSUMED MOISTURE: 5%
PITOT TUBE COEFF, Cp: 0.84
PROBE ID NO/MATERIAL: 170/61445
PROBE LENGTH: 5'
NOZZLE ID NO/MATERIAL: N60-15
NOZZLE DIAMETER: 0.254
FILTER NO/TYPE: 24442 ENH 4
PRE-TEST LEAK RATE: 0.007 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 0.002 CFM@ 10 in. Hg.
PITOT LEAK CHECK - PRE: 0 POST: 10
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER 24/20
SAMPLE CUSTODIAN

Imp. # Contents Post-Test - Pre-Test = Difference
1 NH 779.9 641.1
2 58/1000 772.0 748.3
3 " 752.6 748.2
4 NH 650.0 650.0
5 KMNH 719.5 719.5
6 " 742.3 742.2
7 SH 939.9 903.2

Total:

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	0710	919.902	0.97	1.9	704		248	58	64	5		-0.54
2	0820	727.6	1.0	2.0	703		249	51	65	5		
3	0830	615.1	1.2	2.3	703		248	50	65	6		
4	0840	943.4	0.98	1.9	703		247	52	60	5		
5	0850	950.7	0.95	1.9	704		248	53	62	5		
6	0900	958.4	0.96	1.9	702		249	51	62	5		
7	0910	965.9	1.0	2.0	701		248	54	69	5		
8	0920	975.8	1.2	2.3	701		249	53	70	6		
9	0930	981.5	1.0	2.0	701		250	54	70	5		
10	0940	787.3	1.0	2.0	704		249	55	71	5		
11	0950	792.5	0.93	1.8	705		249	54	72	4		
12	1000	1005.1	0.82	1.6	703		248	55	72	4		
—	1010/1020	1012.460					650					
Average:												

Comments:

Date of last revision 4/15/2022

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CPA 29

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: SHAWSHINE
LOCATION: ENGINE 4
DATE: 2/8/23
RUN NO: 2
OPERATOR: [Signature]
METER BOX NO: [Blank]
METER ΔH@: [Blank]
METER Yd: [Blank]
STACK AREA, FT²: [Blank]
TRAVERSE POINTS, MIN/POINT: [Blank]
ΔH= [Blank] X ΔP: 1.950
Probe Condition, pre/post test: [Blank]
Silica Gel Expended, Y/N: [Blank]
Filter Condition after Test: [Blank]
Check Weight: [Blank]

AMBIENT TEMPERATURE: [Blank]
BAROMETRIC PRESSURE: [Blank]
ASSUMED MOISTURE: [Blank]
PITOT TUBE COEFF, Cp: [Blank]
PROBE ID NO/MATERIAL: [Blank]
PROBE LENGTH: [Blank]
NOZZLE ID NO/MATERIAL: [Blank]
NOZZLE DIAMETER: [Blank]
FILTER NO/TYPE: [Blank]
PRE-TEST LEAK RATE: [Blank] CFM@ [Blank] in. Hg.
POST-TEST LEAK RATE: [Blank] CFM@ [Blank] in. Hg.
PITOT LEAK CHECK - PRE: [Blank] POST: [Blank]
CHAIN OF CUSTODY: [Blank]
SAMPLE CUSTODIAN: [Blank]
SAMPLER: [Blank]
SAMPLE CUSTODIAN: [Blank]

Imp. # Contents Post-Test - Pre-Test = Difference

Total: _____

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	1020	1012.460	0.98	1.9	700	247	247	57	80	5		
2	1030	1020.4	0.98	1.9	700	248	248	56	81	5		
3	1040	1028.2	1.0	2.0	701	248	248	55	83	6		
4	1050	1034.1	1.2	2.3	709	249	249	55	84	6		
5	1100	1044.5	1.2	2.3	700	248	248	56	86	5		
6	1110	1052.6	1.1	2.1	700	250	250	57	86	6		
7	1120	1060.3	0.98	1.9	700	249	249	56	82	5		
8	1130	1069.2	0.96	1.9	700	247	247	57	81	4		
9	1140	1077.4	1.0	2.0	699	247	247	57	84	4		
10	1150	1085.4	0.97	1.9	699	248	248	50	89	4		
11	1200	1093.5	1.1	2.1	701	249	249	58	88	5		
12	1210	1101.8	0.80	1.4	700	248	248	57	87	4		
✓	1220	1109.365				END	257					
Average:												
Comments:												



EPA 29

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

CLIENT: Sunshine
LOCATION: Englewood
DATE: 3/8/22
RUN NO: ENG 4 RUN 3
OPERATOR: MA/AD
METER BOX NO: 45002
METER ΔH@: 1.791
METER Yd: 10.4
STACK AREA, FT²: 55"
TRAVERSE POINTS, MIN/POINT: 10/24
ΔH= 1.950 X ΔP: 1.950
Probe Condition, pre/post test: —
Silica Gel Expended, Y/N: —
Filter Condition after Test: —
Check Weight: 90/500

AMBIENT TEMPERATURE: 46°
BAROMETRIC PRESSURE: 28.34
ASSUMED MOISTURE: 50
PITOT TUBE COEFF, Cp: 0.84
PROBE ID NO/MATERIAL: 172/4635
PROBE LENGTH: 5'
NOZZLE ID NO/MATERIAL: 246
NOZZLE DIAMETER: 0.254
FILTER NO/TYPE: 2462 ENG 4 RUN 3
PRE-TEST LEAK RATE: 0.008 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 0.008 CFM@ 0 in. Hg.
PITOT LEAK CHECK - PRE: 0.008 POST: 0.008
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER 26/AD
SAMPLE CUSTODIAN

Imp. # Contents Post-Test - Pre-Test = Difference
1 MT 7620 647.2
2 5/100/10% 772.6 744.8
3 " 770.9 768.4
4 MT 619.2 616.3
5 KMN04 744.8 741.8
6 " 755.8 752.8
7 SG 1034.6 987.4

Total:

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	1305	110.503	0.92	1.9	627		249	52		92	4		-0.54
2	1315	119.3	1.0	2.0	627		248	55		91	5		
3	1325	123.3	1.2	2.3	626		249	53		90	6		
4	1335	135.8	0.98	1.9	628		248	53		89	5		
5	1345	143.4	0.96	1.9	627		248	54		89	5		
6	1355	151.4	0.96	1.9	627		249	54		90	5		
7	1405	160.9	1.0	2.0	627		249	55		90	5		
8	1415	167.8	1.1	2.1	626		248	54		89	5		
9	1425	175.6	1.1	2.1	627		249	54		90	5		
10	1435	183.7	1.0	2.0	627		249	55		91	5		
11	1445	191.9	0.95	1.9	627		249	56		91	5		
12	1455	200.2	0.80	1.4	618		247	55		90	5		
—	1505/1515	207.164			END	END	247						
Average:													

Comments:

Date of last revision 4/15/2022

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Master Document Storage\Forms\Datasheets\Field Datasheets DS834071

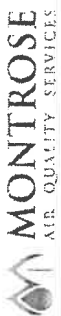


WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: Sandvine LOCATION: Engine #4 DATE: 2/8/23 RUN NO: 5 OPERATOR: 4566784 METER BOX NO: 45665 METER ΔH@: 1.91 METER Yd: 1015 STACK AREA, FT²: 657 TRAVERSE POINTS, MIN/POINT: 10/24 ΔH= 1.95 X ΔP: Probe Condition, pre/post test: Silica Gel Expended, Y/N: Filter Condition after Test: Check Weight: Imp. # Contents Post-Test - Pre-Test = Difference

AMBIENT TEMPERATURE: 24 BAROMETRIC PRESSURE: 30.3 ASSUMED MOISTURE: 5 PITOT TUBE COEFF, Cp: 54 PROBE ID NO/MATERIAL: 55 PROBE LENGTH: 55 NOZZLE ID NO/MATERIAL: 54 NOZZLE DIAMETER: 54 FILTER NO/TYPE: 54 PRE-TEST LEAK RATE: 54 CFM@ 54 in. Hg. POST-TEST LEAK RATE: 54 CFM@ 54 in. Hg. PITOT LEAK CHECK - PRE: 54 POST: 54 CHAIN OF CUSTODY: 54 SAMPLE CUSTODIAN: 54 SAMPLER: 54 SAMPLE CUSTODIAN: 54

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
1	1515	207.164	0.99	1.9	622	248	248	52	29	5		
2	1525	215.3	0.99	1.9	703	248	248	55	48	5		
3	1535	222.9	1.0	2.0	704	247	247	54	49	5		
4	1545	231.3	1.1	2.1	705	246	246	55	51	4		
5	1555	239.3	1.2	2.3	705	242	242	55	50	4		
6	1605	243.3	1.1	2.1	705	249	249	54	50	5		
7	1615	255.4	0.99	1.9	705	250	250	54	52	5		
8	1625	263.2	0.95	1.9	705	245	245	55	53	5		
9	1635	271.2	1.0	2.0	704	249	249	56	52	5		
10	1645	279.6	0.99	1.9	708	248	248	54	53	5		
11	1655	287.2	1.0	2.0	705	247	247	55	53	5		
12	1705	296.9	0.92	1.6	703	242	242	56	54	4		
13	1715	303.378				END		TEST				
Average:												
Comments:												



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET – STANDARD

[illegible]

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp., °F	Probe Temp., °F	Filter Temp., °F	Imp. Out Temp., °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	10:15	402.689	0.96	1.9	703		247	56	83	6		
2	10:25	411.2	0.99	2.0	704		249	54	84	6		
3	10:35	418.4	1.1	2.2	704		248	56	85	7		
4	10:45	426.6	1.1	2.2	703		247	57	87	2		
5	10:55	434.8	1.2	2.4	703		249	57	85	8		
6	11:05	441.5	1.0	2.0	702		248	56	90	6		
7	11:15	451.9	0.98	1.9	703		248	56	91	6		
8	11:25	459.9	0.93	1.8	702		245	58	90	6		
9	11:35	468.1	1.0	2.0	699		250	57	92	6		
10	11:45	476.2	0.97	1.9	698		249	58	92	6		
11	11:55	484.5	1.0	2.0	701		248	58	93	6		
12	12:05	492.1	0.95	1.5	702		248	59	92	5		
Average:	12:15	495.543				EAD	248	59				

Comments:



MONTROSE
AIR QUALITY SERVICES

BA 29

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

CLIENT: Sunshine
LOCATION: ENGLEWOOD #4
DATE: 2/9/23
RUN NO: 4
OPERATOR: 94/AD
METER BOX NO: 45002
METER ΔH@: 1.271
METER Yd: 1.041
STACK AREA, FT²: 55.1
TRAVERSE POINTS, MIN/POINT: 10/24
ΔH= 1.950 X ΔP: 1.950
Probe Condition, pre/post test: -
Silica Gel Expended, Y/N: -
Filter Condition after Test: -
Check Weight: 200/500

AMBIENT TEMPERATURE: 53°
BAROMETRIC PRESSURE: 28.32
ASSUMED MOISTURE: 5%
PITOT TUBE COEFF, Cp: 0.84
PROBE ID NO/MATERIAL: 170/9193
PROBE LENGTH: 5'
NOZZLE ID NO/MATERIAL: N42-15
NOZZLE DIAMETER: 0.254
FILTER NO/TYPE: 012 0.25 4 0.004
PRE-TEST LEAK RATE: 0.008 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 0.002 CFM@ 10 in. Hg.
PITOT LEAK CHECK - PRE: 0 POST: 0
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER 04/1-0
SAMPLE CUSTODIAN 08

Imp. # Contents Post-Test - Pre-Test = Difference
1 MT 770.0 644.0
2 SPH/10% 773.7 746.9
3 11 750.8 749.1
4 MT 653.4 649.2
5 LN/10% 777.6 717.2
6 11 747.4 745.3
7 Sh 970.4 925.6
8 88 930.7

Total:

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	° Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In	Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	2905	306.464	0.98	1.9	304	249	249	53	71	71	6		-0.57
2	2915	314.9	1.1	2.1	304	249	249	54	72	72	6		
3	2925	322.7	1.0	2.0	303	248	248	51	73	73	6		
4	2935	330.7	0.98	1.9	303	247	247	51	74	74	6		
5	2945	338.6	0.99	1.9	303	248	248	52	75	75	6		
6	2955	346.5	0.95	1.9	303	247	247	53	76	76	6		
7	2965	354.4	1.1	2.1	303	249	249	55	77	77	6		
8	2975	362.4	1.2	2.2	303	249	249	54	78	78	6		
9	2985	370.8	1.0	2.0	304	248	248	55	79	79	6		
10	2995	379.1	1.0	2.0	305	249	249	56	80	80	5		
11	3005	387.1	0.94	1.8	305	248	248	57	81	81	5		
12	3015	395.0	0.81	1.4	304	247	247	57	82	82	5		
—	1005	402.689											
Average:													

Comments:

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ERA 29

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

CLIENT: Bushings
LOCATION: Englewood
DATE: 8/15/22
RUN NO: ENG 4 RUN 5
OPERATOR: RA/AD
METER BOX NO: 45203
METER ΔH@: 1.211
METER Yd: 1014
STACK AREA, FT²: 55"
TRAVERSE POINTS, MIN/POINT: 10/4
ΔH= 1.950 X ΔP: 1.950
Probe Condition, pre/post test: ✓
Silica Gel Expended, Y/N: ✓
Filter Condition after Test: ✓
Check Weight: 500.506

AMBIENT TEMPERATURE: 73°
BAROMETRIC PRESSURE: 28.32
ASSUMED MOISTURE: 5%
PITOT TUBE COEFF, Cp: 0.44
PROBE ID NO/MATERIAL: 172 / 64421
PROBE LENGTH: 51
NOZZLE ID NO/MATERIAL: 246
NOZZLE DIAMETER: 0.254
FILTER NO/TYPE: DET 0.444 DUNG
PRE-TEST LEAK RATE: 0.007 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 0.002 CFM@ 10 in. Hg.
PITOT LEAK CHECK - PRE: 0.00 POST: 0.00
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER: RA/AD
SAMPLE CUSTODIAN

Imp. # Contents Post-Test - Pre-Test = Difference
1 NT 759.2 650.5
2 5% / 10% 774.8 748.3
3 11 775.9 775.0
4 NT 624.3 618.8
5 KANNOY 738.9 738.8
6 11 757.6 752.6
7 866 953.4 912.0

Total:

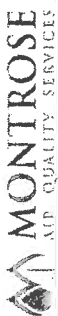
Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	1240	500.061	0.57	1.9	703	247	247	60	94 93	5		-0.57
2	1250	507.2	1.0	2.0	704	248	248	58	93 94	5		
3	1300	515.2	1.1	2.1	704	248	248	57	94 93	5		
4	1310	522.0	1.6	2.0	704	249	249	55	93 93	5		
5	1320	530.8	0.95	1.9	703	248	248	54	93 91	5		
6	1330	538.8	0.75	1.9	704	249	249	54	91 90	5		
7	1340	547.0	1.0	2.0	704	248	248	55	90 93	5		
8	1350	554.3	1.7	2.3	704	248	248	54	93 91	6		
9	1400	562.8	1.2	2.3	704	249	249	53	91 90	6		
10	1410	572.3	1.0	1.9	703	247	247	54	90 90	5		
11	1420	580.5	0.97	1.9	703	250	250	55	90 89	5		
12	1430	588.6	0.95	1.9	704	248	248	55	89 90	5		
✓	1440	596.182	0.81	1.4	704	247	247	54	90 90	4		
✓		404.582										
Average:												

Comments:

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WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET – EXTRA IMPINGERS

CLIENT: Sundance
LOCATION: Engine 4
DATE: 2/9/23
RUN NO: 5
OPERATOR: 45wcs
METER BOX NO: _____
METER ΔH@: _____
METER Yd: _____
STACK AREA, FT²: _____
TRAVERSE POINTS, MIN/POINT: _____
ΔH= _____ X ΔP: _____
Probe Condition, pre/post test: _____
Silica Gel Expended, Y/N: _____
Filter Condition after Test: _____
Check Weight: _____

AMBIENT TEMPERATURE: _____
 BAROMETRIC PRESSURE: _____
 ASSUMED MOISTURE: _____
 PITOT TUBE COEFF. Cp: _____
 PROBE ID NO/MATERIAL: _____
 PROBE LENGTH: _____
 NOZZLE ID NO/MATERIAL: _____
 NOZZLE DIAMETER: _____
 FILTER NO/TYPE: _____
 PRE-TEST LEAK RATE: : _____ CFM@ _____ in. Hg.
 POST-TEST LEAK RATE: : _____ CFM@ _____ in. Hg.
 PITOT LEAK CHECK - PRE: _____ POST: _____
 CHAIN OF CUSTODY: SAMPLE CUSTODIAN _____
 SAMPLER _____
 SAMPLE CUSTODIAN _____

Imp. # Contents Post-Test - Pre-Test = Difference

Total:

[illegible]

Comments:

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EPA 29

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

CLIENT: Sunshine
LOCATION: Engine 144
DATE: 2/10/23
RUN NO: EN6 14 RUN 6
OPERATOR: DL/AJ
METER BOX NO: 45005
METER ΔH@: 1246 1791
METER Yd: 0442 1014
STACK AREA, FT²: 55"
TRAVERSE POINTS, MIN/POINT: 0/24
ΔH= 1.96 X ΔP: 1.950
Probe Condition, pre/post test: -
Silica Gel Expended, Y/N: -
Filter Condition after Test: -
Check Weight: False

AMBIENT TEMPERATURE: 53°
BAROMETRIC PRESSURE: 28.26
ASSUMED MOISTURE: 5%
PITOT TUBE COEFF, Cp: 0.84
PROBE ID NO/MATERIAL: 5' 172/AL6061
PROBE LENGTH: 5'
NOZZLE ID NO/MATERIAL: N40-18/61051
NOZZLE DIAMETER: 0.254
FILTER NO/TYPE: Q19 5/8 V RWR
PRE-TEST LEAK RATE: 0.003 CFM@ 20 in. Hg.
POST-TEST LEAK RATE: 0.003 CFM@ 20 in. Hg.
PITOT TEST LEAK RATE: 0.003 CFM@ 20 in. Hg.
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER
SAMPLE CUSTODIAN

Imp. # Contents Post-Test - Pre-Test = Difference
1 MT 769.6 642.3
2 58/90% 766.4 748.5
3 " 749.3 748.8
4 MT 650.7 650.2
5 KMN04 738.4 736.1
6 " 733.0 731.8
7 MT 969.0 927.6

Total:

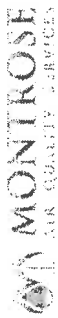
Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	0750	692.182	0.96	1.9	716		249	57		5		-0.55
2	0800	699.4	1.0	2.0	714		248	55		5		
3	0810	202.2	1.1	2.1	715		247	54		5		
4	0820	214.8	1.0	2.0	715		247	53		5		
5	0830	222.5	0.96	1.9	714		250	52		5		
6	0840	228.8	0.97	1.9	716		249	52		5		
7	0850	237.1	1.0	2.0	717		248	53		5		
8	0900	244.9	1.2	2.5	717		248	54		6		
9	0910	252.4	1.0	2.0	718		249	54		5		
10	0920	259.8	1.0	2.0	716		249	54		5		
11	0930	267.3	0.96	1.9	717		249	55		5		
12	0940	274.8	0.82	1.6	714		248	55		5		
-	0950	282.267			215		257					
					214							
Average:												

Comments:

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WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - STANDARD

CLIENT: Zachry Construction
LOCATION: Engineer's
DATE: 2/15/22
RUN NO: 10
OPERATOR: DA/AJ
METER BOX NO: 4500-9
METER ΔH@: _____
METER Yd: _____
STACK AREA, FT²: _____
TRAVERSE POINTS, MIN/POINT: _____
ΔH= _____ X ΔP: 1.950
Probe Condition, pre/post test: _____
Silica Gel Expended, Y/N: _____
Filter Condition after Test: _____
Check Weight: _____

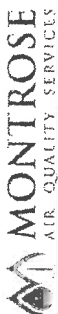
AMBIENT TEMPERATURE: _____
BAROMETRIC PRESSURE: _____
ASSUMED MOISTURE: _____
PITOT TUBE COEFF. Cp: _____
PROBE ID NO/MATERIAL: _____
PROBE LENGTH: _____
NOZZLE ID NO/MATERIAL: _____
NOZZLE DIAMETER: _____
FILTER NO/TYPE: _____
PRE-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
POST-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
PITOT LEAK CHECK - PRE: _____ POST: _____
CHAIN OF CUSTODY: SAMPLE CUSTODIAN _____
SAMPLER _____
SAMPLE CUSTODIAN _____

Imp. # Contents Post-Test - Pre-Test = Difference

Total: _____

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	1000	382.244	0.97	1.9	715		247	54	78	5		
2	1010	390.0	0.98	1.9	714		249	56	77	5		
3	1020	392.4	1.0	2.0	713		245	56	78	5		
4	1030	395.5	1.1	2.1	714		248	57	80	5		
5	1040	393.4	1.2	2.3	715		250	56	81	4		
6	1050	391.4	1.1	2.1	715		249	55	82	5		
7	1100	392.2	1.1	2.1	715		248	55	84	5		
8	1110	397.1	0.98	1.9	714		248	56	85	5		
9	1120	394.8	1.1	2.1	715		249	57	84	5		
10	1130	392.4	1.0	2.0	715		247	57	85	5		
11	1140	390.4	0.98	1.9	715		250	58	87	5		
12	1150	398.7	0.76	1.5	713		248	57	88	4		
—	1150	398.7	0.76	1.5	713		248	57	88	4		
		395.369										
Average:												

Comments: _____



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET – EXTRA IMPINGERS

CLIENT: Sunshine
LOCATION: Engine 04
DATE: 2/10/23
RUN NO: ENG 4 RUN 7
OPERATOR: 04 JAO
METER BOX NO: 45 W23
METER ΔH @: 1.741
METER Yd: 1.04
STACK AREA, FT²: 55''
TRAVERSE POINTS, MIN/POINT: 10/24
 ΔH = 1.957 X ΔP : 1950
Probe Condition, pre/post test: /
Silica Gel Expanded, Y/N: /
Filter Condition after Test: /
Check Weight: 500/3000

AMBIENT TEMPERATURE: 67°
 BAROMETRIC PRESSURE: 28.26
 ASSUMED MOISTURE: 5%
 PITOT TUBE COEFF, Cp: 0.84
 PROBE ID NO/MATERIAL: 170 / 5/455
 PROBE LENGTH: 5'
 NOZZLE ID NO/MATERIAL: 296 / 6/455
 NOZZLE DIAMETER: 0.254
 FILTER NO/TYPE: 052 6564 2W7
 PRE-TEST LEAK RATE: 0.007 CFM @ 10 in. Hg.
 POST-TEST LEAK RATE: 0.007 CFM @ 10 in. Hg.
 PITOT LEAK CHECK - PRE: OK POST: 2
 CHAIN OF CUSTODY: SAMPLE CUSTODIAN: 170
 SAMPLER: 04/00
 SAMPLE CUSTODIAN: 45

Imp. #	Contents	Post-Test - Pre-Test = Difference
1	MT	767.7 649.2
2	56/10%	777.3 749.7
3	"	775.6 772.2
4	MT	620.7 619.7
5	KMND4	739.0 737.8
6	"	758.3 756.6
7	36	948.5 947.9

Total:

[illegible]

Comments:

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WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - STANDARD

CLIENT: Sunshine
LOCATION: Enclosure
DATE: 2/10/13
RUN NO: 7
OPERATOR: DA/AC
METER BOX NO: 45005
METER ΔH@: _____
METER Yd: _____
STACK AREA, FT²: _____
TRAVERSE POINTS, MIN/POINT: _____
ΔH= _____ X ΔP: 1.950
Probe Condition, pre/post test: _____
Silica Gel Expended, Y/N: _____
Filter Condition after Test: _____
Check Weight: _____

AMBIENT TEMPERATURE: _____
BAROMETRIC PRESSURE: _____
ASSUMED MOISTURE: _____
PITOT TUBE COEFF. Cp: _____
PROBE ID NO/MATERIAL: _____
PROBE LENGTH: _____
NOZZLE ID NO/MATERIAL: _____
NOZZLE DIAMETER: _____
FILTER NO/TYPE: _____
PRE-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
POST-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
PITOT LEAK CHECK - PRE: _____ POST: _____
CHAIN OF CUSTODY: _____
SAMPLE CUSTODIAN: _____
SAMPLER: _____
SAMPLE CUSTODIAN: _____

Imp. # Contents Post-Test - Pre-Test = Difference

Total: _____

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	1425	962.146	0.94	1.8	716		249	55	85	5		
2	1435	974.16	0.97	1.9	716		247	57	86	5		
3	1445	982.2	1.1	2.1	716		248	56	86	5		
4	1455	990.1	1.0	2.0	717		247	58	87	6		
5	1505	997.7	1.2	2.3	715		248	58	87	5		
6	1515	1005.6	1.1	2.1	715		249	54	85	5		
7	1525	1013.2	1.0	2.0	716		249	57	90	5		
8	1535	1020.8	0.99	1.9	717		250	58	92	5		
9	1545	1028.3	1.0	2.0	716		248	59	93	5		
10	1555	1035.9	1.0	2.0	716		249	60	92	5		
11	1605	1043.8	1.1	2.1	717		248	57	94	5		
12	1615	1051.7	0.95	1.5	716		248	57		4		
—	1625	1060.274										
Average:												

Comments: _____

Appendix A.4.2

CT-5 Field Data



EPA 29

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

CLIENT: Sunshine
LOCATION: SWANAGE 45
DATE: 2/14/23
RUN NO: EPN 6 RUN 1
OPERATOR: DA/AN
METER BOX NO: 45005
METER ΔH@: 1.291
METER Yd: 1.014
STACK AREA, FT²: 55"
TRAVERSE POINTS, MIN/POINT: 10/24
ΔH= X ΔP: 2.06
Probe Condition, pre/post test: —
Silica Gel Expended, Y/N: —
Filter Condition after Test: —
Check Weight: 522/500

AMBIENT TEMPERATURE: 48°
BAROMETRIC PRESSURE: 29.78
ASSUMED MOISTURE: 6%
PITOT TUBE COEFF, Cp: 0.84
PROBE ID NO/MATERIAL: 170/6066
PROBE LENGTH: 5'
NOZZLE ID NO/MATERIAL: 16-15 0.254 Glass
NOZZLE DIAMETER: 0.254
FILTER NO/TYPE: GREENGLASS RUN 1
PRE-TEST LEAK RATE: 0.008 CFM @ 10 in. Hg.
POST-TEST LEAK RATE: 0.008 CFM @ 10 in. Hg.
PITOT LEAK CHECK - PRE: 0.008 POST: 0.008
CHAIN OF CUSTODY: SAMPLER 04/20/23
SAMPLE CUSTODIAN

Imp. # Contents Post-Test - Pre-Test = Difference
1 WT 793.9 648.5
2 58/10% 753.6 745.5
3 1 769.5 768.9
4 WK 619.8 618.4
5 KANNY 752.2 751.0
6 11 765.6 763.0
7 56 1001.6 961.0

Total:

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter In Out	Meter Temp, °F	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	0500	061.7	0.23	1.5	300		249	54	62	52	5.2		-0.58
2	0510	068.3	0.85	1.8	301		248	51		54	5		
3	0520	076.0	1.0	2.0	300		248	51		55	6		
4	0530	083.1	1.2	2.5	301		250	53		56	8		
5	0540	090.9	1.2	2.5	301		248	53		57	8		
6	0550	099.0	1.1	2.3	301		248	54		58	7		
7	0600	107.3	0.58	2.0	301		248	56		58	6		
8	0610	115.0	0.56	2.0	300		248	56		60	6		
9	0620	123.4	0.84	1.7	301		248	55		61	5		
10	0630	131.2	0.80	1.6	301		249	55		62	5		
11	0640	139.8	0.90	1.9	301		248	56		65	5		
12	0650	142.2											
✓	1000/10	154.703											
Average:													

Comments:

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WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - STANDARD

CLIENT: Bunshin
LOCATION: Engine #3
DATE: 2/11/22
RUN NO: 1
OPERATOR: _____
METER BOX NO: 4544
METER ΔH@: _____
METER Yd: _____
STACK AREA, FT²: _____
TRAVERSE POINTS, MIN/POINT: _____
ΔH= _____ X ΔP: 2.00
Probe Condition, pre/post test: _____
Silica Gel Expended, Y/N: _____
Filter Condition after Test: _____
Check Weight: _____

AMBIENT TEMPERATURE: _____
BAROMETRIC PRESSURE: _____
ASSUMED MOISTURE: _____
PITOT TUBE COEFF, Cp: _____
PROBE ID NO/MATERIAL: _____
PROBE LENGTH: _____
NOZZLE ID NO/MATERIAL: 272
NOZZLE DIAMETER: _____
FILTER NO/TYPE: _____
PRE-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
POST-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
PITOT LEAK CHECK - PRE: _____ POST: _____
CHAIN OF CUSTODY: SAMPLE CUSTODIAN _____
SAMPLER _____
SAMPLE CUSTODIAN _____
Total: _____

Imp. # Contents Post-Test - Pre-Test = Difference

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	1010	154.203	0.24	1.5	701	248	248	56	65	5		
2	1020	162.0	0.55	1.8	701	249	249	56	65	5		
3	1030	169.4	0.99	3.0	702	245	245	55	67	5		
4	1040	176.9	1.0	2.0	702	250	250	57	67	6		
5	1050	184.2	1.3	2.2	702	248	248	57	68	8		
6	1100	191.9	1.2	2.5	702	247	247	56	68	8		
7	1110	199.5	1.1	2.3	702	248	248	58	69	7		
8	1120	207.0	1.0	2.0	703	249	249	57	69	6		
9	1130	214.2	0.94	1.9	703	248	248	57	70	5		
10	1140	221.4	0.83	1.7	703	248	248	58	71	5		
11	1150	228.8	0.80	1.6	703	246	246	57	72	5		
12	1200	236.4	0.68	1.4	703	245	245	57	72	5		
—	1210	244.168			52.0	70.0						
Average:												

Comments: _____



KPA-29

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

CLIENT: Sunshine
LOCATION: ENG 5 RUN 2
DATE: 2/14/23
RUN NO: ENG 5 RUN 2
OPERATOR: DH/AN
METER BOX NO: 410025
METER ΔH@: 1.391
METER Yd: 1.014
STACK AREA, FT²: 55"
TRAVERSE POINTS, MIN/POINT: 10/24
ΔH= X ΔP: 2.04
Probe Condition, pre/post test: ✓
Silica Gel Expended, Y/N: ✓
Filter Condition after Test: ✓
Check Weight: 505/500

AMBIENT TEMPERATURE: 55°
BAROMETRIC PRESSURE: 29.58
ASSUMED MOISTURE: 5%
PITOT TUBE COEFF, Cp: 0.84
PROBE ID NO/MATERIAL: 133/AL6061
PROBE LENGTH: 15'
NOZZLE ID NO/MATERIAL: 296/0.254 AL6061
NOZZLE DIAMETER: 0.254
FILTER NO/TYPE: ENG 5 RUN 2 452
PRE-TEST LEAK RATE: 0.003 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 0.002 CFM@ 10 in. Hg.
PITOT LEAK CHECK - PRE: 0 POST: 0
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER DH/AN
SAMPLE CUSTODIAN

Imp. # Contents Post-Test - Pre-Test = Difference
1 MT 77.5 642.8
2 5% 100 702.2 747.7
3 11 716.9 650.8
4 MT 743.0 748.2
5 KMNDM 731.9 731.2
6 11 742.7 742.0
7 1055 978.2 941.6

Total:

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	1200	244.924	0.74	1.5	702		249	57	71	5		7.58
2	1210	252.3	0.85	1.8	702		247	57	72	5		
3	1240	240.0	1.0	2.1	701		248	54	70	7		
4	1250	262.5	1.1	2.3	702		248	54	70	7		
5	1300	275.1	1.2	2.5	701		247	53	70	8		
6	1310	282.4	1.3	2.7	702		245	52	71	8		
7	1320	290.6	1.0	2.1	702		248	52	72	7		
8	1330	298.2	0.99	2.0	702		248	52	71	7		
9	1340	305.7	0.95	2.0	702		247	53	71	2		
10	1350	313.2	0.84	1.7	701		249	55	72	6		
11	1400	320.9	0.82	1.7	701		249	54	72	4		
12	1410	328.2	0.93	1.9	701		248	55	73	4		
✓	1420/30	335.761					port					
Average:												

Comments:

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DS834071



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - STANDARD

Imp. # Contents Post-Test - Pre-Test = Difference

CLIENT: Senseline
LOCATION: ENGLE 45
DATE: 2/14/23
RUN NO: ENV 5 RUN 2
OPERATOR: _____
METER BOX NO: 45000
METER ΔH@: _____
METER Yd: _____
STACK AREA, FT²: _____
TRAVERSE POINTS, MIN/POINT: _____
ΔH= _____ X ΔP: 200
Probe Condition, pre/post test: _____
Silica Gel Expended, Y/N: _____
Filter Condition after Test: _____
Check Weight: _____

AMBIENT TEMPERATURE: _____
BAROMETRIC PRESSURE: _____
ASSUMED MOISTURE: _____
PITOT TUBE COEFF, Cp: _____
PROBE ID NO/MATERIAL: _____
PROBE LENGTH: _____
NOZZLE ID NO/MATERIAL: _____
NOZZLE DIAMETER: _____
FILTER NO/TYPE: _____
PRE-TEST LEAK RATE: _____ in. Hg.
POST-TEST LEAK RATE: _____ in. Hg.
PITOT LEAK CHECK - PRE: _____ POST: _____
CHAIN OF CUSTODY: _____
SAMPLE CUSTODIAN
SAMPLER
SAMPLE CUSTODIAN

Total: _____

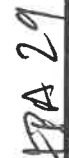
Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	1430	335.361	0.72	1.5	702		250	55	74 73	5		
2	1440	341.27	0.83	1.7	702		249	54	72 72	6		
3	1450	350.3	1.0	2.1	702		250	56	73 73	7		
4	1500	357.9	1.3	2.7	702		248	55	75 75	7		
5	1510	365.5	1.2	2.5	701		247	56	75 75	8		
6	1520	373.3	1.0	2.1	701		248	57	75 75	8		
7	1530	381.0	1.0	2.1	701		249	56	76 76	7		
8	1540	388.6	0.96	2.0	701		247	57	76 76	7		
9	1550	396.8	0.82	1.7	700		247	57	76 76	6		
10	1600	403.9	0.80	1.6	700		248	58	77 77	6		
11	1610	411.6	0.82	1.8	700		248	58	78 78	4		
12	1620	418.8	0.82	1.8	700		247	58	79 79	4		
—	1630	426.756					END					
Average:												

Comments: _____

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W002AS-023392-RT-4542-R1

AMBIENT TEMPERATURE: 35°
 BAROMETRIC PRESSURE: 28.15"
 ASSUMED MOISTURE: 69%
 PITOT TUBE COEFF.: 0.8-1
 PROBE ID NO/MATERIAL: 13079412
 PROBE LENGTH: 5'
 NOZZLE ID NO/MATERIAL: N644 / 9453
 NOZZLE DIAMETER: 0.254
 FILTER NO/TYPE: 652 6N65 QM3
 PRE-TEST LEAK RATE: 0.004 CFM@ 10 in. Hg.
 POST-TEST LEAK RATE: 0.002 CFM@ 10 in. Hg.
 PITOT LEAK CHECK - PRE: 0 POST: 0
 CHAIN OF CUSTODY: SAMPLE CUSTODIAN: 08/14/07
 SAMPLE: 08/14/07
 SAMPLE CUSTODIAN: 08/14/07

Imp. #	Contents	Post-Test - Pre-Test = Difference
1	mt	798.4 649.4
2	58/10%	756.6 748.4
3	"	772.6 772.3
4	mt	618.7 616.0
5	KMN04	744.1 743.2
6	"	761.6 761.5
7	sg	991.2 980

Total:

[illegible]

Comments:

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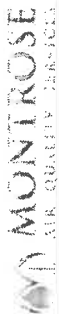
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DS834071

[illegible]

DS834049



CPA 29

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

CLIENT: Southern
LOCATION: Enging #5
DATE: 2/15/23
RUN NO: ENG 5 RUN 4
OPERATOR: DA/AJ
METER BOX NO: 452625
METER ΔH@: 1.791
METER Yd: 10.14
STACK AREA, FT²: 55"
TRAVERSE POINTS, MIN/POINT: 10/21
ΔH= X ΔP: 2.06
Probe Condition, pre/post test: ✓
Silica Gel Expended, Y/N: ✓
Filter Condition after Test: ✓
Check Weight: 500/500

AMBIENT TEMPERATURE: 54°
BAROMETRIC PRESSURE: 28.15
ASSUMED MOISTURE: 50%
PITOT TUBE COEFF. Cp: 0.84
PROBE ID NO/MATERIAL: 172/9140
PROBE LENGTH: 5'
NOZZLE ID NO/MATERIAL: 246/61445
NOZZLE DIAMETER: 0.254
FILTER NO/TYPER: 352 8N45 RW 4
PRE-TEST LEAK RATE: 0.007 CFM@ 20 in. Hg.
POST-TEST LEAK RATE: 0.007 CFM@ 20 in. Hg.
PITOT LEAK CHECK - PRE: 0.007 POST: 0.007
CHAIN OF CUSTODY: SAMPLE CUSTODIAN AS
SAMPLER 02/14/20
SAMPLE CUSTODIAN AS

Imp. # Contents Post-Test - Pre-Test = Difference
1 MT 773.2 642.1
2 5% 10% 765.3 747.6
3 11 750.5 750.0
4 MT 648.6 648.4
5 KANDY 749.7 748.0
6 KANDY 733.9 732.3
7 Sh 912.3 920.4

Total:

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	1200	62.040	0.32	1.5	709		250	60	67	5		-0.48
2	1210	619.3	0.55	1.8	709		250	55	66	6		
3	1220	626.5	1.0	2.1	709		250	52	67	6		
4	1230	634.4	1.1	2.3	708		248	47	66	7		
5	1240	642.1	1.2	2.3	708		248	47	66	8		
6	1250	649.9	1.1	2.3	708		242	48	68	7		
7	1300	657.6	1.1	2.3	707		247	47	67	7		
8	1310	665.4	1.0	2.1	708		247	48	69	6		
9	1320	673.1	0.94	1.9	707		249	47	70	5		
10	1330	680.7	0.84	1.7	707		249	49	69	5		
11	1340	688.2	0.82	1.7	707		249	50	70	5		
12	1350	695.6	0.86	1.8	707		247	51	70	5		
—	1400/10	703.923				END	Port					
Average:												

Comments:

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DS834071



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - STANDARD

CLIENT: Soshine
LOCATION: Engine #2
DATE: 2/15/23
RUN NO: _____
OPERATOR: DH/AD
METER BOX NO: 45603
METER ΔH@: _____
METER Yd: _____
STACK AREA, FT²: _____
TRAVERSE POINTS, MIN/POINT: _____
ΔH= _____ X ΔP: 2.04
Probe Condition, pre/post test: _____
Silica Gel Expended, Y/N: _____
Filter Condition after Test: _____
Check Weight: _____

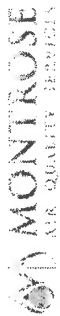
AMBIENT TEMPERATURE: _____
BAROMETRIC PRESSURE: _____
ASSUMED MOISTURE: _____
PITOT TUBE COEFF. Cp: _____
PROBE ID NO/MATERIAL: _____
PROBE LENGTH: _____
NOZZLE ID NO/MATERIAL: _____
NOZZLE DIAMETER: _____
FILTER NO/TY: _____
PRE-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
POST-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
PITOT LEAK CHECK - PRE: _____ POST: _____
CHAIN OF CUSTODY: SAMPLE CUSTODIAN _____
SAMPLER _____
SAMPLE CUSTODIAN _____

Imp. # Contents Post-Test - Pre-Test = Difference

Total: _____

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	1410	303.923	0.75	1.5	307		247	51	244 30	5		
2	1420	311.2	0.83	1.3	307		248	51	31 31	6		
3	1430	315.7	1.0	2.1	307		248	50	31 31	6		
4	1440	326.4	1.0	2.1	307		250	51	32 32	6		
5	1450	334.1	1.3	2.7	307		249	52	34 34	8		
6	1500	342.1	1.1	2.3	306		249	53	33 33	7		
7	1510	349.9	1.1	2.3	306		247	53	34 34	7		
8	1520	357.7	0.99	2.0	308		246	52	35 35	6		
9	1530	365.3	0.92	1.9	308		247	53	34 34	5		
10	1540	372.8	0.86	1.8	308		248	54	34 34	5		
11	1550	380.2	0.83	1.7	307		248	54	33 33	5		
12	1600	387.7	0.85	1.8	306		249	54	34 34	5		
✓	1610	395.194	0			END	TEST					
Average:												

Comments: _____



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

CLIENT: Sunshine
LOCATION: Engine 45
DATE: 2/16/23
RUN NO: Run 5
OPERATOR: DH/AD
METER BOX NO: 450023
METER AH@: 1751
METER Yd: 1.014
STACK AREA, FT²: 55
TRAVERSE POINTS, MIN/POINT: 10/24
ΔH= X ΔP: 206
Probe Condition, pre/post test: -
Silica Gel Expended, Y/N: -
Filter Condition after Test: -
Check Weight: 502/500

AMBIENT TEMPERATURE: 40°
BAROMETRIC PRESSURE: 28.33
ASSUMED MOISTURE: 5%
PITOT TUBE COEFF. Cp: 0.85
PROBE ID NO/MATERIAL: 312/Alass
PROBE LENGTH: 5'
NOZZLE ID NO/MATERIAL: NPS 1/2" / 610SS
NOZZLE DIAMETER: 0.251
FILTER NO/TYPE: 0.25 610SS
PRE-TEST LEAK RATE: 0.23 CFM@ 10 in. Hg.
POST-TEST LEAK RATE: 0.23 CFM@ 10 in. Hg.
PITOT LEAK CHECK - PRE: 2 POST: 2
CHAIN OF CUSTODY: SAMPLE CUSTODIAN
SAMPLER: DH/AD
SAMPLE CUSTODIAN: AD

Imp. # Contents Post-Test - Pre-Test = Difference
1 MT 789.9 650.9
2 5% / 10% 760.1 749.7
3 11 774.8 773.9
4 MT 620.1 619.9
5 KANOL 7500 749.2
6 " 762.7 761.5
7 SG 956.9 919.5

Total:

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	0735	801.219	0.74	1.5	710	249	249	50	NA	5		-0.44
2	0745	808.5	0.85	1.8	710	250	250	49		6		
3	0755	816.0	0.97	2.0	705	249	249	48		6		
4	0805	823.7	1.0	2.1	709	248	248	48		7		
5	0815	831.6	1.1	2.3	710	247	247	50		7		
6	0825	841.5	1.2	2.5	710	248	248	52		7		
7	0835	847.4	1.1	2.3	710	248	248	51		6		
8	0845	855.2	0.98	2.0	711	248	248	51		6		
9	0855	862.8	0.95	2.0	710	249	249	52		6		
10	0905	870.3	0.87	1.7	705	248	248	53		6		
11	0915	877.8	0.80	1.4	709	248	248	53		6		
12	0925	885.3	0.92	1.9	707	248	248	55		6		
-	0935/65	892.164				END						
Average:												

Comments:

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WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET – STANDARD

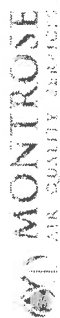
CLIENT: Sunshine 45
LOCATION: Engine 45
DATE: 2/10/23
RUN NO: 8025
OPERATOR: DA/AO
METER BOX NO: 45605
METER ΔH@: _____
METER Yd: _____
STACK AREA, FT²: _____
TRAVERSE POINTS, MIN/POINT: _____
ΔH= _____ X ΔP: 204
Probe Condition, pre/post test: _____
Silica Gel Expended, Y/N: _____
Filter Condition after Test: _____
Check Weight: _____

AMBIENT TEMPERATURE: _____
BAROMETRIC PRESSURE: _____
ASSUMED MOISTURE: _____
PITOT TUBE COEFF. Cp: _____
PROBE ID NO/MATERIAL: _____
PROBE LENGTH: _____
NOZZLE ID NO/MATERIAL: _____
NOZZLE DIAMETER: _____
FILTER NO/TYPE: _____
PRE-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
POST-TEST LEAK RATE: _____ CFM@ _____ in. Hg.
PITOT LEAK CHECK - PRE: _____ POST: _____
CHAIN OF CUSTODY: _____
SAMPLE CUSTODIAN: _____
SAMPLER: _____
SAMPLE CUSTODIAN: _____
Total: _____

Imp. # Contents Post-Test - Pre-Test = Difference

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	0545	892.166	0.72	1.5	205	249	249	56	NA 59	5		
2	0555	899.5	0.86	1.8	205	250	250	55	61	4		
3	1005	902.1	1.0	2.1	210	249	249	53	63	3		
4	1015	914.8	1.0	2.1	210	249	249	53	64	3		
5	1025	922.6	1.3	2.7	209	247	247	55	64	3		
6	1035	930.6	1.1	2.3	205	248	248	54	67	3		
7	1045	938.5	1.0	2.1	205	248	248	56	66	3		
8	1055	944.3	1.0	2.1	207	248	248	56	67	3		
9	1105	954.2	0.92	1.9	208	249	249	57	68	3		
10	1115	961.9	0.84	1.7	207	248	248	56	69	4		
11	1125	969.4	0.80	1.6	207	248	248	56	71	4		
12	1135	976.9	0.88	1.8	207	248	248	57	72	4		
13	1145	984.326										
END TEST												
Average:		183.107										

Comments: _____



EPA 29

JPA 2

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET - EXTRA IMPINGERS

CLIENT: Sunshine
 LOCATION: Gravine 45
 DATE: 2/10/23
 RUN NO: 1046 RUN 6
 OPERATOR: DH/AS
 METER BOX NO: 45603
 METER ΔH@: 1.291
 METER Yd: 1.014
 STACK AREA, FT²: 55.1
 TRAVERSE POINTS, MIN/POINT: 10/24
 ΔH= X ΔP: 2.04
 Probe Condition, pre/post test: ✓
 Silica Gel Expended, Y/N: ✓
 Filter Condition after Test: ✓
 Check Weight: 500/500

AMBIENT TEMPERATURE: 58°
 BAROMETRIC PRESSURE: 28.33
 ASSUMED MOISTURE: 5%
 PITOT TUBE COEFF, Cp: 0.84
 PROBE ID NO/MATERIAL: 5-172/9155
 PROBE LENGTH: 5
 NOZZLE ID NO/MATERIAL: 296 10254 61053
 NOZZLE DIAMETER: 0.254
 FILTER NO/TY: 012 1045 0406
 PRE-TEST LEAK RATE: 2.007 CFM@ 10 in. Hg.
 POST-TEST LEAK RATE: 0.006 CFM@ 10 in. Hg.
 PITOT LEAK CHECK - PRE: 0.00 POST: 0.00
 CHAIN OF CUSTODY: SAMPLE CUSTODIAN AS
 SAMPLER 04/ASO
 SAMPLE CUSTODIAN AS

Imp. # Contents Post-Test - Pre-Test = Difference
 1 MT 719.4 642.9
 2 58/106 761.5 747.5
 3 11 749.6 748.0
 4 MT 650.6 650.0
 5 KMNDH 745.4 744.9
 6 11 729.9 728.6
 7 56 952.3 911.2

Total:

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	P. static in. H ₂ O
1	1200	0.952-573	0.71	1.5	307		249	57		5		-0.44
2	1210	0.999.9	0.86	1.0	307		249	56		6		
3	1220	0.907.4	1.0	2.1	308		250	54		7		
4	1230	0.915.1	1.0	2.1	308		250	51		7		
5	1240	0.922.8	1.1	2.3	308		250	52		8		
6	1250	0.930.6	1.2	2.5	307		249	53		8		
7	1300	0.938.5	1.2	2.5	307		249	53		8		
8	1310	0.946.4	0.96	2.0	306		248	55		6		
9	1320	0.954.0	0.96	2.0	307		247	54		6		
10	1330	0.961.6	0.83	1.7	306		248	54		6		
11	1340	0.968.1	0.80	1.4	306		249	53		5		
12	1350	0.976.6	0.91	1.9	306		248	54		5		
✓	1400/10	0.983.534					END	TEST				
		10.17										
		10.17										
Average:												

Comments:

Date of last revision 4/15/2022

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Master Document Storage\Forms\Datasheets\Field Datasheets

DS834071





Appendix A.4.3

CT-4 and CT-5 Laboratory Data

Montrose Air Quality Services, LLC – Santa Ana

1631 E St Andrew Pl
Santa Ana, CA 92705

DTE Energy

Sunshine – SGT Eng 4 and 5 Exhaust
Client Project # 023392

Analytical Report (0223-176R)

EPA Method 29

Antimony, Arsenic, Beryllium, Cadmium, Chromium,
Cobalt, Lead, Manganese, Mercury, Nickel, and Selenium



Enthalpy Analytical, LLC

Phone: (919) 850 - 4392 / Fax: (919) 850 - 9012 / www.enthalpy.com
800-1 Capitola Drive Durham, NC 27713-4385

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

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AMCross

Report Issued: 4/3/23



Summary of Results





EPA Method 29 Summary

EA Project #: 0223-176R

Client: Montrose Air Quality Services, LLC - Santa Ana

Client Project ID: 023392 - DTE Energy - Sunshine

Sample ID	Element / Catch Weight (ug)				
	Antimony	Arsenic	Beryllium	Cadmium	Chromium
Eng 4 Run 1 - FH	0.343 J	0.671 ND	0.116 J	0.232 J	4.53
Eng 4 Run 1 - BH	0.101 J	0.0593 J	0.0319 J	0.638	0.660
Eng 4 Run 2 - FH	0.251 J	0.671 ND	0.164 J	0.173 J	6.30
Eng 4 Run 2 - BH	0.0702 J	0.120 J	0.0205 J	0.150	0.604
Eng 4 Run 3 - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	4.53
Eng 4 Run 3 - BH	0.0675 J	0.0699 J	0.0172 ND	0.0954 J	0.493 J
Eng 4 Run 4 - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	6.10
Eng 4 Run 4 - BH	0.0563 ND	0.0563 ND	0.0182 ND	0.133	0.583
Eng 4 Run 5 - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	6.28
Eng 4 Run 5 - BH	0.0530 ND	0.0530 ND	0.0172 ND	0.0281 J	0.559
Eng 4 Run 6 - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	4.25
Eng 4 Run 6 - BH	0.0530 ND	0.0530 ND	0.0172 ND	0.0205 ND	0.512 J
Eng 4 Run 7 - FH	0.250 ND	0.671 ND	0.0532 ND	0.0523 J	6.10
Eng 4 Run 7 - BH	0.0530 ND	0.0530 ND	0.0211 J	0.0205 ND	0.450 J
Eng 4 Field Blank - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	1.27 J
Eng 4 Field Blank - BH	0.0547 ND	0.0547 ND	0.0177 ND	0.0211 ND	0.0547 ND
Eng 4 Reagent Blank - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	1.05 J
Eng 4 Reagent Blank - BH	0.0547 ND	0.0547 ND	0.0177 ND	0.0211 ND	0.228 J

0223-176R Metals Summary



EPA Method 29 Summary

EA Project #: 0223-176R

Client: Montrose Air Quality Services, LLC - Santa Ana

Client Project ID: 023392 - DTE Energy - Sunshine

Sample ID	Element / Catch Weight (ug)				
	Antimony	Arsenic	Beryllium	Cadmium	Chromium
Eng 5 Run 1 - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	4.56
Eng 5 Run 1 - BH	0.0530 ND	0.0530 ND	0.0172 ND	0.0205 ND	0.532
Eng 5 Run 2 - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	6.12
Eng 5 Run 2 - BH	0.0530 ND	0.0530 ND	0.0172 ND	0.0697 J	0.481 J
Eng 5 Run 3 - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	4.58
Eng 5 Run 3 - BH	0.0563 ND	0.0563 ND	0.0182 ND	0.0357 J	0.666
Eng 5 Run 4 - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	4.42
Eng 5 Run 4 - BH	0.0530 ND	0.0530 ND	0.0172 ND	0.0205 ND	0.600
Eng 5 Run 5 - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	4.53
Eng 5 Run 5 - BH	0.0530 ND	0.0530 ND	0.0172 ND	0.0205 ND	0.523 J
Eng 5 Run 6 - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	3.54
Eng 5 Run 6 - BH	0.0530 ND	0.0530 ND	0.0172 ND	0.0205 ND	0.467 J
Eng 5 Run 7 - FH	0.250 ND	0.671 ND	0.0680 J	0.0523 J	4.59
Eng 5 Run 7 - BH	0.0530 ND	0.0530 ND	0.0172 ND	0.0205 ND	0.925
Eng 5 Field Blank - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	1.15 J
Eng 5 Reagent Blank - FH	0.250 ND	0.671 ND	0.0532 ND	0.0519 ND	1.04 J
Eng 5 Field Blank - 2A + Eng 5 Reagent Blank Composite - 2A	0.0546 ND	0.0546 ND	0.0177 ND	0.0211 ND	0.262 J

0223-176R Metals Summary



EPA Method 29 Summary

EA Project #: 0223-176R

Client: Montrose Air Quality Services, LLC - Santa Ana

Client Project ID: 023392 - DTE Energy - Sunshine

Sample ID	Element / Catch Weight (ug)				
	Cobalt	Lead	Manganese	Nickel	Selenium
Eng 4 Run 1 - FH	0.142 J	0.633	1.03 J	2.16 J	0.304 ND
Eng 4 Run 1 - BH	0.0837 J	0.736	1.21	1.44	1.13
Eng 4 Run 2 - FH	0.201 J	0.548	0.974 J	1.85 J	0.304 ND
Eng 4 Run 2 - BH	0.0729 J	0.477	0.872	0.591	0.322 J
Eng 4 Run 3 - FH	1.14	0.345 J	0.740 J	1.37 J	0.304 ND
Eng 4 Run 3 - BH	0.0241 J	0.205	0.417 J	0.770	1.16
Eng 4 Run 4 - FH	0.0777 J	0.356 J	0.774 J	1.95 J	0.304 ND
Eng 4 Run 4 - BH	0.0437 J	0.338	0.575	0.746	4.68
Eng 4 Run 5 - FH	0.0562 ND	0.405 J	0.723 J	1.49 J	0.304 ND
Eng 4 Run 5 - BH	0.0370 J	0.208	0.656	0.550	1.16
Eng 4 Run 6 - FH	0.0562 ND	0.311 J	1.45 J	1.25 J	0.304 ND
Eng 4 Run 6 - BH	0.0270 J	0.192	1.02	0.365 J	7.98
Eng 4 Run 7 - FH	0.0562 ND	0.344 J	1.61 J	1.47 J	0.304 ND
Eng 4 Run 7 - BH	0.0348 J	0.122	1.38	0.340 J	0.558
Eng 4 Field Blank - FH	0.0562 ND	0.371 J	0.538 J	1.26 J	0.304 ND
Eng 4 Field Blank - BH	0.0169 ND	0.0229 J	0.121 J	0.0547 ND	0.0875 ND
Eng 4 Reagent Blank - FH	0.0562 ND	0.240 J	0.459 J	1.13 J	0.304 ND
Eng 4 Reagent Blank - BH	0.0169 ND	0.0202 ND	0.216 J	0.173 J	0.0874 ND

0223-176R Metals Summary

EPA Method 29 Summary

EA Project #: 0223-176R

Client: Montrose Air Quality Services, LLC - Santa Ana

Client Project ID: 023392 - DTE Energy - Sunshine

Sample ID	Element / Catch Weight (ug)				
	Cobalt	Lead	Manganese	Nickel	Selenium
Eng 5 Run 1 - FH	0.0562 ND	0.321 J	0.649 J	1.41 J	0.304 ND
Eng 5 Run 1 - BH	0.0164 ND	0.0990 J	15.4	0.388 J	8.38
Eng 5 Run 2 - FH	0.0562 ND	0.314 J	2.28 J	1.66 J	0.304 ND
Eng 5 Run 2 - BH	0.0164 ND	0.112	0.509 J	0.408 J	2.29
Eng 5 Run 3 - FH	0.0562 ND	0.295 J	0.687 J	1.43 J	0.304 ND
Eng 5 Run 3 - BH	0.0220 J	0.147	1.78	0.435 J	20.2
Eng 5 Run 4 - FH	0.0562 ND	0.279 J	0.696 J	1.40 J	0.304 ND
Eng 5 Run 4 - BH	0.0170 J	0.107	0.424 J	0.539	0.326 J
Eng 5 Run 5 - FH	0.0562 ND	0.348 J	0.673 J	1.94 J	0.304 ND
Eng 5 Run 5 - BH	0.0241 J	0.0949 J	0.910	0.640	0.817
Eng 5 Run 6 - FH	0.0562 ND	0.333 J	2.59	1.37 J	0.304 ND
Eng 5 Run 6 - BH	0.0164 ND	0.0616 J	0.658	0.390 J	0.239 J
Eng 5 Run 7 - FH	0.0562 ND	0.344 J	1.23 J	1.24 J	0.304 ND
Eng 5 Run 7 - BH	0.0263 J	0.0976 J	1.69	0.739	0.925
Eng 5 Field Blank - FH	0.0562 ND	0.281 J	0.560 J	1.88 J	0.304 ND
Eng 5 Reagent Blank - FH	0.0562 ND	0.209 J	0.484 J	1.11 J	0.304 ND
Eng 5 Field Blank - 2A + Eng 5 Reagent Blank Composite - 2A	0.0169 ND	0.0734 J	0.382 J	0.156 J	0.0873 ND

0223-176R Metals Summary



EPA Method 29 Summary

EA Project #: 0223-176

Client: Montrose Air Quality Services, LLC - Santa Ana

Client Project ID: 023392 - DTE Energy - Sunshine - SGT Eng 4 and 5 Exhaust

Total Micrograms of Mercury in Sample (ug)

Sample ID	Frac 1B	Frac 2B	Frac 3A	Frac 3B	Frac 3C
Eng 4 Run 1	0.0250 ND	0.220 ND	0.0232 ND	0.0912 ND	0.396
Eng 4 Run 2	0.0250 ND	0.233 ND	0.0245 ND	0.0612 ND	0.218
Eng 4 Run 3	0.0250 ND	0.219 ND	0.0240 ND	0.0637 ND	0.671
Eng 4 Run 4	0.0250 ND	0.225 ND	0.0255 ND	0.0625 ND	0.191
Eng 4 Run 5	0.0250 ND	0.219 ND	0.0250 ND	0.0600 ND	0.108 J
Eng 4 Run 6	0.0250 ND	0.220 ND	0.0242 ND	0.0650 ND	0.178
Eng 4 Run 7	0.0250 ND	0.223 ND	0.0245 ND	0.0600 ND	0.0827 J
Eng 4 Field Blank	0.0250 ND	0.145 ND	0.0245 ND	0.0600 ND	0.429
Eng 4 Reagent Blank	0.0250 ND	0.147 ND	0.0237 ND	0.0205 ND	0.0650 ND
Eng 5 Run 1	0.0250 ND	0.219 ND	0.0250 ND	0.0600 ND	0.0972 J
Eng 5 Run 2	0.0250 ND	0.223 ND	0.0250 ND	0.0587 ND	0.114 J
Eng 5 Run 3	0.0250 ND	0.225 ND	0.0237 ND	0.0612 ND	0.104 J
Eng 5 Run 4	0.0250 ND	0.222 ND	0.0247 ND	0.0575 ND	0.107 J
Eng 5 Run 5	0.0250 ND	0.224 ND	0.0250 ND	0.0662 ND	0.103 J
Eng 5 Run 6	0.0250 ND	0.222 ND	0.0245 ND	0.0650 ND	0.119 J
Eng 5 Run 7	0.0250 ND	0.219 ND	0.0240 ND	0.0637 ND	0.103 J
Eng 5 Field Blank	0.0250 ND	0.145 ND	0.0242 ND	0.0808 J	1.04
Eng 5 Reagent Blank	0.0250 ND	0.150 ND	0.0245 ND	0.0205 ND	0.0675 ND

Results



Element Sb 121
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL
 LOQ
 Postdig'n Spike Conc.
 Analyst(s)

ICP-MS
 0.50 µg/L
 5.0 µg/L
 50 µg/L
 MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor		Total (µg)
Front Halves							
Eng 4 Run 1	0223-176.1 -1A	0.69	3.43	100	5		0.34290 J
Eng 4 Run 2	0223-176.2 -1A	0.50	2.51	100	5		0.25140 J
Eng 4 Run 3	0223-176.3 -1A	0.41	2.03	100	5		0.25000 ND
Eng 4 Run 4	0223-176.4 -1A	0.16	0.82	100	5		0.25000 ND
Eng 4 Run 5	0223-176.5 -1A	0.19	0.97	100	5		0.25000 ND
Eng 4 Run 6	0223-176.6 -1A	0.12	0.61	100	5		0.25000 ND
Eng 4 Run 7	0223-176.7 -1A	0.30	1.50	100	5		0.25000 ND
Eng 4 Field Blank	0223-176.8 -1A	0.12	0.62	100	5		0.25000 ND
Eng 4 Reagent Blank	0223-176.9 -1A	0.08	0.38	100	5		0.25000 ND
Eng 5 Run 1	0223-176.10 -1A	0.13	0.66	100	5		0.25000 ND
Eng 5 Run 2	0223-176.11 -1A	0.16	0.81	100	5		0.25000 ND
Eng 5 Run 3	0223-176.12 -1A	0.12	0.62	100	5		0.25000 ND
Eng 5 Run 4	0223-176.13 -1A	0.16	0.80	100	5		0.25000 ND
Eng 5 Run 5	0223-176.14 -1A	0.12	0.61	100	5		0.25000 ND
Eng 5 Run 6	0223-176.15 -1A	0.14	0.70	100	5		0.25000 ND
Eng 5 Run 7	0223-176.16 -1A	0.42	2.12	100	5		0.25000 ND
Eng 5 Field Blank	0223-176.17 -1A	0.09	0.46	100	5		0.25000 ND
Eng 5 Reagent Blank	0223-176.18 -1A	0.07	0.35	100	5		0.25000 ND
Lab Blank Front	0223-176.LB -1A	0.34	0.34	100	1		0.05000 ND
LCS Front	0223-176.LCS -1A	51.11	102.22	100	2	% REC =	102.2%
Spike Front	0223-176.1S -1A	52.98	264.90	100	5	% REC =	104.6%
Duplicate Front	0223-176.2D -1A	0.25				RPD =	N/A

Element Sb 121
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology ICP-MS
 MDL 0.50 µg/L
 LOQ 5.0 µg/L
 Postdig'n Spike Conc. 50 µg/L
 Analyst(s) MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor	Total Vol. (mL)	Vol. Dig'd (mL)	Total (µg)	
Back Halves									
Eng 4 Run 1	0223-176.1 -2A	0.95	0.95	100	1	440	415	0.10061	J
Eng 4 Run 2	0223-176.2 -2A	0.63	0.63	100	1	465	415	0.07015	J
Eng 4 Run 3	0223-176.3 -2A	0.64	0.64	100	1	437	412	0.06749	J
Eng 4 Run 4	0223-176.4 -2A	0.37	0.37	100	1	450	400	0.05625	ND
Eng 4 Run 5	0223-176.5 -2A	0.46	0.46	100	1	438	413	0.05303	ND
Eng 4 Run 6	0223-176.6 -2A	0.24	0.24	100	1	440	415	0.05301	ND
Eng 4 Run 7	0223-176.7 -2A	0.30	0.30	100	1	445	420	0.05298	ND
Eng 4 Field Blank	0223-176.8 -2A	0.05	0.05	100	1	290	265	0.05472	ND
Eng 4 Reagent Blank	0223-176.9 -2A	0.05	0.05	100	1	294	269	0.05465	ND
Eng 5 Run 1	0223-176.10 -2A	0.25	0.25	100	1	437	412	0.05303	ND
Eng 5 Run 2	0223-176.11 -2A	0.22	0.22	100	1	446	421	0.05297	ND
Eng 5 Run 3	0223-176.12 -2A	0.28	0.28	100	1	450	400	0.05625	ND
Eng 5 Run 4	0223-176.13 -2A	0.13	0.13	100	1	443	418	0.05299	ND
Eng 5 Run 5	0223-176.14 -2A	0.20	0.20	100	1	447	422	0.05296	ND
Eng 5 Run 6	0223-176.15 -2A	0.11	0.11	100	1	443	418	0.05299	ND
Eng 5 Run 7	0223-176.16 -2A	0.25	0.25	100	1	437	412	0.05303	ND
Eng 5 Field Blk + Eng 5 Reag. Blk Composite	0223-176.17 -2A	0.16	0.16	100	1	590	540	0.05463	ND
Lab Blank Front	0223-176.LB -2A	0.00	0.00	100	1			0.05000	ND
LCS Front	0223-176.LCS -2A	48.26	96.52	100	2		% REC =	96.5%	
Spike Front	0223-176.1S -2A	52.41	52.41	100	1		% REC =	102.9%	
Duplicate Front	0223-176.2D -2A	0.43					RPD =	N/A	

Element As 75
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL
 LOQ
 Postdig'n Spike Conc.
 Analyst(s)

ICP-MS
 1.34 µg/L
 5.0 µg/L
 50 µg/L
 MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor		Total (µg)	
Front Halves								
Eng 4 Run 1	0223-176.1 -1A	0.51	2.56	100	5		0.67069	ND
Eng 4 Run 2	0223-176.2 -1A	0.52	2.61	100	5		0.67069	ND
Eng 4 Run 3	0223-176.3 -1A	0.28	1.41	100	5		0.67069	ND
Eng 4 Run 4	0223-176.4 -1A	0.18	0.90	100	5		0.67069	ND
Eng 4 Run 5	0223-176.5 -1A	0.25	1.27	100	5		0.67069	ND
Eng 4 Run 6	0223-176.6 -1A	0.16	0.78	100	5		0.67069	ND
Eng 4 Run 7	0223-176.7 -1A	0.24	1.20	100	5		0.67069	ND
Eng 4 Field Blank	0223-176.8 -1A	0.06	0.29	100	5		0.67069	ND
Eng 4 Reagent Blank	0223-176.9 -1A	0.05	0.24	100	5		0.67069	ND
Eng 5 Run 1	0223-176.10 -1A	0.20	1.00	100	5		0.67069	ND
Eng 5 Run 2	0223-176.11 -1A	0.20	0.99	100	5		0.67069	ND
Eng 5 Run 3	0223-176.12 -1A	0.20	1.00	100	5		0.67069	ND
Eng 5 Run 4	0223-176.13 -1A	0.16	0.82	100	5		0.67069	ND
Eng 5 Run 5	0223-176.14 -1A	0.18	0.92	100	5		0.67069	ND
Eng 5 Run 6	0223-176.15 -1A	0.21	1.06	100	5		0.67069	ND
Eng 5 Run 7	0223-176.16 -1A	0.22	1.11	100	5		0.67069	ND
Eng 5 Field Blank	0223-176.17 -1A	0.06	0.32	100	5		0.67069	ND
Eng 5 Reagent Blank	0223-176.18 -1A	0.04	0.18	100	5		0.67069	ND
Lab Blank Front	0223-176.LB -1A	0.32	0.32	100	1		0.13414	ND
LCS Front	0223-176.LCS -1A	48.68	97.37	100	2	% REC =	97.4%	
Spike Front	0223-176.1S -1A	48.45	242.26	100	5	% REC =	96.9%	
Duplicate Front	0223-176.2D -1A	0.30				RPD =	N/A	

Element As 75
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL 0.50 µg/L
 LOQ 5.0 µg/L
 Postdig'n Spike Conc. 50 µg/L
 Analyst(s) MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor	Total Vol. (mL)	Vol. Dig'd (mL)	Total (µg)
Back Halves								
Eng 4 Run 1	0223-176.1 -2A	0.56	0.56	100	1	440	415	0.05927 J
Eng 4 Run 2	0223-176.2 -2A	1.07	1.07	100	1	465	415	0.11990 J
Eng 4 Run 3	0223-176.3 -2A	0.66	0.66	100	1	437	412	0.06990 J
Eng 4 Run 4	0223-176.4 -2A	0.40	0.40	100	1	450	400	0.05625 ND
Eng 4 Run 5	0223-176.5 -2A	0.28	0.28	100	1	438	413	0.05303 ND
Eng 4 Run 6	0223-176.6 -2A	0.23	0.23	100	1	440	415	0.05301 ND
Eng 4 Run 7	0223-176.7 -2A	0.34	0.34	100	1	445	420	0.05298 ND
Eng 4 Field Blank	0223-176.8 -2A	0.06	0.06	100	1	290	265	0.05472 ND
Eng 4 Reagent Blank	0223-176.9 -2A	0.01	0.01	100	1	294	269	0.05465 ND
Eng 5 Run 1	0223-176.10 -2A	0.22	0.22	100	1	437	412	0.05303 ND
Eng 5 Run 2	0223-176.11 -2A	0.12	0.12	100	1	446	421	0.05297 ND
Eng 5 Run 3	0223-176.12 -2A	0.50	0.50	100	1	450	400	0.05625 ND
Eng 5 Run 4	0223-176.13 -2A	0.11	0.11	100	1	443	418	0.05299 ND
Eng 5 Run 5	0223-176.14 -2A	0.14	0.14	100	1	447	422	0.05296 ND
Eng 5 Run 6	0223-176.15 -2A	0.08	0.08	100	1	443	418	0.05299 ND
Eng 5 Run 7	0223-176.16 -2A	0.10	0.10	100	1	437	412	0.05303 ND
Eng 5 Field Blk + Eng 5 Reag. Blk Composite	0223-176.17 -2A	0.02	0.02	100	1	590	540	0.05463 ND
Lab Blank Front	0223-176.LB -2A	0.23	0.23	100	1			0.05000 ND
LCS Front	0223-176.LCS -2A	48.42	96.84	100	2		% REC =	96.8%
Spike Front	0223-176.1S -2A	47.44	47.44	100	1		% REC =	93.8%
Duplicate Front	0223-176.2D -2A	0.86					RPD =	N/A

Element Be 9
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL
 LOQ
 Postdig'n Spike Conc.
 Analyst(s)

ICP-MS
 0.11 µg/L
 1.0 µg/L
 50 µg/L
 MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor		Total (µg)
Front Halves							
Eng 4 Run 1	0223-176.1 -1A	0.23	1.16	100	5		0.11600 J
Eng 4 Run 2	0223-176.2 -1A	0.33	1.64	100	5		0.16360 J
Eng 4 Run 3	0223-176.3 -1A	0.03	0.17	100	5		0.05318 ND
Eng 4 Run 4	0223-176.4 -1A	0.02	0.09	100	5		0.05318 ND
Eng 4 Run 5	0223-176.5 -1A	0.01	0.03	100	5		0.05318 ND
Eng 4 Run 6	0223-176.6 -1A	0.01	0.04	100	5		0.05318 ND
Eng 4 Run 7	0223-176.7 -1A	0.08	0.41	100	5		0.05318 ND
Eng 4 Field Blank	0223-176.8 -1A	0.04	0.18	100	5		0.05318 ND
Eng 4 Reagent Blank	0223-176.9 -1A	0.02	0.11	100	5		0.05318 ND
Eng 5 Run 1	0223-176.10 -1A	0.02	0.11	100	5		0.05318 ND
Eng 5 Run 2	0223-176.11 -1A	0.02	0.08	100	5		0.05318 ND
Eng 5 Run 3	0223-176.12 -1A	0.01	0.06	100	5		0.05318 ND
Eng 5 Run 4	0223-176.13 -1A	0.01	0.06	100	5		0.05318 ND
Eng 5 Run 5	0223-176.14 -1A	0.01	0.05	100	5		0.05318 ND
Eng 5 Run 6	0223-176.15 -1A	0.01	0.04	100	5		0.05318 ND
Eng 5 Run 7	0223-176.16 -1A	0.14	0.68	100	5		0.06795 J
Eng 5 Field Blank	0223-176.17 -1A	0.06	0.30	100	5		0.05318 ND
Eng 5 Reagent Blank	0223-176.18 -1A	0.02	0.12	100	5		0.05318 ND
Lab Blank Front	0223-176.LB -1A	0.20	0.20	100	1		0.02018 J
LCS Front	0223-176.LCS -1A	49.09	98.17	100	2	% REC =	98.2%
Spike Front	0223-176.15 -1A	47.97	239.87	100	5	% REC =	95.5%
Duplicate Front	0223-176.2D -1A	0.09				RPD =	N/A

Element Be 9
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL 0.16 µg/L
 LOQ 1.0 µg/L
 Postdig'n Spike Conc. 50 µg/L
 Analyst(s) MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor	Total Vol. (mL)	Vol. Dig'd (mL)	Total (µg)
Back Halves								
Eng 4 Run 1	0223-176.1 -2A	0.30	0.30	100	1	440	415	0.03193 J
Eng 4 Run 2	0223-176.2 -2A	0.18	0.18	100	1	465	415	0.02050 J
Eng 4 Run 3	0223-176.3 -2A	0.00	0.00	100	1	437	412	0.01719 ND
Eng 4 Run 4	0223-176.4 -2A	0.00	0.00	100	1	450	400	0.01823 ND
Eng 4 Run 5	0223-176.5 -2A	0.00	0.00	100	1	438	413	0.01719 ND
Eng 4 Run 6	0223-176.6 -2A	0.00	0.00	100	1	440	415	0.01718 ND
Eng 4 Run 7	0223-176.7 -2A	0.20	0.20	100	1	445	420	0.02112 J
Eng 4 Field Blank	0223-176.8 -2A	0.04	0.04	100	1	290	265	0.01774 ND
Eng 4 Reagent Blank	0223-176.9 -2A	0.00	0.00	100	1	294	269	0.01771 ND
Eng 5 Run 1	0223-176.10 -2A	0.00	0.00	100	1	437	412	0.01719 ND
Eng 5 Run 2	0223-176.11 -2A	0.00	0.00	100	1	446	421	0.01717 ND
Eng 5 Run 3	0223-176.12 -2A	0.00	0.00	100	1	450	400	0.01823 ND
Eng 5 Run 4	0223-176.13 -2A	0.00	0.00	100	1	443	418	0.01718 ND
Eng 5 Run 5	0223-176.14 -2A	0.00	0.00	100	1	447	422	0.01717 ND
Eng 5 Run 6	0223-176.15 -2A	0.00	0.00	100	1	443	418	0.01718 ND
Eng 5 Run 7	0223-176.16 -2A	0.00	0.00	100	1	437	412	0.01719 ND
Eng 5 Field Blk + Eng 5 Reag. Blk Composite	0223-176.17 -2A	0.00	0.00	100	1	590	540	0.01771 ND
Lab Blank Front	0223-176.LB -2A	0.20	0.20	100	1			0.02022 J
LCS Front	0223-176.LCS -2A	49.13	98.25	100	2		% REC =	98.3%
Spike Front	0223-176.1S -2A	48.92	48.92	100	1		% REC =	97.2%
Duplicate Front	0223-176.2D -2A	0.04					RPD =	N/A

Element Cd 111
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL
 LOQ
 Postdig'n Spike Conc.
 Analyst(s)

ICP-MS
 0.10 µg/L
 1.0 µg/L
 50 µg/L
 MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor		Total (µg)	
Front Halves								
Eng 4 Run 1	0223-176.1 -1A	0.46	2.32	100	5		0.23170	J
Eng 4 Run 2	0223-176.2 -1A	0.35	1.73	100	5		0.17320	J
Eng 4 Run 3	0223-176.3 -1A	0.04	0.18	100	5		0.05194	ND
Eng 4 Run 4	0223-176.4 -1A	0.02	0.10	100	5		0.05194	ND
Eng 4 Run 5	0223-176.5 -1A	0.00	0.00	100	5		0.05194	ND
Eng 4 Run 6	0223-176.6 -1A	0.00	0.00	100	5		0.05194	ND
Eng 4 Run 7	0223-176.7 -1A	0.10	0.52	100	5		0.05230	J
Eng 4 Field Blank	0223-176.8 -1A	0.03	0.16	100	5		0.05194	ND
Eng 4 Reagent Blank	0223-176.9 -1A	0.00	0.00	100	5		0.05194	ND
Eng 5 Run 1	0223-176.10 -1A	0.01	0.03	100	5		0.05194	ND
Eng 5 Run 2	0223-176.11 -1A	0.00	0.00	100	5		0.05194	ND
Eng 5 Run 3	0223-176.12 -1A	0.01	0.03	100	5		0.05194	ND
Eng 5 Run 4	0223-176.13 -1A	0.00	0.01	100	5		0.05194	ND
Eng 5 Run 5	0223-176.14 -1A	0.00	0.00	100	5		0.05194	ND
Eng 5 Run 6	0223-176.15 -1A	0.00	0.01	100	5		0.05194	ND
Eng 5 Run 7	0223-176.16 -1A	0.10	0.52	100	5		0.05230	J
Eng 5 Field Blank	0223-176.17 -1A	0.03	0.17	100	5		0.05194	ND
Eng 5 Reagent Blank	0223-176.18 -1A	0.00	0.00	100	5		0.05194	ND
Lab Blank Front	0223-176.LB -1A	0.18	0.18	100	1		0.01849	J
LCS Front	0223-176.LCS -1A	51.25	102.51	100	2	% REC =	102.5%	
Spike Front	0223-176.1S -1A	50.70	253.50	100	5	% REC =	100.5%	
Duplicate Front	0223-176.2D -1A	0.10				RPD =	N/A	

Element Cd 111
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL 0.19 µg/L
 LOQ 1.0 µg/L
 Postdig'n Spike Conc. 50 µg/L
 Analyst(s) MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor	Total Vol. (mL)	Vol. Dig'd (mL)	Total (µg)	
Back Halves									
Eng 4 Run 1	0223-176.1 -2A	6.02	6.02	100	1	440	415	0.63808	
Eng 4 Run 2	0223-176.2 -2A	1.34	1.34	100	1	465	415	0.15045	
Eng 4 Run 3	0223-176.3 -2A	0.90	0.90	100	1	437	412	0.09539	J
Eng 4 Run 4	0223-176.4 -2A	1.19	1.19	100	1	450	400	0.13331	
Eng 4 Run 5	0223-176.5 -2A	0.27	0.27	100	1	438	413	0.02813	J
Eng 4 Run 6	0223-176.6 -2A	0.11	0.11	100	1	440	415	0.02048	ND
Eng 4 Run 7	0223-176.7 -2A	0.15	0.15	100	1	445	420	0.02047	ND
Eng 4 Field Blank	0223-176.8 -2A	0.02	0.02	100	1	290	265	0.02114	ND
Eng 4 Reagent Blank	0223-176.9 -2A	0.00	0.00	100	1	294	269	0.02111	ND
Eng 5 Run 1	0223-176.10 -2A	0.11	0.11	100	1	437	412	0.02049	ND
Eng 5 Run 2	0223-176.11 -2A	0.66	0.66	100	1	446	421	0.06966	J
Eng 5 Run 3	0223-176.12 -2A	0.32	0.32	100	1	450	400	0.03571	J
Eng 5 Run 4	0223-176.13 -2A	0.07	0.07	100	1	443	418	0.02047	ND
Eng 5 Run 5	0223-176.14 -2A	0.16	0.16	100	1	447	422	0.02046	ND
Eng 5 Run 6	0223-176.15 -2A	0.15	0.15	100	1	443	418	0.02047	ND
Eng 5 Run 7	0223-176.16 -2A	0.17	0.17	100	1	437	412	0.02049	ND
Eng 5 Field Blk + Eng 5 Reag. Blk Composite	0223-176.17 -2A	0.03	0.03	100	1	590	540	0.02111	ND
Lab Blank Front	0223-176.LB -2A	0.00	0.00	100	1			0.01932	ND
LCS Front	0223-176.LCS -2A	47.86	95.73	100	2		% REC =	95.7%	
Spike Front	0223-176.1S -2A	58.91	58.91	100	1		% REC =	105.8%	
Duplicate Front	0223-176.2D -2A	1.11					RPD =	N/A	

Element Cr 52
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL
 LOQ
 Postdig'n Spike Conc.
 Analyst(s)

ICP-MS
 0.50 µg/L
 5.0 µg/L
 50 µg/L
 MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor		Total (µg)
Front Halves							
Eng 4 Run 1	0223-176.1 -1A	9.05	45.26	100	5		4.52585
Eng 4 Run 2	0223-176.2 -1A	12.60	63.02	100	5		6.30225
Eng 4 Run 3	0223-176.3 -1A	9.06	45.28	100	5		4.52845
Eng 4 Run 4	0223-176.4 -1A	12.19	60.96	100	5		6.09630
Eng 4 Run 5	0223-176.5 -1A	12.56	62.82	100	5		6.28175
Eng 4 Run 6	0223-176.6 -1A	8.49	42.46	100	5		4.24645
Eng 4 Run 7	0223-176.7 -1A	12.20	61.01	100	5		6.10095
Eng 4 Field Blank	0223-176.8 -1A	2.54	12.72	100	5		1.27175 J
Eng 4 Reagent Blank	0223-176.9 -1A	2.09	10.47	100	5		1.04700 J
Eng 5 Run 1	0223-176.10 -1A	9.12	45.60	100	5		4.56000
Eng 5 Run 2	0223-176.11 -1A	12.24	61.19	100	5		6.11865
Eng 5 Run 3	0223-176.12 -1A	9.15	45.77	100	5		4.57655
Eng 5 Run 4	0223-176.13 -1A	8.83	44.17	100	5		4.41705
Eng 5 Run 5	0223-176.14 -1A	9.06	45.32	100	5		4.53215
Eng 5 Run 6	0223-176.15 -1A	7.07	35.37	100	5		3.53695
Eng 5 Run 7	0223-176.16 -1A	9.18	45.88	100	5		4.58820
Eng 5 Field Blank	0223-176.17 -1A	2.31	11.54	100	5		1.15435 J
Eng 5 Reagent Blank	0223-176.18 -1A	2.09	10.45	100	5		1.04475 J
Lab Blank Front	0223-176.LB -1A	0.36	0.36	100	1		0.05000 ND
LCS Front	0223-176.LCS -1A	48.36	96.72	100	2	% REC =	96.7%
Spike Front	0223-176.1S -1A	54.45	272.26	100	5	% REC =	90.8%
Duplicate Front	0223-176.2D -1A	12.48				RPD =	N/A

Element Cr 52
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL 0.50 µg/L
 LOQ 5.0 µg/L
 Postdig'n Spike Conc. 50 µg/L
 Analyst(s) MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor	Total Vol. (mL)	Vol. Dig'd (mL)	Total (µg)
Back Halves								
Eng 4 Run 1	0223-176.1 -2A	6.22	6.22	100	1	440	415	0.65983
Eng 4 Run 2	0223-176.2 -2A	5.39	5.39	100	1	465	415	0.60402
Eng 4 Run 3	0223-176.3 -2A	4.65	4.65	100	1	437	412	0.49348 J
Eng 4 Run 4	0223-176.4 -2A	5.18	5.18	100	1	450	400	0.58262
Eng 4 Run 5	0223-176.5 -2A	5.27	5.27	100	1	438	413	0.55913
Eng 4 Run 6	0223-176.6 -2A	4.83	4.83	100	1	440	415	0.51222 J
Eng 4 Run 7	0223-176.7 -2A	4.25	4.25	100	1	445	420	0.45029 J
Eng 4 Field Blank	0223-176.8 -2A	0.42	0.42	100	1	290	265	0.05472 ND
Eng 4 Reagent Blank	0223-176.9 -2A	2.09	2.09	100	1	294	269	0.22839 J
Eng 5 Run 1	0223-176.10 -2A	5.01	5.01	100	1	437	412	0.53169
Eng 5 Run 2	0223-176.11 -2A	4.54	4.54	100	1	446	421	0.48134 J
Eng 5 Run 3	0223-176.12 -2A	5.92	5.92	100	1	450	400	0.66641
Eng 5 Run 4	0223-176.13 -2A	5.66	5.66	100	1	443	418	0.60029
Eng 5 Run 5	0223-176.14 -2A	4.94	4.94	100	1	447	422	0.52283 J
Eng 5 Run 6	0223-176.15 -2A	4.41	4.41	100	1	443	418	0.46688 J
Eng 5 Run 7	0223-176.16 -2A	8.72	8.72	100	1	437	412	0.92521
Eng 5 Field Blk + Eng 5 Reag. Blk Composite	0223-176.17 -2A	2.40	2.40	100	1	590	540	0.26180 J
Lab Blank Front	0223-176.LB -2A	0.37	0.37	100	1			0.05000 ND
LCS Front	0223-176.LCS -2A	49.63	99.26	100	2		% REC =	99.3%
Spike Front	0223-176.1S -2A	53.26	53.26	100	1		% REC =	94.1%
Duplicate Front	0223-176.2D -2A	5.31					RPD =	N/A

Element Co 59
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL
 LOQ
 Postdig'n Spike Conc.
 Analyst(s)

ICP-MS
 0.11 µg/L
 1.0 µg/L
 50 µg/L
 MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor		Total (µg)
Front Halves							
Eng 4 Run 1	0223-176.1 -1A	0.28	1.42	100	5		0.14165 J
Eng 4 Run 2	0223-176.2 -1A	0.40	2.01	100	5		0.20130 J
Eng 4 Run 3	0223-176.3 -1A	2.28	11.39	100	5		1.13925
Eng 4 Run 4	0223-176.4 -1A	0.16	0.78	100	5		0.07765 J
Eng 4 Run 5	0223-176.5 -1A	0.07	0.36	100	5		0.05623 ND
Eng 4 Run 6	0223-176.6 -1A	0.01	0.07	100	5		0.05623 ND
Eng 4 Run 7	0223-176.7 -1A	0.08	0.38	100	5		0.05623 ND
Eng 4 Field Blank	0223-176.8 -1A	0.02	0.11	100	5		0.05623 ND
Eng 4 Reagent Blank	0223-176.9 -1A	0.00	0.01	100	5		0.05623 ND
Eng 5 Run 1	0223-176.10 -1A	0.01	0.07	100	5		0.05623 ND
Eng 5 Run 2	0223-176.11 -1A	0.01	0.06	100	5		0.05623 ND
Eng 5 Run 3	0223-176.12 -1A	0.01	0.07	100	5		0.05623 ND
Eng 5 Run 4	0223-176.13 -1A	0.01	0.05	100	5		0.05623 ND
Eng 5 Run 5	0223-176.14 -1A	0.01	0.06	100	5		0.05623 ND
Eng 5 Run 6	0223-176.15 -1A	0.03	0.17	100	5		0.05623 ND
Eng 5 Run 7	0223-176.16 -1A	0.07	0.33	100	5		0.05623 ND
Eng 5 Field Blank	0223-176.17 -1A	0.02	0.08	100	5		0.05623 ND
Eng 5 Reagent Blank	0223-176.18 -1A	0.00	0.02	100	5		0.05623 ND
Lab Blank Front	0223-176.LB -1A	0.19	0.19	100	1		0.01877 J
LCS Front	0223-176.LCS -1A	48.03	96.06	100	2	% REC =	96.1%
Spike Front	0223-176.1S -1A	45.35	226.77	100	5	% REC =	90.1%
Duplicate Front	0223-176.2D -1A	0.21				RPD =	N/A

Element Co 59
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL 0.15 µg/L
 LOQ 1.0 µg/L
 Postdig'n Spike Conc. 50 µg/L
 Analyst(s) MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor	Total Vol. (mL)	Vol. Dig'd (mL)	Total (µg)
Back Halves								
Eng 4 Run 1	0223-176.1 -2A	0.79	0.79	100	1	440	415	0.08366 J
Eng 4 Run 2	0223-176.2 -2A	0.65	0.65	100	1	465	415	0.07289 J
Eng 4 Run 3	0223-176.3 -2A	0.23	0.23	100	1	437	412	0.02414 J
Eng 4 Run 4	0223-176.4 -2A	0.39	0.39	100	1	450	400	0.04374 J
Eng 4 Run 5	0223-176.5 -2A	0.35	0.35	100	1	438	413	0.03700 J
Eng 4 Run 6	0223-176.6 -2A	0.25	0.25	100	1	440	415	0.02699 J
Eng 4 Run 7	0223-176.7 -2A	0.33	0.33	100	1	445	420	0.03482 J
Eng 4 Field Blank	0223-176.8 -2A	0.06	0.06	100	1	290	265	0.01691 ND
Eng 4 Reagent Blank	0223-176.9 -2A	0.02	0.02	100	1	294	269	0.01689 ND
Eng 5 Run 1	0223-176.10 -2A	0.15	0.15	100	1	437	412	0.01639 ND
Eng 5 Run 2	0223-176.11 -2A	0.14	0.14	100	1	446	421	0.01637 ND
Eng 5 Run 3	0223-176.12 -2A	0.20	0.20	100	1	450	400	0.02204 J
Eng 5 Run 4	0223-176.13 -2A	0.16	0.16	100	1	443	418	0.01701 J
Eng 5 Run 5	0223-176.14 -2A	0.23	0.23	100	1	447	422	0.02410 J
Eng 5 Run 6	0223-176.15 -2A	0.09	0.09	100	1	443	418	0.01638 ND
Eng 5 Run 7	0223-176.16 -2A	0.25	0.25	100	1	437	412	0.02632 J
Eng 5 Field Blk + Eng 5 Reag. Blk Composite	0223-176.17 -2A	0.02	0.02	100	1	590	540	0.01688 ND
Lab Blank Front	0223-176.LB -2A	0.20	0.20	100	1			0.01983 J
LCS Front	0223-176.LCS -2A	48.06	96.12	100	2		% REC =	96.1%
Spike Front	0223-176.1S -2A	49.22	49.22	100	1		% REC =	96.9%
Duplicate Front	0223-176.2D -2A	0.50					RPD =	N/A

Element Pb 208
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL
 LOQ
 Postdig'n Spike Conc.
 Analyst(s)

ICP-MS
 0.10 µg/L
 1.0 µg/L
 50 µg/L
 MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor		Total (µg)
Front Halves							
Eng 4 Run 1	0223-176.1 -1A	1.27	6.33	100	5		0.63310
Eng 4 Run 2	0223-176.2 -1A	1.10	5.48	100	5		0.54805
Eng 4 Run 3	0223-176.3 -1A	0.69	3.45	100	5		0.34505 J
Eng 4 Run 4	0223-176.4 -1A	0.71	3.56	100	5		0.35560 J
Eng 4 Run 5	0223-176.5 -1A	0.81	4.05	100	5		0.40460 J
Eng 4 Run 6	0223-176.6 -1A	0.62	3.11	100	5		0.31075 J
Eng 4 Run 7	0223-176.7 -1A	0.69	3.44	100	5		0.34425 J
Eng 4 Field Blank	0223-176.8 -1A	0.74	3.71	100	5		0.37095 J
Eng 4 Reagent Blank	0223-176.9 -1A	0.48	2.40	100	5		0.24000 J
Eng 5 Run 1	0223-176.10 -1A	0.64	3.21	100	5		0.32050 J
Eng 5 Run 2	0223-176.11 -1A	0.63	3.14	100	5		0.31365 J
Eng 5 Run 3	0223-176.12 -1A	0.59	2.95	100	5		0.29490 J
Eng 5 Run 4	0223-176.13 -1A	0.56	2.79	100	5		0.27875 J
Eng 5 Run 5	0223-176.14 -1A	0.70	3.48	100	5		0.34835 J
Eng 5 Run 6	0223-176.15 -1A	0.67	3.33	100	5		0.33330 J
Eng 5 Run 7	0223-176.16 -1A	0.69	3.44	100	5		0.34360 J
Eng 5 Field Blank	0223-176.17 -1A	0.56	2.81	100	5		0.28110 J
Eng 5 Reagent Blank	0223-176.18 -1A	0.42	2.09	100	5		0.20935 J
Lab Blank Front	0223-176.LB -1A	0.18	0.18	100	1		0.01833 J
LCS Front	0223-176.LCS -1A	49.71	99.43	100	2	% REC =	99.4%
Spike Front	0223-176.1S -1A	51.07	255.35	100	5	% REC =	99.6%
Duplicate Front	0223-176.2D -1A	0.90				RPD =	N/A

Element Pb 208
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL 0.19 µg/L
 LOQ 1.0 µg/L
 Postdig'n Spike Conc. 50 µg/L
 Analyst(s) MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor	Total Vol. (mL)	Vol. Dig'd (mL)	Total (µg)
Back Halves								
Eng 4 Run 1	0223-176.1 -2A	6.94	6.94	100	1	440	415	0.73627
Eng 4 Run 2	0223-176.2 -2A	4.26	4.3	100	1	465	415	0.47682
Eng 4 Run 3	0223-176.3 -2A	1.93	1.93	100	1	437	412	0.20494
Eng 4 Run 4	0223-176.4 -2A	3.01	3.01	100	1	450	400	0.33834
Eng 4 Run 5	0223-176.5 -2A	1.96	1.96	100	1	438	413	0.20751
Eng 4 Run 6	0223-176.6 -2A	1.81	1.81	100	1	440	415	0.19154
Eng 4 Run 7	0223-176.7 -2A	1.15	1.15	100	1	445	420	0.12189
Eng 4 Field Blank	0223-176.8 -2A	0.21	0.21	100	1	290	265	0.02289 J
Eng 4 Reagent Blank	0223-176.9 -2A	0.17	0.17	100	1	294	269	0.02024 ND
Eng 5 Run 1	0223-176.10 -2A	0.93	0.93	100	1	437	412	0.09901 J
Eng 5 Run 2	0223-176.11 -2A	1.06	1.1	100	1	446	421	0.11239
Eng 5 Run 3	0223-176.12 -2A	1.31	1.31	100	1	450	400	0.14698
Eng 5 Run 4	0223-176.13 -2A	1.01	1.01	100	1	443	418	0.10682
Eng 5 Run 5	0223-176.14 -2A	0.90	0.90	100	1	447	422	0.09488 J
Eng 5 Run 6	0223-176.15 -2A	0.58	0.58	100	1	443	418	0.06163 J
Eng 5 Run 7	0223-176.16 -2A	0.92	0.92	100	1	437	412	0.09756 J
Eng 5 Field Blk + Eng 5 Reag. Blk Composite	0223-176.17 -2A	0.67	0.67	100	1	590	540	0.07339 J
Lab Blank Front	0223-176.LB -2A	0.01	0.01	100	1			0.01852 ND
LCS Front	0223-176.LCS -2A	49.93	99.86	100	2		% REC =	99.9%
Spike Front	0223-176.1S -2A	58.44	58.4	100	1		% REC =	103.0%
Duplicate Front	0223-176.2D -2A	4.09					RPD =	N/A

Element Mn 55
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL
 LOQ
 Postdig'n Spike Conc.
 Analyst(s)

ICP-MS
 0.80 µg/L
 5.0 µg/L
 50 µg/L
 MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor		Total (µg)
Front Halves							
Eng 4 Run 1	0223-176.1 -1A	2.06	10.31	100	5		1.03050 J
Eng 4 Run 2	0223-176.2 -1A	1.95	9.74	100	5		0.97365 J
Eng 4 Run 3	0223-176.3 -1A	1.48	7.40	100	5		0.74025 J
Eng 4 Run 4	0223-176.4 -1A	1.55	7.74	100	5		0.77435 J
Eng 4 Run 5	0223-176.5 -1A	1.45	7.23	100	5		0.72335 J
Eng 4 Run 6	0223-176.6 -1A	2.89	14.47	100	5		1.44665 J
Eng 4 Run 7	0223-176.7 -1A	3.21	16.06	100	5		1.60645 J
Eng 4 Field Blank	0223-176.8 -1A	1.08	5.38	100	5		0.53775 J
Eng 4 Reagent Blank	0223-176.9 -1A	0.92	4.59	100	5		0.45865 J
Eng 5 Run 1	0223-176.10 -1A	1.30	6.49	100	5		0.64880 J
Eng 5 Run 2	0223-176.11 -1A	4.56	22.81	100	5		2.28055 J
Eng 5 Run 3	0223-176.12 -1A	1.37	6.87	100	5		0.68705 J
Eng 5 Run 4	0223-176.13 -1A	1.39	6.96	100	5		0.69580 J
Eng 5 Run 5	0223-176.14 -1A	1.35	6.73	100	5		0.67285 J
Eng 5 Run 6	0223-176.15 -1A	5.17	25.85	100	5		2.58530
Eng 5 Run 7	0223-176.16 -1A	2.46	12.28	100	5		1.22840 J
Eng 5 Field Blank	0223-176.17 -1A	1.12	5.60	100	5		0.55960 J
Eng 5 Reagent Blank	0223-176.18 -1A	0.97	4.84	100	5		0.48370 J
Lab Blank Front	0223-176.LB -1A	0.32	0.32	100	1		0.07986 ND
LCS Front	0223-176.LCS -1A	50.08	100.16	100	2	% REC =	100.2%
Spike Front	0223-176.1S -1A	49.34	246.72	100	5	% REC =	94.6%
Duplicate Front	0223-176.2D -1A	1.73				RPD =	N/A

Element Mn 55
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL 0.59 µg/L
 LOQ 5.0 µg/L
 Postdig'n Spike Conc. 50 µg/L
 Analyst(s) MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor	Total Vol. (mL)	Vol. Dig'd (mL)	Total (µg)
Back Halves								
Eng 4 Run 1	0223-176.1 -2A	11.45	11.45	100	1	440	415	1.21388
Eng 4 Run 2	0223-176.2 -2A	7.78	7.78	100	1	465	415	0.87176
Eng 4 Run 3	0223-176.3 -2A	3.93	3.93	100	1	437	412	0.41730 J
Eng 4 Run 4	0223-176.4 -2A	5.11	5.11	100	1	450	400	0.57492
Eng 4 Run 5	0223-176.5 -2A	6.18	6.18	100	1	438	413	0.65574
Eng 4 Run 6	0223-176.6 -2A	9.62	9.62	100	1	440	415	1.01943
Eng 4 Run 7	0223-176.7 -2A	13.07	13.07	100	1	445	420	1.38476
Eng 4 Field Blank	0223-176.8 -2A	1.11	1.11	100	1	290	265	0.12130 J
Eng 4 Reagent Blank	0223-176.9 -2A	1.97	1.97	100	1	294	269	0.21584 J
Eng 5 Run 1	0223-176.10 -2A	14.49	144.87	100	10	437	412	15.3656
Eng 5 Run 2	0223-176.11 -2A	4.80	4.80	100	1	446	421	0.50858 J
Eng 5 Run 3	0223-176.12 -2A	15.83	15.83	100	1	450	400	1.78053
Eng 5 Run 4	0223-176.13 -2A	4.00	4.00	100	1	443	418	0.42409 J
Eng 5 Run 5	0223-176.14 -2A	8.60	8.60	100	1	447	422	0.91049
Eng 5 Run 6	0223-176.15 -2A	6.21	6.21	100	1	443	418	0.65844
Eng 5 Run 7	0223-176.16 -2A	15.91	15.91	100	1	437	412	1.68787
Eng 5 Field Blk + Eng 5 Reag. Blk Composite	0223-176.17 -2A	3.50	3.50	100	1	590	540	0.38229 J
Lab Blank Front	0223-176.LB -2A	0.57	0.57	100	1			0.05887 ND
LCS Front	0223-176.LCS -2A	48.53	97.06	100	2		% REC =	97.1%
Spike Front	0223-176.1S -2A	59.64	59.64	100	1		% REC =	96.4%
Duplicate Front	0223-176.2D -2A	7.73					RPD =	N/A

Element Ni 60
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL
 LOQ
 Postdig'n Spike Conc.
 Analyst(s)

ICP-MS
 0.65 µg/L
 5.0 µg/L
 50 µg/L
 MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor		Total (µg)
Front Halves							
Eng 4 Run 1	0223-176.1 -1A	4.31	21.55	100	5		2.15500 J
Eng 4 Run 2	0223-176.2 -1A	3.69	18.46	100	5		1.84635 J
Eng 4 Run 3	0223-176.3 -1A	2.74	13.69	100	5		1.36875 J
Eng 4 Run 4	0223-176.4 -1A	3.91	19.53	100	5		1.95295 J
Eng 4 Run 5	0223-176.5 -1A	2.98	14.90	100	5		1.48970 J
Eng 4 Run 6	0223-176.6 -1A	2.49	12.45	100	5		1.24530 J
Eng 4 Run 7	0223-176.7 -1A	2.95	14.73	100	5		1.47340 J
Eng 4 Field Blank	0223-176.8 -1A	2.51	12.57	100	5		1.25675 J
Eng 4 Reagent Blank	0223-176.9 -1A	2.25	11.25	100	5		1.12515 J
Eng 5 Run 1	0223-176.10 -1A	2.81	14.06	100	5		1.40645 J
Eng 5 Run 2	0223-176.11 -1A	3.32	16.58	100	5		1.65750 J
Eng 5 Run 3	0223-176.12 -1A	2.86	14.31	100	5		1.43110 J
Eng 5 Run 4	0223-176.13 -1A	2.80	14.00	100	5		1.40045 J
Eng 5 Run 5	0223-176.14 -1A	3.88	19.42	100	5		1.94240 J
Eng 5 Run 6	0223-176.15 -1A	2.75	13.75	100	5		1.37460 J
Eng 5 Run 7	0223-176.16 -1A	2.49	12.45	100	5		1.24460 J
Eng 5 Field Blank	0223-176.17 -1A	3.76	18.81	100	5		1.88080 J
Eng 5 Reagent Blank	0223-176.18 -1A	2.23	11.13	100	5		1.11340 J
Lab Blank Front	0223-176.LB -1A	0.42	0.42	100	1		0.06505 ND
LCS Front	0223-176.LCS -1A	47.23	94.46	100	2	% REC =	94.5%
Spike Front	0223-176.1S -1A	47.68	238.41	100	5	% REC =	86.7%
Duplicate Front	0223-176.2D -1A	3.61				RPD =	N/A

Element Ni 60
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL 0.50 µg/L
 LOQ 5.0 µg/L
 Postdig'n Spike Conc. 50 µg/L
 Analyst(s) MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor	Total Vol. (mL)	Vol. Dig'd (mL)	Total (µg)
Back Halves								
Eng 4 Run 1	0223-176.1 -2A	13.60	13.60	100	1	440	415	1.44242
Eng 4 Run 2	0223-176.2 -2A	5.28	5.28	100	1	465	415	0.59122
Eng 4 Run 3	0223-176.3 -2A	7.26	7.26	100	1	437	412	0.76971
Eng 4 Run 4	0223-176.4 -2A	6.63	6.63	100	1	450	400	0.74576
Eng 4 Run 5	0223-176.5 -2A	5.19	5.19	100	1	438	413	0.55042
Eng 4 Run 6	0223-176.6 -2A	3.44	3.44	100	1	440	415	0.36468 J
Eng 4 Run 7	0223-176.7 -2A	3.21	3.21	100	1	445	420	0.34047 J
Eng 4 Field Blank	0223-176.8 -2A	0.43	0.43	100	1	290	265	0.05472 ND
Eng 4 Reagent Blank	0223-176.9 -2A	1.58	1.58	100	1	294	269	0.17257 J
Eng 5 Run 1	0223-176.10 -2A	3.65	3.65	100	1	437	412	0.38764 J
Eng 5 Run 2	0223-176.11 -2A	3.86	3.86	100	1	446	421	0.40849 J
Eng 5 Run 3	0223-176.12 -2A	3.87	3.87	100	1	450	400	0.43502 J
Eng 5 Run 4	0223-176.13 -2A	5.09	5.09	100	1	443	418	0.53945
Eng 5 Run 5	0223-176.14 -2A	6.05	6.05	100	1	447	422	0.64046
Eng 5 Run 6	0223-176.15 -2A	3.68	3.68	100	1	443	418	0.38997 J
Eng 5 Run 7	0223-176.16 -2A	6.97	6.97	100	1	437	412	0.73924
Eng 5 Field Blk + Eng 5 Reag. Blk Composite	0223-176.17 -2A	1.43	1.43	100	1	590	540	0.15602 J
Lab Blank Front	0223-176.LB -2A	0.55	0.55	100	1			0.05545 J
LCS Front	0223-176.LCS -2A	48.92	97.84	100	2		% REC =	97.8%
Spike Front	0223-176.1S -2A	61.38	61.38	100	1		% REC =	95.6%
Duplicate Front	0223-176.2D -2A	5.15					RPD =	N/A

Element Se 77
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL
 LOQ
 Postdig'n Spike Conc.
 Analyst(s)

ICP-MS
 0.61 µg/L
 5.0 µg/L
 50 µg/L
 MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor		Total (µg)	
Front Halves								
Eng 4 Run 1	0223-176.1 -1A	0.37	1.87	100	5		0.30361	ND
Eng 4 Run 2	0223-176.2 -1A	0.37	1.84	100	5		0.30361	ND
Eng 4 Run 3	0223-176.3 -1A	0.14	0.72	100	5		0.30361	ND
Eng 4 Run 4	0223-176.4 -1A	0.05	0.27	100	5		0.30361	ND
Eng 4 Run 5	0223-176.5 -1A	0.00	0.00	100	5		0.30361	ND
Eng 4 Run 6	0223-176.6 -1A	0.00	0.00	100	5		0.30361	ND
Eng 4 Run 7	0223-176.7 -1A	0.00	0.00	100	5		0.30361	ND
Eng 4 Field Blank	0223-176.8 -1A	0.00	0.00	100	5		0.30361	ND
Eng 4 Reagent Blank	0223-176.9 -1A	0.00	0.00	100	5		0.30361	ND
Eng 5 Run 1	0223-176.10 -1A	0.00	0.00	100	5		0.30361	ND
Eng 5 Run 2	0223-176.11 -1A	0.00	0.00	100	5		0.30361	ND
Eng 5 Run 3	0223-176.12 -1A	0.00	0.00	100	5		0.30361	ND
Eng 5 Run 4	0223-176.13 -1A	0.00	0.00	100	5		0.30361	ND
Eng 5 Run 5	0223-176.14 -1A	0.00	0.00	100	5		0.30361	ND
Eng 5 Run 6	0223-176.15 -1A	0.00	0.00	100	5		0.30361	ND
Eng 5 Run 7	0223-176.16 -1A	0.00	0.00	100	5		0.30361	ND
Eng 5 Field Blank	0223-176.17 -1A	0.00	0.00	100	5		0.30361	ND
Eng 5 Reagent Blank	0223-176.18 -1A	0.00	0.00	100	5		0.30361	ND
Lab Blank Front	0223-176.LB -1A	0.24	0.24	100	1		0.06072	ND
LCS Front	0223-176.LCS -1A	48.99	97.97	100	2	% REC =	98.0%	
Spike Front	0223-176.1S -1A	47.40	237.00	100	5	% REC =	94.8%	
Duplicate Front	0223-176.2D -1A	0.19				RPD =	N/A	

Element Se 77
 Client MAQS
 EA Project No. 0223-176
 Analysis Date 3/29/2023

Methodology
 MDL 0.80 µg/L
 LOQ 5.0 µg/L
 Postdig'n Spike Conc. 50 µg/L
 Analyst(s) MAL

Sample ID		Test Sol'n (µg/L)	Conc. (µg/L)	FV (mL)	Diln Factor	Total Vol. (mL)	Vol. Dig'd (mL)	Total (µg)	
Back Halves									
Eng 4 Run 1	0223-176.1 -2A	10.69	10.69	100	1	440	415	1.13376	
Eng 4 Run 2	0223-176.2 -2A	2.87	2.87	100	1	465	415	0.32194	J
Eng 4 Run 3	0223-176.3 -2A	10.96	10.96	100	1	437	412	1.16248	
Eng 4 Run 4	0223-176.4 -2A	41.62	41.62	100	1	450	400	4.68201	
Eng 4 Run 5	0223-176.5 -2A	10.91	10.91	100	1	438	413	1.15747	
Eng 4 Run 6	0223-176.6 -2A	75.25	75.25	100	1	440	415	7.97861	
Eng 4 Run 7	0223-176.7 -2A	5.27	5.27	100	1	445	420	0.55817	
Eng 4 Field Blank	0223-176.8 -2A	0.24	0.24	100	1	290	265	0.08746	ND
Eng 4 Reagent Blank	0223-176.9 -2A	0.23	0.23	100	1	294	269	0.08735	ND
Eng 5 Run 1	0223-176.10 -2A	79.00	79.00	100	1	437	412	8.37910	
Eng 5 Run 2	0223-176.11 -2A	21.57	21.57	100	1	446	421	2.28525	
Eng 5 Run 3	0223-176.12 -2A	17.98	179.84	100	10	450	400	20.2314	
Eng 5 Run 4	0223-176.13 -2A	3.08	3.08	100	1	443	418	0.32611	J
Eng 5 Run 5	0223-176.14 -2A	7.71	7.71	100	1	447	422	0.81670	
Eng 5 Run 6	0223-176.15 -2A	2.25	2.25	100	1	443	418	0.23853	J
Eng 5 Run 7	0223-176.16 -2A	8.72	8.72	100	1	437	412	0.92463	
Eng 5 Field Blk + Eng 5 Reag. Blk Composite	0223-176.17 -2A	0.30	0.30	100	1	590	540	0.08732	ND
Lab Blank Front	0223-176.LB -2A	0.33	0.33	100	1			0.07992	ND
LCS Front	0223-176.LCS -2A	48.11	96.22	100	2		% REC =	96.2%	
Spike Front	0223-176.1S -2A	63.57	63.57	100	1		% REC =	105.8%	
Duplicate Front	0223-176.2D -2A	2.56					RPD =	N/A	

METHOD 29 MERCURY - CVAA Worksheet

Client: MAQS - Santa Ana

EA Project #: 0223-176

Analysis Date: 2/27/23, 2/28/23, 3/1/23, 3/6/23, 3/7/23

MDL = 0.050 µg/L

RL = 0.10 µg/L

Matrix spike conc. = 5.0 µg/L

Sample ID	Test	Dig'te	Dil'n	Total	Volume		
	Sol'n	Conc	FV	Factor	Volume	Dig'd	Total
	µg/L	µg/L	ml		ml	ml	µg
FRACTION 1B							
ENG 4 Run 1	0223-176.1 -1B	-0.018	-0.02	50	1	100	10.0
ENG 4 Run 2	0223-176.2 -1B	-0.048	-0.05	50	1	100	10.0
ENG 4 Run 3	0223-176.3 -1B	-0.031	-0.03	50	1	100	10.0
ENG 4 Run 4	0223-176.4 -1B	-0.020	-0.02	50	1	100	10.0
ENG 4 Run 5	0223-176.5 -1B	-0.019	-0.02	50	1	100	10.0
ENG 4 Run 6	0223-176.6 -1B	-0.016	-0.02	50	1	100	10.0
ENG 4 Run 7	0223-176.7 -1B	-0.021	-0.02	50	1	100	10.0
ENG 4 Field Blank	0223-176.8 -1B	-0.017	-0.02	50	1	100	10.0
ENG 4 Reagent Blank	0223-176.9 -1B	-0.027	-0.03	50	1	100	10.0
ENG 5 Run 1	0223-176.10 -1B	-0.028	-0.03	50	1	100	10.0
ENG 5 Run 2	0223-176.11 -1B	-0.023	-0.02	50	1	100	10.0
ENG 5 Run 3	0223-176.12 -1B	-0.031	-0.03	50	1	100	10.0
ENG 5 Run 4	0223-176.13 -1B	-0.030	-0.03	50	1	100	10.0
ENG 5 Run 5	0223-176.14 -1B	-0.031	-0.03	50	1	100	10.0
ENG 5 Run 6	0223-176.15 -1B	-0.030	-0.03	50	1	100	10.0
ENG 5 Run 7	0223-176.16 -1B	-0.027	-0.03	50	1	100	10.0
ENG 5 Field Blank	0223-176.17 -1B	-0.025	-0.03	50	1	100	10.0
ENG 5 Reagent Blank	0223-176.18 -1B	-0.029	-0.03	50	1	100	10.0
Matrix Spike	0223-176.1S -1B	4.650				% REC =	93.0%
Duplicate	0223-176.2D -1B	-0.014				% RPD =	N/A
FRACTION 2B							
ENG 4 Run 1	0223-176.1 -2B	0.009	0.01	50	1	440	5.0
ENG 4 Run 2	0223-176.2 -2B	0.029	0.03	50	1	465	5.0
ENG 4 Run 3	0223-176.3 -2B	0.011	0.01	50	1	437	5.0
ENG 4 Run 4	0223-176.4 -2B	0.038	0.04	50	1	450	5.0
ENG 4 Run 5	0223-176.5 -2B	0.013	0.01	50	1	438	5.0
ENG 4 Run 6	0223-176.6 -2B	0.020	0.02	50	1	440	5.0
ENG 4 Run 7	0223-176.7 -2B	0.002	0.00	50	1	445	5.0
ENG 4 Field Blank	0223-176.8 -2B	-0.001	0.00	50	1	290	5.0
ENG 4 Reagent Blank	0223-176.9 -2B	0.035	0.04	50	1	294	5.0
ENG 5 Run 1	0223-176.10 -2B	0.007	0.01	50	1	437	5.0
ENG 5 Run 2	0223-176.11 -2B	0.028	0.03	50	1	446	5.0
ENG 5 Run 3	0223-176.12 -2B	0.021	0.02	50	1	450	5.0
ENG 5 Run 4	0223-176.13 -2B	0.017	0.02	50	1	443	5.0
ENG 5 Run 5	0223-176.14 -2B	0.013	0.01	50	1	447	5.0
ENG 5 Run 6	0223-176.15 -2B	0.014	0.01	50	1	443	5.0
ENG 5 Run 7	0223-176.16 -2B	0.010	0.01	50	1	437	5.0
ENG 5 Field Blank	0223-176.17 -2B	0.003	0.00	50	1	290	5.0
ENG 5 Reagent Blank	0223-176.18 -2B	0.032	0.03	50	1	300	5.0
Matrix Spike	0223-176.1S -2B	5.100				% REC =	102.0%
Duplicate	0223-176.2D -2B	0.032				% RPD =	N/A

METHOD 29 MERCURY - CVAA Worksheet

Client: MAQS - Santa Ana

EA Project #: 0223-176

Analysis Date: 2/27/23, 2/28/23, 3/1/23, 3/6/23, 3/7/23

MDL = 0.050 µg/L

RL = 0.10 µg/L

Matrix spike conc. = 5.0 µg/L

Sample ID			Test Sol'n µg/L	Dig'te Conc µg/L	FV ml	Dil'n Factor	Total Volume ml	Volume Dig'd ml	Total µg
FRACTION 3A									
ENG 4 Run 1	0223-176.1 -3A	0.033	0.03	50	1	93	10.0	0.0232	ND
ENG 4 Run 2	0223-176.2 -3A	0.026	0.03	50	1	98	10.0	0.0245	ND
ENG 4 Run 3	0223-176.3 -3A	-0.002	0.00	50	1	96	10.0	0.0240	ND
ENG 4 Run 4	0223-176.4 -3A	0.010	0.01	50	1	102	10.0	0.0255	ND
ENG 4 Run 5	0223-176.5 -3A	0.000	0.00	50	1	100	10.0	0.0250	ND
ENG 4 Run 6	0223-176.6 -3A	0.002	0.00	50	1	97	10.0	0.0242	ND
ENG 4 Run 7	0223-176.7 -3A	0.003	0.00	50	1	98	10.0	0.0245	ND
ENG 4 Field Blank	0223-176.8 -3A	-0.002	0.00	50	1	98	10.0	0.0245	ND
ENG 4 Reagent Blank	0223-176.9 -3A	-0.003	0.00	50	1	95	10.0	0.0237	ND
ENG 5 Run 1	0223-176.10 -3A	-0.002	0.00	50	1	100	10.0	0.0250	ND
ENG 5 Run 2	0223-176.11 -3A	0.011	0.01	50	1	100	10.0	0.0250	ND
ENG 5 Run 3	0223-176.12 -3A	-0.001	0.00	50	1	95	10.0	0.0237	ND
ENG 5 Run 4	0223-176.13 -3A	0.004	0.00	50	1	99	10.0	0.0247	ND
ENG 5 Run 5	0223-176.14 -3A	0.002	0.00	50	1	100	10.0	0.0250	ND
ENG 5 Run 6	0223-176.15 -3A	0.002	0.00	50	1	98	10.0	0.0245	ND
ENG 5 Run 7	0223-176.16 -3A	0.001	0.00	50	1	96	10.0	0.0240	ND
ENG 5 Field Blank	0223-176.17 -3A	0.000	0.00	50	1	97	10.0	0.0242	ND
ENG 5 Reagent Blank	0223-176.18 -3A	-0.001	0.00	50	1	98	10.0	0.0245	ND
Matrix Spike	0223-176.1S -3A	5.030				% REC =	100.6%		
Duplicate	0223-176.2D -3A	0.028				% RPD =	N/A		
FRACTION 3B									
ENG 4 Run 1	0223-176.1 -3B	-0.001	0.00	50	1	365	10.0	0.0912	ND
ENG 4 Run 2	0223-176.2 -3B	0.014	0.01	50	1	245	10.0	0.0612	ND
ENG 4 Run 3	0223-176.3 -3B	0.017	0.02	50	1	255	10.0	0.0637	ND
ENG 4 Run 4	0223-176.4 -3B	0.021	0.02	50	1	250	10.0	0.0625	ND
ENG 4 Run 5	0223-176.5 -3B	0.017	0.02	50	1	240	10.0	0.0600	ND
ENG 4 Run 6	0223-176.6 -3B	0.026	0.03	50	1	260	10.0	0.0650	ND
ENG 4 Run 7	0223-176.7 -3B	0.022	0.02	50	1	240	10.0	0.0600	ND
ENG 4 Field Blank	0223-176.8 -3B	0.021	0.02	50	1	240	10.0	0.0600	ND
ENG 4 Reagent Blank	0223-176.9 -3B	0.020	0.02	50	1	82	10.0	0.0205	ND
ENG 5 Run 1	0223-176.10 -3B	0.022	0.02	50	1	240	10.0	0.0600	ND
ENG 5 Run 2	0223-176.11 -3B	0.019	0.02	50	1	235	10.0	0.0587	ND
ENG 5 Run 3	0223-176.12 -3B	0.018	0.02	50	1	245	10.0	0.0612	ND
ENG 5 Run 4	0223-176.13 -3B	0.021	0.02	50	1	230	10.0	0.0575	ND
ENG 5 Run 5	0223-176.14 -3B	0.021	0.02	50	1	265	10.0	0.0662	ND
ENG 5 Run 6	0223-176.15 -3B	0.022	0.02	50	1	260	10.0	0.0650	ND
ENG 5 Run 7	0223-176.16 -3B	0.020	0.02	50	1	255	10.0	0.0637	ND
ENG 5 Field Blank	0223-176.17 -3B	0.061	0.06	50	1	265	10.0	0.0808	J
ENG 5 Reagent Blank	0223-176.18 -3B	0.022	0.02	50	1	82	10.0	0.0205	ND
Matrix Spike	0223-176.1S -3B	5.290				% REC =	105.8%		
Duplicate	0223-176.2D -3B	0.017				% RPD =	N/A		

METHOD 29 MERCURY - CVAA Worksheet

Client: MAQS - Santa Ana

EA Project #: 0223-176

Analysis Date: 2/27/23, 2/28/23, 3/1/23, 3/6/23, 3/7/23

MDL = 0.050 µg/L

RL = 0.10 µg/L

Matrix spike conc. = 5.0 µg/L

Sample ID		Test Sol'n µg/L	Dig'te Conc µg/L	FV ml	Dil'n Factor	Total Volume ml	Volume Dig'd ml	Total µg
FRACTION 3C								
ENG 4 Run 1	0223-176.1 -3C	0.288	0.29	50	1	275	10.0	0.3960
ENG 4 Run 2	0223-176.2 -3C	0.153	0.15	50	1	285	10.0	0.2180
ENG 4 Run 3	0223-176.3 -3C	0.471	0.47	50	1	285	10.0	0.6712
ENG 4 Run 4	0223-176.4 -3C	0.134	0.13	50	1	285	10.0	0.1910
ENG 4 Run 5	0223-176.5 -3C	0.072	0.07	50	1	300	10.0	0.1080 J
ENG 4 Run 6	0223-176.6 -3C	0.115	0.12	50	1	310	10.0	0.1783
ENG 4 Run 7	0223-176.7 -3C	0.058	0.06	50	1	285	10.0	0.0827 J
ENG 4 Field Blank	0223-176.8 -3C	0.301	0.30	50	1	285	10.0	0.4289
ENG 4 Reagent Blank	0223-176.9 -3C	0.020	0.02	50	1	260	10.0	0.0650 ND
ENG 5 Run 1	0223-176.10 -3C	0.067	0.07	50	1	290	10.0	0.0972 J
ENG 5 Run 2	0223-176.11 -3C	0.083	0.08	50	1	275	10.0	0.1141 J
ENG 5 Run 3	0223-176.12 -3C	0.072	0.07	50	1	290	10.0	0.1044 J
ENG 5 Run 4	0223-176.13 -3C	0.075	0.08	50	1	285	10.0	0.1069 J
ENG 5 Run 5	0223-176.14 -3C	0.070	0.07	50	1	295	10.0	0.1033 J
ENG 5 Run 6	0223-176.15 -3C	0.085	0.09	50	1	280	10.0	0.1190 J
ENG 5 Run 7	0223-176.16 -3C	0.072	0.07	50	1	285	10.0	0.1026 J
ENG 5 Field Blank	0223-176.17 -3C	0.733	0.73	50	1	285	10.0	1.0445
ENG 5 Reagent Blank	0223-176.18 -3C	0.018	0.02	50	1	270	10.0	0.0675 ND
Matrix Spike	0223-176.1S -3C	5.130				% REC =	96.8%	
Duplicate	0223-176.2D -3C	0.156				% RPD =	N/A	
Batch Quality Control								
Lab Blank	0223-176.LB1	-0.002	0.00	50	1	50	20	0.00625 ND
Lab Control Sample	0223-176.LCS1	5.000				% REC =	100.0%	
Lab Blank	0223-176.LB2	0.000	0.00	50	1	50	20	0.00625 ND
Lab Control Sample	0223-176.LCS2	5.140				% REC =	102.8%	
Lab Blank	0223-176.LB3	0.000	0.00	50	1	50	20	0.00625 ND
Lab Control Sample	0223-176.LCS3	5.070				% REC =	101.4%	
Lab Blank	0223-176.LB4	0.009	0.009	50	1	50	20	0.00625 ND
Lab Control Sample	0223-176.LCS4	5.080				% REC =	101.6%	
Lab Blank	0223-176.LB5	0.001	0.00	50	1	50	20	0.00625 ND
Lab Control Sample	0223-176.LCS5	4.970				% REC =	99.4%	

Narrative Summary



Enthalpy Analytical Narrative Summary

Company Job No. Client ID.	Montrose Air Quality Services, LLC – Santa Ana 0223-176R EPA Method 29 023392 Site: DTE Energy – Sunshine – SGT Eng 4 and 5 Exhaust
Custody	<p>Conor Benson received the samples on 2/20/23 after being relinquished by Montrose Air Quality Services, LLC – Santa Ana. He then delivered the samples to Enthalpy's Durham Laboratory on 2/24/23. Alyssa Miller logged the samples in on 2/24/23 at 20.5 °C in good condition.</p> <p>Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, LLC.</p>
Analysis	<p>The samples were prepared and analyzed for antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, selenium, and mercury using the procedures in EPA Method 29, Determination of Metals Emissions from Stationary Sources.</p> <p>The Inductively Coupled Plasma Mass Spectrometer "X" and the Cold Vapor Atomic Absorption Spectrometer "Walt Jr." were used for these analyses.</p>
Calibration	The calibration curves met all method-specified precision criteria.
QC Notes	<p>The elements were not identified at concentrations greater than the reporting limit in the analyses of the laboratory blanks.</p> <p>The Laboratory Control Spikes were within the acceptance limits of 80% to 120%.</p> <p>The Matrix Spike recovery values were within the acceptance range of 75% to 125%.</p> <p>The required duplicate samples had a relative percent difference of 20% or less or were less than five times the limit of quantitation.</p> <p>All of the samples were analyzed at least in duplicate.</p>
Reporting Notes	<p>The revision is due to client request that front half and back half fractions are analyzed and reported separately.</p> <p>Inadvertently, samples Eng 5 Field Blank – 2A and Eng 5 Reagent Blank – Composite were combined during digestion.</p> <p>These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.</p> <p>The results presented in this report are representative of the sample as provided to the laboratory.</p>

General Reporting Notes

The following are general reporting notes that are applicable to all Enthalpy Analytical, LLC data reports, unless specifically noted otherwise.

- Any analysis which refers to the method as “*Type*” represents a planned deviation from the reference method. For instance a Hydrogen Sulfide assay from a Tedlar bag would be labeled as “EPA Method 16-Type” because Tedlar bags are not mentioned as one of the collection options in EPA Method 16.
- The acronym **MDL** represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.
- The acronym **LOQ** represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.
- The acronym **ND** following a value indicates a non-detect or analytical result below the MDL.
- The letter **J** in the Qualifier or Flag column in the results indicates that the value is between the MDL and the LOQ. The laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.
- The letter **E** in the Qualifier or Flag column indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.
- Sample results are presented ‘as measured’ for single injection methodologies, or an average value if multiple injections are made. If all injections are below the MDL, the sample is considered non-detect and the ND value is presented. If one, but not all, are below the MDL, the MDL value is used for any injections that are below the MDL. For example, if the MDL is 0.500 and LOQ is 1.00, and the instrument measures 0.355, 0.620, and 0.442 - the result reported is the average of 0.500, 0.620, and 0.500 - - - i.e. 0.540 with a J flag.
- When a spike recovery (Bag Spike, Collocated Spike Train, or liquid matrix spike) is being calculated, the native (unspiked) sample result is used in the calculations, as long as the value is above the MDL. If a sample is ND, then 0 is used as the native amount (not the MDL value).
- The acronym **DF** represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.
- The addition of **MS** to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. The MS analysis indicates what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).



General Reporting Notes

(continued)

- The addition of **MSD** to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as a MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.
- The addition of **LD** to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).
- The addition of **AD** to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.
- The Sample ID **LCS** represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two spikes are retained as LCSs. The LCSs are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection, and/or sample transport.
- **Significant Figures:** Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits. In the case of small numbers, generally 3 significant figures are presented, but still only 2 should be used with confidence. Many neat materials are only certified to 3 digits, and as the mathematically correct final result is always 1 digit less than all its pre-cursors - 2 significant figures are what are most defensible.
- **Manual Integration:** The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations on sample chromatograms, if provided in the report. The peak was *not integrated* by the software "**NI**", the peak was *integrated incorrectly* by the software "**II**" or the *wrong peak* was integrated by the software "**WP**". These codes will accompany the analyst's manual integration stamp placed next to the compound name on the chromatogram.



Sample Custody



CHAIN OF CUSTODY

CLIENT: DTE Energy PROJ #: 023392 TEST DATE(S): 2/7/2023 - 2/10/2023

LOCATION: Sunshine SAMPLER(S): DH/AD/PSJ

SAMPLE LOCATION: SGT Eng 4 Exhaust PROJECT MANAGER: PSJ

TEST METHOD(S): EPA 29 DATE DUE: ASAP

OUTSIDE LAB REQUIRED?: Yes COMPLIANCE TEST?: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
2/7/2023	10:50	1	Eng 4 Run1	6	DH/AD,PSJ	
2/8/2023	8:10	2	Eng 4 Run2	6	DH/AD,PSJ	
2/8/2023	13:05	3	Eng 4 Run3	6	DH/AD,PSJ	
2/9/2023	8:05	4	Eng 4 Run4	6	DH/AD,PSJ	
2/9/2023	12:40	5	Eng 4 Run5	6	DH/AD,PSJ	
2/10/2023	7:50	6	Eng 4 Run6	6	DH/AD,PSJ	
2/10/2023	12:15	7	Eng 4 Run7	6	DH/AD,PSJ	
2/10/2023		FB/RB	Eng 4 Field Blank	12	DH/AD,PSJ	
mmmm3 02-24-23						

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
<i>[Signature]</i>	2/20/23 11:00	<i>[Signature]</i>	02-24-23 13:45
ANALYSIS REQUIRED: EPA 29 Metals include: Antimony (Sb), Arsenic (As), Beryllium (Be), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Lead (Pb), Manganese (Mn), Mercury (Hg), Nickel (Ni), and Selenium (Se).			

MONITOR Date of Last Revision 9/1/2017 Chain of Custody - DS834001 - Excel Master Document Storage\Forms\Datasheets\Lab Forms

80.5°C Ray bell 2 good condition mmm3 02-24-23
Red RB not tested on 2-24-23 mmm3 02-24-23

CHAIN OF CUSTODY

CLIENT: DTE Energy
 LOCATION: Sunshine
 SAMPLE LOCATION: SGT Eng 5 Exhaust
 TEST METHOD(S): EPA 29
 TEST DATE(S): 2/14/2023 - 2/17/2023
 PROJ #: 023392
 SAMPLER(S): DH/AD/PSJ
 PROJECT MANAGER: PSJ
 DATE DUE: ASAP
 COMPLIANCE TEST?: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
2/14/2023	8:00	1	Eng 5 Run1	6	DH,AD,PSJ	
2/15/2023	12:20	2	Eng 5 Run2	6	DH,AD,PSJ	
2/15/2023	7:35	3	Eng 5 Run3	6	DH,AD,PSJ	
2/16/2023	12:00	4	Eng 5 Run4	6	DH,AD,PSJ	
2/16/2023	7:35	5	Eng 5 Run5	6	DH,AD,PSJ	
2/17/2023	12:00	6	Eng 5 Run6	6	DH,AD,PSJ	
2/17/2023	7:30	7	Eng 5 Run7	6	DH,AD,PSJ	
2/17/2023		FB/28	Eng 5 Field Blank	12	DH,AD,PSJ	
Amm3 02-24-23						

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
<i>[Signature]</i>	2/20/23 13:46	<i>[Signature]</i>	2/20/23 13:46
<i>[Signature]</i>	2/24/23 13:46	<i>[Signature]</i>	02-24-23 1345

ANALYSIS REQUIRED: EPA 29 Metals include: Antimony (Sb), Arsenic (As), Beryllium (Be), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Lead (Pb), Manganese (Mn), Mercury (Hg), Nickel (Ni), and Selenium (Se).

MONITROSE
 Date of Last Revision 9/1/2017
 Chain of Custody - DS834001 - Excel
 Master Document Storage\Forms\Datasheets\Lab Forms

20.5°C Daytime 2, good condition Amm3 02-24-23

Raw Data



Analyst: ENCDate: 2/27/23

Job #s

0223-176

Describe Work Documented on This Page

m29 ^① prepSupplies, Ancillary Equipment
Serial #s, Lot #s, Etc

NA

1381A = M29 Volumes worksheet

1381B = M29 Volumes worksheet

1381C = M29 PH Prep sheet

1381D = M29 BH Prep sheet

① DEELMP
2/27/23

② Combined 0223-176.17-2

with 0223-176.18-2 on accident ^{① DEELMP}
accident while coming down 2/28/23
ENC 2/28/23 added after 2-out

Reviewer's Initials & Date:

Metals Prep

EA Job# 0223-176 Page 41 of 186

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1351A



Method 29 Volumes Worksheet

Client: MARS-Santa Ana		8N HCl ID:	ES-0845	8N HCl Exp:	8/24/23	2B Digitube ID	JSS3474-7698					
EA Project #: 0223-176		8N HCl Pipette ID:	JSS3474-7698	Pipette Exp:	N/A	0.50L/1.0L Bottle ID	L-1-008-0538					
Analyst: EWCLMP		Custody Seals Intact?	(Yes) / No	Comments:								
Date: 2/27/23 2/28/23 3/1/23		Leak Check Levels Ok?	(Yes) / No	Comments:								
Method 29 Fraction Volumes (mL):												
Sample ID	Container	3	4	2B	3A	3B	3C	Container	Cont. 3 pH Initial / Final	Amount HNO ₃ Added (mL)	Cont. 4 Initial / Final	Amount HNO ₃ Added (mL)
0223-176.1	91	440	25	93	275	<2						
.2	86	465	50	98	285	<2						
.3	96	437	25	96	285	<2						
.4	90	450	50	102	285	<2						
.5	94	438	25	100	300	<2						
.6	95	440	25	97	310	<2						
.7	96	445	25	98	285	<2						
.8	96	290	25	98	285	<2						
.9	97	437	25	95	260	<2						
.10	97	437	25	100	290	<2						
.11	94	446	25	100	275	<2						
.12	93	450	50	95	290	<2						
When possible: the FH Blank should consist of 100 mL of Container 3. The BH Blank should consist of 100 mL of Container 3 + 200 mL of Container 4. If not enough solution provided, treat as field sample by digesting entire containers w/o combining.												
Reagent & Field Blank Composites	Container 3 Total		Container 3 Digested		Container 4 Total		Container 4 Composite		Hg Aliquot Removed from BH Composite:		Container 4 Digested	
	267	100	194	294	25	269						
Comments: 0223-176.9 ② EFLMP 3/6/23												
If pH is >2												
HNO ₃ ID: HNO ₃ Exp:												
HNO ₃ Pip: HNO ₃ Pip Exp:												

Method 29 Volumes Worksheet

[illegible]

1381C

METHOD 29 METALS PREP SHEET
FRONT HALF SAMPLES

DAY 1		Date: 2/27/23	Analyst(s): LMP		DAY 3		Date: 3/2/23	Analyst(s): ENC	
DAY 2		Date: 3/1/23	Analyst(s): ENC		DAY 4		Date:	Analyst(s):	

Ves. #	Reagents	ID#:	Expiration Date:	Sample ID	Final Volume (mL)
1	HNO ₃ : 6 mL	22400034	10/24	0223-176.1	-1
2	HF: 4 mL	5CA2348094	11/25	.2	-1
3	Support Equipment	ID#:	Expiration Date:	.3	-1
4				.4	-1
5				.5	-1
6	Ag vessels used? YES / <u>NOT NEEDED</u> Cleaning Cycle Completed? <u>YES</u> / NO			.6	-1
7	Micro. #	6, 7	N/A	.7	-1
8				.8	-1
9	Hotplate #	8	N/A	.9	-1
10				.10	-1
1	HF Pipette	130	3/3/23	.11	-1
2				.12	-1
3	HNO ₃ Pipette	1	1	.13	-1
4				.14	-1
5	Digitube	J553474-7898	N/A	.15	-1
6				.16	-1
7	Comments:			.17	-1
8				.18	-1
					-1
					-1

Front Half Quality Control

Ves. #	QC	ID:	Expiration:	Stock Conc. (ppm)	Prepped Conc. (ppb)	Amount Added (mL)	Pip ID:	Pip Exp:
9	Lab Blank-1	--	--	--	--	--	--	--
10	LCS-1	F0814	11/23	10	100	1.0	124	3/4/23

List additional LCS's below as needed. For example: Ag, LCS-High

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METHOD 29 METALS PREP SHEET
BACK HALF SAMPLES

DAY 1	Date: 2/27/23	Analyst(s): LMP	DAY 3	Date:	Analyst(s):
DAY 2	Date: 3/2/23	Analyst(s): ENL	DAY 4	Date:	Analyst(s):

Reagents	ID#:	Expiration Date:	Sample ID	Final Volume (mL)
1:1 HNO3: 30mL	ES-0832	4/10/23	0223-176.1 -2A	100
H2O2: 1mL	61326206	11/30/23	.2 -2A	
			.3 -2A	
Support Equipment	ID#:	Expiration Date:	.4 -2A	
Hotplate #	10	N/A	.5 -2A	
			.6 -2A	
1:1 HNO3 Pipette	J553474 -7898	NA	.7 -2A	
			.8 -2A	
H2O2 Pipette	130	3/3/23	.9 -2A	
			.10 -2A	
Hg Aliquot Removed (mL) (-2B)	25.50		.11 -2A	
			.12 -2A	
Digitube	J553474-7898	N/A	.13 -2A	
			.14 -2A	
Comments:			.15 -2A	
			.16 -2A	
			.17 -2A	
			.18 -2A	
			-2A	
			-2A	

Back Half Quality Control

QC	ID:	Expiration:	Stock Conc. (ppm)	Prepped Conc. (ppb)	Amount Added (mL)	Pip ID:	Pip Exp:
Lab Blank-2A	--	--	--	--	--	--	--
LCS-2A	F0814	11/23	10	100	1.0	124	3/4/23

List additional LCS's below as needed. For example: Ag, LCS-High

Doc. No.: RD05
Rev.:G
Effective Date: 08-05-22

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Instrument Xy

Effective Date: 08-05-22

Comments:

All analytical sequences use the same calibration standards + 1C5A/B. The check standards (1A/1CB) were prepared for each set of analyses.

WZ 3/29/23

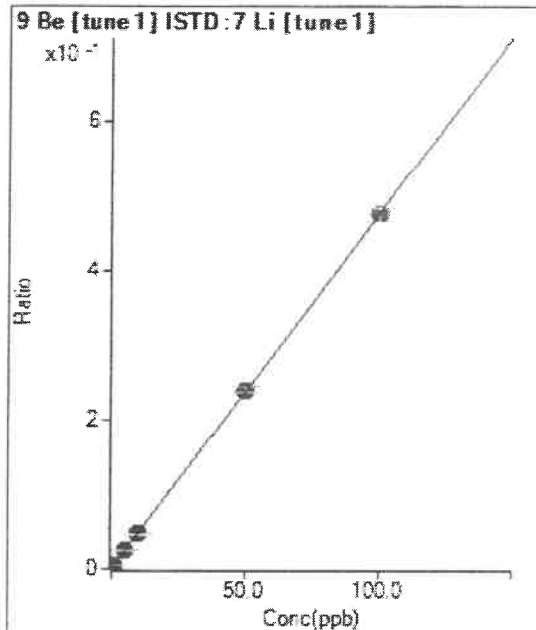
All analytical sequences use the same calibration standards + IC5A/B. The check standards (IC1/ICB) were prepared for each set of analyses.

WZ 3/29/23

Calibration for 001CALB.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\0223-176 032923 low mass FH.b\
 Analysis File: 0223-176 032923 low mass FH.batch.bin
 DA Date-Time: 3/29/2023 10:04:08 AM
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	001CALB.d	Cal Blank	3/29/2023 9:46:26 AM
2	002CALS.d	1 ppb	3/29/2023 9:50:05 AM
3	003CALS.d	5 ppb	3/29/2023 9:53:32 AM
4	004CALS.d	10 ppb	3/29/2023 9:57:02 AM
5	005CALS.d	50 ppb	3/29/2023 10:00:30 AM
6	006CALS.d	100 ppb	3/29/2023 10:04:00 AM



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	20.02	0.0000	P	87.8
2	<input type="checkbox"/>	1.000	1.059	10577.89	0.0050	P	5.6
3	<input type="checkbox"/>	5.000	5.301	53769.85	0.0252	P	0.6
4	<input type="checkbox"/>	10.000	9.951	107581.36	0.0473	P	3.5
5	<input type="checkbox"/>	50.000	50.360	530841.33	0.2396	P	3.1
6	<input type="checkbox"/>	100.000	99.809	1057329.23	0.4748	A	3.5

$$y = 0.0048 * x + 8.7471E-006$$

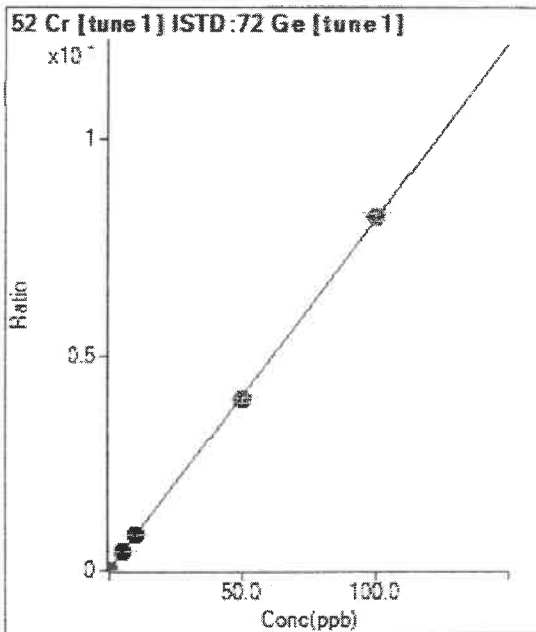
$$R = 1.0000$$

$$DL = 0.004843$$

$$BEC = 0.001839$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	12828.74	0.0149	P	3.6
2	<input type="checkbox"/>			78308.31	0.0967	P	4.5
3	<input type="checkbox"/>	5.000	5.028	346960.26	0.4235	P	4.2
4	<input type="checkbox"/>	10.000	9.864	674088.03	0.8165	P	1.2
5	<input type="checkbox"/>	50.000	48.903	3263859.76	3.9890	A	3.4
6	<input type="checkbox"/>	100.000	100.561	6839379.50	8.1869	A	2.2

$$y = 0.0813 * x + 0.0149$$

$$R = 0.9999$$

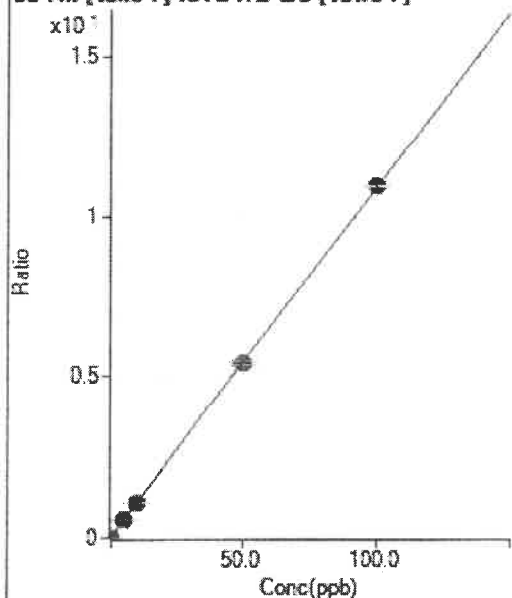
$$DL = 0.01974$$

$$BEC = 0.1832$$

Weight: <None>

Min Conc: 0

55 Mn [tune 1] ISTD :72 Ge [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	14131.37	0.0164	P	5.3
2	<input type="checkbox"/>			105196.65	0.1298	P	3.8
3	<input type="checkbox"/>	5.000	5.154	474232.48	0.5787	P	2.0
4	<input type="checkbox"/>	10.000	10.041	917971.57	1.1119	A	2.0
5	<input type="checkbox"/>	50.000	49.303	4416107.88	5.3954	A	2.5
6	<input type="checkbox"/>	100.000	100.337	9159364.14	10.9634	A	0.8

$$y = 0.1091 * x + 0.0164$$

$$R = 1.0000$$

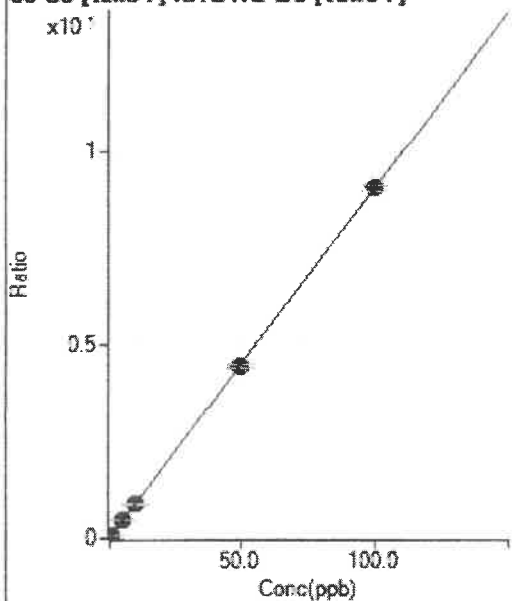
$$DL = 0.02398$$

$$BEC = 0.1503$$

Weight: <None>

Min Conc: 0

59 Co [tune 1] ISTD :72 Ge [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3030.08	0.0035	P	12.2
2	<input type="checkbox"/>	1.000	1.023	77903.66	0.0961	P	3.0
3	<input type="checkbox"/>	5.000	5.105	381434.04	0.4655	P	2.8
4	<input type="checkbox"/>	10.000	9.895	742176.45	0.8990	P	2.4
5	<input type="checkbox"/>	50.000	49.493	3668493.00	4.4823	A	2.3
6	<input type="checkbox"/>	100.000	100.259	7583424.46	9.0764	A	1.9

$$y = 0.0905 * x + 0.0035$$

$$R = 1.0000$$

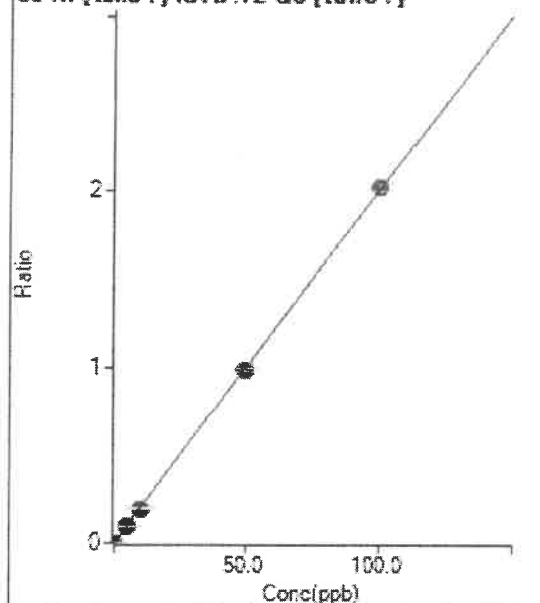
$$DL = 0.01423$$

$$BEC = 0.03884$$

Weight: <None>

Min Conc: 0

60 Ni [tune 1] ISTD:72 Ge [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	887.60	0.0010	P	3.5
2	<input type="checkbox"/>			16663.35	0.0205	P	1.7
3	<input type="checkbox"/>	5.000	4.882	81232.17	0.0991	P	1.4
4	<input type="checkbox"/>	10.000	9.762	162789.84	0.1972	P	2.0
5	<input type="checkbox"/>	50.000	48.877	804650.78	0.9832	M	1.9
6	<input type="checkbox"/>	100.000	100.591	1689656.88	2.0224	A	2.2

$$y = 0.0201 * x + 0.0010$$

$$R = 0.9999$$

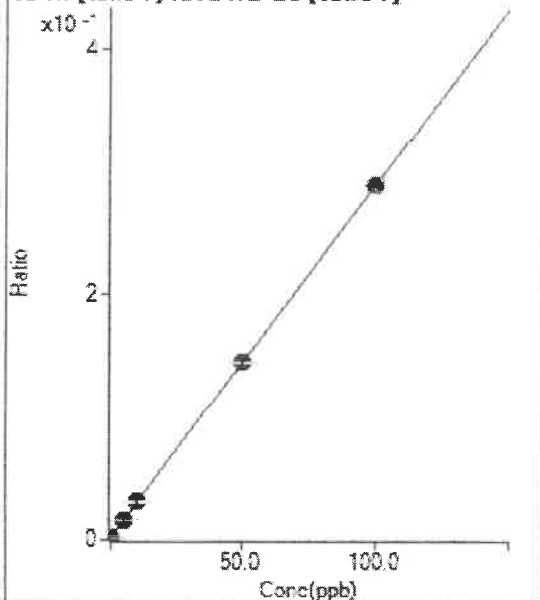
$$DL = 0.005317$$

$$BEC = 0.05125$$

Weight: <None>

Min Conc: 0

62 Ni [tune 1] ISTD:72 Ge [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	914.29	0.0011	P	8.6
2	<input type="checkbox"/>			2993.34	0.0037	P	9.7
3	<input type="checkbox"/>	5.000	4.968	12581.67	0.0153	P	1.6
4	<input type="checkbox"/>	10.000	10.051	24740.03	0.0300	P	1.9
5	<input type="checkbox"/>	50.000	49.975	118497.64	0.1448	P	1.0
6	<input type="checkbox"/>	100.000	100.009	241164.40	0.2887	P	2.5

$$y = 0.0029 * x + 0.0011$$

$$R = 1.0000$$

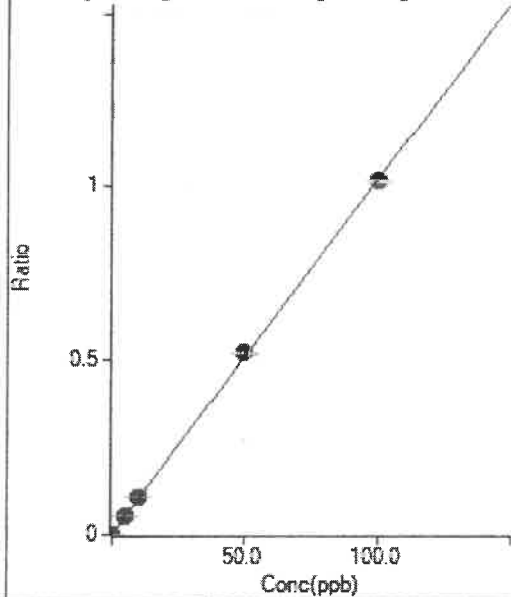
$$DL = 0.09524$$

$$BEC = 0.3691$$

Weight: <None>

Min Conc: 0

75 As [tune 1] ISTD:72 Ge [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	110.11	0.0001	P	8.3
2	<input type="checkbox"/>			8654.78	0.0107	P	2.3
3	<input type="checkbox"/>	5.000	5.181	43498.41	0.0531	P	2.4
4	<input type="checkbox"/>	10.000	10.452	88287.43	0.1070	P	2.7
5	<input type="checkbox"/>	50.000	50.910	425932.78	0.5204	P	0.6
6	<input type="checkbox"/>	100.000	99.491	849624.99	1.0169	A	0.4

$$y = 0.0102 * x + 1.2773E-004$$

$$R = 0.9999$$

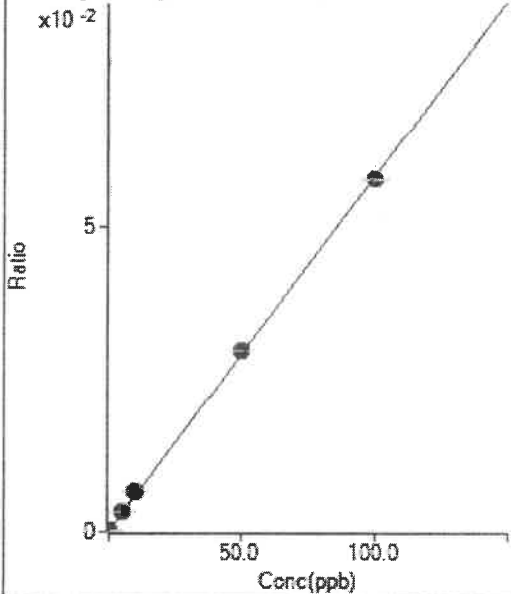
$$DL = 0.003107$$

$$BEC = 0.0125$$

Weight: <None>

Min Conc: 0

77 Se [tune 1] ISTD:72 Ge [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	133.47	0.0002	P	35.8
2	<input type="checkbox"/>			613.97	0.0008	P	21.5
3	<input type="checkbox"/>	5.000	5.561	2779.75	0.0034	P	2.5
4	<input type="checkbox"/>	10.000	11.418	5613.46	0.0068	P	2.3
5	<input type="checkbox"/>	50.000	51.047	24439.52	0.0299	P	0.3
6	<input type="checkbox"/>	100.000	99.307	48409.57	0.0579	P	0.4

$$y = 5.8191E-004 * x + 1.5515E-004$$

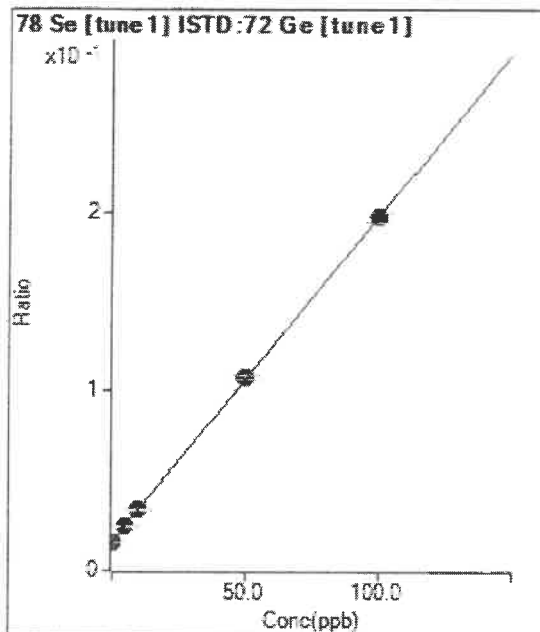
$$R = 0.9999$$

$$DL = 0.2867$$

$$BEC = 0.2666$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	13530.27	0.0157	P	3.3
2	<input type="checkbox"/>			14198.20	0.0175	P	1.5
3	<input type="checkbox"/>	5.000	4.889	20168.27	0.0246	P	2.5
4	<input type="checkbox"/>	10.000	10.213	28330.71	0.0343	P	2.6
5	<input type="checkbox"/>	50.000	50.481	88147.65	0.1077	P	2.5
6	<input type="checkbox"/>	100.000	99.744	165026.81	0.1975	P	2.4

$$y = 0.0018 * x + 0.0157$$

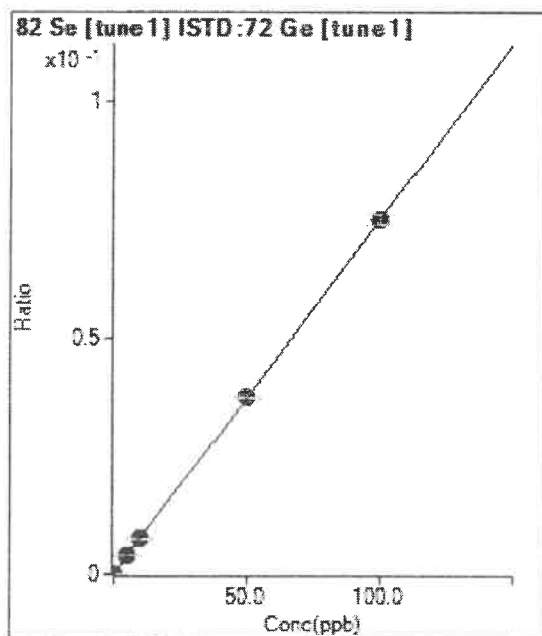
$$R = 1.0000$$

$$DL = 0.8442$$

$$BEC = 8.614$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2.00	0.0000	P	2765.2
2	<input type="checkbox"/>			672.42	0.0008	P	3.9
3	<input type="checkbox"/>	5.000	5.302	3251.75	0.0040	P	6.5
4	<input type="checkbox"/>	10.000	9.893	6109.25	0.0074	P	3.6
5	<input type="checkbox"/>	50.000	50.113	30680.21	0.0375	P	0.8
6	<input type="checkbox"/>	100.000	99.939	62438.89	0.0747	P	3.1

$$y = 7.4793E-004 * x + 1.9025E-006$$

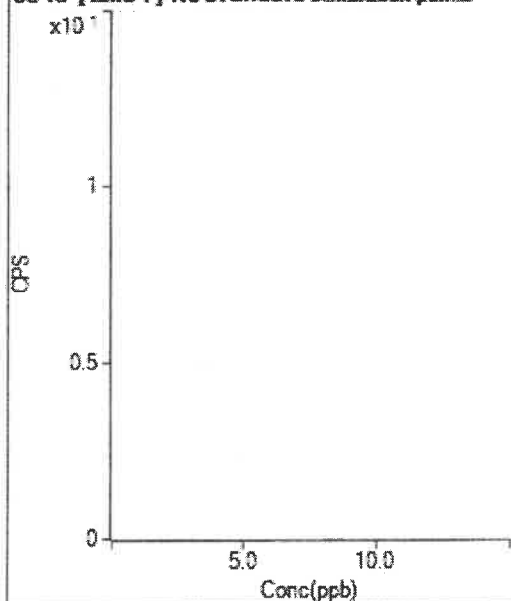
$$R = 1.0000$$

$$DL = 0.211$$

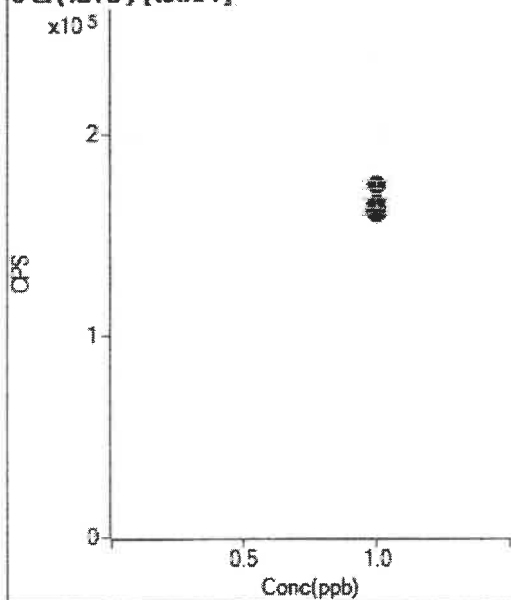
$$BEC = 0.002544$$

Weight: <None>

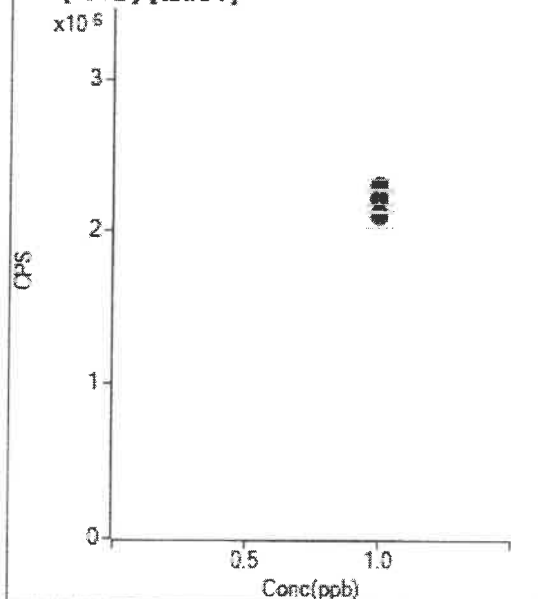
Min Conc: 0

83 Kr [tune 1] No available calibration points

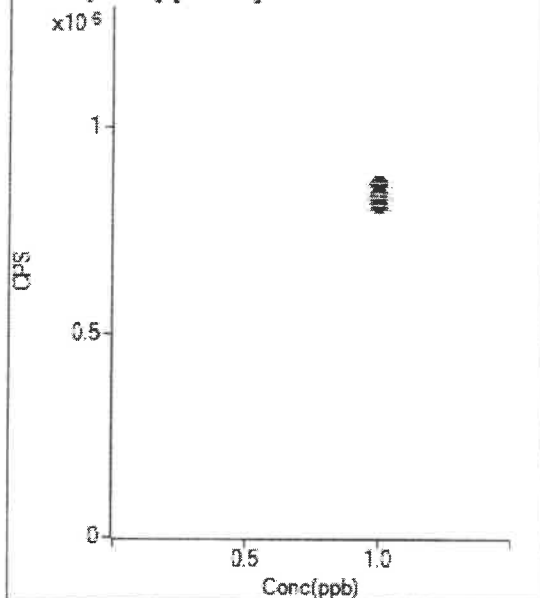
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			170.17		P	15.6
2	<input type="checkbox"/>			206.87		P	15.6
3	<input type="checkbox"/>			253.59		P	14.9
4	<input type="checkbox"/>			216.89		P	44.8
5	<input type="checkbox"/>			246.92		P	11.7
6	<input type="checkbox"/>			230.23		P	13.0

6 Li (ISTD) [tune 1]

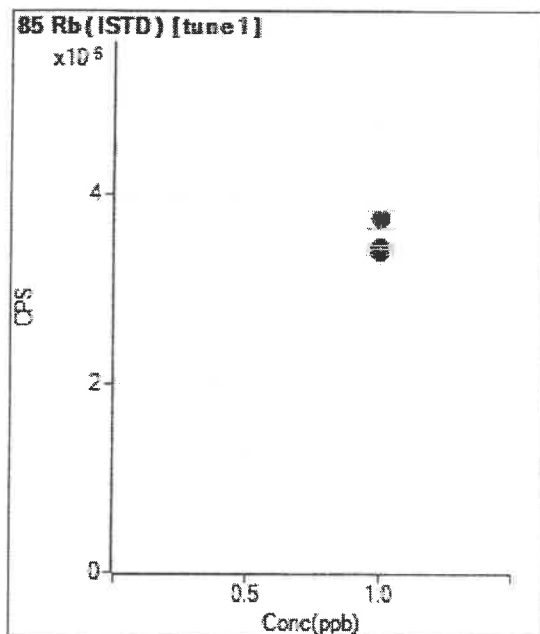
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		174977.22		P	2.1
2	<input type="checkbox"/>	1.000		164410.22		P	4.1
3	<input type="checkbox"/>	1.000		161264.40		P	0.6
4	<input type="checkbox"/>	1.000		162946.03		P	1.2
5	<input type="checkbox"/>	1.000		162720.39		P	2.0
6	<input type="checkbox"/>	1.000		166373.91		P	2.7

7 Li (ISTD) [tune 1]

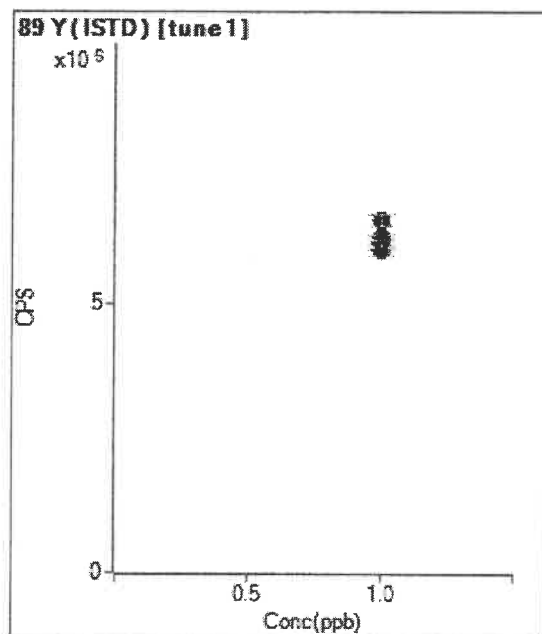
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		2306091.71		A	3.4
2	<input type="checkbox"/>	1.000		2100528.76		A	6.8
3	<input type="checkbox"/>	1.000		2131555.81		A	0.1
4	<input type="checkbox"/>	1.000		2272818.73		A	0.9
5	<input type="checkbox"/>	1.000		2217929.44		A	4.3
6	<input type="checkbox"/>	1.000		2228834.15		A	3.8

72 Ge (ISTD) [tune 1]

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		861689.42		A	1.3
2	<input type="checkbox"/>	1.000		810853.99		M	2.9
3	<input type="checkbox"/>	1.000		819577.71		M	1.5
4	<input type="checkbox"/>	1.000		825554.74		A	0.5
5	<input type="checkbox"/>	1.000		818472.24		A	1.4
6	<input type="checkbox"/>	1.000		835495.52		A	1.1



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		3741039.45		A	4.5
2	<input type="checkbox"/>	1.000		3410778.81		A	0.8
3	<input type="checkbox"/>	1.000		3444462.44		A	2.3
4	<input type="checkbox"/>	1.000		3418290.10		A	2.3
5	<input type="checkbox"/>	1.000		3389024.82		A	0.7
6	<input type="checkbox"/>	1.000		3452337.53		A	1.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		6534218.68		A	3.0
2	<input type="checkbox"/>	1.000		5989892.34		A	0.5
3	<input type="checkbox"/>	1.000		5987125.51		A	3.1
4	<input type="checkbox"/>	1.000		6233525.91		A	1.6
5	<input type="checkbox"/>	1.000		6039855.53		A	0.4
6	<input type="checkbox"/>	1.000		6120029.71		A	1.4

Acq. Date-Time	Sample Name	9 Be [tune 1]		52 Cr [tune 1]		55 Mn [tune 1]		59 Co [tune 1]		60 Ni [tune 1]	
		Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD
3/29/2023 9:46	Cal Blank	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A
3/29/2023 9:50	1 ppb	1.0594	5.743	1.0062	5.3479	1.0395	4.3618	1.0233	3.1014	0.9714	4.8816
3/29/2023 9:53	5 ppb	5.3014	0.6130	5.0284	4.3868	5.1543	2.0726	5.9952	2.8241	5.9952	2.8241
3/29/2023 9:57	10 ppb	9.9513	3.4673	9.8644	1.2525	10.0412	1.9809	9.8952	2.3959	9.7618	4.8816
3/29/2023 10:00	50 ppb	50.3605	3.0830	48.9031	3.3954	49.3027	2.5064	49.4928	2.3291	48.8773	4.8816
3/29/2023 10:04	100 ppb	99.8090	3.5209	100.5606	2.2170	100.3368	0.7839	100.2586	1.8779	100.5911	4.8816
3/29/2023 10:07	ICV	53.6463	3.1809	52.7313	2.5076	53.3127	1.9661	52.3051	1.3539	50.5722	4.8816
3/29/2023 10:10	ICB	0.4197	10.6015	0.3853	15.4098	0.3961	14.9517	0.3781	14.1539	0.3506	4.8816
3/29/2023 10:14	ICSA	0.1110	9.0758	0.2499	2.5248	0.1309	2.1620	0.1053	1.8818	0.2379	4.8816
3/29/2023 10:17	ICSAB	50.6537	2.4646	46.7078	1.3950	46.9004	2.5684	47.2657	2.7797	45.5868	4.8816
3/29/2023 10:21	0223-176.LB-1A	0.2018	18.2435	0.3599	6.6441	0.3185	10.4720	0.1877	12.6470	0.4191	4.8816
3/29/2023 10:24	0223-176.LCS-1A 2X	49.0859	0.9463	48.3614	2.6115	50.0811	1.7310	48.0322	2.1662	47.2289	4.8816
3/29/2023 10:28	0223-176.1-1A 5X	0.2320	2.1730	9.0517	1.1560	2.0610	1.0244	0.2833	7.2542	4.3100	4.8816
3/29/2023 10:31	0223-176.1-1A MS 5X	47.9742	4.2174	54.4513	3.9408	49.3441	3.3053	45.3531	4.2916	47.6816	4.8816
3/29/2023 10:34	0223-176.2-1A 5X	0.3272	19.1462	12.6045	3.0805	1.9473	1.1262	0.4026	7.3209	3.6927	4.8816
3/29/2023 10:38	0223-176.2-1A DUP 5X	0.0907	11.9596	12.4789	1.1475	1.7263	2.5844	0.2058	2.0063	3.6083	4.8816
3/29/2023 10:41	0223-176.3-1A 5X	0.0331	23.0387	9.0569	1.9797	1.4805	0.6471	2.2785	2.0407	2.7375	4.8816
3/29/2023 10:45	0223-176.4-1A 5X	0.0178	12.3094	12.1926	1.1426	1.5487	1.3985	0.1553	4.2993	3.9059	4.8816
3/29/2023 10:48	0223-176.5-1A 5X	0.0060	15.1201	12.5635	3.8221	1.4467	2.0894	0.0729	5.0237	2.9794	4.8816
3/29/2023 10:52	0223-176.6-1A 5X	0.0082	2.0146	8.4929	1.5803	2.8933	2.7468	0.0134	29.5328	2.4906	4.8816
3/29/2023 10:55	ICV	47.6095	2.0487	46.3115	3.8995	48.4339	2.0544	47.8400	1.0945	46.1669	4.8816
3/29/2023 10:58	ICB	0.2587	9.2197	0.2480	5.5937	0.2651	6.2669	0.2254	4.5559	0.2428	4.8816
3/29/2023 11:02	0223-176.7-1A 5X	0.0816	6.1733	12.2019	2.0492	3.2129	1.4061	0.0763	4.6882	2.9488	4.8816
3/29/2023 11:05	0223-176.8-1A 5X	0.0357	13.7807	2.5435	2.1695	1.0755	3.1543	0.0221	20.5863	2.5135	4.8816
3/29/2023 11:09	0223-176.9-1A 5X	0.0224	2.4426	2.0940	2.7287	0.9173	3.0779	0.0029	93.6994	2.2503	4.8816
3/29/2023 11:12	0223-176.10-1A 5X	0.0217	7.2777	9.1200	2.0803	1.2976	4.3154	0.0137	6.3784	2.8129	4.8816
3/29/2023 11:16	0223-176.11-1A 5X	0.0150	26.4268	12.2373	3.6562	4.5611	2.8344	0.0118	40.4257	3.3150	4.8816
3/29/2023 11:19	0223-176.12-1A 5X	0.0120	10.8180	9.1531	0.3226	1.3741	1.3817	0.0139	8.2541	2.8622	4.8816
3/29/2023 11:22	0223-176.13-1A 5X	0.0115	46.9162	8.8341	3.4078	1.3916	4.8420	0.0094	52.0683	2.8009	4.8816
3/29/2023 11:26	0223-176.14-1A 5X	0.0097	84.0568	9.0643	1.0391	1.3457	2.2476	0.0112	34.6670	3.8848	4.8816
3/29/2023 11:29	0223-176.15-1A 5X	0.0074	38.1792	7.0739	0.7630	5.1706	2.5313	0.0342	3.2017	2.7492	4.8816
3/29/2023 11:33	ICV	46.2799	2.2124	46.0595	1.0567	48.1214	0.7268	47.0891	1.7279	45.0927	4.8816
3/29/2023 11:36	ICB	0.2799	10.3690	0.2501	15.5591	0.2589	10.8997	0.2129	11.0974	0.2219	4.8816
3/29/2023 11:40	0223-176.16-1A 5X	0.1359	9.2919	9.1764	1.1660	2.4568	1.9490	0.0666	4.8021	2.4892	4.8816
3/29/2023 11:43	0223-176.17-2A 5X	0.0591	13.6236	2.3087	1.4287	1.1192	1.1369	0.0164	30.7618	3.7616	4.8816
3/29/2023 11:46	0223-176.18-1A 5X	0.0231	31.5780	2.0895	2.0099	0.9674	4.0311	0.0040	92.8650	2.2288	4.8816
3/29/2023 11:50	ICV	46.3570	1.7188	46.6169	2.3579	48.8213	1.5651	48.4642	2.2743	45.1561	4.8816
3/29/2023 11:53	ICB	0.2797	7.8056	0.2489	11.9078	0.2770	12.0394	0.2461	8.8606	0.2359	4.8816

Sample Name	June 1]		62 Ni [tune 1]		75 As [tune 1]		77 Se [tune 1]		78 Se [tune 1]		82 Se [tune 1]	
	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]
Cal Blank	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000
1 ppb	1.7747	0.9161	13.5416	1.0322	2.3643	1.0400	27.0467	0.9910	14.0923	1.1054	3.8849	3.8849
5 ppb	1.4281	4.9678	1.6721	5.1806	2.4521	5.5607	2.5814	4.8891	6.8140	5.3021	6.5280	6.5280
10 ppb	1.9737	10.0512	1.9974	10.4525	2.6667	11.4177	2.3055	10.2129	4.7538	9.8926	3.6086	3.6086
50 ppb	1.8869	49.9753	0.9708	50.9101	0.6255	51.0468	0.3329	50.4810	2.9190	50.1132	0.8048	0.8048
100 ppb	2.2498	100.0088	2.5396	99.4907	0.4323	99.3068	0.3543	99.7438	2.5943	99.9390	3.0736	3.0736
ICV	0.1628	52.2878	1.0044	51.5855	2.0539	51.8124	3.0823	52.5782	2.4327	52.5163	1.7815	1.7815
ICB	15.6495	0.3889	29.8791	0.3956	9.1493	0.4227	29.1557	0.4710	28.5789	0.3892	8.8797	8.8797
ICSA	0.8806	0.2723	15.0538	0.2395	5.2804	0.6315	36.1726	0.2540	96.2621	0.0446	398.4359	398.4359
ICSAB	1.4350	47.3997	0.5940	49.3297	0.7772	50.0153	2.8521	49.4995	1.1974	49.6404	1.9127	1.9127
0223-176.1B-1A	12.7457	0.4216	19.1836	0.3236	20.7204	0.2443	35.7265	0.2549	152.6802	0.2613	45.4343	45.4343
0223-176.1A 2X	2.5452	48.9058	0.5256	48.6827	1.9707	48.9860	2.2239	50.0280	4.1487	49.6893	2.3007	2.3007
0223-176.1-1A 5X	1.9074	4.3392	4.1200	0.5128	0.5647	0.3734	23.1378	<0.000	N/A	1.2216	33.6548	33.6548
0223-176.1-1A MS 5X	2.3916	49.3751	1.7587	48.4526	1.6807	47.4002	6.4884	45.5828	5.1328	48.0388	4.2000	4.2000
0223-176.2-1A 5X	1.0456	3.8302	5.1848	0.5229	3.9480	0.3680	27.1184	<0.000	N/A	0.8464	25.2521	25.2521
0223-176.2-1A DUP 5X	2.6949	3.5394	3.0138	0.3015	4.5338	0.1852	6.3384	<0.000	N/A	0.6003	25.0920	25.0920
0223-176.3-1A 5X	3.7174	2.6831	2.9352	0.2811	1.0297	0.1445	23.1904	<0.000	N/A	0.8927	26.8943	26.8943
0223-176.4-1A 5X	2.162	3.7909	3.8048	0.1799	10.0024	0.0538	144.9694	<0.000	N/A	0.6973	48.3442	48.3442
0223-176.5-1A 5X	2.2901	2.9881	3.2605	0.2549	5.0525	<0.000	N/A	<0.000	N/A	0.8738	33.1821	33.1821
0223-176.6-1A 5X	2.2820	2.5308	6.7246	0.1556	9.1273	<0.000	N/A	<0.000	N/A	0.7178	40.7850	40.7850
ICV	1.6213	47.2971	0.7468	49.2441	0.6006	50.3894	2.2874	50.2897	0.1534	49.4968	0.6417	0.6417
ICB	16.3630	0.1678	9.6207	0.2725	9.5487	0.1116	53.9400	0.1534	12.6288	0.2581	84.0755	84.0755
0223-176.7-1A 5X	1.3719	2.9658	0.9944	0.2394	7.1556	<0.000	N/A	<0.000	N/A	0.7330	52.1384	52.1384
0223-176.8-1A 5X	0.5972	2.5468	2.7849	0.0585	9.1792	<0.000	N/A	<0.000	N/A	0.5269	102.3845	102.3845
0223-176.9-1A 5X	1.9728	2.1878	6.8906	0.0480	18.1394	<0.000	N/A	<0.000	N/A	0.8893	9.0114	9.0114
0223-176.10-1A 5X	3.3272	2.8195	1.5761	0.1990	4.1047	<0.000	N/A	<0.000	N/A	1.0041	15.7371	15.7371
0223-176.11-1A 5X	2.1627	3.2932	3.2199	0.1985	7.9695	<0.000	N/A	<0.000	N/A	1.1068	13.5005	13.5005
0223-176.12-1A 5X	2.1202	2.9216	8.4778	0.1998	3.8032	<0.000	N/A	<0.000	N/A	0.9177	41.0670	41.0670
0223-176.13-1A 5X	3.3460	2.7598	5.4606	0.1649	7.2182	<0.000	N/A	0.0825	172.4725	1.0711	44.3162	44.3162
0223-176.14-1A 5X	2.1815	3.9322	4.2457	0.1844	7.7505	<0.000	N/A	<0.000	N/A	0.7916	32.4196	32.4196
0223-176.15-1A 5X	2.3828	2.6371	5.5509	0.2120	3.9769	<0.000	N/A	<0.000	N/A	0.9642	48.3283	48.3283
ICV	0.7768	46.5811	1.2782	48.9261	0.5747	50.3910	3.0676	52.2338	1.9565	51.2646	0.9498	0.9498
ICB	12.6110	0.1464	39.0559	0.2653	9.9010	0.0852	128.2850	1.1890	42.9123	0.1620	99.6774	99.6774
0223-176.16-1A 5X	2.6844	2.6115	2.0045	0.2217	11.3707	<0.000	N/A	0.2313	144.2707	0.8811	30.9472	30.9472
0223-176.17-2A 5X	1.1852	3.8814	3.5114	0.0633	5.8671	<0.000	N/A	<0.000	N/A	0.7119	17.8416	17.8416
0223-176.18-1A 5X	2.2622	2.2172	0.8427	0.0364	15.9340	<0.000	N/A	0.0463	885.9047	1.2552	7.7381	7.7381
ICV	2.0661	47.3004	3.6657	48.5398	2.1551	50.3101	1.3872	52.1697	2.4129	50.4379	1.0416	1.0416
ICB	3.1261	0.1024	16.9342	0.3135	7.8281	0.1802	12.2743	1.6565	17.0138	0.1873	95.4748	95.4748

Sample 0223-176.17 was the 1A analysis not the 2A analysis. - MAL 4/3/23
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Sample Name	6 Li ((ISTD) [tune 1])		7 Li ((ISTD) [tune 1])		72 Ge ((ISTD) [tune 1])		85 Rb ((ISTD) [tune 1])		89 Y ((ISTD) [tune 1])	
	CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS	ISTD Recovery %
Cal Blank	174977.22	100.00	2306091.71	100.00	861689.42	100.00	3741039.45	100.00	6534218.68	100.00
1 ppb	164410.22	93.96	2100528.76	91.09	810853.99	94.10	3410778.81	91.17	5989892.34	91.17
5 ppb	161264.40	92.16	2131555.81	92.43	819577.71	95.11	3444462.44	92.07	5987125.51	92.07
10 ppb	162946.03	93.12	2272818.73	98.56	825554.74	95.81	3418290.10	91.37	6233525.91	91.37
50 ppb	162720.39	93.00	2217929.44	96.18	818472.24	94.98	3389024.82	90.59	6039855.53	90.59
100 ppb	166373.91	95.08	2228834.15	96.65	835495.52	96.96	3452337.53	92.28	6120029.71	92.28
ICV	162359.39	92.79	2156190.44	93.50	806704.56	93.62	3504487.39	93.68	6139358.36	93.68
ICB	159318.07	91.05	2128171.61	92.28	823271.67	95.54	3467762.93	92.70	6074249.97	92.70
ICSA	145597.01	83.21	1996593.76	86.58	785247.51	91.13	3199047.61	85.51	5781143.13	85.51
ICSAB	153249.34	87.58	2077631.97	90.09	793090.54	92.04	3283490.59	87.77	5911677.66	87.77
0223-176.LB-1A	169313.25	96.76	2223010.87	96.40	830628.79	96.40	3584784.89	95.82	6314573.88	95.82
0223-176.LCS-1A 2X	169441.43	96.84	2246730.84	97.43	823586.35	95.58	3491349.19	93.33	6105453.89	93.33
0223-176.1-1A 5X	160888.17	91.83	2156911.97	93.53	815504.28	94.64	3322931.12	88.82	6118507.30	88.82
0223-176.1-1A MS 5X	165987.97	94.86	2205215.79	95.63	821034.43	95.28	3329636.63	89.00	6134076.05	89.00
0223-176.2-1A 5X	160903.17	91.96	2099919.00	91.06	813514.22	94.41	3408530.67	91.11	6238583.10	91.11
0223-176.2-1A DUP 5X	160800.67	91.90	2107053.25	91.37	812129.48	94.25	3464540.07	92.61	6107015.97	92.61
0223-176.3-1A 5X	163504.19	93.44	2205693.43	95.65	823026.81	95.51	3460264.70	92.49	6253582.74	92.49
0223-176.4-1A 5X	163150.43	93.24	2220124.60	96.27	838636.41	97.32	3423800.03	91.52	6318108.67	91.52
0223-176.5-1A 5X	168752.60	96.44	2241700.22	97.21	817838.84	94.91	3401955.09	90.94	6315209.31	90.94
0223-176.6-1A 5X	172891.69	98.81	2311681.26	100.24	830188.41	96.34	3457561.66	92.42	6243799.25	92.42
ICV	174536.15	99.75	2288164.54	99.22	799457.07	92.78	3400772.53	90.90	6060322.82	90.90
ICB	175266.79	100.17	2329090.13	101.00	786859.04	91.32	3465878.59	92.64	6160964.18	92.64
0223-176.7-1A 5X	179378.87	102.52	2335482.54	101.27	826503.69	95.92	3530776.75	94.38	6491761.90	94.38
0223-176.8-1A 5X	182449.81	104.27	2355676.04	102.15	859437.18	99.74	3476560.69	92.93	6383614.17	92.93
0223-176.9-1A 5X	184238.39	105.29	2432242.52	105.47	857588.48	99.52	3507658.21	93.76	6443387.27	93.76
0223-176.10-1A 5X	185923.78	106.26	2408796.97	104.45	847026.18	98.30	3540393.21	94.64	6507966.18	94.64
0223-176.11-1A 5X	187055.72	106.90	2418126.46	104.86	845728.82	98.15	3449153.77	92.20	6339052.37	92.20
0223-176.12-1A 5X	184802.09	105.61	2433817.79	105.54	848985.47	98.53	3545448.32	94.77	6483368.45	94.77
0223-176.13-1A 5X	188393.83	107.67	2432090.10	105.46	848952.57	98.52	3561822.35	95.21	6550330.41	95.21
0223-176.14-1A 5X	186354.52	106.50	2423024.92	105.07	866400.37	100.55	3613881.20	96.60	6637481.26	96.60
0223-176.15-1A 5X	188901.36	107.96	2428634.74	105.31	869704.57	100.93	3693567.92	98.73	6560577.06	98.73
ICV	177137.95	101.23	2332098.32	101.13	801969.98	93.07	3585486.61	95.84	6284733.58	95.84
ICB	174157.68	99.53	2274607.37	98.63	799830.34	92.82	3510621.15	93.84	6294186.15	93.84
0223-176.16-1A 5X	182187.57	104.12	2364954.66	102.55	871641.28	101.15	3506410.69	93.73	6376597.57	93.73
0223-176.17-2A 5X	183450.00	104.84	2371093.01	102.82	865860.90	100.48	3632412.39	97.10	6588775.68	97.10
0223-176.18-1A 5X	183740.42	105.01	2370838.91	102.81	873524.47	101.37	3707147.96	99.09	6515115.09	99.09
ICV	170183.27	97.26	2252178.06	97.66	786335.27	91.29	3530334.90	94.37	6227740.54	94.37
ICB	168182.26	96.12	2192369.95	95.07	782601.14	90.82	3408920.52	91.12	6078460.02	91.12

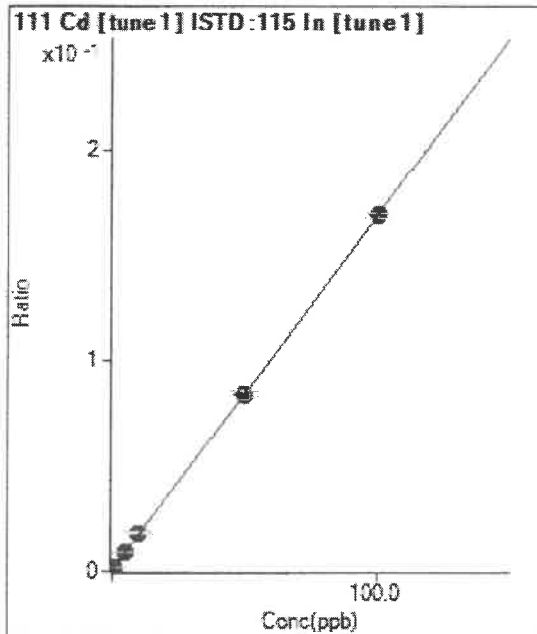
Sample 0223-176.17 was the 1A analysis not the 2A analysis - MAL 4/3/23
EA Job# 0223-176R Page 59 of 186

Sample Name	ISTD Recovery %
Cal Blank	100.00
1 ppb	91.67
5 ppb	91.63
10 ppb	95.40
50 ppb	92.43
100 ppb	93.66
ICV	93.96
ICB	92.96
ICSA	88.47
ICSAB	90.47
0223-176.LB-1A	96.64
0223-176.LCS-1A 2X	93.44
0223-176.1-1A 5X	93.64
0223-176.1-1A MS 5X	93.88
0223-176.2-1A 5X	95.48
0223-176.2-1A DUP 5X	93.46
0223-176.3-1A 5X	95.71
0223-176.4-1A 5X	96.69
0223-176.5-1A 5X	96.65
0223-176.6-1A 5X	95.56
ICV	92.75
ICB	94.29
0223-176.7-1A 5X	99.35
0223-176.8-1A 5X	97.70
0223-176.9-1A 5X	98.61
0223-176.10-1A 5X	99.60
0223-176.11-1A 5X	97.01
0223-176.12-1A 5X	99.22
0223-176.13-1A 5X	100.25
0223-176.14-1A 5X	101.58
0223-176.15-1A 5X	100.40
ICV	96.18
ICB	96.33
0223-176.16-1A 5X	97.59
0223-176.17-2A 5X	100.83
0223-176.18-1A 5X	99.71
ICV	95.31
ICB	93.03

Calibration for 039SMPL.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\0223-176 032923 high mass FH.b\
 Analysis File: 0223-176 032923 high mass FH.batch.bin
 DA Date-Time: 3/29/2023 2:41:58 PM
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	001CALB.d	Cal Blank	3/29/2023 12:07:43 PM
2	002CALS.d	1 ppb	3/29/2023 12:11:28 PM
3	003CALS.d	5 ppb	3/29/2023 12:14:56 PM
4	004CALS.d	10 ppb	3/29/2023 12:18:22 PM
5	005CALS.d	50 ppb	3/29/2023 12:21:51 PM
6	006CALS.d	100 ppb	3/29/2023 12:25:16 PM



	R _{jet}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	230.23	0.0000	P	15.6
2	<input type="checkbox"/>	1.000	1.023	9486.24	0.0018	P	1.6
3	<input type="checkbox"/>	5.000	5.226	47728.53	0.0089	P	2.3
4	<input type="checkbox"/>	10.000	10.779	93813.78	0.0183	P	1.8
5	<input type="checkbox"/>	50.000	49.982	448727.38	0.0845	P	3.3
6	<input type="checkbox"/>	100.000	99.920	888224.53	0.1689	A	1.6

$$y = 0.0017 * x + 3.9343E-005$$

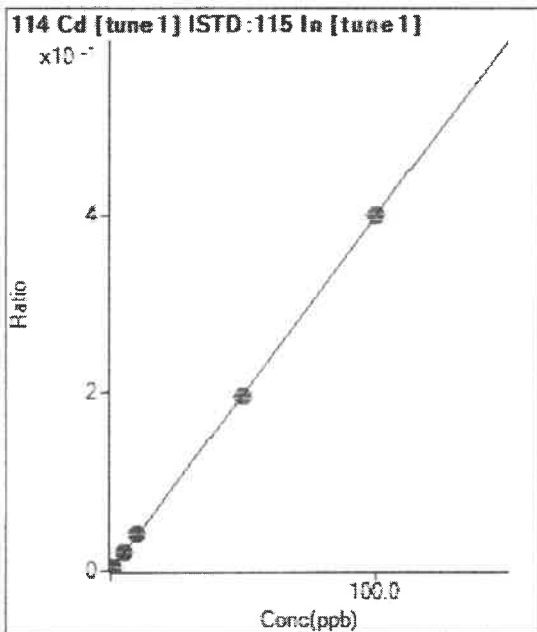
$$R = 1.0000$$

$$DL = 0.01088$$

$$BEC = 0.02328$$

Weight: <None>

Min Conc: 0



	R _{jet}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	650.51	0.0001	P	41.2
2	<input type="checkbox"/>	1.000	0.986	21657.29	0.0040	P	2.5
3	<input type="checkbox"/>	5.000	5.098	109924.41	0.0204	P	1.6
4	<input type="checkbox"/>	10.000	10.598	217570.59	0.0423	P	2.6
5	<input type="checkbox"/>	50.000	49.571	1049555.46	0.1976	A	2.6
6	<input type="checkbox"/>	100.000	100.150	2100260.77	0.3991	A	1.8

$$y = 0.0040 * x + 1.1113E-004$$

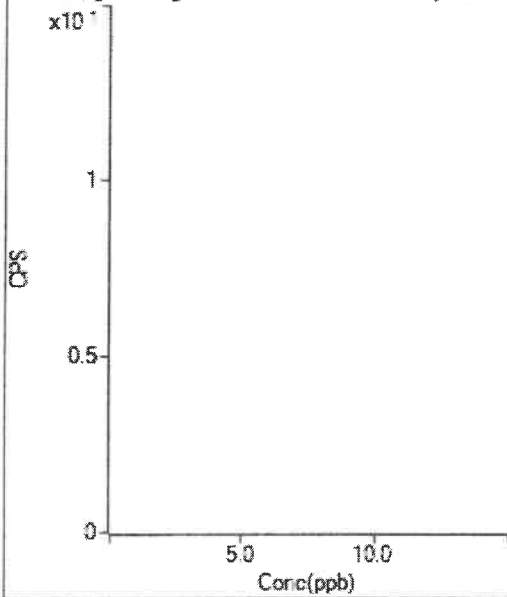
$$R = 1.0000$$

$$DL = 0.03444$$

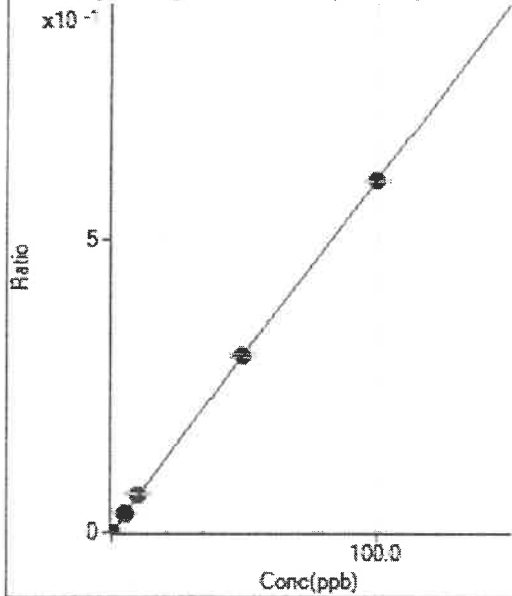
$$BEC = 0.02789$$

Weight: <None>

Min Conc: 0

118 Sn [tune 1] No available calibration points

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			740.77		P	1.4
2	<input type="checkbox"/>			804.17		P	6.3
3	<input type="checkbox"/>			1227.96		P	9.7
4	<input type="checkbox"/>			2035.55		P	7.1
5	<input type="checkbox"/>			880.92		P	7.5
6	<input type="checkbox"/>			927.63		P	2.7

121 Sb [tune 1] ISTD:115 In [tune 1]

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1054.45	0.0002	P	31.6
2	<input type="checkbox"/>			34274.55	0.0064	P	1.7
3	<input type="checkbox"/>	5.000	5.137	167532.09	0.0311	P	3.2
4	<input type="checkbox"/>	10.000	10.768	334475.63	0.0651	P	1.7
5	<input type="checkbox"/>	50.000	49.913	1598552.72	0.3010	A	2.4
6	<input type="checkbox"/>	100.000	99.960	3170172.01	0.6026	A	0.8

$$y = 0.0060 * x + 1.8025E-004$$

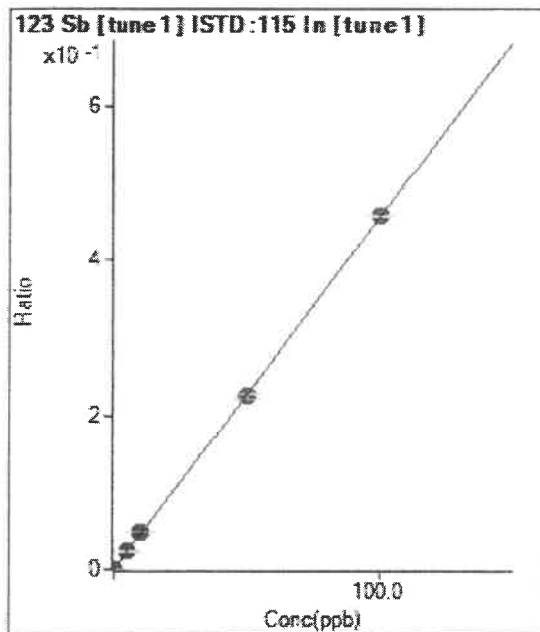
$$R = 1.0000$$

$$DL = 0.02838$$

$$BEC = 0.02991$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	852.97	0.0001	P	33.8
2	<input type="checkbox"/>			25371.65	0.0047	P	3.6
3	<input type="checkbox"/>	5.000	5.100	125905.65	0.0234	P	3.6
4	<input type="checkbox"/>	10.000	10.560	248199.69	0.0483	P	2.7
5	<input type="checkbox"/>	50.000	49.190	1192011.38	0.2245	A	3.7
6	<input type="checkbox"/>	100.000	100.344	2408192.32	0.4578	A	0.4

$$y = 0.0046 * x + 1.4582E-004$$

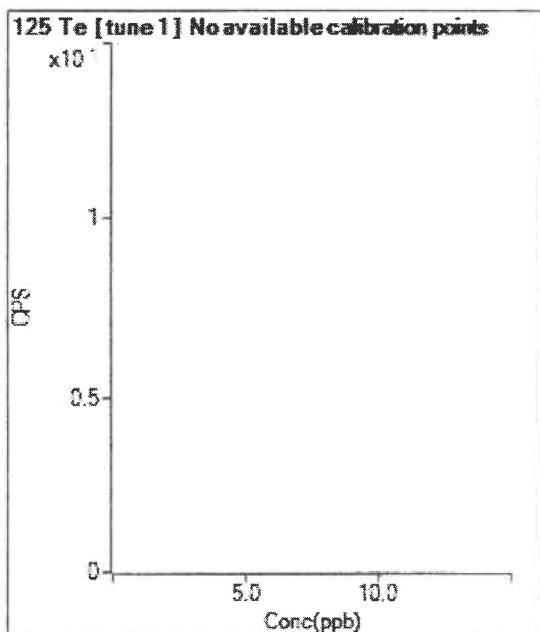
$$R = 0.9999$$

$$DL = 0.03238$$

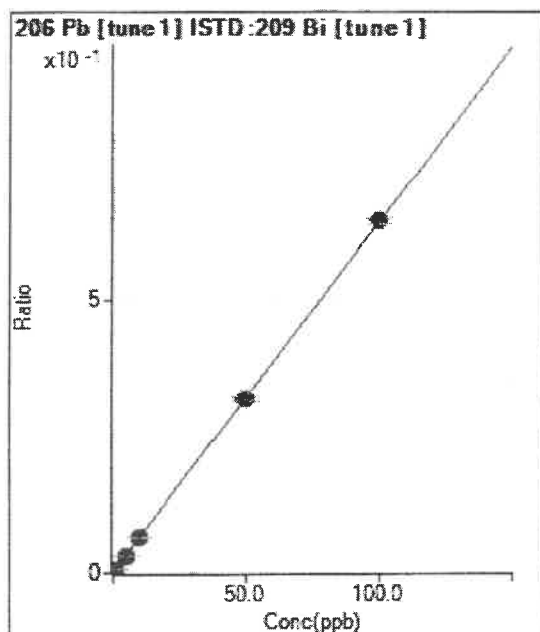
$$BEC = 0.03198$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			10.01		P	100.0
2	<input type="checkbox"/>			10.01		P	100.0
3	<input type="checkbox"/>			13.35		P	86.6
4	<input type="checkbox"/>			16.68		P	69.3
5	<input type="checkbox"/>			6.67		P	86.6
6	<input type="checkbox"/>			6.67		P	86.6



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1004.39	0.0003	P	26.0
2	<input type="checkbox"/>	1.000	0.964	24066.91	0.0065	P	0.5
3	<input type="checkbox"/>	5.000	4.857	117766.96	0.0315	P	1.2
4	<input type="checkbox"/>	10.000	10.047	237219.39	0.0649	P	2.2
5	<input type="checkbox"/>	50.000	49.388	1147069.16	0.3180	A	1.6
6	<input type="checkbox"/>	100.000	100.309	2307756.58	0.6456	A	1.7

$$y = 0.0064 * x + 2.5091E-004$$

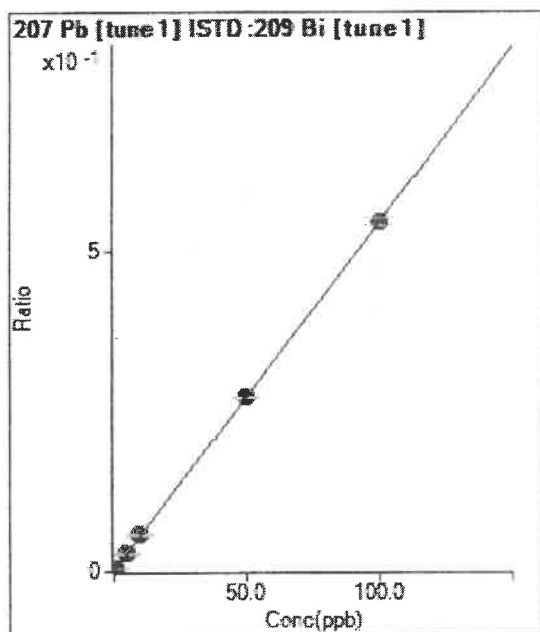
$$R = 1.0000$$

$$DL = 0.0304$$

$$BEC = 0.039$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	797.50	0.0002	P	28.5
2	<input type="checkbox"/>	1.000	0.990	20804.59	0.0056	P	2.7
3	<input type="checkbox"/>	5.000	5.029	102828.26	0.0275	P	3.6
4	<input type="checkbox"/>	10.000	10.322	205773.46	0.0563	P	1.2
5	<input type="checkbox"/>	50.000	49.642	973279.48	0.2698	A	1.1
6	<input type="checkbox"/>	100.000	100.146	1944874.47	0.5441	A	2.0

$$y = 0.0054 * x + 1.9966E-004$$

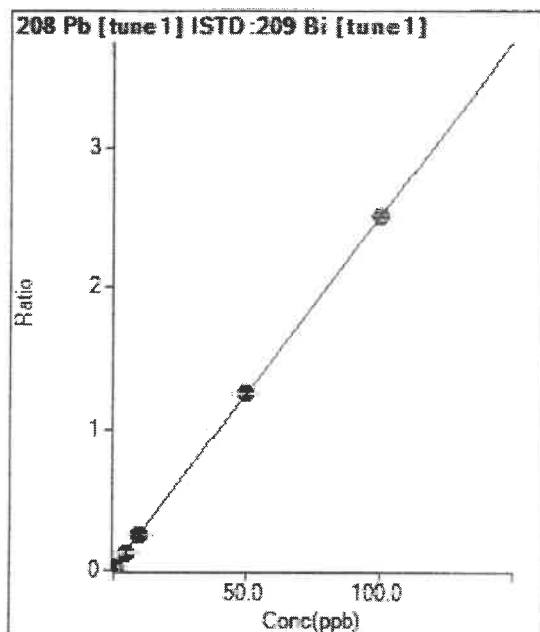
$$R = 1.0000$$

$$DL = 0.03142$$

$$BEC = 0.03676$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3353.56	0.0008	P	22.5
2	<input type="checkbox"/>	1.000	0.985	95267.99	0.0255	P	1.0
3	<input type="checkbox"/>	5.000	4.972	469378.90	0.1256	P	2.7
4	<input type="checkbox"/>	10.000	10.255	943839.42	0.2581	P	0.7
5	<input type="checkbox"/>	50.000	50.150	4541539.09	1.2589	A	0.9
6	<input type="checkbox"/>	100.000	99.901	8961528.22	2.5069	A	1.3

$$y = 0.0251 * x + 8.3835E-004$$

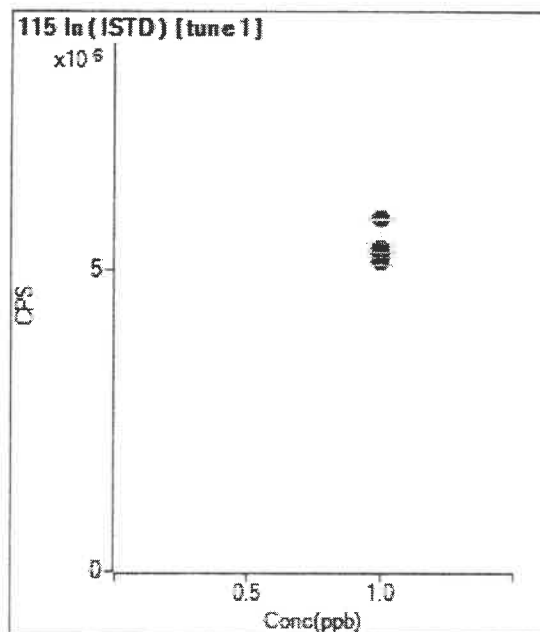
$$R = 1.0000$$

$$DL = 0.02253$$

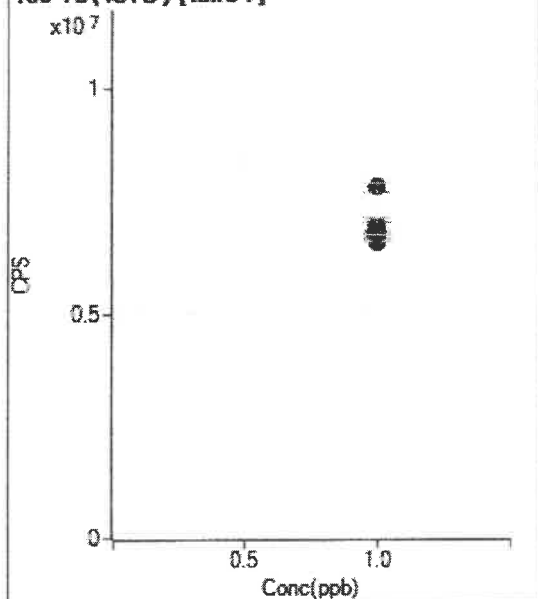
$$BEC = 0.03342$$

Weight: <None>

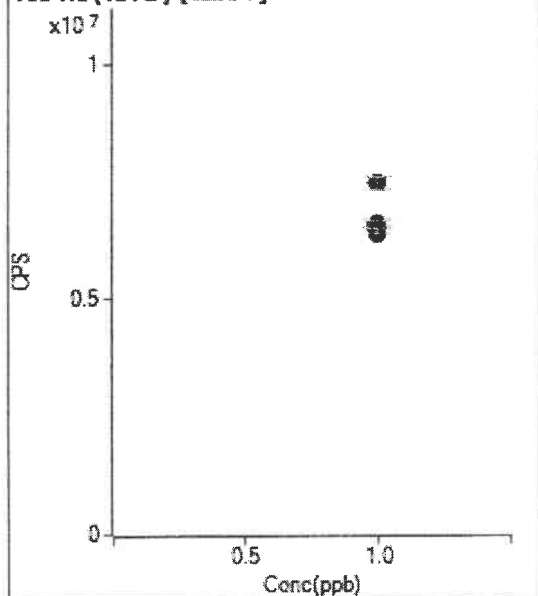
Min Conc: 0



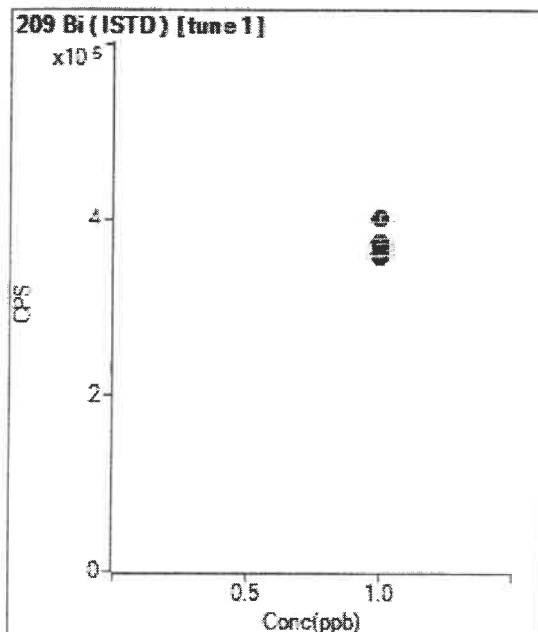
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		5854953.67		A	0.7
2	<input type="checkbox"/>	1.000		5362765.93		A	1.7
3	<input type="checkbox"/>	1.000		5383489.50		A	3.0
4	<input type="checkbox"/>	1.000		5140791.03		A	2.4
5	<input type="checkbox"/>	1.000		5311320.35		A	0.8
6	<input type="checkbox"/>	1.000		5260683.69		A	2.2

159 Tb (ISTD) [tune 1]

	Rjct	Conc.	Calc Conc	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		7831415.20		A	2.8
2	<input type="checkbox"/>	1.000		6892924.14		A	5.3
3	<input type="checkbox"/>	1.000		6977916.84		A	4.5
4	<input type="checkbox"/>	1.000		6706427.03		A	1.2
5	<input type="checkbox"/>	1.000		6603883.08		A	0.7
6	<input type="checkbox"/>	1.000		6824196.72		A	1.2

165 Ho (ISTD) [tune 1]

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		7455265.01		A	3.8
2	<input type="checkbox"/>	1.000		6499956.19		A	3.9
3	<input type="checkbox"/>	1.000		6611197.74		A	2.5
4	<input type="checkbox"/>	1.000		6572185.60		A	2.1
5	<input type="checkbox"/>	1.000		6364986.22		A	0.3
6	<input type="checkbox"/>	1.000		6428770.52		A	1.9



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		4010424.06		A	2.2
2	<input type="checkbox"/>	1.000		3730654.95		A	1.5
3	<input type="checkbox"/>	1.000		3739428.93		A	2.5
4	<input type="checkbox"/>	1.000		3657278.97		A	3.2
5	<input type="checkbox"/>	1.000		3608256.85		A	3.0
6	<input type="checkbox"/>	1.000		3574924.02		A	0.6

Acq. Date-Time	Sample Name	111 Cd [tune 1]		114 Cd [tune 1]		121 Sb [tune 1]		123 Sb [tune 1]		206 Pb [tune 1]	
		Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD
3/29/2023 12:07	Cal Blank	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	0.0000
3/29/2023 12:11	1 ppb	1.0235	1.6285	0.9857	2.5806	1.0306	1.7714	1.0059	3.7152	0.9637	4.8565
3/29/2023 12:14	5 ppb	5.2258	2.3441	5.0982	1.5696	5.1366	3.2390	5.1001	3.6242	4.8565	10.0471
3/29/2023 12:18	10 ppb	10.7786	1.8067	10.5982	2.5570	10.7681	1.7437	10.5596	2.7505	49.3880	100.3088
3/29/2023 12:21	50 ppb	49.9817	3.2592	49.5707	2.5720	49.9129	2.3611	49.1903	3.6566	51.4468	0.3165
3/29/2023 12:25	100 ppb	99.9198	1.6174	100.1501	1.8112	99.9599	0.8030	100.3439	0.3636	51.4468	0.3165
3/29/2023 12:28	ICV	52.3403	1.6716	51.2165	1.5754	51.8535	0.9552	51.4468	0.3165	51.4468	0.3165
3/29/2023 12:32	ICB	0.5398	4.9561	0.5379	6.3267	0.6115	6.1744	0.6197	5.7952	0.5663	0.1962
3/29/2023 12:35	ICSA	0.2292	6.1897	0.2227	14.6972	0.2945	14.4192	0.2861	22.2055	2.8151	48.8433
3/29/2023 12:38	ICSAB	52.4919	0.6902	50.0057	2.1638	51.4573	2.3208	51.2551	2.8151	2.8151	0.1787
3/29/2023 12:42	0223-176.LB-1A	0.1849	19.3455	0.1676	17.4282	0.3429	11.4877	0.3407	11.0842	2.1087	49.4470
3/29/2023 12:45	0223-176.LCS-1A 2X	51.2528	4.7455	49.6663	0.9969	51.1110	1.4282	51.2125	2.1087	51.2125	1.2996
3/29/2023 12:49	0223-176.1-1A 5X	0.4634	2.1915	0.4352	2.8584	0.6858	6.9137	0.6593	9.7805	52.9322	1.7290
3/29/2023 12:52	0223-176.1-1A MS 5X	50.6990	2.5730	48.9400	2.9822	52.9802	0.4145	52.9322	1.7290	52.9322	1.7290
3/29/2023 12:55	0223-176.2-1A 5X	0.3464	12.1102	0.3460	12.7560	0.5028	7.7171	0.5076	7.0967	0.5076	1.1097
3/29/2023 12:59	0223-176.2-1A DUP 5X	0.1040	32.4939	0.0891	2.4354	0.2506	8.8439	0.2451	3.6466	0.2451	0.9294
3/29/2023 13:02	0223-176.3-1A 5X	0.0367	4.2583	0.0164	56.3846	0.4067	2.4603	0.3933	3.3786	0.3933	0.5993
3/29/2023 13:06	0223-176.4-1A 5X	0.0193	42.0035	0.0078	162.6860	0.1647	1.9294	0.1677	3.1562	0.1677	0.7481
3/29/2023 13:09	0223-176.5-1A 5X	<0.000	N/A	<0.000	N/A	0.1934	7.5408	0.1957	1.1831	0.1957	0.8436
3/29/2023 13:12	0223-176.6-1A 5X	<0.000	N/A	<0.000	N/A	0.1214	4.6677	0.1227	9.0941	0.1227	0.6434
3/29/2023 13:16	ICV	49.7680	2.8268	49.1341	1.0598	49.2591	0.7896	50.2040	1.1396	49.1850	0.2920
3/29/2023 13:19	ICB	0.3038	13.6273	0.2953	13.1232	0.2837	12.3841	0.2982	13.2382	0.2982	0.7086
3/29/2023 13:23	0223-176.7-1A 5X	0.1046	15.6272	0.1112	7.9078	0.3007	3.2053	0.2973	4.9881	0.2973	0.7509
3/29/2023 13:26	0223-176.8-1A 5X	0.0321	5.2487	0.0154	16.0026	0.1243	5.8573	0.1234	6.2465	0.1234	0.5098
3/29/2023 13:29	0223-176.9-1A 5X	<0.000	N/A	<0.000	N/A	0.0760	6.1140	0.0800	5.7980	0.0800	0.5098
3/29/2023 13:33	0223-176.10-1A 5X	0.0062	29.7161	<0.000	N/A	0.1322	1.0635	0.1161	7.8048	0.1161	0.6488
3/29/2023 13:36	0223-176.11-1A 5X	<0.000	N/A	<0.000	N/A	0.1626	4.9432	0.1607	9.2121	0.1607	0.6491
3/29/2023 13:40	0223-176.12-1A 5X	0.0059	96.9882	<0.000	N/A	0.1235	0.4066	0.1248	14.9312	0.1248	0.6217
3/29/2023 13:43	0223-176.13-1A 5X	0.0028	288.2580	<0.000	N/A	0.1600	7.2674	0.1618	6.8491	0.1618	0.5989
3/29/2023 13:46	0223-176.14-1A 5X	<0.000	N/A	<0.000	N/A	0.1223	8.9062	0.1328	10.1717	0.1328	0.7335
3/29/2023 13:50	0223-176.15-1A 5X	0.0013	278.0579	<0.000	N/A	0.1406	1.9167	0.1362	11.3547	0.1362	0.7000
3/29/2023 13:53	ICV	49.8554	2.1179	48.5818	3.3476	50.8967	1.1031	50.2435	3.2433	50.2435	49.8459
3/29/2023 13:57	ICB	0.3568	1.2990	0.3568	6.1814	0.3848	5.3393	0.3567	5.9186	0.3567	0.3506
3/29/2023 14:00	0223-176.16-1A 5X	0.1046	12.7308	0.0893	33.6066	0.4245	5.0647	0.4169	6.8845	0.4169	0.7322
3/29/2023 14:03	0223-176.17-2A 5X	0.0331	12.9424	0.0129	24.6802	0.0921	5.4991	0.0778	7.9976	0.0778	0.5826
3/29/2023 14:07	0223-176.18-1A 5X	<0.000	N/A	<0.000	N/A	0.0692	12.5074	0.0643	5.1307	0.0643	0.4454
3/29/2023 14:10	ICV	48.6904	0.9927	48.4844	0.9176	50.3991	1.0477	49.4397	0.7924	49.4397	49.0666
3/29/2023 14:14	ICB	0.3431	3.5191	0.3528	1.8137	0.3570	3.3374	0.3644	3.1412	0.3644	0.3599

Sample 0223-176.17 was the 1A analysis not the 2A analysis - MAJ 4/3/23
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Sample Name	tune 1]		207 Pb [tune 1]		208 Pb [tune 1]		115 In (ISTD) [tune 1]		159 Tb (ISTD) [tune 1]		165 Ho (tune 1)	
	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. [ppb]	Conc. RSD	CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS	CPS
Cal Blank	N/A	0.0000	N/A	0.0000	0.0000	N/A	5854953.67	100.00	7831415.20	100.00	7455265.01	7455265.01
1 ppb	0.5211	0.9903	2.7495	0.9846	0.9846	1.0377	5362765.93	91.59	6892924.14	88.02	6499956.19	6499956.19
5 ppb	1.1893	5.0288	3.6417	4.9716	4.9716	2.7089	5383489.50	91.95	6977916.84	89.10	6611197.74	6611197.74
10 ppb	2.1803	10.3217	1.1744	10.2545	10.2545	0.7520	5140791.03	87.80	6706427.03	85.63	6572185.60	6572185.60
50 ppb	1.6451	49.6419	1.1238	50.1497	50.1497	0.8841	5311320.35	90.71	6603883.08	84.33	6364986.22	6364986.22
100 ppb	1.7303	100.1455	2.0128	99.9013	99.9013	1.3260	5260683.69	89.85	6824196.72	87.14	6428770.52	6428770.52
ICV	1.8520	49.4919	4.4910	50.7785	50.7785	1.7388	5382695.89	91.93	6941624.35	88.64	6592233.98	6592233.98
ICB	5.4250	0.5469	2.0071	0.5531	0.5531	4.3707	5382346.49	91.93	6850366.17	87.47	6582772.70	6582772.70
ICSA	17.0226	0.1720	16.7265	0.1901	0.1901	18.2778	4801846.58	82.01	6419615.84	81.97	6032030.78	6032030.78
ICSAB	1.9170	47.6938	1.5561	48.8451	48.8451	1.1021	4600441.30	78.57	6200122.82	79.17	5979506.54	5979506.54
0223-176.LB-1A	2.3580	0.1749	13.6040	0.1833	0.1833	7.1625	5492176.79	93.80	6851816.26	87.49	6606007.02	6606007.02
0223-176.LCS-1A 2X	1.5889	49.1117	1.1353	49.7139	49.7139	1.9103	5200539.99	88.82	6964702.11	88.93	6720599.11	6720599.11
0223-176.1-1A 5X	4.2782	1.2369	3.5277	1.2662	1.2662	3.1535	4919891.60	84.03	6607467.18	84.37	6334020.83	6334020.83
0223-176.1-1A MS 5X	1.3660	50.6759	2.4421	51.0700	51.0700	2.4994	5040839.80	86.10	6724812.75	85.87	6498816.45	6498816.45
0223-176.2-1A 5X	5.0667	1.0647	0.7548	1.0961	1.0961	3.6781	5076526.39	86.70	6619943.09	84.53	6313519.34	6313519.34
0223-176.2-1A DUP 5X	1.6348	0.9105	2.0117	0.9001	0.9001	2.1726	5212220.22	89.02	6862500.17	87.63	6694110.39	6694110.39
0223-176.3-1A 5X	1.7546	0.6855	4.6060	0.6901	0.6901	3.2797	5236400.94	89.44	6924497.17	88.42	6689153.19	6689153.19
0223-176.4-1A 5X	8.9401	0.7040	4.7014	0.7112	0.7112	5.1644	5109084.47	87.26	7119954.55	90.92	6608931.93	6608931.93
0223-176.5-1A 5X	3.7027	0.7949	4.5453	0.8092	0.8092	3.9078	5203966.19	88.88	6625811.67	84.61	6439247.77	6439247.77
0223-176.6-1A 5X	2.9267	0.6032	2.1562	0.6215	0.6215	0.8381	5187634.36	88.60	6608178.52	84.38	6308548.33	6308548.33
ICV	1.3258	47.9271	2.7958	49.0693	49.0693	2.2643	5211587.18	89.01	6652624.21	84.95	6326015.22	6326015.22
ICB	9.4059	0.2732	13.1739	0.2898	0.2898	9.3262	5291793.78	90.38	6540477.02	83.52	6348645.35	6348645.35
0223-176.7-1A 5X	1.7104	0.6848	3.1776	0.6885	0.6885	1.2002	5234127.06	89.40	6849299.11	87.46	6682781.50	6682781.50
0223-176.8-1A 5X	1.6866	0.7280	3.6231	0.7419	0.7419	2.3069	5137485.49	87.75	6711379.11	85.70	6462125.07	6462125.07
0223-176.9-1A 5X	4.3544	0.4655	6.7394	0.4800	0.4800	5.6296	5336005.66	91.14	6724593.89	85.87	6456714.77	6456714.77
0223-176.10-1A 5X	2.7083	0.6393	3.9264	0.6410	0.6410	1.5431	5364487.18	91.62	6751009.63	86.20	6484411.79	6484411.79
0223-176.11-1A 5X	0.4461	0.6107	5.3664	0.6273	0.6273	1.2216	5209379.26	88.97	6699477.68	85.55	6467356.82	6467356.82
0223-176.12-1A 5X	5.5125	0.5707	4.9020	0.5898	0.5898	2.8284	5162269.64	88.17	6747781.09	86.16	6527639.60	6527639.60
0223-176.13-1A 5X	5.9276	0.5337	2.4673	0.5575	0.5575	3.8074	5166314.32	88.24	6705496.72	85.62	6501068.39	6501068.39
0223-176.14-1A 5X	1.4145	0.6793	4.4234	0.6967	0.6967	2.4232	5144690.07	87.87	6595251.06	84.22	6244873.93	6244873.93
0223-176.15-1A 5X	1.6709	0.6601	3.5687	0.6666	0.6666	1.3287	5046812.66	86.20	6643718.64	84.83	6292564.53	6292564.53
ICV	3.1885	47.9477	0.4005	49.5090	49.5090	1.1548	5108658.75	87.25	6513678.19	83.17	6097394.21	6097394.21
ICB	9.0246	0.3428	5.5818	0.3499	0.3499	6.2482	5128113.72	87.59	6552474.17	83.67	6192706.76	6192706.76
0223-176.16-1A 5X	3.0944	0.6764	5.9799	0.6872	0.6872	3.6478	5215843.54	89.08	6596017.09	84.23	6417633.92	6417633.92
0223-176.17-2A 5X	2.0032	0.5324	1.2001	0.5622	0.5622	2.3833	5185400.47	88.56	6600025.37	84.28	6317693.83	6317693.83
0223-176.18-1A 5X	5.1715	0.4106	6.0944	0.4187	0.4187	4.5874	5311940.47	90.73	6629478.05	84.65	6312709.15	6312709.15
ICV	2.9130	48.0916	2.5556	49.0304	49.0304	0.3616	5106985.82	87.23	6063775.96	77.43	5870489.61	5870489.61
ICB	5.5373	0.3374	4.3485	0.3567	0.3567	4.5731	5114566.03	87.35	6498055.85	82.97	6133275.40	6133275.40

Sample 0223-176.17 was the 1A analysis not the 2A analysis. - MAL 4/3/23
EA Job# 0223-176R Page 70 of 186

Sample Name	STD) [tune 1]		209 Bi (STD) [tune 1]	
	ISTD Recovery %	CPS	ISTD Recovery %	
Cal Blank	100.00	4010424.06	100.00	
1 ppb	87.19	3730654.95	93.02	
5 ppb	88.68	3739428.93	93.24	
10 ppb	88.15	3657278.97	91.19	
50 ppb	85.38	3608256.85	89.97	
100 ppb	86.23	3574924.02	89.14	
ICV	88.42	3713749.37	92.60	
ICB	88.30	3675865.55	91.66	
ICSA	80.91	3117912.81	77.75	
ICSAB	80.21	3231044.91	80.57	
0223-176.LB-1A	88.61	3656923.64	91.19	
0223-176.LCS-1A 2X	90.15	3735041.97	93.13	
0223-176.1-1A 5X	84.96	3557581.13	88.71	
0223-176.1-1A MS 5X	87.17	3647766.99	90.96	
0223-176.2-1A 5X	84.69	3553604.13	88.61	
0223-176.2-1A DUP 5X	89.79	3591501.61	89.55	
0223-176.3-1A 5X	89.72	3612001.48	90.07	
0223-176.4-1A 5X	88.65	3579707.34	89.26	
0223-176.5-1A 5X	86.37	3585105.65	89.39	
0223-176.6-1A 5X	84.62	3484587.77	86.89	
ICV	84.85	3574090.34	89.12	
ICB	85.16	3513355.96	87.61	
0223-176.7-1A 5X	89.64	3703909.43	92.36	
0223-176.8-1A 5X	86.68	3580021.64	89.27	
0223-176.9-1A 5X	86.61	3504718.68	87.39	
0223-176.10-1A 5X	86.98	3507301.68	87.45	
0223-176.11-1A 5X	86.75	3443689.95	85.87	
0223-176.12-1A 5X	87.56	3518111.95	87.72	
0223-176.13-1A 5X	87.20	3566232.07	88.92	
0223-176.14-1A 5X	83.76	3434841.33	85.65	
0223-176.15-1A 5X	84.40	3428226.73	85.48	
ICV	81.79	3319194.52	82.76	
ICB	83.06	3356613.66	83.70	
0223-176.16-1A 5X	86.08	3444585.61	85.89	
0223-176.17-2A 5X	84.74	3484656.10	86.89	
0223-176.18-1A 5X	84.67	3427967.04	85.48	
ICV	78.74	3289155.34	82.02	
ICB	82.27	3195211.06	79.67	

Sample 0223-176.17 was the 1A analysis not the 2A analysis. - MAL 4/3/23
EA Job# 0223-176R Page 71 of 186

Acq. Date-Time	Sample Name	111 Cd [June 1]		114 Cd [June 1]		121 Sb [June 1]		123 Sb [June 1]		206 Pb [June 1]		207 Pb [June 1]	
		Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD
3/29/2023 14:10	ICV	48.6904	0.9927	48.4844	0.9176	50.3991	1.0477	49.4397	0.7924	49.0666	2.9130	48.0916	2.5556
3/29/2023 14:14	ICB	0.3431	3.5191	0.3528	1.8137	0.3570	3.3374	0.3644	3.1412	0.3599	5.5373	0.3374	4.3485
3/29/2023 14:41		<0.000	N/A	<0.000	N/A	<0.000	N/A	<0.000	N/A	0.0019	403.4233	0.0124	44.5910
3/29/2023 14:45	0223-176.1B-2A	47.8646	2.2390	49.2375	2.3537	48.2579	1.5782	48.5307	1.5251	49.9301	1.6816	48.0136	2.3223
3/29/2023 14:48	0223-176.1-2A	6.0183	1.0611	5.6273	7.0797	0.9489	6.7429	0.9334	7.7811	6.7762	2.5542	7.0120	2.6384
3/29/2023 14:52	0223-176.1-2A MS	58.9069	2.0272	59.5222	1.8817	52.4140	2.2472	52.2946	2.6936	58.7842	3.5791	57.9615	0.5534
3/29/2023 14:55	0223-176.2-2A	1.3427	1.3662	0.9466	40.3526	0.6261	3.7359	0.6096	6.7884	4.1896	1.6136	4.3074	1.9815
3/29/2023 14:58	0223-176.5-2A DUP	1.1110	1.8328	1.0475	11.8966	0.4258	7.2980	0.4103	2.9224	4.1229	1.4383	4.0622	4.3740
3/29/2023 15:02	0223-176.3-2A	0.8993	6.3393	0.6693	19.8747	0.6363	3.7338	0.6261	3.5365	1.9346	2.3317	1.9577	1.4314
3/29/2023 15:05	0223-176.4-2A	1.1850	7.1887	0.9541	27.1166	0.3730	4.3491	0.3679	6.3975	2.9546	2.8577	3.0373	4.2039
3/29/2023 15:09	0223-176.5-2A	0.2852	3.0823	0.1058	290.1274	0.4619	3.4426	0.4648	4.3036	1.9545	1.9336	1.9469	1.2352
3/29/2023 15:12	0223-176.6-2A	0.1127	5.4595	<0.000	N/A	0.2400	3.3096	0.2236	2.5406	1.7823	4.9655	1.8115	5.4326
3/29/2023 15:15	ICV	49.8203	0.8925	48.0748	1.0373	50.8554	2.3414	51.1018	3.1923	50.5577	3.1923	49.7076	2.4933
3/29/2023 15:19	ICB	0.2679	16.5504	0.2585	16.8066	0.2718	19.6473	0.2697	19.3318	0.2723	12.9721	0.2583	12.2105
3/29/2023 15:22	0223-176.7-2A	0.1505	16.1008	<0.000	N/A	0.3046	7.8318	0.3267	7.5362	1.1498	6.8716	1.1518	5.1356
3/29/2023 15:26	0223-176.8-2A	0.0168	24.7344	<0.000	N/A	0.0503	10.0659	0.0509	4.9178	0.1948	1.7622	0.2134	3.4418
3/29/2023 15:29	0223-176.9-2A	<0.000	N/A	<0.000	N/A	0.0534	5.3483	0.0562	9.7194	0.1671	6.5053	0.1669	5.1789
3/29/2023 15:32	0223-176.10-2A	0.1063	16.5592	<0.000	N/A	0.2459	2.2337	0.2484	7.5407	0.9295	2.9301	0.9335	3.0521
3/29/2023 15:36	0223-176.11-2A	0.8576	0.5720	0.3333	15.8956	0.2243	5.2219	0.2251	4.6838	1.0384	3.6651	1.0194	1.9683
3/29/2023 15:39	0223-176.12-2A	0.3174	2.3462	0.1422	184.7978	0.2750	3.4189	0.2717	8.7177	1.2909	1.6280	1.3023	4.4567
3/29/2023 15:43	0223-176.13-2A	0.0651	10.4056	<0.000	N/A	0.1301	5.3087	0.1250	5.0708	1.0073	4.2234	1.0051	2.2858
3/29/2023 15:46	0223-176.14-2A	0.1611	9.8095	<0.000	N/A	0.2013	7.1748	0.1924	10.9678	0.8669	1.6753	0.8920	1.6221
3/29/2023 15:50	0223-176.15-2A	0.1496	7.9404	<0.000	N/A	0.1057	7.4074	0.1030	17.3724	0.6636	1.5017	0.5755	7.8049
3/29/2023 15:53	ICV	50.7701	3.9325	48.7152	2.4500	51.3062	6.2507	50.0222	6.3359	50.6016	2.9865	49.8509	0.4573
3/29/2023 15:56	ICB	0.2667	3.1240	0.2594	11.0691	0.2555	12.0605	0.2636	2.9010	0.2552	10.6788	0.2640	2.1177
3/29/2023 16:00	0223-176.16-2A	0.1748	25.7443	0.0225	405.4462	0.2548	10.0337	0.2479	9.4395	0.9248	3.9559	0.9184	2.8266
3/29/2023 16:03	0223-176.17-2A	0.0297	18.7822	<0.000	N/A	0.1573	2.1270	0.1616	5.9592	0.8509	7.9790	0.6696	3.6841
3/29/2023 16:07	0223-176.18-2A (1)	1.4004	32.7163	2.1184	12.3589	3.9314	7.1004	3.7502	17.5916	2.3661	13.8480	2.0303	18.6345
3/29/2023 16:10	ICV	51.1586	2.4196	49.5570	0.5624	51.5101	4.4620	50.8620	2.8684	49.7990	1.5557	49.3503	0.3962
3/29/2023 16:13	ICB	0.2912	14.7689	0.2651	13.3965	0.2666	14.5397	0.2784	17.4895	0.2831	12.1506	0.2829	16.9483

① There was no tube in the A/S. There is no sample 18-2A
 7/12 3/5/23

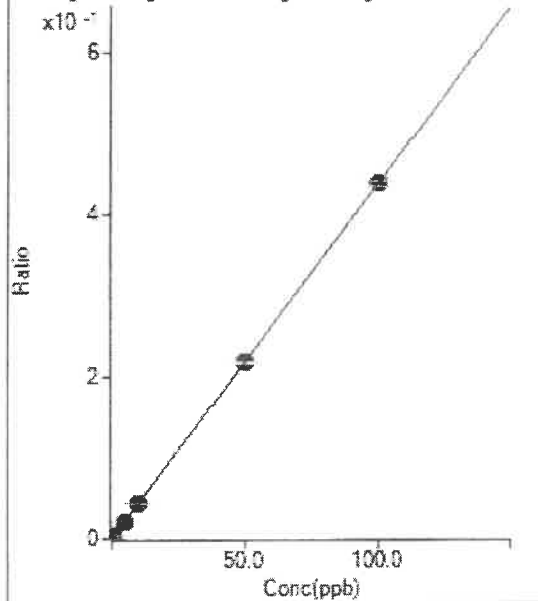
Sample Name	208 Pb [June 1]		115 In (ISTD) [June 1]		159 Tb (ISTD) [June 1]		185 Ho (ISTD) [June 1]		209 Bi (ISTD) [June 1]	
	Conc. [ppb]	Conc. RSD	CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS	ISTD Recovery %
ICV	49.0304	0.3616	5106985.82	87.23	6063775.96	77.43	5870489.61	78.74	3289155.34	82.02
ICB	0.3567	4.5731	5114566.03	87.35	6498055.85	82.97	6133275.40	82.27	3195211.06	79.67
0223-176-1B-2A	0.0131	20.6451	5459132.91	93.24	6776057.33	86.52	6570771.17	88.14	3333640.11	83.12
0223-176-LCS-2A 2X	49.9312	0.3951	5604570.29	95.72	6967492.87	88.97	6546575.77	87.81	3537067.46	88.20
0223-176-1-2A	6.9444	1.3526	5343566.97	91.27	7857105.84	100.33	7541006.68	101.15	3983282.12	99.32
0223-176-1-2A MS	58.4410	2.2076	5269566.50	90.41	7072721.11	98.41	7455306.24	100.00	3945700.44	95.89
0223-176-2-2A	4.2555	1.3486	5309987.51	90.69	7668378.94	97.79	7512773.86	100.77	3843266.33	98.33
0223-176-2-2A DUP	4.0949	2.0908	5246470.00	89.61	7718884.86	98.56	7371967.80	98.88	3808950.98	94.98
0223-176-3-2A	1.9322	1.4595	5226963.91	89.27	7746285.65	98.91	7513295.74	100.78	3913391.09	97.58
0223-176-4-2A	3.0075	1.6900	5239649.39	89.49	7777968.06	99.32	7494881.44	100.53	3894189.57	97.10
0223-176-5-2A	1.9567	0.3887	5289742.94	90.35	7802905.45	99.63	7475148.69	100.27	3894585.93	97.11
0223-176-6-2A	1.8066	2.5652	5212064.01	89.02	7970935.66	101.78	7589040.44	101.79	3913514.16	97.58
ICV	50.6302	3.0871	5075026.28	86.68	6430162.80	82.11	6156633.35	82.58	3331890.78	83.08
ICB	0.2750	11.8511	5025368.90	85.83	6462419.85	82.52	6248581.54	83.81	3299651.28	82.28
0223-176-7-2A	1.1504	5.1664	5225921.56	89.26	7814917.20	99.79	7540800.59	101.15	3946710.32	98.41
0223-176-8-2A	0.2092	2.8995	5572080.22	95.17	7139448.36	91.16	6796467.38	91.16	3735342.66	93.14
0223-176-9-2A	0.1698	3.8914	5312631.10	90.74	7967009.49	101.73	7538191.52	101.11	3926319.75	97.90
0223-176-10-2A	0.9335	1.6878	4957074.01	85.35	7816654.66	99.81	7441780.42	99.82	3800750.98	94.77
0223-176-11-2A	1.0609	1.9974	5166892.79	88.25	7598994.87	97.03	7298406.48	97.90	3949826.28	98.49
0223-176-12-2A	1.3065	1.9439	5361619.81	91.57	7740581.09	98.84	7336223.93	98.40	3824107.20	95.35
0223-176-13-2A	1.0079	2.8271	5450795.85	93.10	8263889.33	105.52	7762734.13	104.12	4048758.75	100.96
0223-176-14-2A	0.8957	1.3511	5479403.72	93.59	7972755.23	101.80	7624592.08	102.27	3938100.38	98.20
0223-176-15-2A	0.5815	2.2601	5385373.56	91.98	7738894.19	98.82	7419479.95	99.52	4004561.03	99.85
ICV	50.5821	1.4296	5084220.06	86.84	6294759.91	80.38	5970429.80	80.08	3319932.53	82.78
ICB	0.2594	6.5461	5032018.03	85.94	6305142.84	80.51	5946110.69	79.76	3345256.73	83.41
0223-176-16-2A	0.9198	2.3902	5211070.60	89.00	8023452.44	102.45	7581611.50	101.69	3949293.29	98.48
0223-176-17-2A	0.6717	2.8296	5405093.98	92.32	8212822.53	104.87	7720687.45	103.56	3909687.55	97.49
0223-176-18-2A	1.8537	12.9195	12438.03	0.21	17118.43	0.22	16176.28	0.22	10114.21	0.25
ICV	50.0082	1.1240	4922168.96	84.07	6231572.76	79.57	5836915.30	78.29	3276144.75	81.69
ICB	0.2794	14.2644	4807040.51	82.10	6290355.08	80.32	6011748.88	80.64	3155085.91	78.67

① See note on 1st page MZ 3/31/23

Calibration for 040SMPL.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\0223-176 032923 low mass BH.b\
 Analysis File: 0223-176 032923 low mass BH.batch.bin
 DA Date-Time: 3/29/2023 6:36:46 PM
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	001CALB.d	Cal Blank	3/29/2023 4:18:51 PM
2	002CALS.d	1 ppb	3/29/2023 4:22:20 PM
3	003CALS.d	5 ppb	3/29/2023 4:25:50 PM
4	004CALS.d	10 ppb	3/29/2023 4:29:18 PM
5	005CALS.d	50 ppb	3/29/2023 4:32:48 PM
6	006CALS.d	100 ppb	3/29/2023 4:36:15 PM

9 Be [tune 1] ISTD:7 Li [tune 1]

	R _{adj}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	440.45	0.0002	P	7.9
2	<input type="checkbox"/>	1.000	1.033	9162.12	0.0047	P	1.1
3	<input type="checkbox"/>	5.000	4.951	42253.83	0.0219	P	1.2
4	<input type="checkbox"/>	10.000	9.992	85929.25	0.0440	P	1.8
5	<input type="checkbox"/>	50.000	49.813	426423.17	0.2185	P	1.1
6	<input type="checkbox"/>	100.000	100.096	859281.16	0.4389	A	1.8

$$y = 0.0044 * x + 2.1515E-004$$

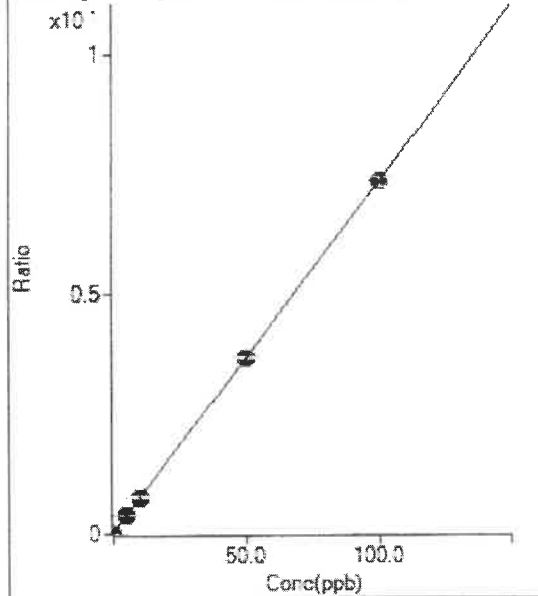
$$R = 1.0000$$

$$DL = 0.01159$$

$$BEC = 0.04909$$

Weight: <None>

Min Conc: 0

52 Cr [tune 1] ISTD:72 Ge [tune 1]

	R _{adj}	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	13252.98	0.0180	P	5.0
2	<input type="checkbox"/>			64833.30	0.0929	P	3.0
3	<input type="checkbox"/>	5.000	4.923	273666.56	0.3794	P	0.6
4	<input type="checkbox"/>	10.000	10.029	536226.08	0.7543	P	2.2
5	<input type="checkbox"/>	50.000	49.883	2613592.38	3.6803	A	1.2
6	<input type="checkbox"/>	100.000	100.059	5341374.57	7.3641	A	2.6

$$y = 0.0734 * x + 0.0180$$

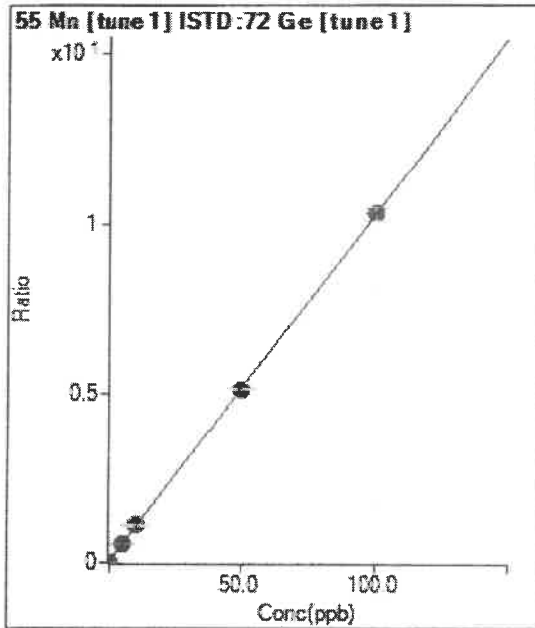
$$R = 1.0000$$

$$DL = 0.03658$$

$$BEC = 0.2451$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	14318.38	0.0195	P	6.2
2	<input type="checkbox"/>			89499.24	0.1282	P	3.4
3	<input type="checkbox"/>	5.000	5.040	388035.96	0.5379	P	1.4
4	<input type="checkbox"/>	10.000	10.269	764913.17	1.0759	P	2.3
5	<input type="checkbox"/>	50.000	49.519	3631636.72	5.1140	A	1.7
6	<input type="checkbox"/>	100.000	100.212	7490750.12	10.3293	A	3.9

$$y = 0.1029 * x + 0.0195$$

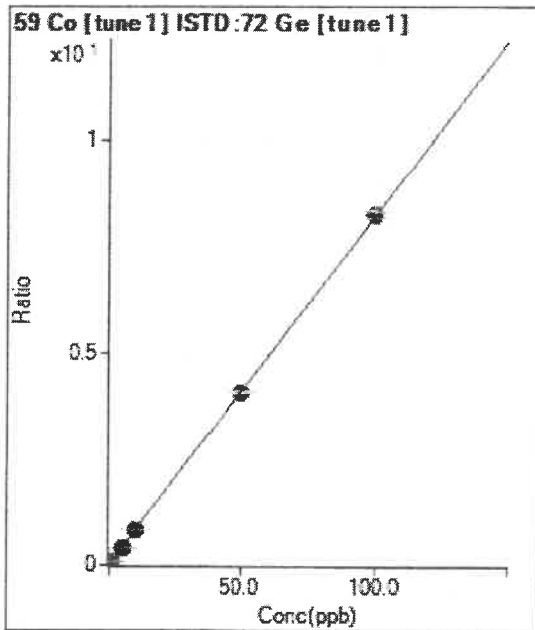
$$R = 1.0000$$

$$DL = 0.03535$$

$$BEC = 0.1891$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3320.44	0.0045	P	9.7
2	<input type="checkbox"/>	1.000	1.002	60902.71	0.0872	P	4.0
3	<input type="checkbox"/>	5.000	4.877	293683.67	0.4071	P	2.0
4	<input type="checkbox"/>	10.000	9.830	580180.42	0.8160	P	0.4
5	<input type="checkbox"/>	50.000	49.614	2911815.07	4.1003	A	1.7
6	<input type="checkbox"/>	100.000	100.216	6003956.87	8.2775	A	2.1

$$y = 0.0826 * x + 0.0045$$

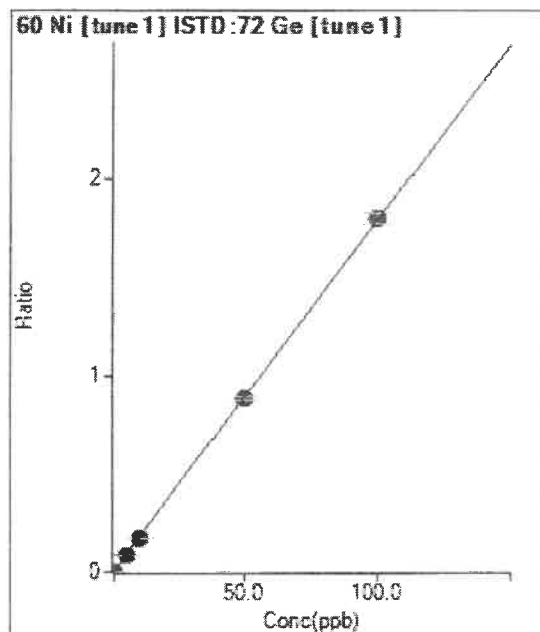
$$R = 1.0000$$

$$DL = 0.01594$$

$$BEC = 0.05466$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1074.46	0.0015	P	17.2
2	<input type="checkbox"/>			13480.07	0.0193	P	2.1
3	<input type="checkbox"/>	5.000	4.853	63815.19	0.0885	P	3.7
4	<input type="checkbox"/>	10.000	9.678	124419.98	0.1750	P	0.7
5	<input type="checkbox"/>	50.000	49.366	629634.47	0.8866	P	1.9
6	<input type="checkbox"/>	100.000	100.357	1306117.14	1.8009	A	3.2

$$y = 0.0179 * x + 0.0015$$

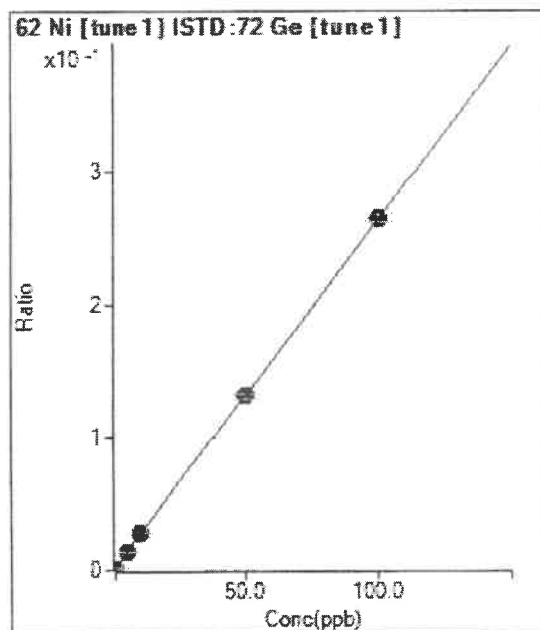
$$R = 1.0000$$

$$DL = 0.04207$$

$$BEC = 0.08138$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	920.96	0.0013	P	1.3
2	<input type="checkbox"/>			2592.86	0.0037	P	7.4
3	<input type="checkbox"/>	5.000	4.876	10130.55	0.0140	P	2.4
4	<input type="checkbox"/>	10.000	10.120	19763.80	0.0278	P	1.9
5	<input type="checkbox"/>	50.000	49.549	93209.07	0.1312	P	3.7
6	<input type="checkbox"/>	100.000	100.220	191623.94	0.2642	P	2.0

$$y = 0.0026 * x + 0.0013$$

$$R = 1.0000$$

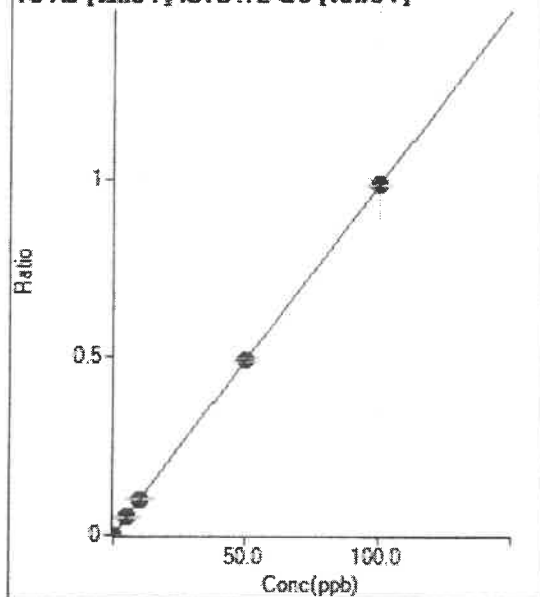
$$DL = 0.01804$$

$$BEC = 0.4765$$

Weight: <None>

Min Conc: 0

75 As [tune 1] ISTD:72 Ge [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	470.49	0.0006	P	29.7
2	<input type="checkbox"/>			7569.71	0.0108	P	4.0
3	<input type="checkbox"/>	5.000	5.010	35989.47	0.0499	P	2.7
4	<input type="checkbox"/>	10.000	10.286	72363.78	0.1018	P	0.3
5	<input type="checkbox"/>	50.000	49.770	348024.32	0.4900	P	1.9
6	<input type="checkbox"/>	100.000	100.086	714379.00	0.9847	P	0.8

$$y = 0.0098 * x + 6.4240E-004$$

$$R = 1.0000$$

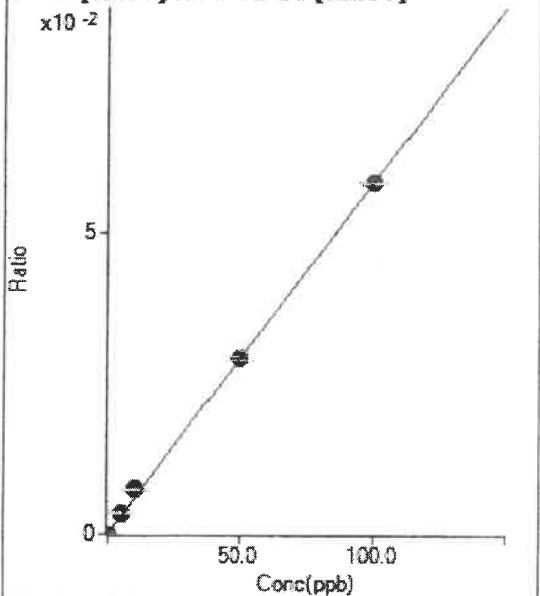
$$DL = 0.0582$$

$$BEC = 0.06533$$

Weight: <None>

Min Conc: 0

77 Se [tune 1] ISTD:72 Ge [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	46.71	0.0001	P	27.0
2	<input type="checkbox"/>			530.54	0.0008	P	19.0
3	<input type="checkbox"/>	5.000	5.943	2536.13	0.0035	P	8.7
4	<input type="checkbox"/>	10.000	12.523	5222.92	0.0073	P	4.0
5	<input type="checkbox"/>	50.000	49.559	20505.75	0.0289	P	2.2
6	<input type="checkbox"/>	100.000	99.921	42189.62	0.0582	P	0.6

$$y = 5.8135E-004 * x + 6.3643E-005$$

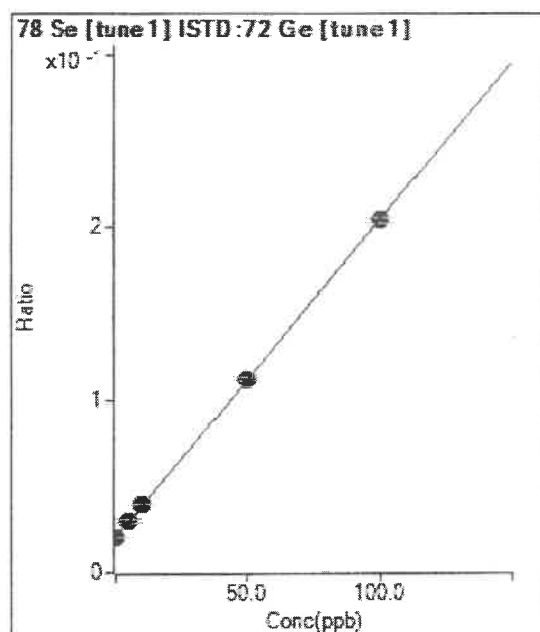
$$R = 0.9997$$

$$DL = 0.08866$$

$$BEC = 0.1095$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	15049.99	0.0204	P	3.3
2	<input type="checkbox"/>			16613.35	0.0238	P	2.6
3	<input type="checkbox"/>	5.000	5.323	21779.02	0.0302	P	3.8
4	<input type="checkbox"/>	10.000	10.470	28193.64	0.0397	P	0.4
5	<input type="checkbox"/>	50.000	50.192	79946.19	0.1126	P	1.8
6	<input type="checkbox"/>	100.000	99.841	147796.73	0.2037	P	1.3

$$y = 0.0018 * x + 0.0204$$

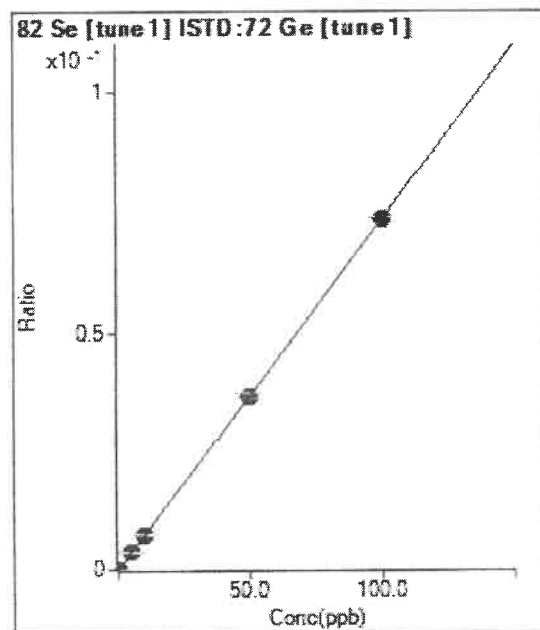
$$R = 1.0000$$

$$DL = 1.116$$

$$BEC = 11.13$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	38.50	0.0001	P	67.9
2	<input type="checkbox"/>			438.73	0.0006	P	8.7
3	<input type="checkbox"/>	5.000	5.071	2724.91	0.0038	P	8.4
4	<input type="checkbox"/>	10.000	10.153	5341.61	0.0075	P	4.8
5	<input type="checkbox"/>	50.000	49.917	26079.79	0.0367	P	3.0
6	<input type="checkbox"/>	100.000	100.023	53341.98	0.0735	P	1.8

$$y = 7.3470E-004 * x + 5.1918E-005$$

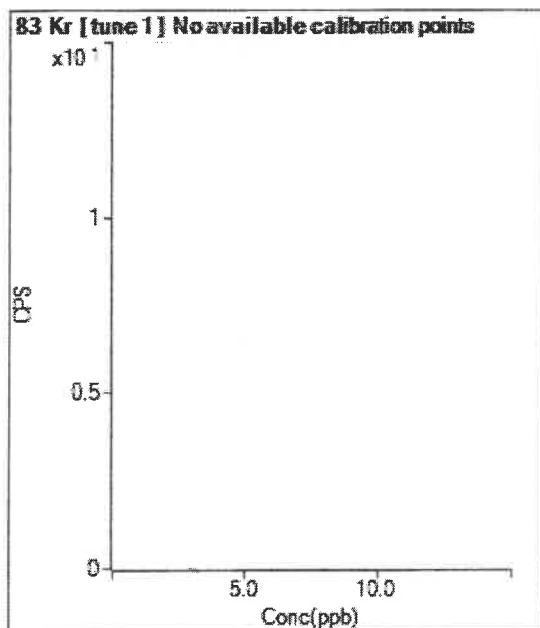
$$R = 1.0000$$

$$DL = 0.144$$

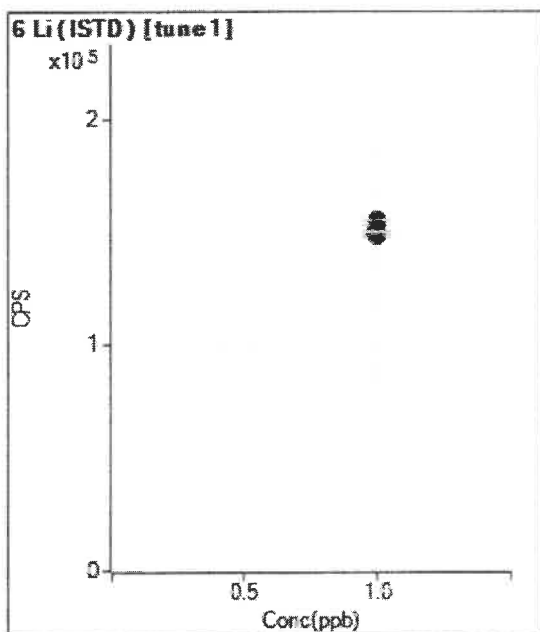
$$BEC = 0.07067$$

Weight: <None>

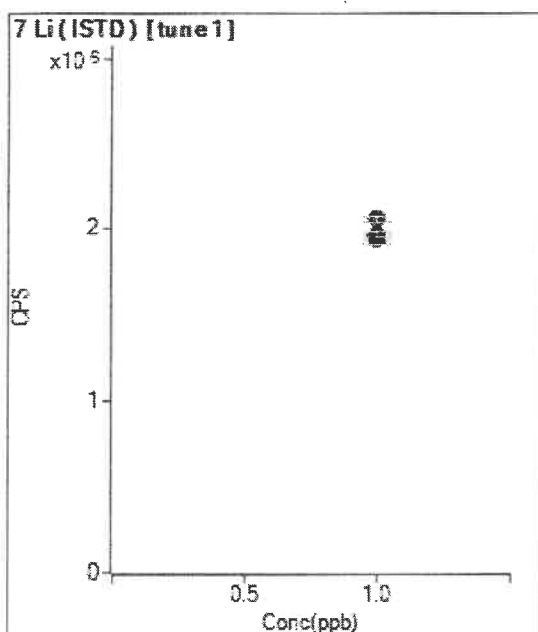
Min Conc: 0



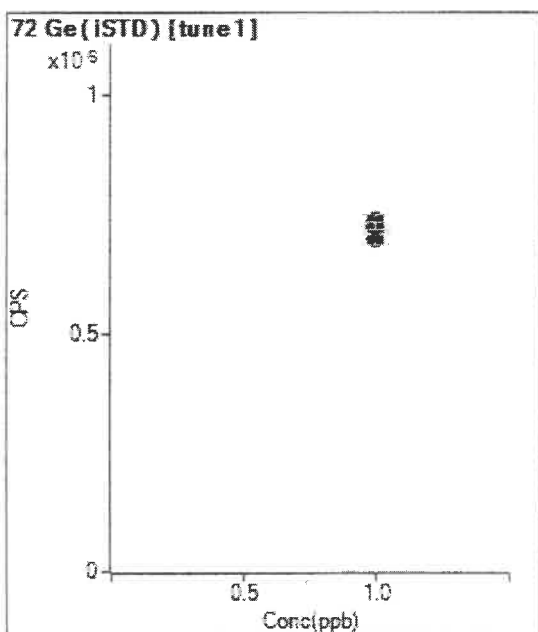
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			196.87		P	21.2
2	<input type="checkbox"/>			220.22		P	7.9
3	<input type="checkbox"/>			190.19		P	32.9
4	<input type="checkbox"/>			200.20		P	5.0
5	<input type="checkbox"/>			176.84		P	37.7
6	<input type="checkbox"/>			213.55		P	10.8



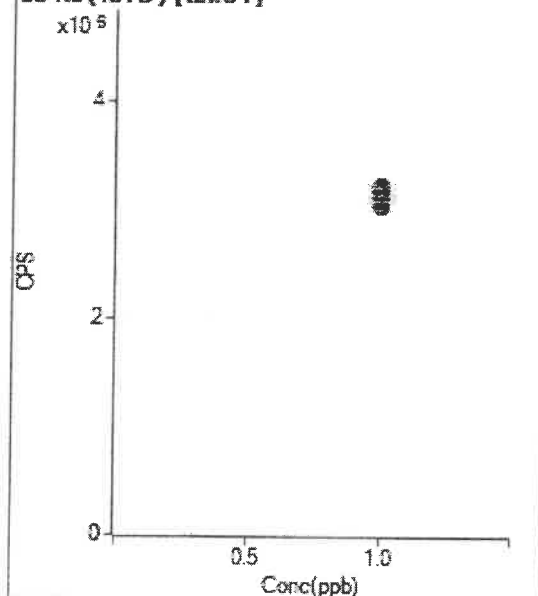
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		155148.75		P	0.3
2	<input type="checkbox"/>	1.000		151698.83		P	2.0
3	<input type="checkbox"/>	1.000		147910.00		P	1.3
4	<input type="checkbox"/>	1.000		148722.47		P	1.1
5	<input type="checkbox"/>	1.000		150147.59		P	0.8
6	<input type="checkbox"/>	1.000		150186.34		P	0.8



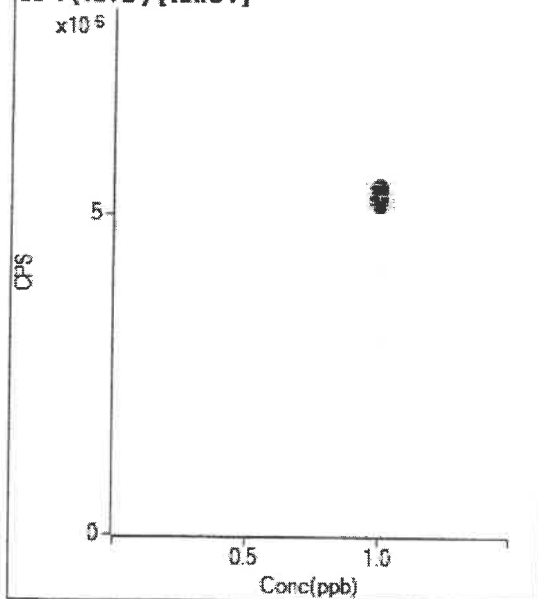
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		2047408.12		A	1.7
2	<input type="checkbox"/>	1.000		1932005.10		A	0.7
3	<input type="checkbox"/>	1.000		1928355.66		A	2.7
4	<input type="checkbox"/>	1.000		1952992.05		A	1.8
5	<input type="checkbox"/>	1.000		1951462.25		A	1.2
6	<input type="checkbox"/>	1.000		1958321.25		A	2.1



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		736850.09		P	3.1
2	<input type="checkbox"/>	1.000		698583.94		P	3.0
3	<input type="checkbox"/>	1.000		721318.17		P	1.4
4	<input type="checkbox"/>	1.000		710991.40		P	1.0
5	<input type="checkbox"/>	1.000		710194.03		P	0.7
6	<input type="checkbox"/>	1.000		725532.51		P	2.0

85 Rb (ISTD) [tune 1]

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		3227910.61		A	1.4
2	<input type="checkbox"/>	1.000		3102731.30		A	2.0
3	<input type="checkbox"/>	1.000		3043956.92		A	1.9
4	<input type="checkbox"/>	1.000		3095933.09		A	1.2
5	<input type="checkbox"/>	1.000		3133278.80		A	2.1
6	<input type="checkbox"/>	1.000		3181105.50		A	1.9

89 Y (ISTD) [tune 1]

	Rjct	Conc	Calc Conc	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		5415127.64		A	2.9
2	<input type="checkbox"/>	1.000		5327342.52		A	0.9
3	<input type="checkbox"/>	1.000		5160809.53		A	1.6
4	<input type="checkbox"/>	1.000		5193383.72		A	2.0
5	<input type="checkbox"/>	1.000		5280368.88		A	1.6
6	<input type="checkbox"/>	1.000		5252469.63		A	1.7

Acq. Date-Time	Sample Name	9 Be [tune 1]		52 Cr [tune 1]		55 Mn [tune 1]		59 Co [tune 1]		60 Ni [tune 1]	
		Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD
3/29/2023 16:18	Cal Blank	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A
3/29/2023 16:22	1 ppb	1.0329	1.1440	1.0197	3.7445	1.0570	4.0010	1.0022	4.2123	0.9951	2.2564
3/29/2023 16:25	5 ppb	4.9513	1.1749	4.9227	0.6324	5.0396	1.4936	4.8765	2.0025	4.8530	3.7656
3/29/2023 16:29	10 ppb	9.9916	1.7989	10.0287	2.2739	10.2686	2.3330	9.8305	0.4372	9.6785	0.7285
3/29/2023 16:32	50 ppb	49.8131	1.1453	49.8832	1.2007	49.5187	1.7312	49.6144	1.6691	49.3656	1.8623
3/29/2023 16:36	100 ppb	100.9864	1.8487	100.0594	2.5730	100.2118	3.8738	100.2159	2.0824	100.3567	3.2193
3/29/2023 16:39	ICV 100	0.6844	18.2855	0.7012	12.2175	0.8534	11.6559	0.6863	13.4349	0.6845	11.9567
3/29/2023 16:43	ICV 100	48.1378	2.2191	49.7880	1.5511	49.7117	1.8108	49.6333	2.5773	48.5386	0.7124
3/29/2023 16:46	ICV 100	0.3971	16.1001	0.5280	6.8252	0.3939	6.2596	0.3639	4.6806	0.4358	7.4765
3/29/2023 16:50	ICV 100	51.6033	0.9318	48.0742	1.6978	48.0284	1.7895	47.8334	1.0138	47.4330	1.8540
3/29/2023 16:53	0223-176-LB-2A	0.2022	16.8337	0.3710	9.7489	0.5705	8.6448	0.1983	17.6466	0.5545	10.4122
3/29/2023 16:56	0223-176-LCS-2A 2X	49.1269	1.0645	49.6313	1.0436	48.5296	2.2878	48.0609	2.0475	48.9188	1.4919
3/29/2023 17:00	0223-176.1-2A	0.3012	23.2822	6.2234	0.7952	11.4491	2.0302	0.7891	8.5117	13.6046	1.0445
3/29/2023 17:03	0223-176.1-2A MS	48.9197	0.6957	53.2566	3.3048	59.6381	2.3619	49.2244	2.0764	61.3814	1.6561
3/29/2023 17:07	0223-176.2-2A	0.1830	22.6070	5.3907	0.7333	7.7802	0.9442	0.6505	6.2312	5.2765	1.0498
3/29/2023 17:10	0223-176.2-2A DUP	0.0400	9.2202	5.3071	2.8979	7.7312	4.0468	0.5012	6.5401	5.1459	2.9719
3/29/2023 17:14	0223-176.3-2A	<0.000	N/A	4.6525	1.7130	3.9343	1.9058	0.2276	1.1884	7.2568	1.4379
3/29/2023 17:17	0223-176.4-2A	<0.000	N/A	5.1788	1.0189	5.1104	2.2238	0.3888	1.5585	6.6290	1.3450
3/29/2023 17:20	0223-176.5-2A	<0.000	N/A	5.2722	0.5398	6.1831	2.1981	0.3489	3.3685	5.1900	3.0865
3/29/2023 17:24	0223-176.6-2A	<0.000	N/A	4.8312	1.4806	9.6151	1.0350	0.2546	2.6767	3.4396	2.0556
3/29/2023 17:27	ICV 100	<0.000	N/A	0.0528	16.0713	0.1833	5.9153	<0.000	N/A	<0.000	N/A
3/29/2023 17:31	ICV 100	50.2282	1.4187	49.5773	2.0469	50.0626	3.6756	49.3878	2.7704	48.8978	3.8106
3/29/2023 17:34	0223-176.7-2A	0.1993	37.2536	4.2499	2.5986	13.0696	2.3607	0.3286	13.9813	3.2134	2.4923
3/29/2023 17:38	0223-176.8-2A	0.0361	59.7156	0.4179	8.6905	1.1084	0.7678	0.0583	27.4567	0.4309	5.9967
3/29/2023 17:41	0223-176.9-2A	<0.000	N/A	2.0897	2.0149	1.9749	1.9382	0.0185	8.3548	1.5790	1.7973
3/29/2023 17:45	0223-176.10-2A	<0.000	N/A	5.0127	0.1790	135.4831	1.4569	0.1493	3.1129	3.6546	0.6854
3/29/2023 17:48	0223-176.11-2A	<0.000	N/A	4.5436	0.7128	4.8007	2.3060	0.1418	5.3336	3.8559	0.4383
3/29/2023 17:51	0223-176.12-2A	<0.000	N/A	5.9236	1.0582	15.8269	1.0126	0.1959	1.1329	3.8668	0.3701
3/29/2023 17:55	0223-176.13-2A	<0.000	N/A	5.6641	2.2036	4.0016	1.2268	0.1605	4.7364	5.0901	3.2680
3/29/2023 17:58	0223-176.14-2A	<0.000	N/A	4.9359	3.7640	8.5957	1.0965	0.2275	2.5749	6.0464	0.8809
3/29/2023 18:02	0223-176.15-2A	<0.000	N/A	4.4053	2.7668	6.2128	0.3865	0.0872	3.6285	3.6796	0.7755
3/29/2023 18:05	ICV 100	<0.000	N/A	0.0326	46.8127	0.1788	5.3790	<0.000	N/A	<0.000	N/A
3/29/2023 18:09	ICV 100	51.4096	0.7280	49.9787	1.4288	49.3679	2.2861	49.2318	1.6296	48.5370	1.1036
3/29/2023 18:19	0223-176.10-2A 10X	0.0275	46.5391	0.5863	2.6931	14.4866	2.9472	0.0465	19.0769	0.3827	7.1263
3/29/2023 18:22	0223-176.12-2A 10X	<0.000	N/A	0.6000	4.1558	2.0015	3.1892	<0.000	N/A	0.3565	2.9353
3/29/2023 18:26	0223-176.16-2A	<0.000	N/A	8.7228	1.1401	15.9131	3.6970	0.2481	1.1154	6.9695	0.5980
3/29/2023 18:29	0223-176.17-2A	<0.000	N/A	2.3661	1.9836	3.4989	0.8386	0.0192	19.4830	1.4280	3.5609
3/29/2023 18:33	ICV 100	<0.000	N/A	0.0331	19.9800	0.1954	7.7247	<0.000	N/A	<0.000	N/A
3/29/2023 18:36	ICV 100	50.8522	1.4531	48.8168	0.5217	49.0612	1.3269	48.3093	0.4826	47.9423	1.3101

① Solutions were accidentally swapped 3/29/23

Sample Name	62 Ni [June 1]		75 As [June 1]		77 Se [June 1]		78 Se [June 1]		82 Se [June 1]		6 Li (ISTD) [June 1]	
	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	CPS	ISTD Recovery %
Cal Blank	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	155148.75	100.00
1 ppb	0.9404	11.1731	1.0375	4.2997	1.2018	20.7711	1.8308	18.1684	0.7852	9.4665	151698.83	97.78
5 ppb	4.8761	2.6661	5.0103	2.5857	5.9434	8.8675	5.3226	11.7453	5.0713	8.5298	147910.00	95.33
10 ppb	10.1196	1.9610	10.2859	0.2828	12.5231	4.0211	10.4702	0.8078	10.1531	4.7939	148722.47	95.86
50 ppb	49.5491	3.7169	49.7699	1.9262	49.5587	2.1808	50.1916	2.2100	49.9172	3.0114	150147.59	96.78
100 ppb	100.2197	1.9994	100.0860	0.8258	99.9212	0.6435	99.8411	1.4053	100.0225	1.7608	150186.34	96.80
ICV	0.6673	24.6403	0.7351	12.1396	0.7353	22.6432	1.5509	14.3552	0.6263	32.3334	149261.91	96.21
ICB	49.6711	0.8915	49.1267	2.5661	48.8411	4.4215	49.7107	3.9710	48.2003	2.1326	147225.73	94.89
ICSA	0.5209	11.6728	0.5148	10.5347	1.1874	6.5348	1.2237	36.2745	0.3440	36.0317	132814.54	85.80
ICSAB	47.6791	1.3353	50.6629	2.3818	51.1888	1.4133	51.3271	0.5465	50.9782	0.8117	128326.60	82.71
0223-176-LB-2A	0.4975	3.5821	0.2319	6.2113	0.3252	14.7634	0.7489	24.8577	0.2395	36.8669	131419.93	84.71
0223-176-LCS-2A 2X	2.0544	2.0544	48.4175	0.9047	48.1122	1.3376	48.6756	0.8735	47.5901	4.3872	133023.15	85.74
0223-176.1-2A	1.4022	1.4022	0.5594	12.0279	10.6934	2.0191	11.2085	4.3995	10.6579	2.1201	115934.73	74.72
0223-176.1-2A MS	62.6804	0.7706	47.4433	0.2354	63.5714	1.6689	63.7371	0.3708	64.0128	2.9366	117693.52	75.86
0223-176.2-2A	5.4076	4.6936	1.0701	5.0732	2.8732	8.5559	2.4304	7.9858	2.9079	7.4786	121478.51	78.30
0223-176.2-2A DUP	4.9930	1.5074	0.8609	6.3830	2.5558	13.5744	2.6748	3.7844	2.3579	18.0025	122587.99	79.01
0223-176.3-2A	7.2335	4.0805	0.6590	4.7283	10.9598	3.2352	11.2235	1.0156	11.5094	1.0223	121307.12	78.19
0223-176.4-2A	6.6590	1.6348	0.4019	11.8173	41.6179	1.5120	41.6979	0.9957	42.2758	5.4105	117804.82	75.93
0223-176.5-2A	5.1289	4.9842	0.2809	1.9160	10.9140	2.4725	11.0236	3.7826	11.1928	3.0075	118315.54	76.26
0223-176.6-2A	3.3433	1.0984	0.2306	8.4363	75.2528	1.5011	74.0698	0.6958	76.0625	0.9704	120970.10	77.97
ICV	<0.000	N/A	<0.000	N/A	0.7059	23.4377	0.9237	7.2063	0.4333	12.6197	127636.08	82.20
ICB	49.3648	2.8794	49.3050	0.9306	48.7104	1.9446	50.5954	1.4347	50.3407	1.2816	126293.71	81.40
0223-176.7-2A	3.1209	6.9062	0.3380	12.4499	5.2681	13.1090	5.0442	9.5729	5.0755	3.8956	114333.86	73.69
0223-176.8-2A	0.3565	45.2705	0.0609	33.2882	0.2435	15.4046	0.2396	214.8225	0.1044	53.1169	125832.18	81.10
0223-176.9-2A	1.7238	4.7796	0.0119	115.1115	0.2308	29.3850	0.2641	53.7555	<0.000	N/A	122914.85	79.22
0223-176.10-2A	3.6468	4.2205	0.2227	0.8088	78.9975	1.4344	78.6188	0.8205	80.1884	2.4696	120798.64	77.86
0223-176.11-2A	3.8216	5.2549	0.1203	12.2907	21.5715	1.8252	21.7015	3.9017	23.0442	1.2609	119432.89	76.98
0223-176.12-2A	3.8771	2.4377	0.4994	3.0733	198.3134	0.7439	202.0008	0.6937	206.0767	0.3337	119688.24	77.14
0223-176.13-2A	5.0279	2.2566	0.1089	16.1580	3.0771	5.9863	3.3814	15.1288	2.9237	10.1481	119143.65	76.79
0223-176.14-2A	6.0213	4.1766	0.1384	17.3598	7.7102	6.3123	7.3676	4.0608	6.8678	8.0455	122655.77	79.06
0223-176.15-2A	3.5332	2.9219	0.0789	35.2921	2.2507	10.7310	2.1634	15.0875	1.9065	11.1268	126303.25	81.41
ICV	<0.000	N/A	<0.000	N/A	0.2322	14.1000	0.2473	72.6185	<0.000	N/A	131514.04	84.77
ICB	49.0091	1.5623	48.7994	1.0708	50.2091	2.9093	50.9195	0.6711	48.2084	1.3254	125347.87	80.79
0223-176.10-2A 10X	0.4555	9.8194	0.0663	4.0799	7.2572	6.8203	7.8027	6.8728	7.0066	6.5902	128622.97	82.90
0223-176.12-2A 10X	0.3357	2.2249	0.0191	90.6310	17.9835	5.1351	18.2671	4.1680	17.7032	3.1883	128750.77	82.99
0223-176.16-2A	6.9860	2.6217	0.0974	7.8799	8.7173	13.5819	9.1357	4.2491	8.7532	11.1761	123035.88	79.30
0223-176.17-2A	1.4608	4.0217	0.0205	76.0670	0.3019	51.6485	0.3145	96.5565	0.0491	176.1553	122928.40	79.23
ICV	<0.000	N/A	<0.000	N/A	0.1844	23.2065	0.6594	59.9159	<0.000	N/A	126586.94	81.59
ICB	49.1669	1.4122	48.8598	0.9898	49.3632	4.3443	50.2916	3.3695	47.7123	1.7354	121643.64	78.40

① See p. 1 note MB 2/29/23

Sample Name	7 LI (ISTD) [June 1]			72 Ge (ISTD) [June 1]			85 Rb (ISTD) [June 1]			89 Y (ISTD) [June 1]		
	CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS	ISTD Recovery %
Cal Blank	2047408.12	100.00	736850.09	100.00	3227910.61	100.00	5415127.64	100.00				
1 ppb	1932005.10	94.36	698583.94	94.81	3102731.30	96.12	5327342.52	98.38				
5 ppb	1928355.66	94.19	721318.17	97.89	3043956.92	94.30	5160809.53	95.30				
10 ppb	1952992.05	95.39	710991.40	96.49	3095933.09	95.91	5193383.72	95.91				
50 ppb	1951462.25	95.31	710194.03	96.38	3133278.80	97.07	5280368.88	97.51				
100 ppb	1958321.25	95.65	725532.51	98.46	3181105.50	98.55	5252469.63	97.00				
ICV	1946203.02	95.06	719839.12	97.69	3245303.29	100.54	5366654.07	99.10				
ICB	1972319.18	96.33	704259.59	95.58	3049001.89	94.46	5187733.85	95.80				
ICSA	1774318.35	86.66	686295.40	93.14	2909002.91	90.12	4973227.17	91.84				
IC SAB	1677942.58	81.95	690009.17	93.64	2986494.31	92.52	5085324.10	93.91				
0223-176-LB-2A	1729604.97	84.48	726094.50	98.54	3318418.04	102.80	5553611.39	102.56				
0223-176-LCS-2A 2X	1789986.07	87.43	728147.18	98.82	3241317.69	100.42	5389540.91	99.53				
0223-176-1-2A	1518336.13	74.16	707805.28	96.06	3281791.26	101.67	5593260.35	103.29				
0223-176-1-2A MS	1563879.41	76.38	719369.21	97.63	3441655.05	106.62	5756255.90	106.30				
0223-176-2-2A	1587855.87	77.55	746721.15	101.34	3416556.05	105.84	5849553.31	108.02				
0223-176-2-2A DUP	1605523.28	78.42	737466.77	100.08	3403804.86	105.45	5785330.02	106.84				
0223-176-3-2A	1611612.36	78.71	738134.89	100.17	3462755.76	107.28	5897314.56	108.90				
0223-176-4-2A	1546092.03	75.51	720655.92	97.80	3372929.35	104.49	5666708.33	104.65				
0223-176-5-2A	1533803.85	74.91	715515.44	97.10	3275056.19	101.46	5563636.20	102.74				
0223-176-6-2A	1583626.49	77.35	723390.33	98.17	3401976.00	105.39	5792417.42	106.97				
ICV	1713557.33	83.69	690558.96	93.72	3007670.69	93.18	5030238.08	92.89				
ICB	1686321.35	82.36	684067.11	92.84	3003294.15	93.04	5025200.80	92.80				
0223-176-7-2A	1524825.17	74.48	703161.86	95.43	3282257.95	101.68	5522674.72	101.99				
0223-176-8-2A	1668573.97	81.50	715580.52	97.11	3302021.73	102.30	5635646.65	104.07				
0223-176-9-2A	1626360.18	79.44	725126.79	98.41	3385516.67	104.88	5827566.47	107.62				
0223-176-10-2A	1609182.71	78.60	715110.91	97.05	3410350.73	105.65	5692157.53	105.12				
0223-176-11-2A	1578047.32	77.08	729604.07	99.02	3384848.20	104.86	5770867.96	106.57				
0223-176-12-2A	1625490.34	79.39	720603.23	97.80	3325632.39	103.03	5738206.28	105.97				
0223-176-13-2A	1582176.72	77.28	713264.15	96.80	3444694.63	106.72	5750793.51	106.20				
0223-176-14-2A	1630999.52	79.66	741692.48	100.66	3423215.52	106.05	5807604.48	107.25				
0223-176-15-2A	1682251.94	82.16	758513.76	102.94	3517834.69	108.98	5919076.42	109.31				
ICV	1737183.87	84.85	723033.39	98.12	3102870.00	96.13	5161997.02	95.33				
ICB	1646887.19	80.43	688846.51	93.49	2976353.77	92.21	5019688.47	92.70				
0223-176-10-2A 10X	1729744.94	84.48	690794.04	93.75	3134691.43	97.11	5240857.39	96.78				
0223-176-12-2A 10X	1680452.24	82.08	710898.20	96.48	3173512.78	98.31	5343779.53	98.68				
0223-176-16-2A	1637258.60	79.97	734137.71	99.63	3443319.84	106.67	5869390.28	108.39				
0223-176-17-2A	1641008.05	80.15	742070.55	100.71	3545203.78	109.83	5981912.17	110.47				
ICV	1708218.12	83.43	684648.95	92.92	2997441.95	92.86	4988164.24	92.12				
ICB	1624410.46	79.34	669306.21	90.83	2845423.19	88.15	4889566.95	90.29				

① See p.1 note MA 3/29/23

Location: _____

Drawer: _____

Analyst: MAL

Cabinet: _____

Folder: _____

Date: 3/29/23

Job #s

0223-176

Describe Work Documented on This Page

ICP-MS Analysis

173A = Analytical Sequence p. 1
173B = 1 p. 2
173C = p. 3

Supplies, Ancillary Equipment
Serial #s, Lot #s, Etc

N/A

Reviewer's Initials & Date:

ICPMS-X
page 173

EA Job# 0223-176R Page 86 of 186

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Acq. Date-Time	Sample Name
3/29/2023 9:46	Cal Blank
3/29/2023 9:50	1 ppb
3/29/2023 9:53	5 ppb
3/29/2023 9:57	10 ppb
3/29/2023 10:00	50 ppb
3/29/2023 10:04	100 ppb
3/29/2023 10:07	ICV
3/29/2023 10:10	ICB
3/29/2023 10:14	ICSA
3/29/2023 10:17	ICSAB
3/29/2023 10:21	0223-176.LB-1A
3/29/2023 10:24	0223-176.LCS-1A 2X
3/29/2023 10:28	0223-176.1-1A 5X
3/29/2023 10:31	0223-176.1-1A MS 5X
3/29/2023 10:34	0223-176.2-1A 5X
3/29/2023 10:38	0223-176.2-1A DUP 5X
3/29/2023 10:41	0223-176.3-1A 5X
3/29/2023 10:45	0223-176.4-1A 5X
3/29/2023 10:48	0223-176.5-1A 5X
3/29/2023 10:52	0223-176.6-1A 5X
3/29/2023 10:55	ICV
3/29/2023 10:58	ICB
3/29/2023 11:02	0223-176.7-1A 5X
3/29/2023 11:05	0223-176.8-1A 5X
3/29/2023 11:09	0223-176.9-1A 5X
3/29/2023 11:12	0223-176.10-1A 5X
3/29/2023 11:16	0223-176.11-1A 5X
3/29/2023 11:19	0223-176.12-1A 5X
3/29/2023 11:22	0223-176.13-1A 5X
3/29/2023 11:26	0223-176.14-1A 5X
3/29/2023 11:29	0223-176.15-1A 5X
3/29/2023 11:33	ICV
3/29/2023 11:36	ICB
3/29/2023 11:40	0223-176.16-1A 5X
3/29/2023 11:43	0223-176.17-2A 5X
3/29/2023 11:46	0223-176.18-1A 5X
3/29/2023 11:50	ICV
3/29/2023 11:53	ICB

instr. X

173A

MAL
3/29/23

Acq. Date-Time	Sample Name
3/29/2023 12:07	Cal Blank
3/29/2023 12:11	1 ppb
3/29/2023 12:14	5 ppb
3/29/2023 12:18	10 ppb
3/29/2023 12:21	50 ppb
3/29/2023 12:25	100 ppb
3/29/2023 12:28	ICV
3/29/2023 12:32	ICB
3/29/2023 12:35	ICSA
3/29/2023 12:38	ICSAB
3/29/2023 12:42	0223-176.LB-1A
3/29/2023 12:45	0223-176.LCS-1A 2X
3/29/2023 12:49	0223-176.1-1A 5X
3/29/2023 12:52	0223-176.1-1A MS 5X
3/29/2023 12:55	0223-176.2-1A 5X
3/29/2023 12:59	0223-176.2-1A DUP 5X
3/29/2023 13:02	0223-176.3-1A 5X
3/29/2023 13:06	0223-176.4-1A 5X
3/29/2023 13:09	0223-176.5-1A 5X
3/29/2023 13:12	0223-176.6-1A 5X
3/29/2023 13:16	ICV
3/29/2023 13:19	ICB
3/29/2023 13:23	0223-176.7-1A 5X
3/29/2023 13:26	0223-176.8-1A 5X
3/29/2023 13:29	0223-176.9-1A 5X
3/29/2023 13:33	0223-176.10-1A 5X
3/29/2023 13:36	0223-176.11-1A 5X
3/29/2023 13:40	0223-176.12-1A 5X
3/29/2023 13:43	0223-176.13-1A 5X
3/29/2023 13:46	0223-176.14-1A 5X
3/29/2023 13:50	0223-176.15-1A 5X
3/29/2023 13:53	ICV
3/29/2023 13:57	ICB
3/29/2023 14:00	0223-176.16-1A 5X
3/29/2023 14:03	0223-176.17-2A 5X
3/29/2023 14:07	0223-176.18-1A 5X
3/29/2023 14:10	ICV
3/29/2023 14:14	ICB
3/29/2023 14:41	0223-176.-LB-2A
3/29/2023 14:45	0223-176.LCS-2A 2X
3/29/2023 14:48	0223-176.1-2A
3/29/2023 14:52	0223-176.1-2A MS
3/29/2023 14:55	0223-176.2-2A
3/29/2023 14:58	0223-176.2-2A DUP
3/29/2023 15:02	0223-176.3-2A

Inst. X

MAL

3/29/23

173B

3/29/2023 15:05	0223-176.4-2A
3/29/2023 15:09	0223-176.5-2A
3/29/2023 15:12	0223-176.6-2A
3/29/2023 15:15	ICV
3/29/2023 15:19	ICB
3/29/2023 15:22	0223-176.7-2A
3/29/2023 15:26	0223-176.8-2A
3/29/2023 15:29	0223-176.9-2A
3/29/2023 15:32	0223-176.10-2A
3/29/2023 15:36	0223-176.11-2A
3/29/2023 15:39	0223-176.12-2A
3/29/2023 15:43	0223-176.13-2A
3/29/2023 15:46	0223-176.14-2A
3/29/2023 15:50	0223-176.15-2A
3/29/2023 15:53	ICV
3/29/2023 15:56	ICB
3/29/2023 16:00	0223-176.16-2A
3/29/2023 16:03	0223-176.17-2A
3/29/2023 16:07	0223-176.18-2A
3/29/2023 16:10	ICV
3/29/2023 16:13	ICB

Inst. X

MAL

173C

3/29/23

Acq. Date-Time	Sample Name
3/29/2023 16:18	Cal Blank
3/29/2023 16:22	1 ppb
3/29/2023 16:25	5 ppb
3/29/2023 16:29	10 ppb
3/29/2023 16:32	50 ppb
3/29/2023 16:36	100 ppb
3/29/2023 16:39	ICV
3/29/2023 16:43	ICB
3/29/2023 16:46	ICSA
3/29/2023 16:50	ICSAB
3/29/2023 16:53	0223-176.-LB-2A
3/29/2023 16:56	0223-176.LCS-2A 2X
3/29/2023 17:00	0223-176.1-2A
3/29/2023 17:03	0223-176.1-2A MS
3/29/2023 17:07	0223-176.2-2A
3/29/2023 17:10	0223-176.2-2A DUP
3/29/2023 17:14	0223-176.3-2A
3/29/2023 17:17	0223-176.4-2A
3/29/2023 17:20	0223-176.5-2A
3/29/2023 17:24	0223-176.6-2A
3/29/2023 17:27	ICV
3/29/2023 17:31	ICB
3/29/2023 17:34	0223-176.7-2A
3/29/2023 17:38	0223-176.8-2A
3/29/2023 17:41	0223-176.9-2A
3/29/2023 17:45	0223-176.10-2A
3/29/2023 17:48	0223-176.11-2A
3/29/2023 17:51	0223-176.12-2A
3/29/2023 17:55	0223-176.13-2A
3/29/2023 17:58	0223-176.14-2A
3/29/2023 18:02	0223-176.15-2A
3/29/2023 18:05	ICV
3/29/2023 18:09	ICB
3/29/2023 18:19	0223-176.10-2A 10X
3/29/2023 18:22	0223-176.12-2A 10X
3/29/2023 18:26	0223-176.16-2A
3/29/2023 18:29	0223-176.17-2A
3/29/2023 18:33	ICV
3/29/2023 18:36	ICB

Calculation of MDL per SOP ENT-027 Enter values into the highlighted cells

Date Analyzed 2/3/23
 Analyst KAH
 Date Reviewed 2/15/23
 Reviewed By AMC

Instrument X - FRONT HALF (-1A)
 Logbook Page
 Injector (F.R.NA)
 Column
 Injector (F.R.NA)
 Column

Job #(s)
 Applicable Method(s) 29, 6020
 Matrix
 Solvent

Seven (or more) replicates of a low concentration preparation are made. The worst injection(s) (farthest from the mean area) may be removed assuming an appropriate Outlier Test calculation shows the value(s) to be an outlier. At least seven injections must remain.

MDL = Stdev * Student's t-value

t-value = 3.143 N=7 Degrees of Freedom = 6
 t-value = 2.998 N=8 Degrees of Freedom = 7
 t-value = 2.896 N=9 Degrees of Freedom = 8
 t-value = 2.821 N=10 Degrees of Freedom = 9

Compound #	1	2	3	4	5	6	7
Compound Name	Be 9	V 51	Cr 52	Mn 55	Co 59	Ni 60	Ni 62
Notes (if needed)							
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Test Std Concentrations	#1 1.02000 #2 0.97600 #3 1.00780 #4 0.99290 #5 0.98220 #6 1.07090 #7 0.95370 #8 0.98400 #9 #10	#1 5.06110 #2 5.25530 #3 5.23730 #4 5.19850 #5 4.93330 #6 4.97690 #7 5.07940 #8 5.14340 #9 #10	#1 5.28980 #2 5.62950 #3 5.39820 #4 5.25870 #5 5.19150 #6 5.20480 #7 5.25950 #8 5.36300 #9 #10	#1 5.03060 #2 5.13720 #3 8.67000 #4 4.95930 #5 4.92090 #6 4.94730 #7 5.07750 #8 4.94470 #9 #10	#1 1.09550 #2 1.10220 #3 1.11020 #4 1.05580 #5 1.01610 #6 1.02980 #7 1.07650 #8 1.02430 #9 #10	#1 4.98750 #2 5.10580 #3 5.60630 #4 5.21400 #5 4.95910 #6 4.99240 #7 5.18480 #8 5.32370 #9 #10	#1 4.88670 #2 4.86630 #3 5.39220 #4 5.23630 #5 4.82170 #6 4.89490 #7 4.97500 #8 5.24080 #9 #10
!! Remove extra zeros !!							
Standard Deviation	0.0355	0.1186	0.1423	1.2988	0.0375	0.2170	0.2170
Student's T factor	2.998	2.998	2.998	2.998	2.998	2.998	2.998
Calculated MDL = StDev * t	0.106	0.356	0.427	3.894	0.112	0.651	0.650
Concentration of Std	1.000	5.000	5.000	5.000	1.000	5.000	5.000
Lowest Part 136 App B value*	0.100	0.500	0.500	0.500	0.100	0.500	0.500
MDL value <1/10 Std Value?	Pass	<1/10 Conc of Std	<1/10 Conc of Std	Pass	Pass	Pass	Pass
MDL to Use	0.10636	0.50000	0.50000	3.89389	0.11246	0.65051	0.65045
	100.1%	103.7%	108.8%	125.6%	110.3%	104.7%	101.0%
	2.3%	2.1%	3.2%	33.0%	0.7%	6.3%	5.9%
				Reprep LOQ			

*40 CFR Part 136 Appendix B, a common detection limit guidance, indicates that the MDL can not be <1/10th the standard used to set the MDL. MDL to use is the maximum of the Calculated MDL, lowest integratable concentration and the Lowest Part 136 B value.

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8	9	10	11	12	13	14	15
Cu 63	Cu 65	Zn 66	Zn 68	As 75	Se 77	Se 78	Se 82
ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
#1 4.96040	#1 5.06950	#1	#1	#1 6.13870	#1 4.96360	#1 4.33920	#1 5.36710
#2 5.26170	#2 5.28120	#2	#2	#2 6.23660	#2 5.21630	#2 4.65430	#2 5.45310
#3 5.18940	#3 5.24810	#3	#3	#3 5.72080	#3 5.53940	#3 4.48170	#3 5.50840
#4 5.21950	#4 5.13870	#4	#4	#4 5.19440	#4 5.40480	#4 4.55390	#4 5.10280
#5 4.93760	#5 5.02380	#5	#5	#5 5.29240	#5 5.03490	#5 4.09110	#5 5.46890
#6 4.79220	#6 4.89580	#6	#6	#6 4.98980	#6 5.22280	#6 4.35280	#6 5.20410
#7 5.01150	#7 4.92170	#7	#7	#7 4.85660	#7 5.21800	#7 4.31850	#7 4.94080
#8 4.87970	#8 4.98790	#8	#8	#8 4.78090	#8 4.98600	#8 4.26740	#8 5.22130
#9	#9	#9	#9	#9	#9	#9	#9
#10	#10	#10	#10	#10	#10	#10	#10
0.1723	0.1426	#DIV/0!	#DIV/0!	0.5665	0.2025	0.1765	0.2003
2.998	2.998	0.000	0.000	2.998	2.998	2.998	2.998
0.517	0.427	#DIV/0!	#DIV/0!	1.698	0.607	0.529	0.601
5.000	5.000	20.000	20.000	5.000	5.000	5.000	5.000
0.500	0.500	2.000	2.000	0.500	0.500	0.500	0.500
Pass	<1/10 Conc of Std	#DIV/0!	#DIV/0!	Pass	Pass	Pass	Pass
0.51660	0.50000	#DIV/0!	#DIV/0!	1.69827	0.60722	0.52920	0.60064
102.7%	3.1%	104.0%	2.2%	120.6%	5.5%	89.8%	108.9%
				LB is > 5, set LOQ @ 10			1.3%
				until lab repreps			108.4%
				AMC 2/15/23			

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16	17	18	19
Ag 107	Ag 109	Cd 111	Cd 114
ppb	ppb	ppb	ppb
#1 1.13220	#1 1.12130	#1 1.12520	#1 1.06210
#2 1.06810	#2 1.09970	#2 1.04910	#2 1.05560
#3 1.05170	#3 1.03280	#3 1.03310	#3 1.00280
#4 1.07130	#4 1.05060	#4 1.05780	#4 0.99920
#5 1.00550	#5 1.04290	#5 1.03840	#5 0.99810
#6 1.05460	#6 1.04310	#6 1.06410	#6 1.01360
#7 1.00480	#7 1.00790	#7 1.01430	#7 1.00050
#8 1.00020	#8 1.00160	#8 1.02180	#8 1.02520
#9	#9	#9	#9
#10	#10	#10	#10
0.0448	0.0415	0.0346	0.0259
2.998	2.998	2.998	2.998
0.134	0.124	0.104	0.078
1.000	1.000	1.000	1.000
0.100	0.100	0.100	0.100
Pass	Pass	Pass	<1/10 Conc of Std
0.13431	0.12445	0.10388	0.10000
3.9%	108.5%	4.3%	106.9%
		4.6%	104.0%
			3.1%

Calculation of MDL per SOP ENT-027 Enter values into the highlighted cells

Date Analyzed 2/3/23

Analyst KAH

Date Reviewed 2/15/2023 / 3/16/23 changed ppm to ppb

Reviewed By AMC

Instrument X - FRONT HALF (-1A)

Logbook Page

Injector (F.R.NA)

Column

Injector (F.R.NA)

Column

Job #

Applicable Method(s) 29, 6020

Matrix

Solvent

Seven (or more) replicates of a low concentration preparation are made. The worst injection(s) (farthest from the mean area) may be removed assuming an appropriate Outlier Test calculation shows the value(s) to be an outlier. At least seven injections must remain.

MDL = SDev * Student's t-value

t-value = 3.143 N=7 Degrees of Freedom = 6

t-value = 2.998 N=8 Degrees of Freedom = 7

t-value = 2.896 N=9 Degrees of Freedom = 8

t-value = 2.821 N=10 Degrees of Freedom = 9

Compound #	1	2	3	4	5	6	7	8
Compound Name	Sb 121	Sb 123	Ba 137	Ba 138	Tl 205	Pb 206	Pb 207	Pb 208
Notes (if needed)								

Units	1	2	3	4	5	6	7	8
Test Std Concentrations	ppb #1 5.05780 #2 5.05900 #3 5.06410 #4 5.11230 #5 4.92970 #6 5.10130 #7 4.82560 #8 4.82790 #9 #10	ppb #1 5.07690 #2 5.11320 #3 5.02960 #4 5.07050 #5 4.87120 #6 5.20220 #7 4.82020 #8 4.82970 #9 #10	ppb #1 5.56040 #2 #3 7.44750 #4 6.57850 #5 5.88300 #6 5.19820 #7 5.18390 #8 5.11040 #9 #10	ppb #1 5.49650 #2 #3 7.45390 #4 6.47340 #5 5.72030 #6 5.11530 #7 5.14260 #8 5.09790 #9 #10	ppb #1 1.04010 #2 1.01920 #3 1.02780 #4 1.02590 #5 1.03550 #6 0.99720 #7 1.00030 #8 1.01260 #9 #10	ppb #1 1.02500 #2 1.05990 #3 1.01090 #4 1.02810 #5 1.04620 #6 1.01340 #7 1.00960 #8 1.01790 #9 #10	ppb #1 1.04420 #2 1.05200 #3 1.03100 #4 1.00320 #5 1.03860 #6 1.03200 #7 1.01110 #8 1.03890 #9 #10	ppb #1 1.03110 #2 1.03600 #3 1.01520 #4 1.01840 #5 1.02670 #6 1.01280 #7 0.98800 #8 1.01630 #9 #10
!! Remove extra zeros !!								
Standard Deviation	0.1188	0.1431	0.8728	0.8832	0.0156	0.0181	0.0165	0.0119
Student's T factor	2.998	2.998	3.143	3.143	2.998	2.998	2.998	2.998
Calculated MDL = StDev * t	0.356	0.429	2.743	2.776	0.047	0.054	0.049	0.036
Concentration of Std	5.000	5.000	5.000	5.000	1.000	1.000	1.000	1.000
Lowest Part 136 App B value*	0.500	0.500	0.500	0.500	0.100	0.100	0.100	0.100
MDL value <1/10 Std Value?	<1/10 Conc of Std	<1/10 Conc of Std	Pass	Pass	<1/10 Conc of Std	<1/10 Conc of Std	<1/10 Conc of Std	<1/10 Conc of Std
MDL to Use	0.50000	0.50000	2.74332	2.77577	0.10000	0.10000	0.10000	0.10000

LOQ /// Average & RSD 101.2% 0.066% 101.5% 0.826% 102.9% 102.9% 102.9% 102.7% 1.058%
 *40 CFR Part 136 Appendix B, a common detection limit guidance, indicates that the MDL can not be <1/10th the standard used to set the MDL.
 MDL to use is the maximum of the Calculated MDL, lowest integratable concentration and the Lowest Part 136 B value.

Seven (or more) replicates of a low concentration preparation are made. The worst injection(s) (farthest from the mean area) may be removed assuming an appropriate Outlier Test calculation shows the value(s) to be an outlier. At least seven injections must remain.

MDL = Stdev * Student's t-value

t-value =	3.143	N=7	Degrees of Freedom = 6
t-value =	2.998	N=8	Degrees of Freedom = 7
t-value =	2.896	N=9	Degrees of Freedom = 8
t-value =	2.821	N=10	Degrees of Freedom = 9

Instrument X - FRONT HALF (-1A) Mn, Zn, As and Ba

Logbook Page

Injector (F,R,NA)

Column

Injector (F, R, NA)

Column

Job #	Applicable Method(s)
29, 6020	

Compound #	1	2	3	4	5	6	7
Compound Name	Mn 55	Zn 66	Zn 68	As 75	Ba 137	Ba 138	
Notes (if needed)							

[illegible]

*40 CFR Part 136 Appendix B, a common detection limit guidance, indicates that the MDL can not be $<1/10$ th the standard used to set the MDL.

1.00 validated 12/10/08 VR

Calculation of MDL per SOP ENT-027 Enter values into the highlighted cells

Date Analyzed 2/3/23
Analyst KAH
Date Reviewed 2/15/23
Reviewed By AMC

Instrument X - BACK HALF (-2A)
Logbook Page
Injector (F.R,NA)
Column
Injector (F.R,NA)
Column

Job #(s)
Applicable Method(s) 29 6020
Matrix
Solvent

Seven (or more) replicates of a low concentration preparation are made. The worst injection(s) (farthest from the mean area) may be removed assuming an appropriate Outlier Test calculation shows the value(s) to be an outlier. At least seven injections must remain.

MDL = Stdev * Student's t-value

t-value = 3.143 N=7 Degrees of Freedom = 6
t-value = 2.998 N=8 Degrees of Freedom = 7
t-value = 2.896 N=9 Degrees of Freedom = 8
t-value = 2.821 N=10 Degrees of Freedom = 9

Compound #	1	2	3	4	5	6	7
Compound Name	Be 9	V 51	Cr 52	Mn 55	Co 59	Ni 60	Ni 62
Notes (if needed)							
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Test Std Concentrations	#1 1.07330 #2 0.99300 #3 0.97240 #4 0.93980 #5 0.90980 #6 0.90850 #7 0.94100 #8 0.93910 #9 #10	#1 5.05310 #2 4.90240 #3 4.92540 #4 5.03690 #5 5.11360 #6 5.10670 #7 5.11540 #8 4.97600 #9 #10	#1 5.50890 #2 5.17020 #3 5.23980 #4 5.35280 #5 5.32910 #6 5.22510 #7 5.22530 #8 5.32650 #9 #10	#1 5.08570 #2 4.98140 #3 5.08350 #4 5.06750 #5 5.54170 #6 5.01410 #7 4.87210 #8 5.07250 #9 #10	#1 1.12600 #2 1.01980 #3 1.03340 #4 0.98300 #5 0.98200 #6 0.96630 #7 0.99610 #8 0.98020 #9 #10	#1 5.07000 #2 4.81520 #3 4.90040 #4 4.98790 #5 4.94460 #6 4.98470 #7 5.00530 #8 5.03320 #9 #10	#1 4.90930 #2 4.79630 #3 5.05720 #4 5.05540 #5 4.92750 #6 4.97990 #7 4.82680 #8 4.93770 #9 #10
!! Remove extra zeros !!							
Standard Deviation	0.0541	0.0852	0.1066	0.1964	0.0515	0.0803	0.0949
Student's T factor	2.998	2.998	2.998	2.998	2.998	2.998	2.998
Calculated MDL = StDev * t	0.162	0.256	0.320	0.589	0.155	0.241	0.285
Concentration of Std	1.000	5.000	5.000	5.000	1.000	5.000	5.000
Lowest Part 136 App B value*	0.100	0.500	0.500	0.500	0.100	0.500	0.500
MDL value <1/10 Std Value?	Pass	<1/10 Conc of Std	<1/10 Conc of Std	Pass	Pass	<1/10 Conc of Std	<1/10 Conc of Std
MDL to Use	0.16207	0.50000	0.50000	0.58873	0.15453	0.50000	0.50000

LOQ // AVERAGE & RSD 101.3% 5.26% 99.2% 1.64% 106.1% 3.37% 101.0% 1.18% 106.0% 5.45% 98.6% 2.63% 98.4% 2.66%

*40 CFR Part 136 Appendix B, a common detection limit guidance, indicates that the MDL can not be <1/10th the standard used to set the MDL.

MDL to use is the maximum of the Calculated MDL, lowest integratable concentration and the Lowest Part 136 B value.

W002AS-023392-RT-4542-R1

8		9		10		11		12		13		14		15	
Cu 63		Cu 65		Zn 66		Zn 68		As 75		Se 77		Se 78		Se 82	
ppb		ppb		ppb		ppb		ppb		ppb		ppb		ppb	
#1	4.95160	#1	5.06260	#1	20.67570	#1	20.40220	#1	4.77280	#1	4.84810	#1	4.20750	#1	4.80130
#2	4.88770	#2	4.78540	#2	20.21670	#2	20.18220	#2	4.67230	#2	4.28760	#2	4.04800	#2	4.91300
#3	4.83.66	#3	4.86160	#3	19.68340	#3	19.89950	#3	4.62070	#3	4.69190	#3	4.19570	#3	4.75460
#4	4.87860	#4	4.98630	#4	20.45300	#4	19.96850	#4	4.74540	#4	4.87330	#4	4.15760	#4	4.95220
#5	5.02820	#5	5.07780	#5	33.94130	#5	33.08090	#5	4.74380	#5	4.71780	#5	4.27370	#5	4.62390
#6	4.96500	#6	4.89190	#6	20.92690	#6	20.74360	#6	4.77180	#6	4.20030	#6	3.97480	#6	5.20820
#7	4.81170	#7	4.83920	#7	20.21990	#7	20.07780	#7	4.68530	#7	4.43680	#7	4.22100	#7	4.79230
#8	4.97150	#8	4.97030	#8	22.63020	#8	22.43950	#8	4.81000	#8	4.83650	#8	4.33670	#8	4.97760
#9		#9		#9		#9		#9		#9		#9		#9	
#10		#10		#10		#10		#10		#10		#10		#10	
	0.0724		0.1065		4.7669		4.5130		0.0628		0.2866		0.1171		0.1768
	3.143		2.998		2.998		2.998		2.998		2.998		2.998		2.998
	0.228		0.319		14.291		13.530		0.188		0.799		0.351		0.530
	5.000		5.000		20.000		20.000		5.000		5.000		5.000		5.000
	0.500		0.500		2.000		2.000		0.500		0.500		0.500		0.500
<1/10 Conc of Std		<1/10 Conc of Std		Pass		Pass		<1/10 Conc of Std		Pass		<1/10 Conc of Std		Pass	
0.50000		0.50000		14.29113		13.52999		0.50000		0.79918		0.50000		0.52992	
98.4%	0.92%	98.1%	2.92%	101.0%	2.46%	100.8%	1.25%	93.8%	1.65%	92.2%	6.28%	83.0%	2.14%	96.5%	1.69%
															107.8%

16	17	18	19
Ag 107	Ag 109	Cd 111	Cd 114
ppb	ppb	ppb	ppb
1 15640	#1 1 13140	#1 1 18030	#1 1 15320
1 07970	#2 1 08800	#2 1 08460	#2 1 07310
0 99800	#3 0 99550	#3 1 03040	#3 1 04340
1 00950	#4 1 01730	#4 0 98690	#4 0 98180
0 98640	#5 1 00090	#5 0 99970	#5 0 98840
1 02770	#6 1 00450	#6 1 06550	#6 0 99820
1 00180	#7 1 01050	#7 0 99200	#7 1 00150
1 01340	#8 1 01380	#8 1 02700	#8 0 97670
	#9	#9	#9
	#10	#10	#10
0.0570	0.0494	0.0644	0.0608
2.998	2.998	2.998	2.998
0.171	0.148	0.193	0.182
1 000	1 000	1 000	1 000
0.100	0.100	0.100	0.100
Pass	Pass	Pass	Pass
0.17085	0.14808	0.19318	0.18223
7.35%	107.2%	6.48%	109.8%
		6.91%	109.0%
			5.21%

1.00 validated 12/10/08 VR

Calculation of MDL per SOP ENT-027

Date Analyzed 2/3/23
Analyst KAH
Date Reviewed 2/15/23
Reviewed By AMC

Instrument X - BACK HALF (-2A)
Logbook Page
Injector (F.R.NA)
Column
Injector (F.R.NA)
Column

Job #(s)
Applicable Method(s) 29, 6020
Matrix
Solvent

Seven (or more) replicates of a low concentration preparation are made. The worst injection(s) (farthest from the mean area) may be removed assuming an appropriate Outlier Test calculation shows the value(s) to be an outlier. At least seven injections must remain.

MDL = Stdev * Student's t-value

t-value = 3.143 N=7 Degrees of Freedom = 6
t-value = 2.998 N=8 Degrees of Freedom = 7
t-value = 2.896 N=9 Degrees of Freedom = 8
t-value = 2.821 N=10 Degrees of Freedom = 9

Compound #	1	2	3	4	5	6	7	8
Compound Name	Sb 121	Sb 123	Ba 137	Ba 138	Tl 205	Pb 206	Pb 207	Pb 208
Notes (if needed)								

Units	1	2	3	4	5	6	7	8
Test Std Concentrations	#1 4.95090 #2 4.83370 #3 4.80560 #4 4.81720 #5 4.73740 #6 5.14090 #7 4.81550 #8 4.80400 #9 #10	#1 4.87810 #2 4.90380 #3 4.76980 #4 4.87910 #5 4.79890 #6 5.10260 #7 4.71390 #8 4.79460 #9 #10	#1 5.31240 #2 5.30310 #3 4.90620 #4 4.79670 #5 4.78880 #6 4.85670 #7 4.78570 #8 4.89050 #9 #10	#1 5.22330 #2 5.29670 #3 4.87040 #4 4.78960 #5 4.79020 #6 4.87580 #7 4.81400 #8 4.93130 #9 #10	#1 1.14670 #2 1.08190 #3 1.00770 #4 1.00690 #5 0.95720 #6 1.00300 #7 0.98160 #8 1.00150 #9 #10	#1 1.14530 #2 1.08180 #3 0.98270 #4 0.98860 #5 1.04030 #6 0.97500 #7 1.00580 #8 0.99550 #9 #10	#1 1.16820 #2 1.08060 #3 0.98070 #4 0.99050 #5 0.99660 #6 0.95910 #7 0.97750 #8 1.01610 #9 #10	#1 1.14010 #2 1.07990 #3 0.98430 #4 0.97490 #5 1.01630 #6 0.96330 #7 0.97300 #8 0.99460 #9 #10
!! Remove extra zeros !!								
Standard Deviation	0.1269	0.1188	0.2225	0.1989	0.0611	0.0595	0.0698	0.0618
Student's T factor	2.998	2.998	2.998	2.998	2.998	2.998	2.998	2.998
Calculated MDL = StDev * t	0.380	0.356	0.667	0.596	0.183	0.178	0.209	0.185
Concentration of Std	5.000	5.000	5.000	5.000	1.000	1.000	1.000	1.000
Lowest Part 136 App B value*	0.500	0.500	0.500	0.500	0.100	0.100	0.100	0.100
MDL value <1/10 Std Value?	<1/10 Conc of Std	<1/10 Conc of Std	Pass	Pass	Pass	Pass	Pass	Pass
MDL to Use	0.50000	0.50000	0.66697	0.59620	0.18331	0.17829	0.20930	0.18522

LOQ // AVERAGE & RSD 97.3% 1.58% 97.0% 1.58% 103.5% 4.48% 102.6% 4.44% 107.9% 6.45% 107.0% 7.66% 107.7% 8.72% 107.1% 6.84%

*40 CFR Part 136 Appendix B, a common detection limit guidance, indicates that the MDL can not be <1/10th the standard used to set the MDL.

MDL to use is the maximum of the Calculated MDL, lowest integratable concentration and the Lowest Part 136 B value.

Analyst: LMPDate: 2/2/23

Job #s

MS LOQ-1-8

Describe Work Documented on This Page

MALC000-1-4

m29 prep

1340A = m29 FH prep sheet

1340B = m29 BH prep sheet

Supplies, Ancillary Equipment
Serial #s, Lot #s, Etc

Preparation of LOQ working standard

M2 2/2/23 added

Element	Stock ID	exp date	Vol. spiked (mL)	final conc. (ppm)
Be	F0734	6/30/27	0.1	1
Cr	F0583	4/30/26	0.5	5
Mn	F0731	10/31/27	0.5	5
Co	F0728	6/30/27	0.1	1
Cu	F0789	5/31/25	0.5	5
Ni	F0729	5/31/25	0.5	5
Zn	F0703	4/30/26	2.0	20
As	F0695	4/30/27	0.5	5
Se	F0645	12/31/25	0.5	5
Ag	F0798	12/23/23 ① 4/1/23	0.1	1
Cd	F0730	3/31/28	0.1	1
Sb	F0820	8/2/23	0.5	5
Ba	F0769	4/30/25	0.5	5
Tl	F0816	5/9/23	0.1	1
① Zn Pb	F0802	6/30/29	① 2.0 0.1	1
V	F0457	4/30/23	0.5	5

NA

① M2 2/2/23 EE

0.1 mL spike used pipet 127 next cal due 3/4/23

0.5 + 2 mL spikes used pipet 124 next cal due 3/4/23

Final volume 100 mL with 5% HNO₃

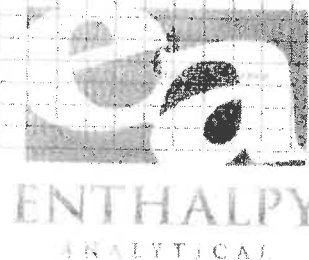
Reviewer's Initials & Date:

Metals Prep

EA Job# 0223-1708 Page 100 of 186

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305 of 715





METHOD 29 METALS PREP SHEET

FRONT HALF SAMPLES

DAY 1	Date: <u>2/2/23</u>	Analyst(s): <u>LMP/MAL</u>	DAY 3	Date:	Analyst(s):
DAY 2	Date: <u>2/3/23</u>	Analyst(s): <u>LMP</u>	DAY 4	Date:	Analyst(s):

Ves. #	Reagents	ID#:	Expiration Date:	Sample ID	Final Volume (mL)
1	HNO ₃ : 6 mL	22330073	8/24	LDQ. 1	-1
2	HF: 4 mL	SCA 2118048	4/25	. 2	-1
3	Support Equipment	ID#:	Expiration Date:	. 3	-1
4				. 4	-1
5				. 5	-1
6				. 6	-1
7	Micro. #	6, 7	N/A	. 7	-1
8				. 8	-1
9	Hotplate #	8	N/A	MAL CDOC. 1	-1
10				. 2	-1
11	HF Pipette	130	3/3/23	. 3	-1
12				. 4	-1
	HNO ₃ Pipette	↓	↓		-1
					-1
	Digitube	J553470-2258	N/A		-1
					-1
	Comments:				-1
					-1
					-1
					-1

Front Half Quality Control

Ves. #	QC	ID:	Expiration:	Stock Conc. (ppm)	Prepped Conc. (ppb)	Amount Added (mL)	Pip ID:	Pip Exp:
13	Lab Blank-1	--	--	--	--	--	--	--
14	LCS-1	F0814	10/28/23	10	100	1.0	124	3/4/23

List additional LCS's below as needed. For example: Ag, LCS-High



METHOD 29 METALS PREP SHEET

BACK HALF SAMPLES

DAY 1	Date: <u>2/2/23</u>	Analyst(s): <u>LMP/MAL</u>	DAY 3	Date:	Analyst(s):
DAY 2	Date: <u>2/3/23</u>	Analyst(s): <u>LMP</u>	DAY 4	Date:	Analyst(s):
Reagents	ID#:	Expiration Date:	Sample ID		Final Volume (mL)
1:1 HNO ₃ : 30mL	<u>ES-0795</u>	<u>6/19/23</u>	<u>LOQ. 1</u>	-2A	<u>100</u>
H ₂ O ₂ : 1mL	<u>61326206</u>	<u>11/30/23</u>	<u>.2</u>	-2A	
Support Equipment	ID#: <u>1</u>	Expiration Date:	<u>.3</u>	-2A	
			<u>.4</u>	-2A	
			<u>.5</u>	-2A	
			<u>.6</u>	-2A	
Hotplate #	<u>10</u>	<u>N/A</u>	<u>.7</u>	-2A	
1:1 HNO ₃ Pipette	<u>J553470-2258</u>	<u>NA</u>	<u>.8</u>	-2A	
H ₂ O ₂ Pipette	<u>125</u>	<u>3/1/23</u>		-2A	
Hg Aliquot Removed (mL) (-2B)	<u>NA</u>			-2A	
Digitube	<u>J553470-2258</u>	<u>N/A</u>		-2A	
Comments:				-2A	
				-2A	
				-2A	
				-2A	
				-2A	
				-2A	
				-2A	
				-2A	

Back Half Quality Control

QC	ID:	Expiration:	Stock Conc. (ppm)	Prepped Conc. (ppb)	Amount Added (mL)	Pip ID:	Pip Exp:
Lab Blank-2A	--	--	--	--	--	--	--
LCS-2A	<u>F0763</u>	<u>2/24</u>	<u>100</u>	<u>100</u>	<u>0.10</u>	<u>127</u>	<u>3/4/23</u>
List additional LCS's below as needed. For example: Ag, LCS-High							

ICP-MS Raw Data Coversheet

Doc. No.: RD05

Rev.:G

Effective Date: 08-05-22

Instrument X

Analyst(s): <u>KAH</u>		Analysis Date(s): <u>2/3/23</u>	
EA Project #: <u>LOQ Study</u>			
Analytes: <u>All M29 + V</u>			
Method: <u>G020</u>	Smart Tune ID: <u>ES-0804</u>	Conc: <u>1 ppb</u>	Exp: <u>7/3/23</u>
	Internal Standard ID: <u>F0773</u>	Conc: <u>10 ppm</u>	Exp: <u>2/23</u>
Diluent: <u>50</u> mL HNO ₃ (ID # <u>2230073</u> Exp: <u>8/24</u>) diluted to 1000 mL with DI			
Calib. Blk/ICB/CCB: Diluent			
¹ All samples and standards are spiked with 50 µL of internal std. (pipette <u>127</u> exp <u>3/4/23</u>)			
Calibration Standards - Made from EA ID# <u>2: F0763</u> (Stock Concentration: <u>10 ppm</u>)			
Exp Date: <u>2/4/23</u> and brought up with Diluent			
	Final Conc. (ppb)	Amount (µL)	Pipette # & Exp:
Standard 1	1	100 of Std 6	<u>127 3/4/23</u>
Standard 2	5	500 of Std 6	<u>124</u>
Standard 3	20	2 mL Std 6	<u>1</u>
Standard 4	50	50	<u>127</u>
Standard 5	100	100	<u>1</u>
No IS Std 6	100	100	<u>1</u>
² 10 ppm WS = 1 mL of Standard <u>F0763</u> exp <u>2/24</u> (pipettes: <u>124, 143</u> exp <u>3/4/23</u>) + 9 mL Diluent			
Secondary Standards - Made from EA ID# <u>F0814 + (3)</u> (Stock Concentration: <u>10 ppm</u>)			
Exp Date: <u>11/23 / 2/4/23</u> and brought up with Diluent			
	Final Conc. (ppb)	Amount (µL)	Pipette # & Exp:
ICV/CCV	50	50 + 50	<u>127 3/4/23</u>
<u>③ 10 ppm V: 100 µL F0457 (1000 ppm 9/23) w/ 127 3/4/23 → 10 mL w/ diluent 143 2/9/23 KAH 2/3/23</u>			
ICS's - Made from Stock Std ICS-A ID# <u>(F0786)</u> Exp: <u>8/23</u>			
& 50 ppb Metals Std ID# <u>(2) F0763</u> Conc: <u>10 ppm</u> Exp: <u>2/4/23</u> brought up with Diluent			
	Conc.	Amount WS (µL)	Pipette # & Exp:
ICS-A	Multi	100	<u>127 3/4/23</u>
ICS-AB	Multi	100	<u>1</u>
	50 ppb	50	<u>1</u>
Post Dig Matrix Spike Samples - Diluted with Diluent (Metals Mix ID# _____ Conc: _____ Exp: _____)			
Sample ID	Dilution Factor of Field Sample	Aliquot of Sample (mL)	Final Conc. (ppb)
			Amount of Spike Added (µL)
			Pipette # & Exp:
			Final Vol (mL)
			Pipette # & Exp:
			Analyst
			10
			10
			10
			10
			10
			10
			10

Instrument X

Effective Date: 08-05-22

[illegible]

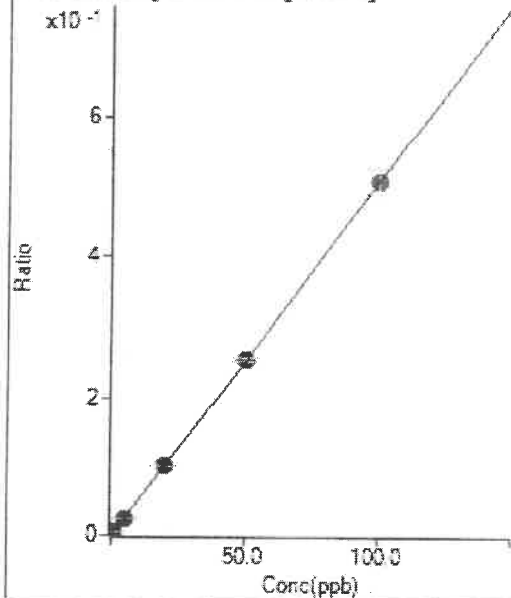
Comments:

Calibration for 034SMPLd

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\LOQ MAL FH IDOC 020323.b\
 Analysis File: LOQ MAL FH IDOC 020323.batch.bin
 DA Date-Time: 2/3/2023 3:55:01 PM
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	001CALB.d	CAL BLK	2/3/2023 1:17:15 PM
2	002CALS.d	1 PPB	2/3/2023 1:20:57 PM
3	003CALS.d	5 PPB	2/3/2023 1:24:19 PM
4	004CALS.d	20 PPB	2/3/2023 1:27:40 PM
5	005CALS.d	50 PPB	2/3/2023 1:31:03 PM
6	006CALS.d	100 PPB	2/3/2023 1:34:18 PM

9 Be [tune 1] ISTD: 7 Li [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	160.16	0.0001	P	10.7
2	<input type="checkbox"/>	1.000	1.007	15316.91	0.0052	P	3.9
3	<input type="checkbox"/>	5.000	4.863	78963.69	0.0248	P	1.5
4	<input type="checkbox"/>	20.000	20.197	310003.37	0.1027	P	1.1
5	<input type="checkbox"/>	50.000	50.238	809189.97	0.2553	A	0.6
6	<input type="checkbox"/>	100.000	99.849	1614321.80	0.5073	A	0.3

$$y = 0.0051 * x + 5.0182E-005$$

$$R = 1.0000$$

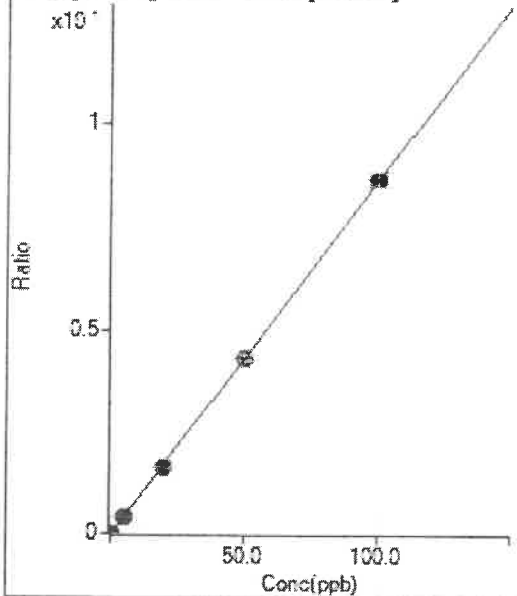
$$DL = 0.003161$$

$$BEC = 0.009878$$

Weight: <None>

Min Conc: 0

51 V [tune 1] ISTD: 72 Ge [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	523.87	0.0005	P	14.0
2	<input type="checkbox"/>			80701.88	0.0865	P	3.5
3	<input type="checkbox"/>	5.000	4.729	387904.65	0.4082	P	4.3
4	<input type="checkbox"/>	20.000	19.299	1621181.09	1.6642	A	0.4
5	<input type="checkbox"/>	50.000	50.044	4066701.56	4.3148	A	2.6
6	<input type="checkbox"/>	100.000	100.132	8018636.16	8.6328	A	4.3

$$y = 0.0862 * x + 5.3372E-004$$

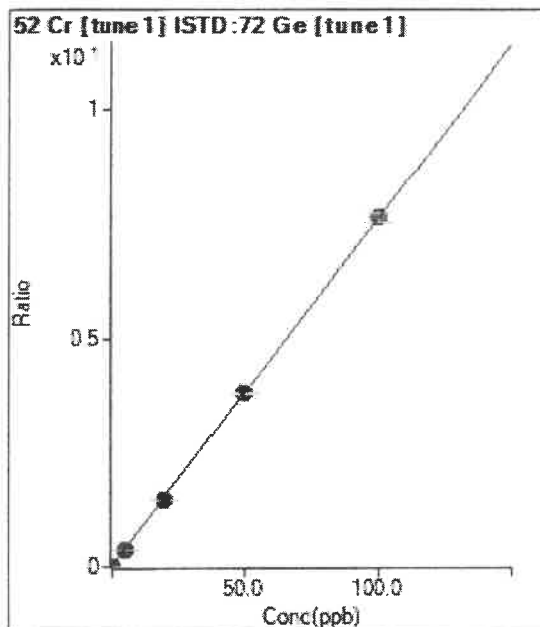
$$R = 1.0000$$

$$DL = 0.002603$$

$$BEC = 0.006191$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10414.38	0.0106	P	5.9
2	<input type="checkbox"/>			79829.30	0.0856	P	3.1
3	<input type="checkbox"/>	5.000	4.691	349621.02	0.3679	P	3.7
4	<input type="checkbox"/>	20.000	19.082	1425963.45	1.4639	A	1.7
5	<input type="checkbox"/>	50.000	49.797	3584520.23	3.8032	A	1.1
6	<input type="checkbox"/>	100.000	100.300	7107043.25	7.6495	A	2.7

$$y = 0.0762 * x + 0.0106$$

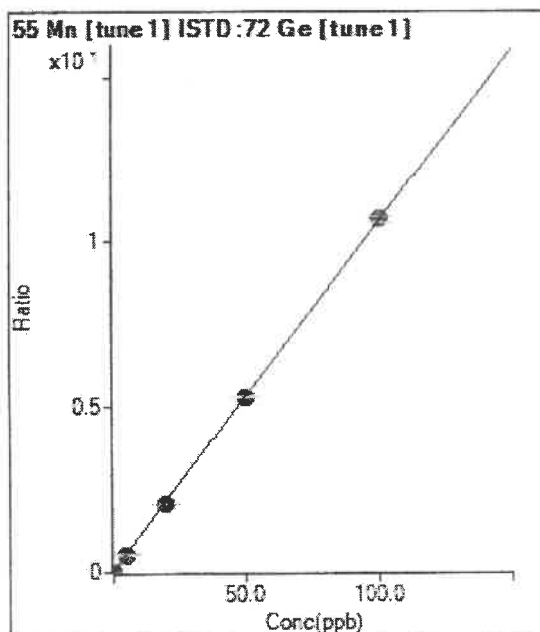
$$R = 1.0000$$

$$DL = 0.02439$$

$$BEC = 0.1387$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	24773.44	0.0251	P	5.6
2	<input type="checkbox"/>			120656.47	0.1293	P	0.3
3	<input type="checkbox"/>	5.000	4.804	507734.27	0.5342	P	3.7
4	<input type="checkbox"/>	20.000	19.077	1993468.88	2.0464	A	1.1
5	<input type="checkbox"/>	50.000	49.626	4980861.68	5.2831	A	1.9
6	<input type="checkbox"/>	100.000	100.381	9906928.25	10.6608	A	1.7

$$y = 0.1060 * x + 0.0251$$

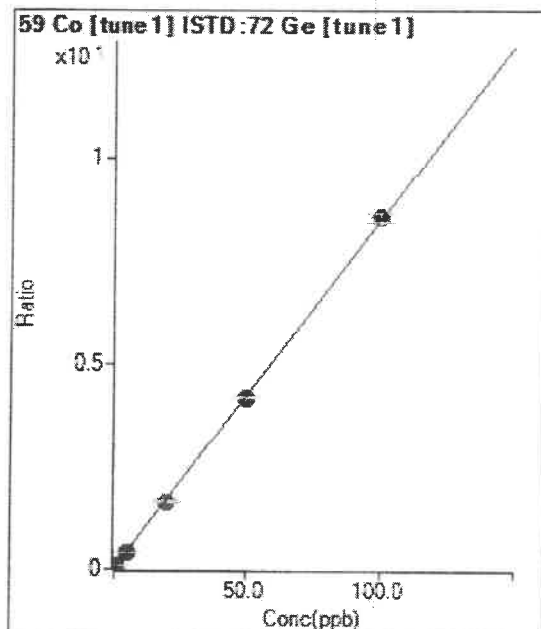
$$R = 0.9999$$

$$DL = 0.03988$$

$$BEC = 0.2372$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	2753.06	0.0028	P	5.5
2	<input type="checkbox"/>	1.000	0.996	81776.60	0.0877	P	2.6
3	<input type="checkbox"/>	5.000	4.795	390926.73	0.4113	P	3.4
4	<input type="checkbox"/>	20.000	19.221	1597941.96	1.6404	A	3.1
5	<input type="checkbox"/>	50.000	49.253	3958491.45	4.1989	A	0.5
6	<input type="checkbox"/>	100.000	100.540	7961397.32	8.5683	A	2.5

$$y = 0.0852 * x + 0.0028$$

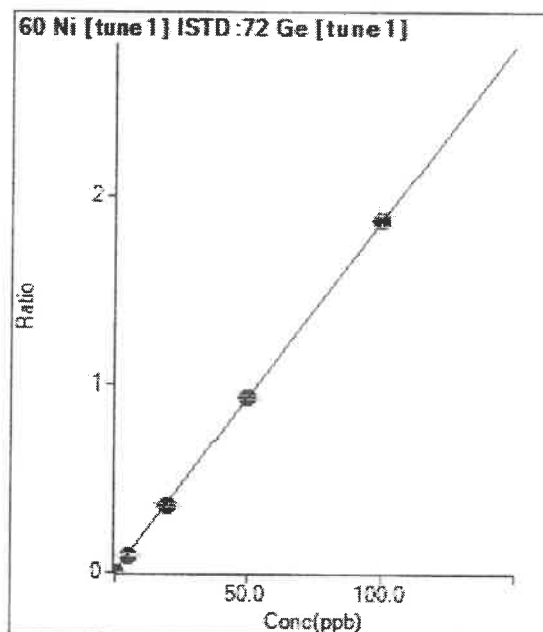
$$R = 0.9999$$

$$DL = 0.005423$$

$$BEC = 0.03277$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	4118.09	0.0042	P	3.4
2	<input type="checkbox"/>			21043.65	0.0226	P	5.0
3	<input type="checkbox"/>	5.000	4.818	89255.84	0.0939	P	1.9
4	<input type="checkbox"/>	20.000	18.844	345743.60	0.3550	P	4.9
5	<input type="checkbox"/>	50.000	49.877	878939.39	0.9326	P	1.7
6	<input type="checkbox"/>	100.000	100.302	1738894.81	1.8713	A	3.3

$$y = 0.0186 * x + 0.0042$$

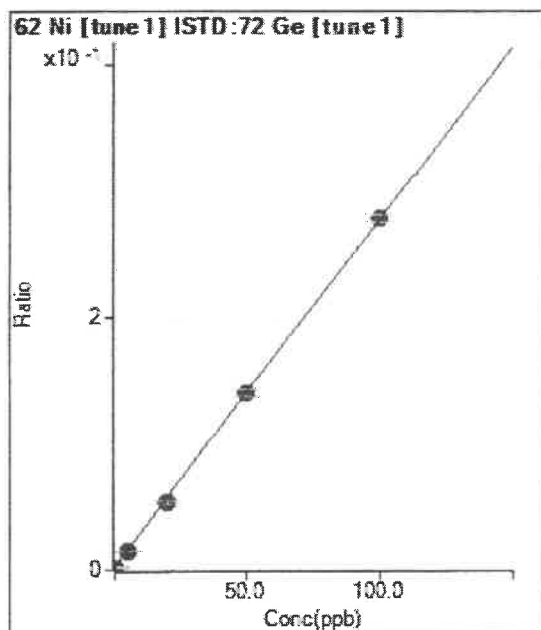
$$R = 0.9999$$

$$DL = 0.02316$$

$$BEC = 0.2246$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2135.66	0.0022	P	10.5
2	<input type="checkbox"/>			4498.60	0.0048	P	11.5
3	<input type="checkbox"/>	5.000	4.607	14107.97	0.0149	P	6.5
4	<input type="checkbox"/>	20.000	18.552	51881.53	0.0533	P	5.8
5	<input type="checkbox"/>	50.000	49.738	131082.99	0.1392	P	4.6
6	<input type="checkbox"/>	100.000	100.440	259084.64	0.2788	P	2.3

$$y = 0.0028 * x + 0.0022$$

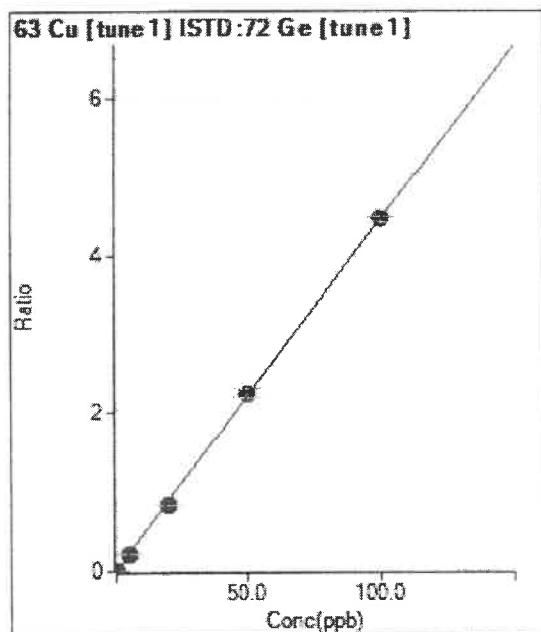
$$R = 0.9999$$

$$DL = 0.2483$$

$$BEC = 0.785$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3160.23	0.0032	P	4.7
2	<input type="checkbox"/>			43929.58	0.0471	P	3.1
3	<input type="checkbox"/>	5.000	4.823	207244.43	0.2181	P	4.5
4	<input type="checkbox"/>	20.000	18.364	800199.92	0.8215	P	1.4
5	<input type="checkbox"/>	50.000	50.565	2125379.31	2.2563	A	4.4
6	<input type="checkbox"/>	100.000	100.053	4145714.48	4.4613	A	1.4

$$y = 0.0446 * x + 0.0032$$

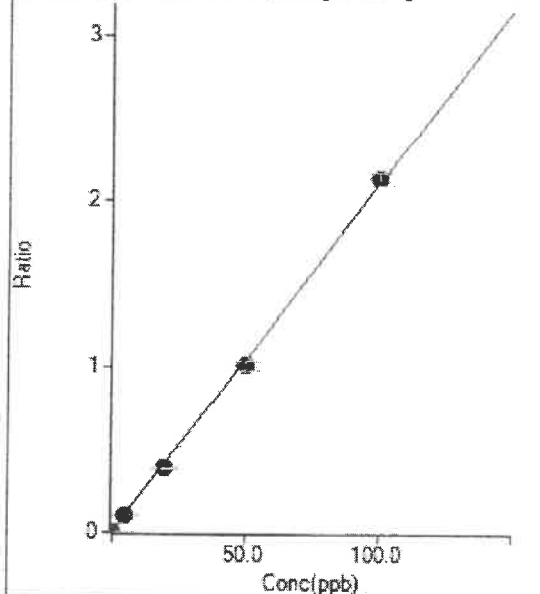
$$R = 0.9998$$

$$DL = 0.01008$$

$$BEC = 0.07192$$

Weight: <None>

Min Conc: 0

65 Cu [tune 1] ISTD:72 Ge [tune 1]

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1438.19	0.0015	P	7.3
2	<input type="checkbox"/>			20652.80	0.0221	P	4.1
3	<input type="checkbox"/>	5.000	4.682	94973.12	0.0999	P	2.6
4	<input type="checkbox"/>	20.000	18.622	382700.16	0.3929	P	3.0
5	<input type="checkbox"/>	50.000	48.134	954273.05	1.0133	A	5.7
6	<input type="checkbox"/>	100.000	101.225	1978304.16	2.1293	A	3.5

$$y = 0.0210 * x + 0.0015$$

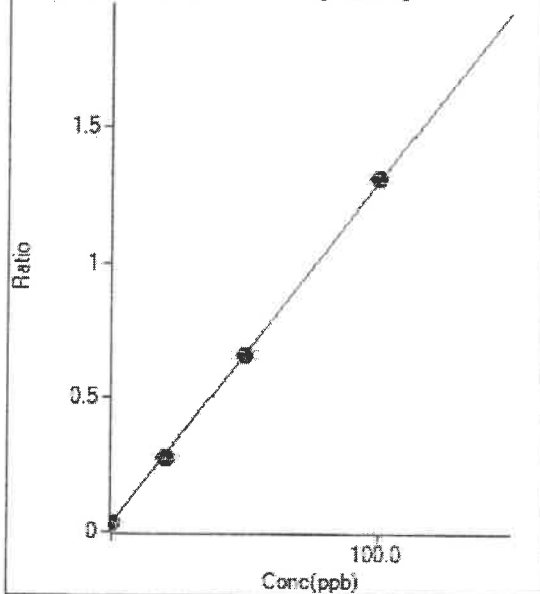
$$R = 0.9996$$

$$DL = 0.01523$$

$$BEC = 0.06951$$

Weight: <None>

Min Conc: 0

66 Zn [tune 1] ISTD:72 Ge [tune 1]

	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	34788.21	0.0353	P	0.8
2	<input type="checkbox"/>			41416.13	0.0444	P	3.5
3	<input type="checkbox"/>			83699.99	0.0881	P	3.5
4	<input type="checkbox"/>	20.000	19.147	271158.70	0.2784	P	3.3
5	<input type="checkbox"/>	50.000	49.294	622698.31	0.6611	P	4.9
6	<input type="checkbox"/>	100.000	100.524	1218684.22	1.3116	A	2.0

$$y = 0.0127 * x + 0.0353$$

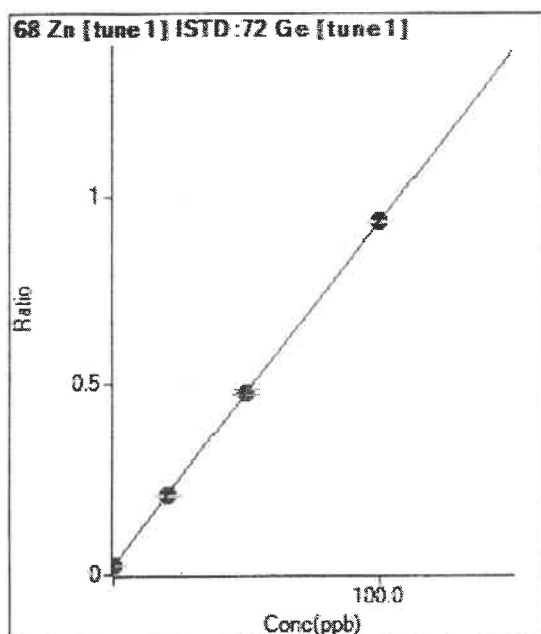
$$R = 0.9999$$

$$DL = 0.07068$$

$$BEC = 2.782$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	25201.49	0.0256	P	0.3
2	<input type="checkbox"/>			30423.69	0.0326	P	0.7
3	<input type="checkbox"/>			62147.34	0.0654	P	2.0
4	<input type="checkbox"/>	20.000	19.930	201411.55	0.2068	P	1.5
5	<input type="checkbox"/>	50.000	49.704	449856.62	0.4774	P	2.9
6	<input type="checkbox"/>	100.000	100.162	870022.94	0.9361	A	0.7

$$y = 0.0091 * x + 0.0256$$

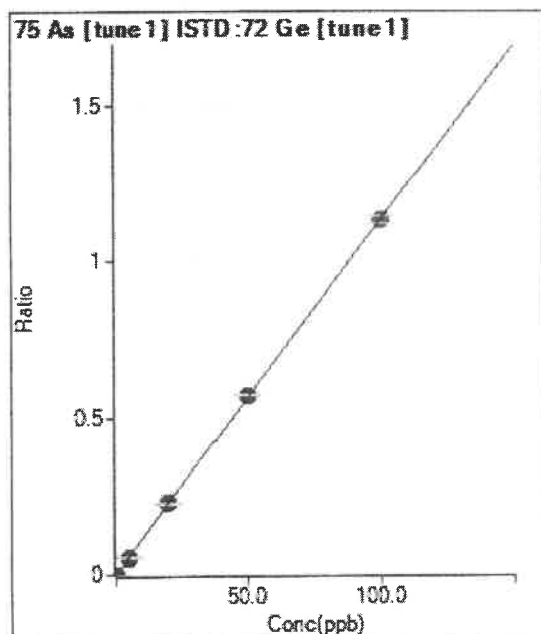
$$R = 1.0000$$

$$DL = 0.02815$$

$$BEC = 2.814$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	0.000	0.000	724.08	0.0007	P	7.3
2	<input type="checkbox"/>			10962.08	0.0117	P	6.5
3	<input type="checkbox"/>	5.000	4.921	53663.96	0.0564	P	2.2
4	<input type="checkbox"/>	20.000	19.809	219178.69	0.2250	P	1.5
5	<input type="checkbox"/>	50.000	50.424	538669.91	0.5716	P	1.7
6	<input type="checkbox"/>	100.000	99.830	1050797.71	1.1309	A	2.1

$$y = 0.0113 * x + 7.3371E-004$$

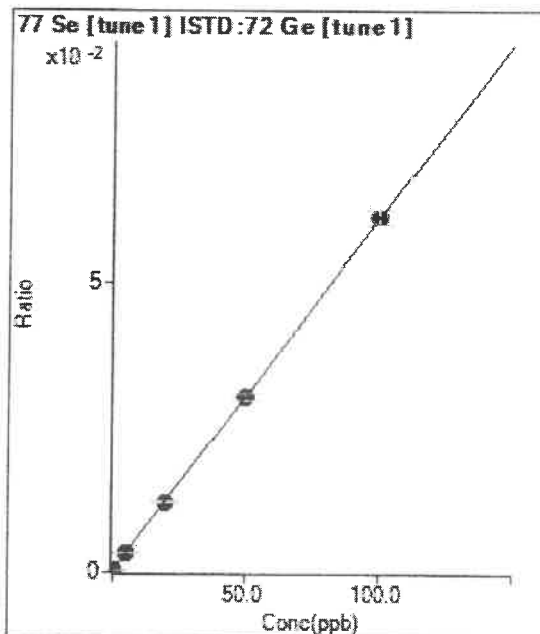
$$R = 1.0000$$

$$DL = 0.01421$$

$$BEC = 0.06481$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	243.58	0.0002	P	30.6
2	<input type="checkbox"/>			830.87	0.0009	P	9.0
3	<input type="checkbox"/>	5.000	4.865	3046.74	0.0032	P	4.6
4	<input type="checkbox"/>	20.000	19.561	11826.95	0.0121	P	2.5
5	<input type="checkbox"/>	50.000	49.561	28635.24	0.0304	P	4.5
6	<input type="checkbox"/>	100.000	100.314	56870.72	0.0612	P	4.3

$$y = 6.0787E-004 * x + 2.4923E-004$$

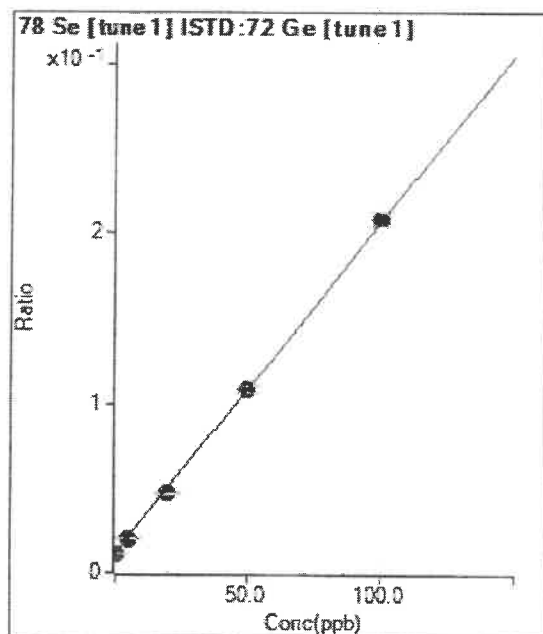
$$R = 1.0000$$

$$DL = 0.3763$$

$$BEC = 0.41$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	11018.83	0.0112	P	3.0
2	<input type="checkbox"/>			12114.16	0.0130	P	1.7
3	<input type="checkbox"/>	5.000	4.576	19135.79	0.0202	P	8.0
4	<input type="checkbox"/>	20.000	18.269	45778.02	0.0470	P	2.5
5	<input type="checkbox"/>	50.000	49.996	102843.24	0.1092	P	3.6
6	<input type="checkbox"/>	100.000	100.370	193095.76	0.2079	P	4.2

$$y = 0.0020 * x + 0.0112$$

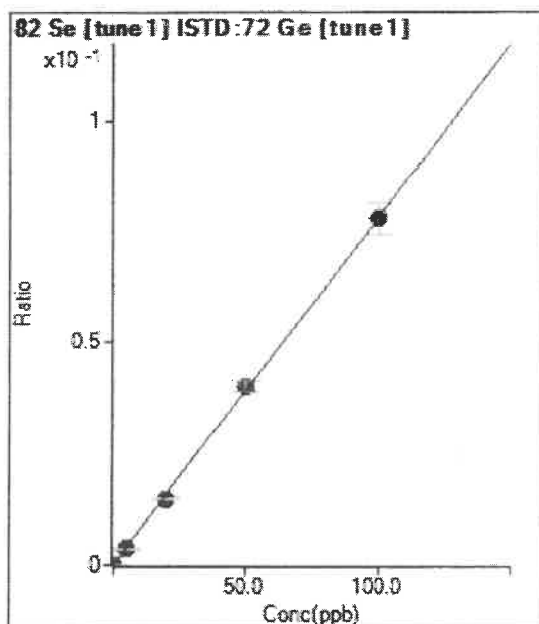
$$R = 0.9998$$

$$DL = 0.5138$$

$$BEC = 5.71$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	-108.36	-0.0001	P	-24.9
2	<input type="checkbox"/>			789.96	0.0008	P	7.2
3	<input type="checkbox"/>	5.000	4.602	3329.51	0.0035	P	5.5
4	<input type="checkbox"/>	20.000	18.781	14247.69	0.0146	P	3.2
5	<input type="checkbox"/>	50.000	50.745	37388.24	0.0397	P	6.5
6	<input type="checkbox"/>	100.000	99.891	72672.38	0.0783	P	9.0

$$y = 7.8468E-004 * x - 1.1047E-004$$

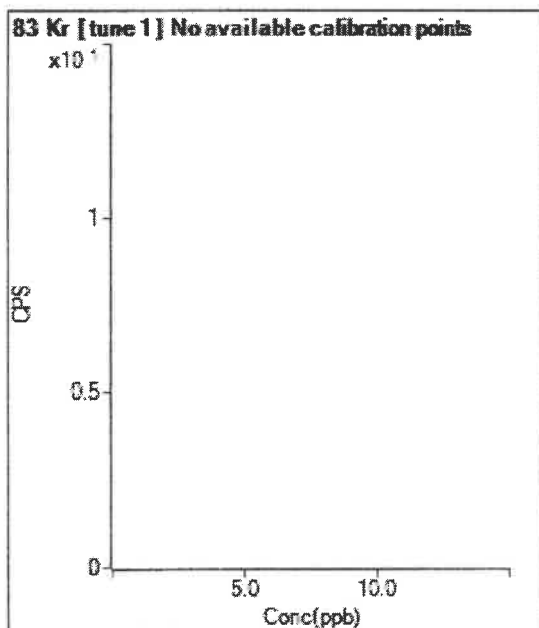
$$R = 0.9999$$

$$DL = 0.1051$$

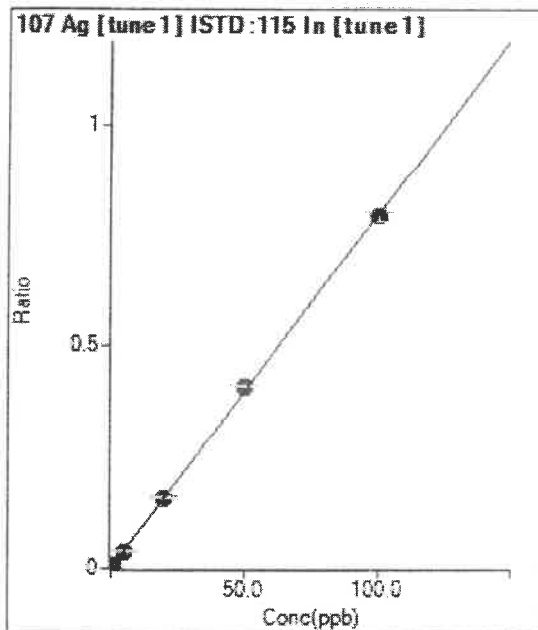
$$BEC = -0.1408$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			627.31		P	7.2
2	<input type="checkbox"/>			540.56		P	4.9
3	<input type="checkbox"/>			563.91		P	14.8
4	<input type="checkbox"/>			593.95		P	12.0
5	<input type="checkbox"/>			707.40		P	24.4
6	<input type="checkbox"/>			880.92		P	7.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	283.63	0.0000	P	5.5
2	<input type="checkbox"/>	1.000	0.994	48099.99	0.0080	P	0.3
3	<input type="checkbox"/>	5.000	4.994	237121.11	0.0400	P	3.9
4	<input type="checkbox"/>	20.000	20.218	949506.68	0.1617	M	1.9
5	<input type="checkbox"/>	50.000	51.274	2476520.68	0.4100	A	1.7
6	<input type="checkbox"/>	100.000	99.320	4890881.02	0.7941	A	2.3

$$y = 0.0080 * x + 4.7176E-005$$

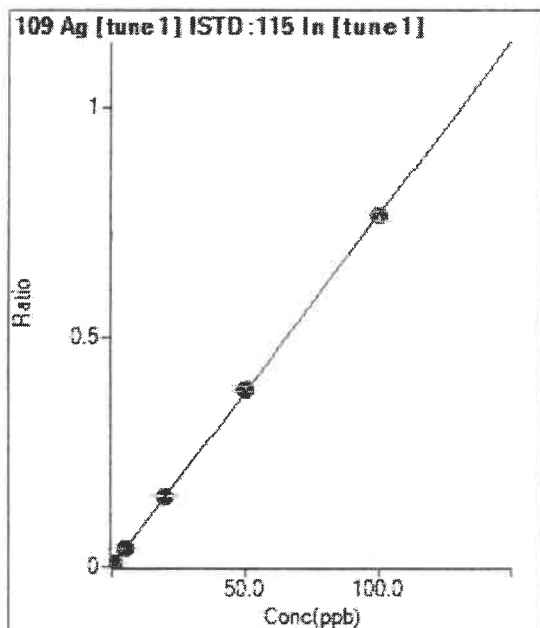
R = 0.9999

DL = 0.0009749

BEC = 0.005901

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	286.96	0.0000	P	10.8
2	<input type="checkbox"/>	1.000	0.980	45381.55	0.0075	P	4.0
3	<input type="checkbox"/>	5.000	5.048	229178.69	0.0386	P	1.3
4	<input type="checkbox"/>	20.000	20.179	905508.33	0.1542	P	3.6
5	<input type="checkbox"/>	50.000	50.756	2342841.40	0.3878	A	3.2
6	<input type="checkbox"/>	100.000	99.584	4684584.99	0.7609	A	2.4

$$y = 0.0076 * x + 4.7848E-005$$

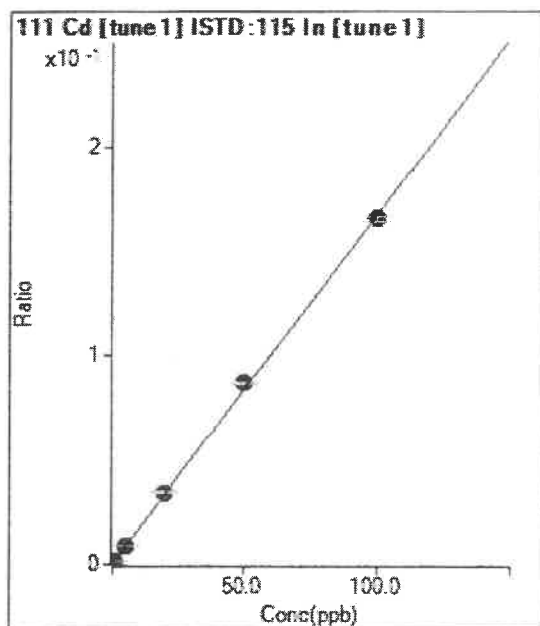
R = 1.0000

DL = 0.002023

BEC = 0.006262

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	140.14	0.0000	P	5.5
2	<input type="checkbox"/>	1.000	1.028	10508.02	0.0017	P	4.2
3	<input type="checkbox"/>	5.000	5.206	51861.05	0.0087	P	5.9
4	<input type="checkbox"/>	20.000	20.585	202695.14	0.0345	P	2.9
5	<input type="checkbox"/>	50.000	51.775	524184.22	0.0868	P	1.6
6	<input type="checkbox"/>	100.000	98.985	1021375.73	0.1659	A	1.7

$$y = 0.0017 * x + 2.3199E-005$$

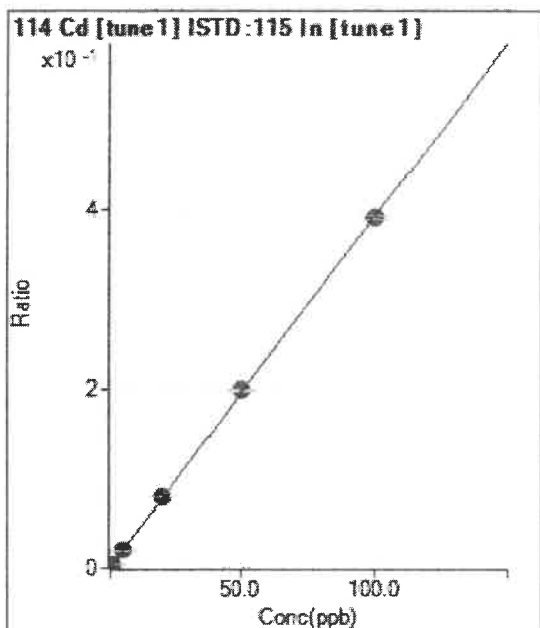
$$R = 0.9997$$

$$DL = 0.0023$$

$$BEC = 0.01384$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	268.64	0.0000	P	17.7
2	<input type="checkbox"/>	1.000	1.012	24212.97	0.0040	P	2.2
3	<input type="checkbox"/>	5.000	5.037	117827.27	0.0198	P	2.3
4	<input type="checkbox"/>	20.000	20.387	470892.19	0.0802	P	0.4
5	<input type="checkbox"/>	50.000	50.617	1201609.87	0.1990	A	1.1
6	<input type="checkbox"/>	100.000	99.612	2411201.93	0.3916	A	1.2

$$y = 0.0039 * x + 4.4743E-005$$

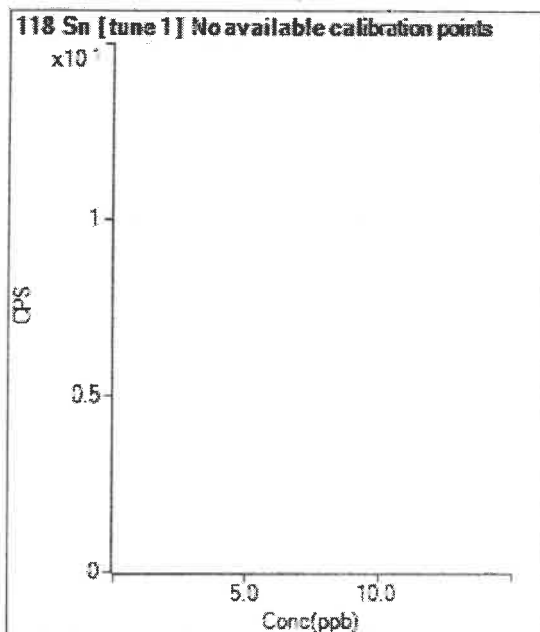
$$R = 1.0000$$

$$DL = 0.006048$$

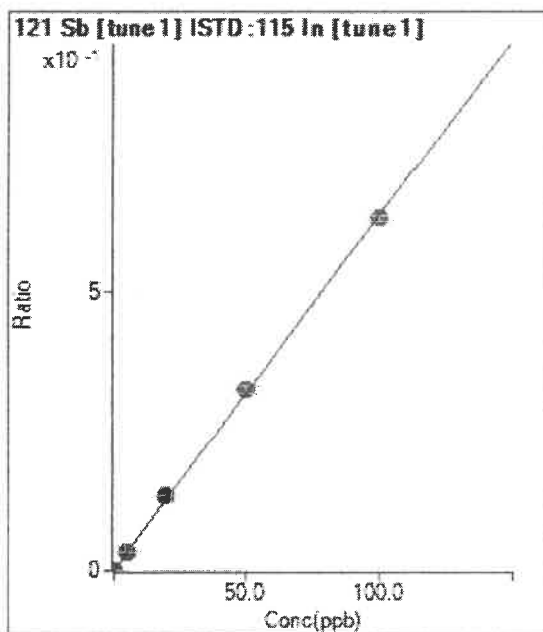
$$BEC = 0.01138$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			3243.67		P	7.1
2	<input type="checkbox"/>			2813.14		P	7.8
3	<input type="checkbox"/>			3143.55		P	3.1
4	<input type="checkbox"/>			2746.39		P	3.0
5	<input type="checkbox"/>			4632.14		P	1.2
6	<input type="checkbox"/>			2846.50		P	1.7



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	977.69	0.0002	P	6.4
2	<input type="checkbox"/>			39905.81	0.0066	P	0.7
3	<input type="checkbox"/>	5.000	5.071	193360.30	0.0326	P	1.1
4	<input type="checkbox"/>	20.000	20.930	786627.82	0.1339	P	0.9
5	<input type="checkbox"/>	50.000	51.137	1974307.11	0.3270	A	4.4
6	<input type="checkbox"/>	100.000	99.242	3906476.84	0.6345	A	1.6

$$y = 0.0064 * x + 1.6251E-004$$

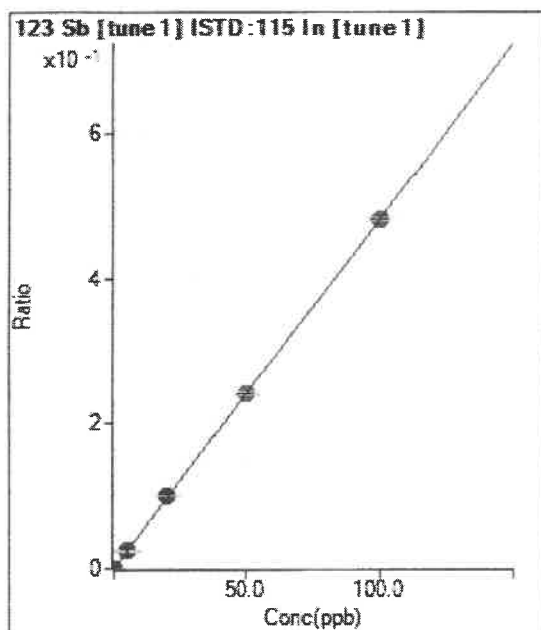
$$R = 0.9998$$

$$DL = 0.006422$$

$$BEC = 0.02542$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	694.05	0.0001	P	3.8
2	<input type="checkbox"/>			30157.07	0.0050	P	1.7
3	<input type="checkbox"/>	5.000	5.028	144482.46	0.0243	P	3.2
4	<input type="checkbox"/>	20.000	20.763	588378.21	0.1002	P	0.8
5	<input type="checkbox"/>	50.000	49.834	1450766.62	0.2403	A	2.3
6	<input type="checkbox"/>	100.000	99.929	2966317.68	0.4817	A	1.0

$$y = 0.0048 * x + 1.1495E-004$$

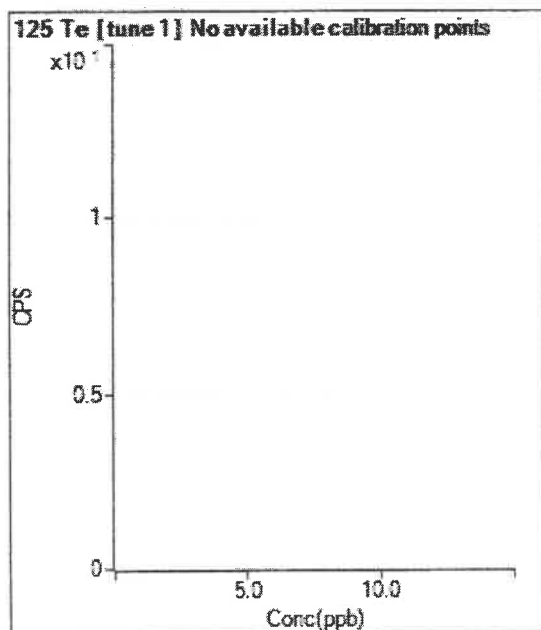
$$R = 1.0000$$

$$DL = 0.002703$$

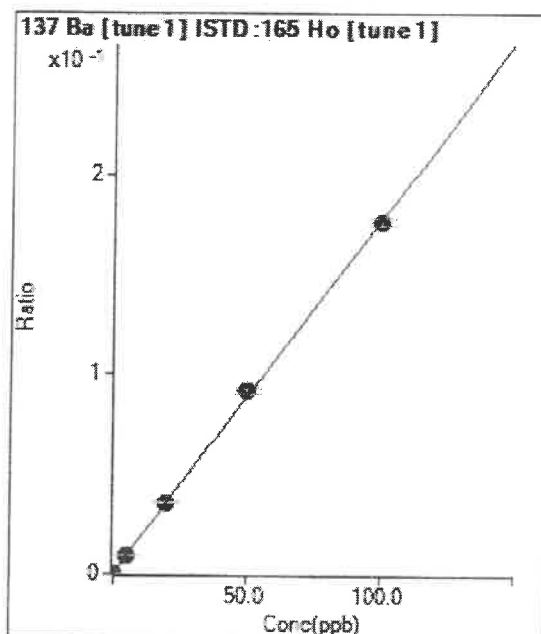
$$BEC = 0.02385$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			0.00		P	
2	<input type="checkbox"/>			3.34		P	173.2
3	<input type="checkbox"/>			13.35		P	114.6
4	<input type="checkbox"/>			13.35		P	43.3
5	<input type="checkbox"/>			3.34		P	173.2
6	<input type="checkbox"/>			20.02		P	50.0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	597.29	0.0001	P	11.7
2	<input type="checkbox"/>			13998.14	0.0019	P	5.5
3	<input type="checkbox"/>	5.000	5.084	65821.48	0.0091	P	2.8
4	<input type="checkbox"/>	20.000	20.159	266585.80	0.0359	P	4.0
5	<input type="checkbox"/>	50.000	51.403	683869.63	0.0915	P	3.2
6	<input type="checkbox"/>	100.000	99.262	1345986.07	0.1766	A	2.2

$$y = 0.0018 * x + 7.7440E-005$$

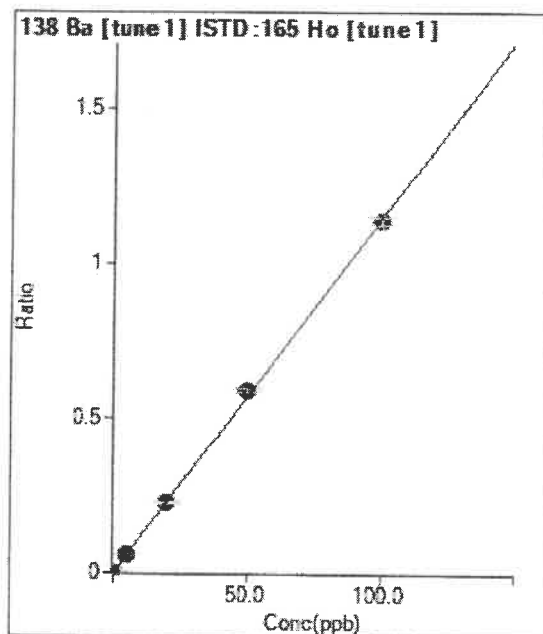
$$R = 0.9998$$

$$DL = 0.01527$$

$$BEC = 0.04355$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	3506.28	0.0005	P	4.0
2	<input type="checkbox"/>			89401.57	0.0119	P	6.8
3	<input type="checkbox"/>	5.000	5.184	431371.94	0.0598	P	1.6
4	<input type="checkbox"/>	20.000	19.733	1678582.56	0.2262	A	3.2
5	<input type="checkbox"/>	50.000	51.560	4412724.43	0.5902	A	2.2
6	<input type="checkbox"/>	100.000	99.264	8656778.88	1.1359	A	2.1

$$y = 0.0114 * x + 4.5739E-004$$

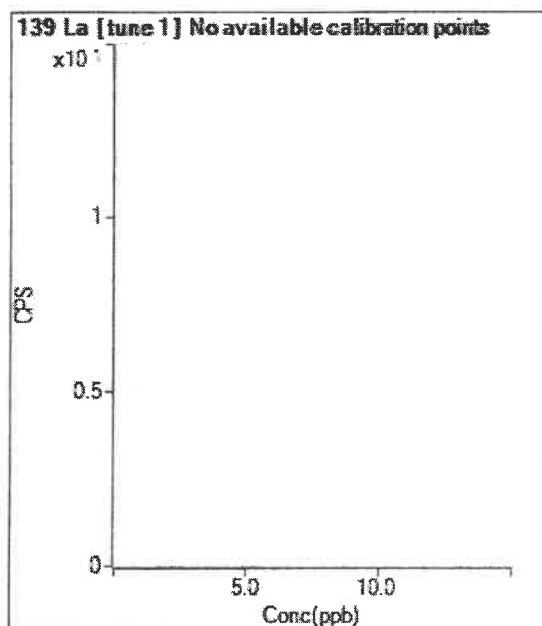
$$R = 0.9998$$

$$DL = 0.004788$$

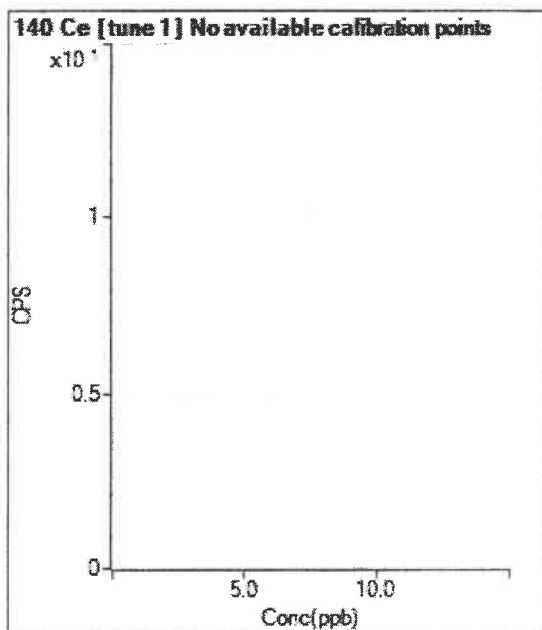
$$BEC = 0.03999$$

Weight: <None>

Min Conc: 0

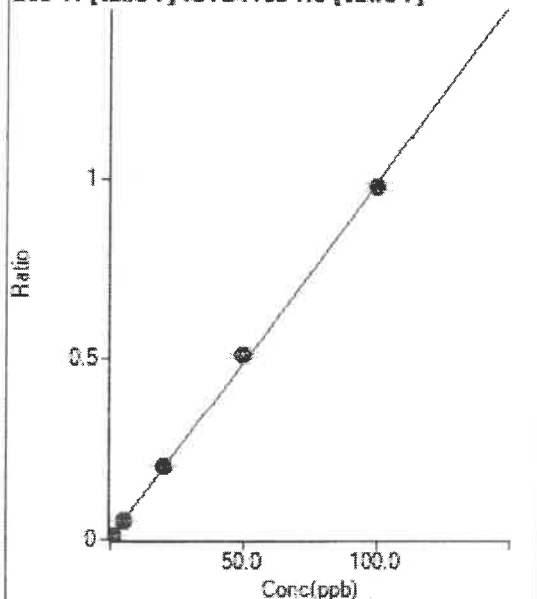


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			93.43		P	6.2
2	<input type="checkbox"/>			76.74		P	15.1
3	<input type="checkbox"/>			150.15		P	24.0
4	<input type="checkbox"/>			246.92		P	11.7
5	<input type="checkbox"/>			633.99		P	10.3
6	<input type="checkbox"/>			1084.48		P	5.9



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			340.35		P	25.1
2	<input type="checkbox"/>			276.95		P	29.0
3	<input type="checkbox"/>			233.57		P	10.8
4	<input type="checkbox"/>			200.20		P	8.7
5	<input type="checkbox"/>			300.31		P	20.3
6	<input type="checkbox"/>			276.95		P	19.9

205 Tl [tune 1] ISTD:165 Ho [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1177.91	0.0002	P	10.9
2	<input type="checkbox"/>	1.000	1.001	75377.29	0.0100	P	2.8
3	<input type="checkbox"/>	5.000	5.065	361306.12	0.0500	P	1.7
4	<input type="checkbox"/>	20.000	20.419	1495460.54	0.2013	A	0.5
5	<input type="checkbox"/>	50.000	51.857	3820335.38	0.5109	A	1.7
6	<input type="checkbox"/>	100.000	98.984	7430534.96	0.9751	A	2.1

$$y = 0.0098 * x + 1.5415E-004$$

$$R = 0.9997$$

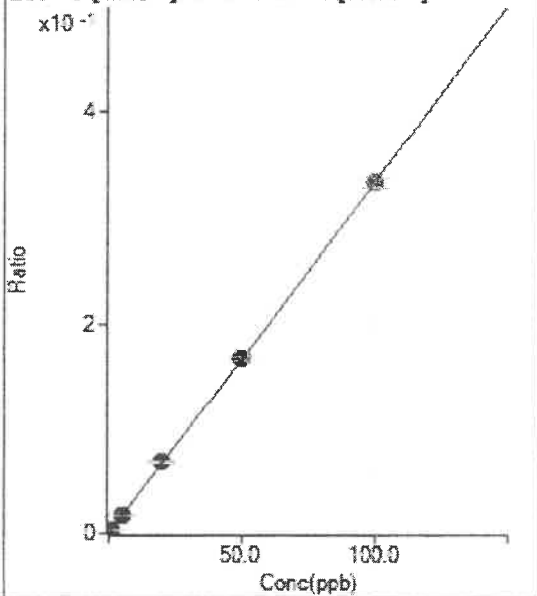
$$DL = 0.005118$$

$$BEC = 0.01565$$

Weight: <None>

Min Conc: 0

206 Pb [tune 1] ISTD:165 Ho [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1081.14	0.0001	P	8.3
2	<input type="checkbox"/>	1.000	0.993	25915.60	0.0034	P	5.9
3	<input type="checkbox"/>	5.000	5.032	122007.30	0.0169	P	1.1
4	<input type="checkbox"/>	20.000	20.465	507216.98	0.0683	P	1.5
5	<input type="checkbox"/>	50.000	50.168	1250852.62	0.1672	A	1.9
6	<input type="checkbox"/>	100.000	99.822	2534280.18	0.3326	A	2.5

$$y = 0.0033 * x + 1.4111E-004$$

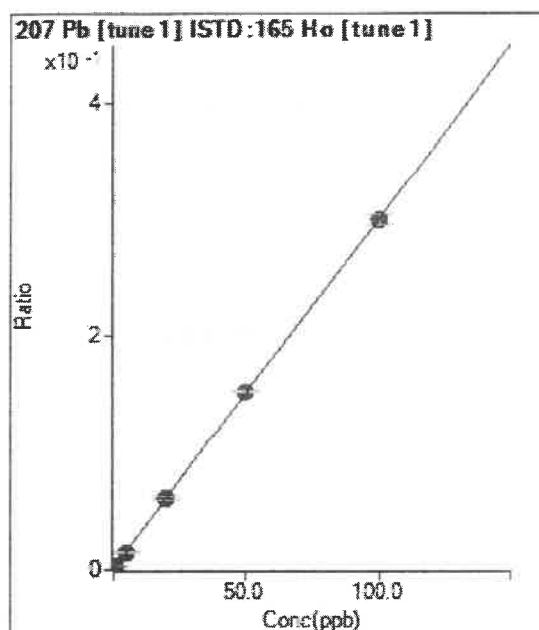
$$R = 1.0000$$

$$DL = 0.01052$$

$$BEC = 0.04237$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	900.94	0.0001	P	8.9
2	<input type="checkbox"/>	1.000	0.961	22559.41	0.0030	P	2.5
3	<input type="checkbox"/>	5.000	4.957	108120.19	0.0150	P	1.7
4	<input type="checkbox"/>	20.000	20.093	447822.67	0.0603	P	4.0
5	<input type="checkbox"/>	50.000	50.408	1130686.34	0.1512	A	1.7
6	<input type="checkbox"/>	100.000	99.780	2279376.01	0.2992	A	3.2

$$y = 0.0030 * x + 1.1712E-004$$

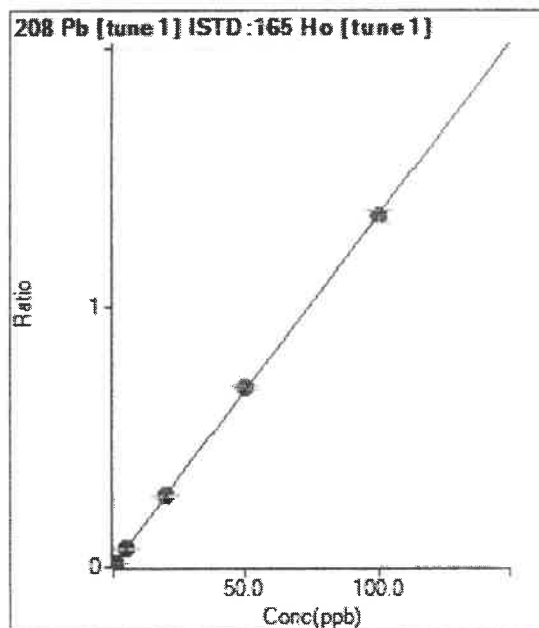
$$R = 1.0000$$

$$DL = 0.01043$$

$$BEC = 0.03907$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	4224.54	0.0006	P	8.3
2	<input type="checkbox"/>	1.000	0.960	101765.84	0.0135	P	4.4
3	<input type="checkbox"/>	5.000	5.014	493519.96	0.0684	P	2.1
4	<input type="checkbox"/>	20.000	19.833	1994956.12	0.2688	A	3.3
5	<input type="checkbox"/>	50.000	50.750	5136034.53	0.6869	A	1.5
6	<input type="checkbox"/>	100.000	99.658	10270967.01	1.3483	A	3.6

$$y = 0.0135 * x + 5.5171E-004$$

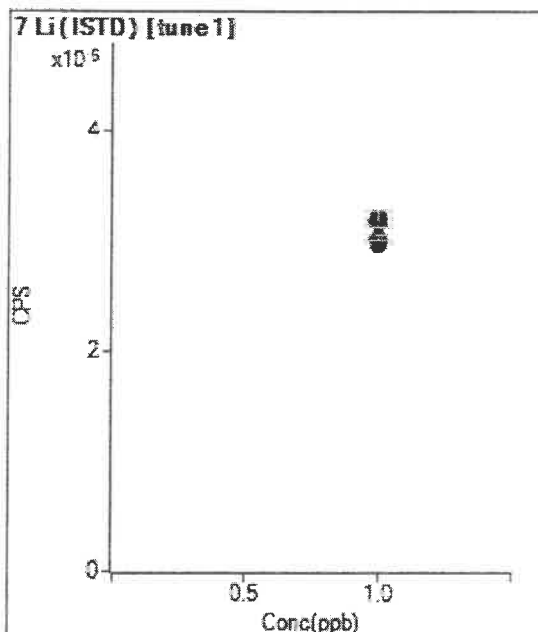
$$R = 1.0000$$

$$DL = 0.01017$$

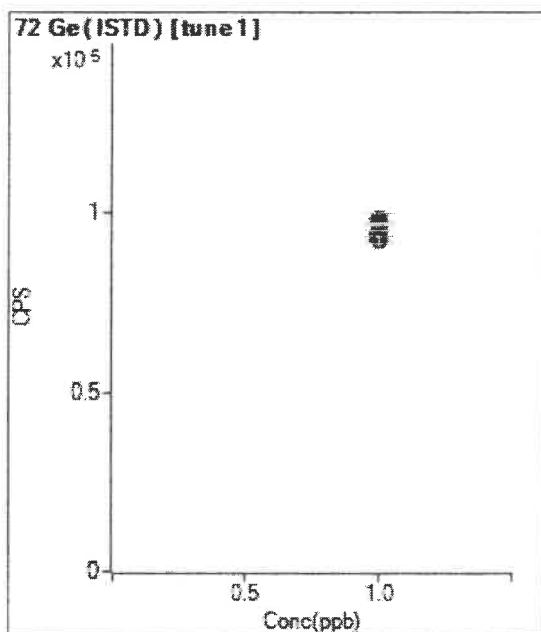
$$BEC = 0.0408$$

Weight: <None>

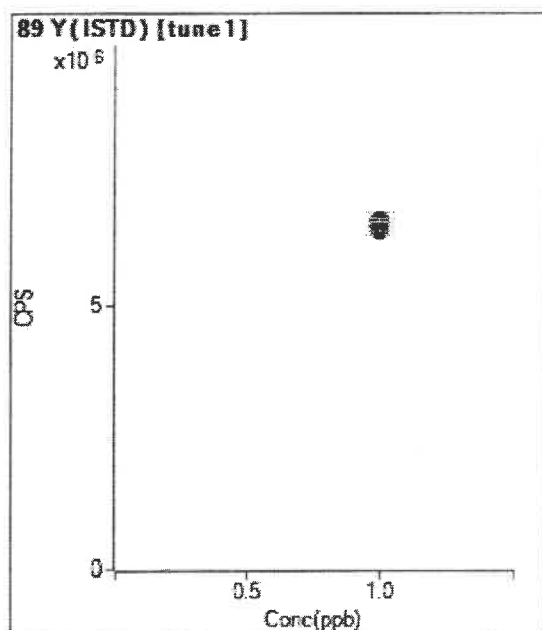
Min Conc: 0



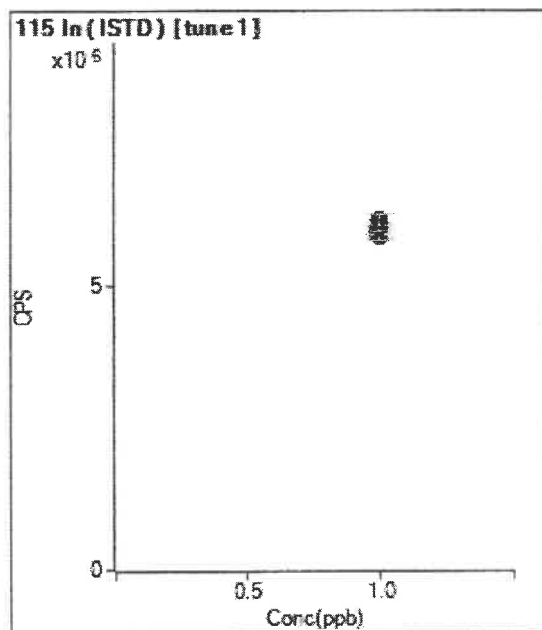
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		3192463.75		A	3.8
2	<input type="checkbox"/>	1.000		2966195.73		A	0.4
3	<input type="checkbox"/>	1.000		3190010.52		A	0.4
4	<input type="checkbox"/>	1.000		3020031.59		A	1.2
5	<input type="checkbox"/>	1.000		3170237.44		A	1.9
6	<input type="checkbox"/>	1.000		3189276.56		A	4.7



	Rjct	Conc	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		985053.55		A	3.8
2	<input type="checkbox"/>	1.000		932925.50		A	1.8
3	<input type="checkbox"/>	1.000		951311.62		A	4.2
4	<input type="checkbox"/>	1.000		974141.14		A	0.9
5	<input type="checkbox"/>	1.000		942677.37		A	2.7
6	<input type="checkbox"/>	1.000		929433.47		A	2.2

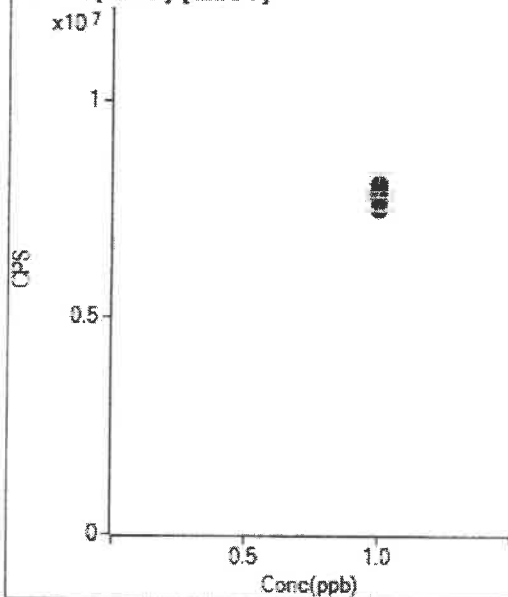


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		6589730.69		A	5.7
2	<input type="checkbox"/>	1.000		6431916.95		A	2.8
3	<input type="checkbox"/>	1.000		6416481.10		A	2.1
4	<input type="checkbox"/>	1.000		6479084.74		A	1.5
5	<input type="checkbox"/>	1.000		6533526.27		A	4.1
6	<input type="checkbox"/>	1.000		6616146.49		A	1.0



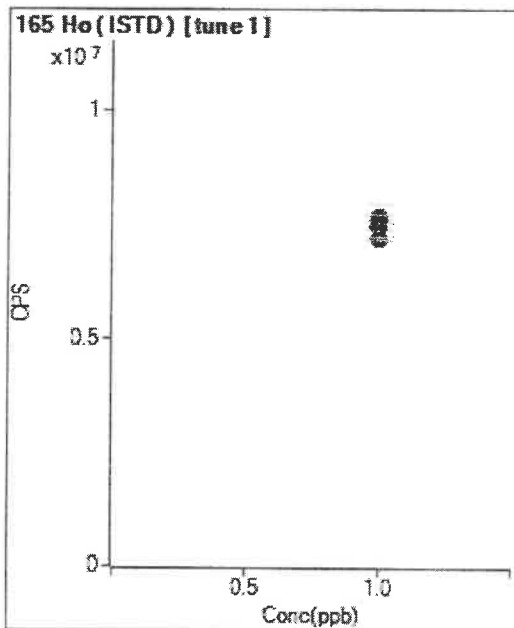
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		6028461.51		A	7.5
2	<input type="checkbox"/>	1.000		6018228.41		A	1.3
3	<input type="checkbox"/>	1.000		5936977.21		A	3.6
4	<input type="checkbox"/>	1.000		5873458.59		A	1.6
5	<input type="checkbox"/>	1.000		6039303.56		A	1.7
6	<input type="checkbox"/>	1.000		6158894.07		A	3.1

159 Tb (ISTD) [tune 1]

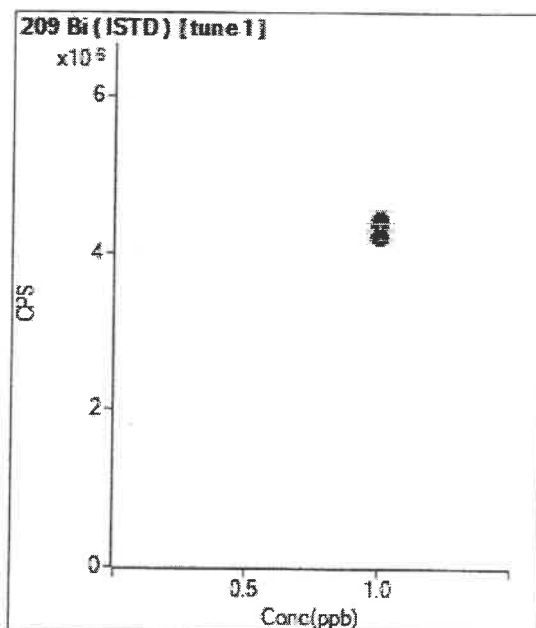


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		8095462.21		A	6.5
2	<input type="checkbox"/>	1.000		7875911.52		A	2.9
3	<input type="checkbox"/>	1.000		7521362.55		A	1.2
4	<input type="checkbox"/>	1.000		7710399.40		A	5.2
5	<input type="checkbox"/>	1.000		7800498.25		A	2.1
6	<input type="checkbox"/>	1.000		7875746.20		A	1.3

165 Ho (ISTD) [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		7679610.23		A	6.9
2	<input type="checkbox"/>	1.000		7529872.47		A	4.4
3	<input type="checkbox"/>	1.000		7220213.76		A	1.2
4	<input type="checkbox"/>	1.000		7429667.22		A	4.9
5	<input type="checkbox"/>	1.000		7479671.13		A	3.1
6	<input type="checkbox"/>	1.000		7623055.86		A	2.9



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		4442782.94		A	5.4
2	<input type="checkbox"/>	1.000		4225000.53		A	3.6
3	<input type="checkbox"/>	1.000		4264724.16		A	2.9
4	<input type="checkbox"/>	1.000		4235674.38		A	1.9
5	<input type="checkbox"/>	1.000		4355269.70		A	2.6
6	<input type="checkbox"/>	1.000		4370279.71		A	1.6

Acq. Date-Time	Sample Name	9 Be [June 1]	51 V [June 1]	52 Cr [June 1]	55 Mn [June 1]	59 Co [June 1]	60 Ni [June 1]	62 Ni [June 1]	63 Cu [June 1]	65 Cu [June 1]
		Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
2/3/2023 13:17	GAL BLK	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000
2/3/2023 13:20	1 FPB	1.0065	3.9106	0.9852	3.913	0.9602	0.9648	0.9678	0.9652	0.9840
2/3/2023 13:24	5 FPB	4.8627	4.871	4.867	4.8045	4.7953	4.7874	4.6089	4.8233	4.8222
2/3/2023 13:27	20 PPB	20.1966	1.1407	19.0624	19.0774	19.2212	18.8442	18.5518	18.3642	18.6221
2/3/2023 13:31	50 PPB	50.2377	1.6058	49.7975	49.6758	49.5257	49.5379	49.8774	50.5654	48.1336
2/3/2023 13:34	100 PPB	99.8487	7.2887	100.3002	100.3814	100.5397	100.3016	100.4401	100.0533	101.2247
2/3/2023 13:37	ICV	48.4981	3.9625	47.4628	47.4295	47.9931	48.3817	48.3817	48.3817	47.3505
2/3/2023 13:40	ICB	0.3697	29.7011	0.3495	24.0461	0.3172	22.9656	0.2815	21.8774	0.3168
2/3/2023 13:43	ICSA	0.0605	7.1455	0.2853	5.8868	0.1071	6.7821	0.3523	21.2458	0.3424
2/3/2023 13:47	ICSA-B	49.5776	1.3355	47.1887	45.3573	44.2831	44.2042	45.1168	45.6136	42.5862
2/3/2023 14:11	LB-1A	0.0205	12.4520	0.0898	12.8715	0.0590	15.2860	0.0303	23.6779	0.0328
2/3/2023 14:14	LCS-1A-2X	48.6171	1.9287	49.3313	48.3762	46.8817	47.6534	48.5138	48.3221	47.2756
2/3/2023 14:17	LOQ-1A	1.0120	1.7288	4.3088	5.0306	1.0655	5.1866	4.8857	8.9272	4.9604
2/3/2023 14:20	LOQ2-1A	0.9760	4.4013	4.3475	5.1372	1.1022	4.8991	5.1058	10.260	5.2617
2/3/2023 14:24	LOQ3-1A	1.0078	6.8606	5.3982	8.6700	1.1102	1.2364	5.0653	2.0722	5.1894
2/3/2023 14:27	LOQ4-1A	0.9929	2.8831	5.2587	4.9593	2.3139	5.2140	2.6580	5.2363	5.2195
2/3/2023 14:30	LOQ5-1A	0.9622	4.8502	6.9659	4.9709	1.0161	4.7830	4.8217	4.0719	5.0328
2/3/2023 14:33	LOQ6-1A	1.0709	5.1801	4.9769	4.9473	1.0298	1.0727	4.8949	6.6525	4.9921
2/3/2023 14:36	LOQ7-1A	0.9537	5.6912	5.2595	5.6813	1.0765	6.9335	5.1848	4.9750	5.0715
2/3/2023 14:40	LOQ8-1A	0.9840	5.8107	5.3530	2.7228	1.0243	2.6865	5.2408	5.8559	4.8791
2/3/2023 14:46	CCV	48.8269	2.5154	4.6381	4.9447	4.65492	6.2637	4.6722	3.2179	4.7972
2/3/2023 14:59	LB-2A	0.0877	12.7315	0.0049	22.5128	0.0000	N/A	0.1884	36.1816	0.2700
2/3/2023 15:22	LCS-2A-2X	49.4702	2.3150	48.0474	5.0357	49.3275	3.6777	48.2789	4.9516	4.8877
2/3/2023 15:25	LOQ-2A	1.0733	5.0508	5.0899	0.5841	1.2680	2.2754	4.8093	6.7332	4.9177
2/3/2023 15:28	LOQ2-2A	0.9930	2.2424	4.9024	4.9180	1.0198	3.8760	4.8152	4.8877	4.8877
2/3/2023 15:32	LOQ3-2A	0.9724	1.9636	4.9254	4.5062	1.0334	2.9632	5.0572	8.4855	4.8866
2/3/2023 15:35	LOQ4-2A	0.9598	1.3072	5.136	5.3285	0.9820	1.8525	5.0554	2.9168	4.8786
2/3/2023 15:38	LOQ5-2A	0.9096	1.3072	5.136	5.3285	0.9820	1.8525	5.0554	2.9168	4.8786
2/3/2023 15:41	LOQ6-2A	0.9085	4.1391	5.1067	5.6370	0.9623	4.6343	4.9847	4.9759	4.8919
2/3/2023 15:45	LOQ7-2A	0.9410	1.6358	5.1154	5.0925	0.9561	3.4877	5.0053	4.8268	4.8352
2/3/2023 15:48	LOQ8-2A	0.9391	0.8911	4.9760	2.9748	0.9802	0.7940	4.8377	0.6681	4.9715
2/3/2023 15:51	CCV	48.7933	0.6413	50.1711	46.5557	45.5705	3.3218	47.9488	47.9557	47.1930
2/3/2023 15:54	CCB	0.2789	23.0202	0.2763	17.3883	0.2469	13.7148	0.3295	29.0574	0.2585

DNV Zn FH data KAH 2/6/23

Acq. Date-Time	Sample Name	66 Zn [June 1]	68 Zn [June 1]	75 As [June 1]	77 Se [June 1]	78 Se [June 1]	82 Se [June 1]	107 Ag [June 1]	109 Ag [June 1]	111 Cd [June 1]
		Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
2/20/2023 13:17	CAL G/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2/20/2023 13:20	1 PPB	0.7166	17.2360	0.9727	1.0662	12.4486	12.4452	0.0000	0.0000	0.0000
2/20/2023 13:24	5 PPB	4.1537	5.8910	4.9207	4.8648	4.9400	4.9400	0.9937	0.9937	1.0278
2/20/2023 13:27	20 PPB	19.1474	3.8016	19.8092	1.5032	2.5680	17.9902	4.9941	3.8930	5.2081
2/20/2023 13:31	50 PPB	49.2936	5.2273	50.4244	1.6761	4.93612	3.9808	20.2178	1.9475	20.5945
2/20/2023 13:34	100 PPB	100.5237	2.0402	99.8290	2.0685	100.3136	4.3335	51.2737	50.760	51.7747
2/20/2023 13:37	ICV	48.4100	3.3161	48.0555	1.3965	48.6450	1.748	99.3199	3.162	98.9852
2/20/2023 13:40	ICB	<0.000	N/A	0.3684	1.0354	0.5002	48.6777	51.9293	4.454	51.7565
2/20/2023 13:43	ICSA	1.4984	8.6089	1.3122	8.9801	33.6056	253.7028	0.3635	1.7106	1.8921
2/20/2023 13:47	ICSA/B	47.4660	6.3135	47.6560	1.0201	22.5234	8928.1364	18.7855	3.6577	21.8391
2/20/2023 14:11	LB-1A	1.8529	7.1068	6.5555	5.1884	0.1658	0.1159	11.0232	4.4343	5.2536
2/20/2023 14:14	LCS-1A-2X	65.7063	1.2451	65.6021	1.0692	81.3274	N/A	17.7850	1.0345	51.2639
2/20/2023 14:17	LOC-1A	25.2741	6.6356	24.6536	1.1419	4.9636	3.5181	3.4620	0.0371	30.5262
2/20/2023 14:20	LOC-2A	23.8915	1.2389	23.8872	1.1419	6.2356	4.3392	50.1110	50.9223	2.7839
2/20/2023 14:24	LOC-3A	34.5499	2.2016	34.1864	2.1181	9.5719	5.3671	1.322	1.028	3.9862
2/20/2023 14:27	LOC-4A	26.1518	1.9568	25.7614	2.5766	6.7217	4.8417	1.681	1.0077	1.7575
2/20/2023 14:30	LOC-5A	28.0034	1.9813	27.5115	5.2924	4.0478	10.3164	1.0713	3.6466	2.5718
2/20/2023 14:33	LOC-6A	30.5506	4.3202	4.9888	5.0349	7.2633	8.3113	1.0055	2.8126	2.5722
2/20/2023 14:36	LOC-7A	24.3819	3.8704	4.9568	5.2278	5.9573	11.0854	1.0546	5.2287	1.0431
2/20/2023 14:40	LOC-8A	45.0634	4.3103	4.7809	5.2180	4.3165	16.7777	1.0048	1.0431	1.0641
2/20/2023 14:43	CCV	47.2627	3.8927	48.6422	4.0806	4.8182	5.5788	1.0002	2.2677	2.5093
2/20/2023 14:46	CCB	<0.000	N/A	0.2817	0.1725	34.8779	4.5881	61.2173	1.016	1.0218
2/20/2023 15:19	LB-2A	2.3844	6.1125	<0.000	<0.000	4.6099	10.3499	2.2879	50.8726	51.5609
2/20/2023 15:22	LCS-2A-2X	49.1629	2.5518	50.4635	48.6070	3.0209	N/A	2.5695	0.733	0.2921
2/20/2023 15:25	LOC-1A	20.5757	3.4520	4.7728	4.8481	2.4246	4.6099	38.0633	0.0117	0.0004
2/20/2023 15:28	LOC-2A	20.2167	3.5872	4.6723	4.8276	2.3918	4.5739	52.0339	57.8753	50.6239
2/20/2023 15:32	LOC-3A	19.8834	4.3839	3.0259	4.6319	4.1076	10.3645	1.564	8.385	1.8302
2/20/2023 15:35	LOC-4A	20.4530	3.1984	4.7454	4.8733	3.9656	4.7546	3.1664	1.114	1.1803
2/20/2023 15:38	LOC-5A	33.9413	2.4238	1.7785	4.7178	5.1785	12.1397	0.9880	0.9955	1.0846
2/20/2023 15:41	LOC-6A	20.7436	5.1438	3.2181	4.7178	4.2737	6.1271	1.0095	2.0666	1.0304
2/20/2023 15:45	LOC-7A	20.2109	2.6113	5.5588	4.2003	4.5948	4.1105	0.9854	1.073	0.9868
2/20/2023 15:48	LOC-8A	22.6302	1.7213	4.8100	4.4368	7.2700	9.9825	1.0277	1.045	0.9997
2/20/2023 15:51	CCV	47.5521	3.1078	48.2719	2.4131	4.8365	10.5710	1.0018	2.2470	1.055
2/20/2023 15:54	CCB	<0.000	N/A	0.2489	0.0880	97.7389	5.6011	1.0134	1.015	0.9920
							4.3367	3.1728	2.4740	1.0270
							46.3668	3.5487	51.1202	51.4460
							0.5123	0.2508	0.2531	0.2620
							18.1587	11.4296	14.2257	17.5324

Acq. Date-Time	Sample Name	114 Cd [June 1]	121 Sb [June 1]	123 Sb [June 1]	135 Sb [June 1]	137 Ba [June 1]	138 Ba [June 1]	205 Tl [June 1]	206 Pb [June 1]	207 Pb [June 1]	208 Pb [June 1]
		Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
2/23/2023 13:17	CAL BLK	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A
2/23/2023 13:20	1 PPB	2.2102	0.7436	1.0159	1.7485	1.0033	0.9959	1.0014	2.8632	0.9812	2.6443
2/23/2023 13:24	5 PPB	5.0369	2.3177	5.0714	3.1757	5.0840	5.1840	5.0654	6.1182	4.9574	5.0142
2/23/2023 13:27	20 PPB	20.3465	0.3686	20.9258	0.8683	20.1892	19.7326	20.1857	0.5377	20.0928	19.8262
2/23/2023 13:31	50 PPB	50.6172	1.0800	49.8336	2.2593	51.4030	51.5603	51.8572	1.7010	50.4079	50.7504
2/23/2023 13:34	100 PPB	99.6121	1.2003	99.2419	1.6377	99.2625	99.2641	98.9844	2.0617	99.7800	99.6580
2/23/2023 13:37	ICV	49.6553	2.7168	49.7249	3.3683	50.0374	49.8303	50.5193	1.5516	46.8478	49.7337
2/23/2023 13:40	ICB	0.3459	0.2906	0.3459	0.3281	0.3281	0.3153	0.3337	0.3400	0.3185	0.3200
2/23/2023 13:43	ICSA	0.2366	0.0727	0.3384	0.0655	1.6564	0.1236	0.0664	0.0876	0.0911	0.0885
2/23/2023 13:47	ICSA	49.2193	1.5095	49.0727	8.0169	0.1189	48.3363	48.9209	0.9457	46.5559	46.2803
2/23/2023 14:11	ICSA	49.2193	1.5222	49.0727	8.0169	0.1189	48.3363	48.9209	0.9457	46.5559	46.2803
2/23/2023 14:14	LCS-1A 2X	49.3692	1.3681	48.6198	2.5880	47.8059	47.8192	50.1927	1.4442	48.1981	51.1747
2/23/2023 14:17	LOQ1-1A	1.0621	4.0783	0.2898	13.1874	0.1205	7.9678	0.3103	0.0655	0.0010	0.0017
2/23/2023 14:20	LOQ2-1A	1.0056	2.1765	0.2819	1.4669	0.1205	5.4965	0.1041	0.0655	0.0010	0.0017
2/23/2023 14:24	LOQ3-1A	1.0028	2.3593	0.2819	1.4669	0.1205	5.4965	0.1041	0.0655	0.0010	0.0017
2/23/2023 14:27	LOQ4-1A	0.9032	5.0283	5.1123	5.2277	5.0705	7.2193	1.0192	0.8839	1.0520	1.0360
2/23/2023 14:30	LOQ5-1A	0.9981	5.2693	1.7069	5.2211	5.8383	7.2193	1.0192	0.8839	1.0520	1.0360
2/23/2023 14:36	LOQ6-1A	1.0005	3.3482	5.1013	4.0748	5.1839	5.1425	1.0003	0.8839	1.0520	1.0360
2/23/2023 14:40	LOQ7-1A	1.0005	1.8745	4.8256	4.0748	5.1839	5.1425	1.0003	0.8839	1.0520	1.0360
2/23/2023 14:43	LOQ8-1A	1.0005	1.8745	4.8256	4.0748	5.1839	5.1425	1.0003	0.8839	1.0520	1.0360
2/23/2023 14:46	CCB	50.1139	2.5185	49.7615	3.0579	48.2758	47.2274	50.1569	0.6237	47.2190	48.8378
2/23/2023 15:19	LS-2A	<0.000	N/A	0.0002	143.6364	0.0183	0.0308	8.9983	<0.000	<0.000	<0.000
2/23/2023 15:22	LCS 2A 2X	50.0316	2.3321	51.0634	3.5878	51.4455	52.1740	52.9776	1.0197	51.4327	52.0128
2/23/2023 15:25	LOQ1-2A	1.1532	2.9648	4.9509	4.8781	5.2656	5.2233	1.1467	2.3370	1.1467	1.1401
2/23/2023 15:28	LOQ2-2A	1.0731	1.9102	4.8337	2.4074	4.9038	5.2967	0.9439	1.0818	1.0806	1.0799
2/23/2023 15:32	LOQ3-2A	1.0434	9.7502	4.8556	4.7598	4.9652	4.8704	1.0077	2.8193	0.9807	2.4109
2/23/2023 15:35	LOQ4-2A	0.9818	2.5915	4.8172	2.0819	4.7988	4.7896	1.0088	0.9866	0.9905	0.9749
2/23/2023 15:38	LOQ5-2A	0.9884	4.4253	4.7374	2.1614	4.7988	4.7902	1.0088	0.9866	0.9905	0.9749
2/23/2023 15:41	LOQ6-2A	0.9882	2.7658	5.1469	2.7333	4.8567	4.7558	1.0030	0.9866	0.9905	0.9749
2/23/2023 15:46	LOQ7-2A	1.0015	2.4013	4.8155	2.8566	4.7374	4.7558	1.0030	0.9866	0.9905	0.9749
2/23/2023 15:48	LOQ8-2A	0.9767	2.7901	4.8040	1.2923	4.8905	4.9313	1.0015	2.3658	0.9775	0.9730
2/23/2023 15:51	CCV	49.7461	4.0742	43.8475	2.0489	47.1250	45.7037	48.7715	2.1838	45.0668	47.7772
2/23/2023 15:54	CCB	0.2692	15.0488	0.2740	13.8194	0.2635	15.2929	0.2626	15.2973	0.2401	0.2686

Acq Date-Time	Sample Name	7 Li (STD) [June 1]	72 Ge (STD) [June 1]	89 Y (STD) [June 1]	115 In (STD) [June 1]	159 Tb (STD) [June 1]	165 Ho (STD) [June 1]	209 Bi (STD) [June 1]
		CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS	ISTD Recovery %	CPS
2/3/2023 13:17	CAL BLK	3192463.75	100.00	6589730.89	100.00	8059462.21	100.00	442782.84
2/3/2023 13:20	1 PPB	2866195.73	92.91	5431916.95	97.81	787581.52	97.29	4275000.83
2/3/2023 13:24	5 PPB	3190010.52	99.92	6416481.10	97.37	5335977.21	98.48	4264724.16
2/3/2023 13:27	20 PPB	3020031.59	94.60	974141.14	98.89	5873458.59	97.43	7479667.22
2/3/2023 13:31	50 PPB	3170231.44	99.30	6553526.27	99.15	7600498.25	98.38	4265674.38
2/3/2023 13:34	100 PPB	3188279.56	99.90	6516146.49	100.40	7875745.20	97.20	4355268.70
2/3/2023 13:37	ICV	2985374.26	92.26	886042.59	91.73	7875745.20	97.20	4370775.71
2/3/2023 13:40	ICB	3087413.01	96.71	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 13:43	ICSA	2995690.09	90.70	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 13:47	ICSA-B	2892652.58	90.99	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:11	LB-1A	3000950.53	84.00	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:14	LCS-1A 2X	2920555.16	91.47	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:17	LOQ1-1A	3067762.96	96.89	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:20	LOQ2-1A	3004682.83	94.12	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:24	LOQ3-1A	2928787.49	91.74	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:27	LOQ4-1A	3026626.13	94.81	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:30	LOQ5-1A	3086207.32	96.67	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:33	LOQ6-1A	2833917.70	88.77	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:36	LOQ7-1A	3090401.00	96.80	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:40	LOQ8-1A	3042331.31	95.30	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:43	CCV	2708984.02	84.86	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 14:46	CCB	2627574.85	88.57	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 15:19	LB-2A	3126678.44	98.00	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 15:22	LCS-2A 2X	3040811.15	95.25	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 15:25	LOQ1-2A	3328799.15	104.27	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 15:28	LOQ2-2A	3230804.10	101.20	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 15:32	LOQ3-2A	3344860.27	102.89	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 15:35	LOQ4-2A	342892.36	101.58	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 15:38	LOQ5-2A	3163286.48	99.09	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 15:41	LOQ6-2A	3153085.45	98.77	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 15:45	LOQ7-2A	3350543.19	104.95	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 15:51	CCV	2903165.28	90.94	6805499.64	100.24	7875745.20	97.20	4370775.71
2/3/2023 15:54	CCB	2946852.53	92.31	6805499.64	100.24	7875745.20	97.20	4370775.71

ICP-MS Raw Data Coversheet

Doc. No.: RD05

Rev.:G

Effective Date: 08-05-22

Instrument (X)

Analyst(s):	KAH	Analysis Date(s):	2/16/23
EA Project #s:	M29 G020 X LOQS		
Analyses:	As, Mn, Zn, Ba EE KAH 2/16/23		
Method:	G020	Smart Tune ID:	ES-0804
		Conc:	10 ppm
		Exp:	7/3/23
		Internal Standard ID ¹ :	F0773
		Conc:	10 ppm
		Exp:	2/23
Diluent:	50 mL HNO ₃ (ID # 22380017 Exp: 9/24) diluted to 1000 mL with DI		
Calib. Blk/ICB/CCB:	Diluent		

¹ All samples and standards are spiked with 50 µL of internal std. (pipette 127 exp 3/4/23)

Calibration Standards - Made from EA ID#²: 1:10 F0824 (Stock Concentration: 10 ppm
Exp Date: 2/17/23) and brought up with Diluent

	Final Conc. (ppb)	Amount (µL)	Pipette # & Exp:	Final Vol (mL)	Pipette # & Exp:	Analyst	Date	Exp. Date
Standard 1	<u>150</u>	<u>100 of Std 6</u>	<u>124 3/4/23</u>	<u>10</u>	<u>141 3/4/23</u>	<u>KAH</u>	<u>2/16/23</u>	<u>2/17/23</u>
Standard 2	<u>810</u>	<u>500 of Std 6</u>	<u>I</u>					
Standard 3	<u>20</u>	<u>2 mL Std 6</u>	<u>I</u>					
Standard 4	<u>50</u>	<u>50</u>	<u>127</u>					
Standard 5	<u>100</u>	<u>100</u>	<u>I</u>					
No IS Std 6	<u>100</u>	<u>100</u>	<u>I</u>					

² 10 ppm WS = 1 mL of Standard 100 ppm F0824 exp 7/25 (pipettes: 124, 141 exp 3/4/23) + 9 mL Diluent

Secondary Standards - Made from EA ID#: F0814 (Stock Concentration: 10 ppm
Exp Date: 11/23) and brought up with Diluent

	Final Conc. (ppb)	Amount (µL)	Pipette # & Exp:	Final Vol (mL)	Pipette # & Exp:	Analyst	Date	Exp. Date
ICV/CCV	<u>50</u>	<u>50</u>	<u>127 3/4/23</u>	<u>10</u>	<u>141 3/4/23</u>	<u>KAH</u>	<u>2/16/23</u>	<u>2/17/23</u>

ICS's - Made from Stock Std ICS-A ID#(F0786 Exp: 9/25)
& 50 ppb Metals Std ID#(F0814 Conc: 10 ppm Exp: 11/23) brought up with Diluent

	Conc.	Amount WS (µL)	Pipette # & Exp:	Final Vol (mL)	Pipette # & Exp:	Analyst	Date	Exp. Date
ICS-A	Multi	<u>100</u>	<u>127 3/4/23</u>	<u>10</u>	<u>141 3/4/23</u>	<u>KAH</u>	<u>2/16/23</u>	<u>2/17/23</u>
	Multi	<u>100</u>	<u>I</u>					
ICS-AB	50 ppb	<u>50</u>	<u>I</u>					

Post Dig Matrix Spike Samples - Diluted with Diluent (Metals Mix ID# _____ Conc: _____ Exp: _____)

Sample ID	Dilution Factor of Field Sample	Aliquot of Sample (mL)	Final Conc. (ppb)	Amount of Spike Added (µL)	Pipette # & Exp:	Final Vol (mL)	Pipette # & Exp:	Analyst
						<u>10</u>		
						<u>10</u>		
						<u>10</u>		
						<u>10</u>		
						<u>10</u>		
						<u>10</u>		
						<u>10</u>		

ICP-MS Raw Data Coversheet

Doc. No.: RD05

Rev.:G

Effective Date: 08-05-22

Instrument X

Sample Dilution Tracker - Diluted with Diluent

Sample ID(s)	Dilution Factor of Sample	Aliquot of Sample (mL)	Pipette # & Exp:	Final Vol (mL)	Pipette # & Exp:	Analyst
LCS-1	2	5	141 3/4/23	10	141 3/4/23	KAH

Comments:

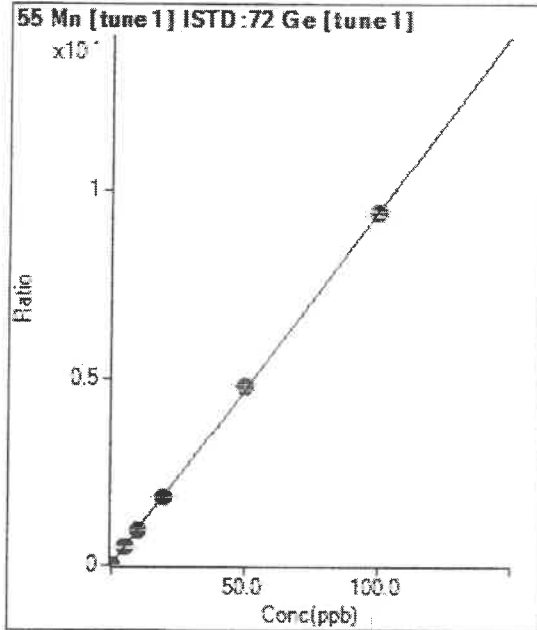
Acq. Date-Time	Sample Name	55 Min [tune 1]		66 Zn [tune 1]		68 Zn [tune 1]		75 As [tune 1]		137 Ba [tune 1]		138 Ba [tune 1]	
		Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD	Conc. [ppb]	Conc. RSD
2/16/2023 14:14	CAL BLK	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A	0.0000	N/A
2/16/2023 14:17	5 PPB	4.9627	2.6817	4.6633	1.3884	4.5814	4.5973	4.6939	1.5824	4.8264	3.6332	4.7508	3.5943
2/16/2023 14:20	10 PPB	10.0068	1.3238	9.9468	4.7553	9.6326	5.3657	9.7236	1.8757	9.5850	3.1201	9.6143	1.1507
2/16/2023 14:23	20 PPB	19.4146	1.5472	20.2086	1.6566	20.1351	2.1697	20.0668	0.9059	19.1407	3.6546	19.3028	1.9194
2/16/2023 14:26	50 PPB	50.4978	2.1817	50.0270	1.8103	49.4470	0.8017	49.7705	0.9302	49.4909	1.0722	48.8829	2.0232
2/16/2023 14:29	100 PPB	99.8694	1.4027	99.9448	1.5750	100.2495	2.9652	100.1443	1.9096	100.4766	1.5843	100.7490	3.9512
2/16/2023 15:12	CV	50.3902	0.9720	49.7309	3.9383	50.2926	0.2352	50.4107	3.0667	48.5621	3.6998	48.8098	1.5864
2/16/2023 15:15	CB	0.2365	10.2227	<0.000	N/A	<0.000	N/A	0.2526	8.0246	0.1970	9.6994	0.2197	8.0640
2/16/2023 15:18	CSA	0.2401	13.3435	2.3664	4.1687	2.0928	6.9325	0.4312	4.3133	0.1932	20.5841	0.2078	11.2861
2/16/2023 15:21	CSAB	49.1888	2.8105	52.1901	1.8027	51.3700	1.9522	51.8181	1.5367	49.3129	2.7093	50.0345	3.9418
2/16/2023 15:27	LB-1	0.3502	8.6982	3.2950	7.7310	3.1409	5.0149	7.4196	3.9204	1.0995	2.0213	1.0906	3.3538
2/16/2023 15:30	LCS-1	52.9262	1.3568	53.0764	3.3200	53.1767	1.2085	53.4225	3.0370	53.0435	1.6448	53.0752	1.8554
2/16/2023 15:33	LOQ1-1	5.9480	2.1350	22.9760	2.4107	22.5432	1.0552	6.6014	4.5264	5.4005	0.0617	5.4488	3.7420
2/16/2023 15:36	LOQ2-1	5.1651	3.6439	21.3440	1.4135	21.3638	5.5831	5.9260	5.8898	5.1766	1.0484	5.1507	0.8421
2/16/2023 15:39	LOQ3-1	5.3852	1.5991	22.0374	2.6334	21.6754	1.9302	5.5396	5.6065	4.9709	1.9314	4.9654	2.0292
2/16/2023 15:42	LOQ4-1	5.2467	2.8438	21.7757	1.7535	21.4063	2.6742	5.5867	2.5579	5.2453	3.9683	5.2027	2.8508
2/16/2023 15:46	LOQ5-1	5.2820	3.7171	20.7123	2.8328	20.9882	3.4788	5.5604	3.8335	4.9904	0.4753	4.9927	2.2198
2/16/2023 15:49	LOQ6-1	5.2661	1.2616	23.7768	1.5895	23.8963	0.7627	5.6309	2.1591	5.2901	3.6649	5.4951	1.0479
2/16/2023 15:52	LOQ7-1	5.1042	1.8694	21.4484	1.5465	21.1411	2.3542	5.0863	1.3547	4.9865	1.0618	4.8818	2.9204
2/16/2023 15:55	LOQ8-1	5.1853	1.9751	217.3869	3.2392	213.1079	2.4172	5.3691	4.4130	8.9091	3.1486	8.9534	3.8298
2/16/2023 15:58	CCV	50.1454	0.7375	51.5490	1.8598	51.6782	0.7520	50.9102	2.0518	49.7551	3.6363	50.5881	2.0927
2/16/2023 16:05	CCB	0.2424	18.5524	0.0371	349.2504	0.0574	133.8759	0.4853	12.8697	0.2211	8.6426	0.2060	14.4440
2/16/2023 16:10	LB-1 RP	0.1964	8.8379	2.7433	2.2169	2.5615	5.6244	1.1538	8.4668	0.9733	4.2392	0.9616	4.4076
2/16/2023 16:13	LOQ8-1 RP	5.2032	0.4838	23.8730	2.7269	23.6832	1.7922	5.2859	3.2440	8.5695	4.2223	8.6736	3.0566
2/16/2023 16:16	CCV	49.4981	4.4051	49.8243	1.0245	50.5082	1.2605	51.2277	1.9818	49.0456	1.6145	49.5437	3.2345
2/16/2023 16:20	CCB	0.3117	17.6938	<0.000	N/A	<0.000	N/A	0.5256	6.1337	0.3125	31.0339	0.2805	20.3016

Acq. Date-Time	Sample Name	72 Ge (ISTD) [June 1]			89 Y (ISTD) [June 1]			115 In (ISTD) [June 1]			159 Tb (ISTD) [June 1]		
		CPS	ISTD Recovery %		CPS	ISTD Recovery %		CPS	ISTD Recovery %		CPS	ISTD Recovery %	
2/16/2023 14:14	CAL BLK	185583.60	100.00		1207247.56	100.00		1095157.77	100.00		1407278.44	100.00	
2/16/2023 14:17	5 PPB	187245.48	100.90		1213521.98	100.52		1087668.50	99.32		1437748.65	102.17	
2/16/2023 14:20	10 PPB	181347.08	97.72		1161336.40	96.20		1056166.72	96.44		1412340.89	100.36	
2/16/2023 14:23	20 PPB	184352.94	99.34		1156870.76	95.83		1068004.00	97.34		1387827.15	98.62	
2/16/2023 14:26	50 PPB	183462.51	98.86		1161144.70	96.18		1049804.22	95.86		1406473.39	99.94	
2/16/2023 14:29	100 PPB	185681.29	100.05		1155138.30	95.68		1034012.21	94.42		1406563.49	99.95	
2/16/2023 15:12	ICV	186928.92	100.72		1163128.48	96.35		1039347.71	94.90		1361428.89	96.74	
2/16/2023 15:15	ICB	179193.25	96.56		1162764.41	96.32		1045780.77	95.49		1337127.40	95.02	
2/16/2023 15:18	ICSA	177364.67	95.57		1096982.79	90.87		982567.38	89.72		1278643.17	90.86	
2/16/2023 15:21	ICSA B	177597.28	95.70		1098148.59	90.96		980248.58	89.51		1326343.80	94.25	
2/16/2023 15:27	LB-1	192460.67	103.71		1242944.25	102.96		1166708.03	106.55		1554062.11	110.43	
2/16/2023 15:30	LCS-1	181553.04	97.83		1192286.89	98.76		1067663.23	97.49		1470402.12	104.49	
2/16/2023 15:33	LOQ1-1	188333.08	101.48		1215515.84	100.68		1120559.16	102.32		1558988.11	110.78	
2/16/2023 15:36	LOQ2-1	191755.76	103.33		1201443.76	99.52		1123505.86	102.59		1519539.25	107.98	
2/16/2023 15:39	LOQ3-1	191230.26	103.04		1237448.34	102.50		1143154.12	104.38		1580165.81	112.29	
2/16/2023 15:42	LOQ4-1	186916.31	100.72		1193391.59	98.85		1117882.00	102.07		1522254.68	108.17	
2/16/2023 15:46	LOQ5-1	187094.73	100.81		1226067.27	101.56		1128726.60	103.07		1554962.72	110.49	
2/16/2023 15:49	LOQ6-1	185462.01	99.93		1222554.40	101.27		1116484.33	101.95		1520890.12	108.07	
2/16/2023 15:52	LOQ7-1	187212.61	100.88		1234181.78	102.23		1144935.91	104.55		1541835.84	109.56	
2/16/2023 15:55	LOQ8-1	192408.76	103.68		1212377.87	100.42		1110550.32	101.41		1576249.55	112.01	
2/16/2023 15:58	CCV	180599.38	97.31		1138286.36	94.29		1038980.13	94.87		1402147.78	98.64	
2/16/2023 16:05	CCB	176106.79	94.89		1114443.43	92.31		1029862.61	94.04		1347061.85	95.79	
2/16/2023 16:10	LB-1 RP	187973.90	101.29		1210377.78	100.26		1112087.72	101.55		1524588.04	108.34	
2/16/2023 16:13	LOQ8-1 RP	192833.02	103.91		1237486.69	102.60		1141648.98	104.25		1524779.10	108.35	
2/16/2023 16:16	CCV	181092.58	97.58		1144286.57	94.78		1038742.96	94.85		1384272.30	98.37	
2/16/2023 16:20	CCB	176396.99	95.05		1122747.69	93.00		1018062.50	92.78		1379605.58	98.03	

Calibration for 026SMPL.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\As, Zn, Mn, Ba LOQ RR 021623.b\
 Analysis File: As, Zn, Mn, Ba LOQ RR 021623.batch.bin
 DA Date-Time: 2/16/2023 4:20:52 PM
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	001CALB.d	CAL BLK	2/16/2023 2:14:08 PM
2	002CALS.d	5 PPB	2/16/2023 2:17:16 PM
3	003CALS.d	10 PPB	2/16/2023 2:20:26 PM
4	004CALS.d	20 PPB	2/16/2023 2:23:35 PM
5	005CALS.d	50 PPB	2/16/2023 2:26:46 PM
6	006CALS.d	100 PPB	2/16/2023 2:29:55 PM



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	2405.97	0.0130	P	8.5
2	<input type="checkbox"/>	5.000	4.963	89744.45	0.4794	P	2.6
3	<input type="checkbox"/>	10.000	10.007	172863.93	0.9534	P	1.9
4	<input type="checkbox"/>	20.000	19.415	338683.37	1.8375	P	1.5
5	<input type="checkbox"/>	50.000	50.498	873138.86	4.7586	A	2.2
6	<input type="checkbox"/>	100.000	99.869	1745213.35	9.3983	A	1.4

$$y = 0.0940 * x + 0.0130$$

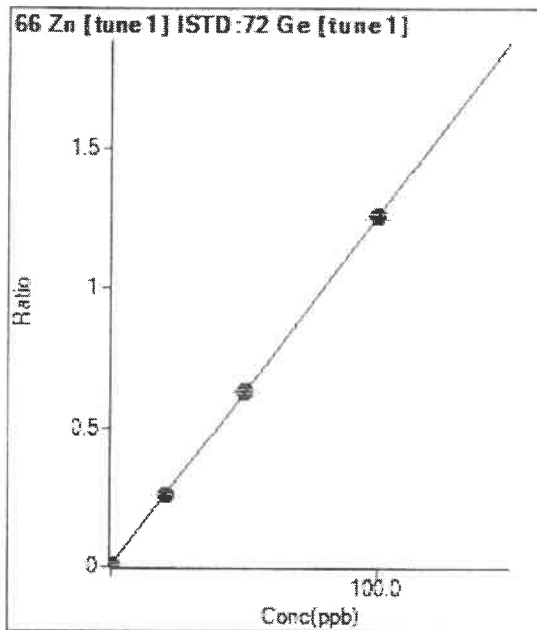
$$R = 1.0000$$

$$DL = 0.03502$$

$$BEC = 0.1381$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1458.21	0.0079	P	6.7
2	<input type="checkbox"/>			12414.69	0.0663	P	1.2
3	<input type="checkbox"/>			24011.46	0.1324	P	4.5
4	<input type="checkbox"/>	20.000	20.209	48094.18	0.2609	P	1.6
5	<input type="checkbox"/>	50.000	50.027	116368.10	0.6344	P	1.8
6	<input type="checkbox"/>	100.000	99.945	233850.12	1.2595	P	1.6

$$y = 0.0125 * x + 0.0079$$

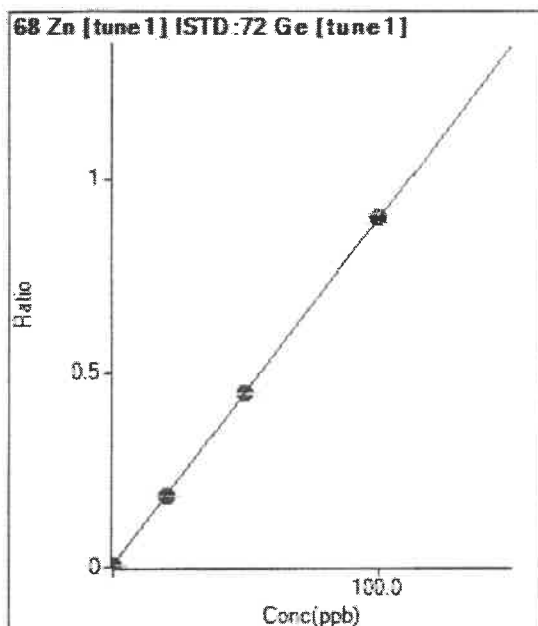
$$R = 1.0000$$

$$DL = 0.1257$$

$$BEC = 0.6279$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	1294.70	0.0070	P	2.0
2	<input type="checkbox"/>			8925.19	0.0477	P	3.9
3	<input type="checkbox"/>			16776.99	0.0925	P	5.0
4	<input type="checkbox"/>	20.000	20.135	34266.41	0.1858	P	2.1
5	<input type="checkbox"/>	50.000	49.447	81874.63	0.4462	P	0.8
6	<input type="checkbox"/>	100.000	100.249	166633.48	0.8975	P	2.9

$$y = 0.0089 * x + 0.0070$$

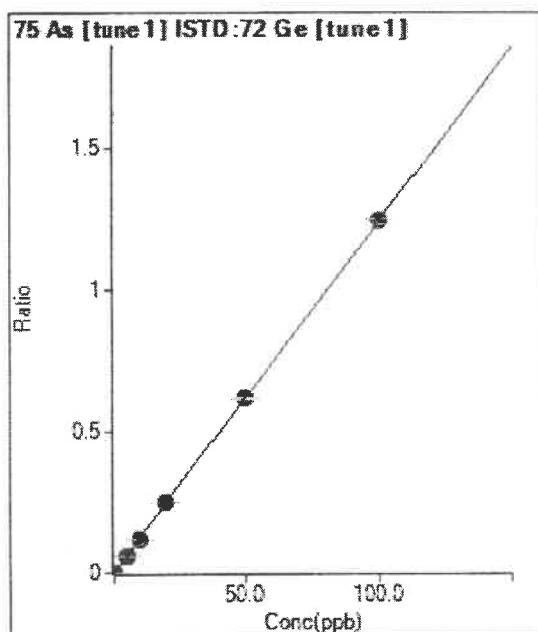
$$R = 1.0000$$

$$DL = 0.04681$$

$$BEC = 0.7856$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.01	0.0001	P	100.8
2	<input type="checkbox"/>	5.000	4.694	10905.28	0.0582	P	1.6
3	<input type="checkbox"/>	10.000	9.724	21862.61	0.1206	P	1.9
4	<input type="checkbox"/>	20.000	20.067	45858.42	0.2488	P	0.9
5	<input type="checkbox"/>	50.000	49.770	113174.58	0.6170	P	0.9
6	<input type="checkbox"/>	100.000	100.144	230473.32	1.2413	P	1.9

$$y = 0.0124 * x + 5.3526E-005$$

$$R = 1.0000$$

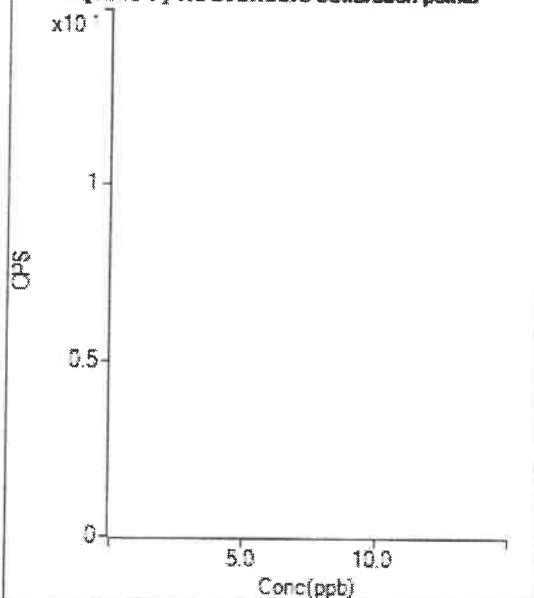
$$DL = 0.01306$$

$$BEC = 0.004318$$

Weight: <None>

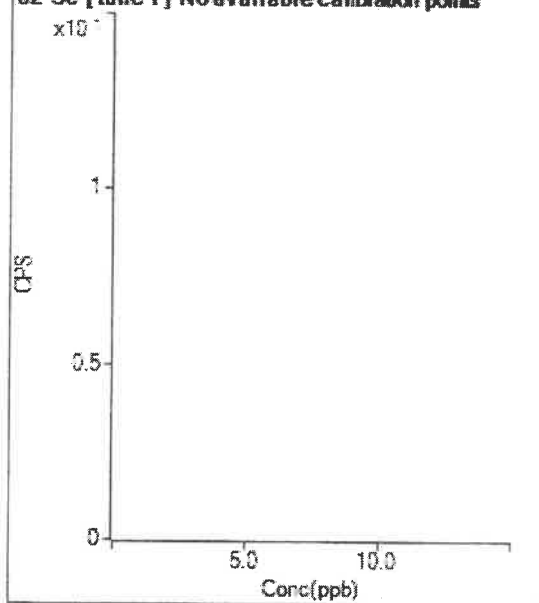
Min Conc: 0

77 Se [tune 1] No available calibration points

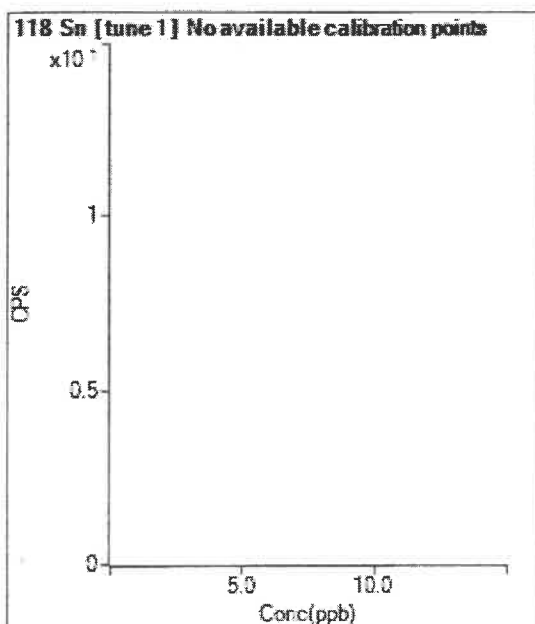


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			20.02		P	50.0
2	<input type="checkbox"/>			597.29		P	14.3
3	<input type="checkbox"/>			977.69		P	12.0
4	<input type="checkbox"/>			2055.56		P	2.0
5	<input type="checkbox"/>			5503.30		P	2.0
6	<input type="checkbox"/>			10698.28		P	2.3

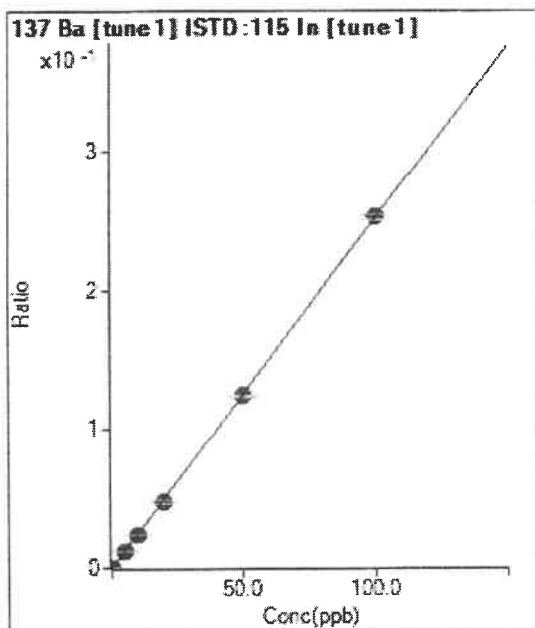
82 Se [tune 1] No available calibration points



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			186.85		P	11.2
2	<input type="checkbox"/>			870.91		P	18.1
3	<input type="checkbox"/>			1401.49		P	7.1
4	<input type="checkbox"/>			2909.92		P	5.5
5	<input type="checkbox"/>			6938.76		P	4.0
6	<input type="checkbox"/>			13814.14		P	2.6



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			123.46		P	30.7
2	<input type="checkbox"/>			90.09		P	19.2
3	<input type="checkbox"/>			353.70		P	8.6
4	<input type="checkbox"/>			180.18		P	20.0
5	<input type="checkbox"/>			80.08		P	21.7
6	<input type="checkbox"/>			86.75		P	24.0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	10.01	0.0000	P	100.1
2	<input type="checkbox"/>	5.000	4.826	13193.15	0.0121	P	3.6
3	<input type="checkbox"/>	10.000	9.585	25446.69	0.0241	P	3.1
4	<input type="checkbox"/>	20.000	19.141	51259.72	0.0481	P	3.7
5	<input type="checkbox"/>	50.000	49.491	130561.54	0.1244	P	1.1
6	<input type="checkbox"/>	100.000	100.477	261034.64	0.2525	P	1.6

$$y = 0.0025 * x + 9.0807E-006$$

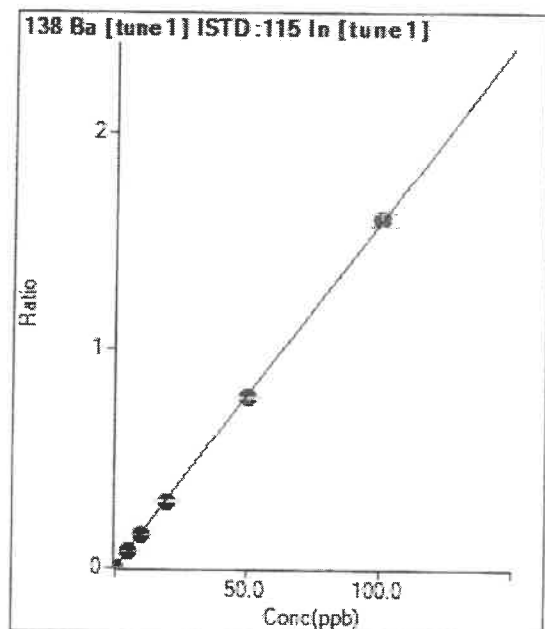
$$R = 0.9999$$

$$DL = 0.01085$$

$$BEC = 0.003614$$

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000	0.000	96.67	0.0001	P	41.0
2	<input type="checkbox"/>	5.000	4.751	82244.91	0.0757	P	3.6
3	<input type="checkbox"/>	10.000	9.614	161615.51	0.1530	P	1.2
4	<input type="checkbox"/>	20.000	19.303	327351.15	0.3072	P	1.9
5	<input type="checkbox"/>	50.000	48.883	816426.60	0.7777	P	2.0
6	<input type="checkbox"/>	100.000	100.749	1657025.18	1.6028	A	4.0

$$y = 0.0159 * x + 8.7970E-005$$

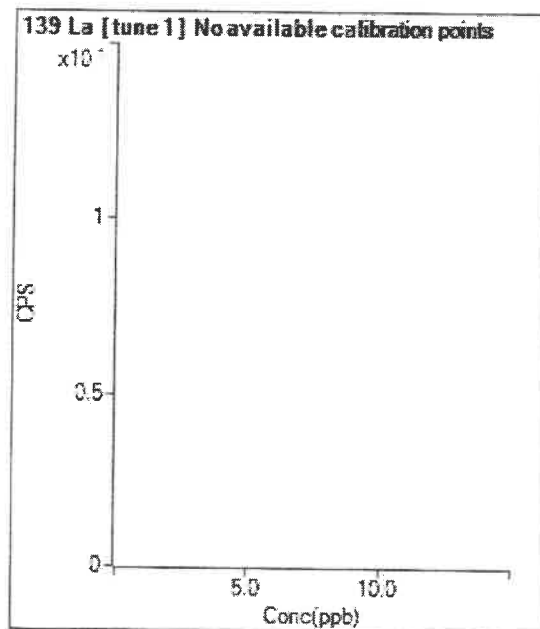
R = 0.9999

DL = 0.006809

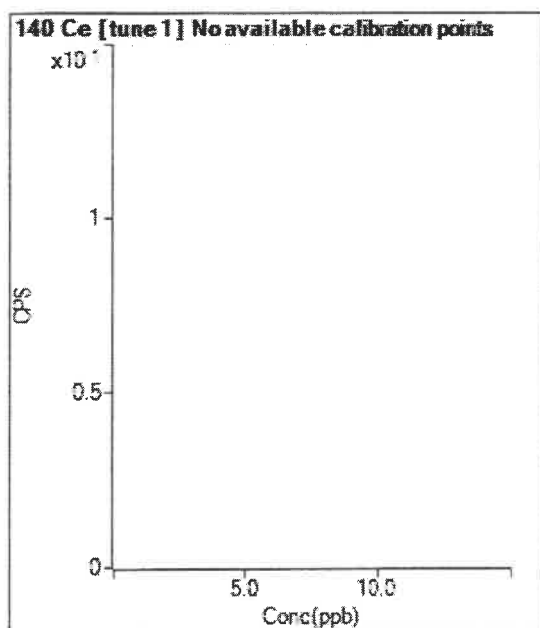
BEC = 0.00553

Weight: <None>

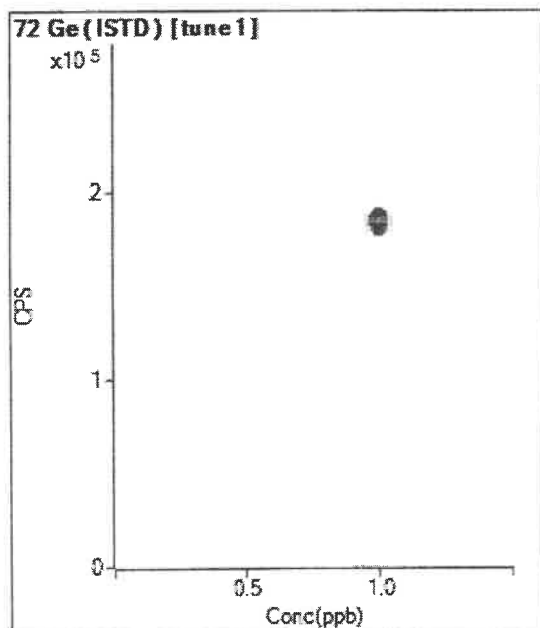
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			23.36		P	49.5
2	<input type="checkbox"/>			23.36		P	24.7
3	<input type="checkbox"/>			30.03		P	66.7
4	<input type="checkbox"/>			40.04		P	25.0
5	<input type="checkbox"/>			106.77		P	23.6
6	<input type="checkbox"/>			180.18		P	41.9

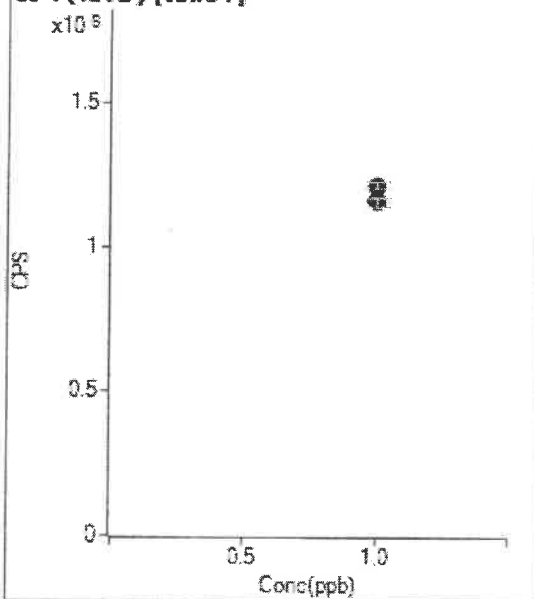


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>			23.36		P	24.7
2	<input type="checkbox"/>			43.38		P	70.5
3	<input type="checkbox"/>			46.71		P	49.5
4	<input type="checkbox"/>			50.05		P	69.3
5	<input type="checkbox"/>			66.73		P	52.7
6	<input type="checkbox"/>			60.06		P	44.1



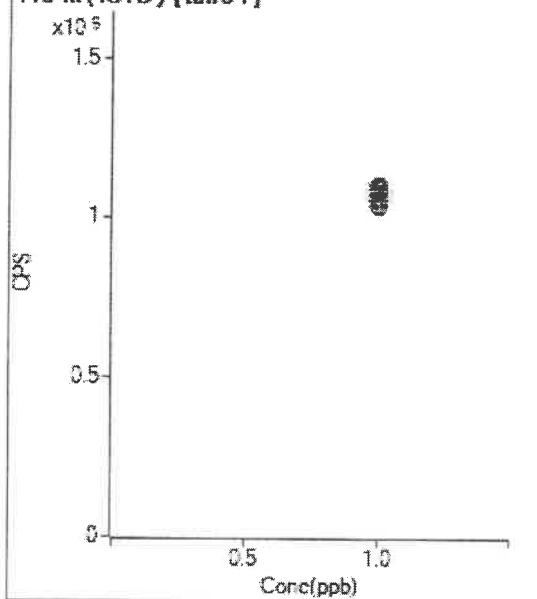
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		185583.60		P	2.4
2	<input type="checkbox"/>	1.000		187245.48		P	1.0
3	<input type="checkbox"/>	1.000		181347.08		P	1.4
4	<input type="checkbox"/>	1.000		184352.94		P	2.1
5	<input type="checkbox"/>	1.000		183462.51		P	2.1
6	<input type="checkbox"/>	1.000		185681.29		P	0.7

89 Y(ISTD) [tune 1]

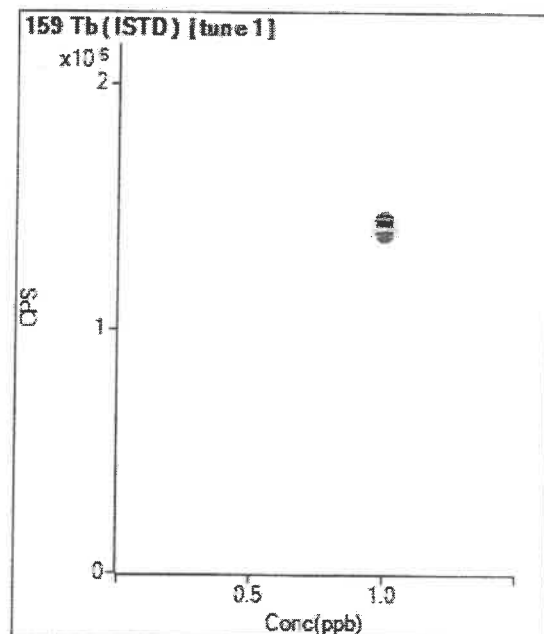


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		1207247.56		A	0.4
2	<input type="checkbox"/>	1.000		1213521.98		A	2.0
3	<input type="checkbox"/>	1.000		1161336.40		A	0.9
4	<input type="checkbox"/>	1.000		1156870.76		A	0.9
5	<input type="checkbox"/>	1.000		1161144.70		A	1.5
6	<input type="checkbox"/>	1.000		1155138.30		A	2.8

115 In(ISTD) [tune 1]



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det	RSD
1	<input type="checkbox"/>	1.000		1095157.77		A	1.3
2	<input type="checkbox"/>	1.000		1087668.50		A	2.8
3	<input type="checkbox"/>	1.000		1056166.72		A	1.4
4	<input type="checkbox"/>	1.000		1066004.00		A	2.0
5	<input type="checkbox"/>	1.000		1049804.22		A	1.1
6	<input type="checkbox"/>	1.000		1034012.21		A	1.8



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000		1407278.44		A	3.4
2	<input type="checkbox"/>	1.000		1437748.65		A	1.8
3	<input type="checkbox"/>	1.000		1412340.89		A	2.2
4	<input type="checkbox"/>	1.000		1387827.15		A	1.2
5	<input type="checkbox"/>	1.000		1406473.39		A	0.3
6	<input type="checkbox"/>	1.000		1406563.49		A	0.3

Raw Data



Analyst: LMP

Date: 2/27/23

Job #s

Describe Work Documented on This Page

0223-176

M29 Hg Analysis

1382A = CVAA Std Prep log

1382B = M29 Hg prepsheet

Supplies, Ancillary Equipment
Serial #s, Lot #s, Etc

NA

LMP 2/27/23

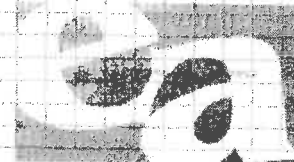
Reviewer's Initials & Date:

Metals Prep

EA Job# 0223-176 Page 144 of 186

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ENTHALPY
ANALYTICAL

1382A

CVAA Standard Preparation Log *Stds must be prepared fresh daily

EA Std ID#Hg (Job #-1, 2, 3, etc.)	Std/Reagent Name	Conc.	Stock Standard/Reagent	Conc.	EA ID# & Exp Date	Amount Added	Final Volume (mL) & Diluent	Pipette & Exp Date	Analyst	Date	Exp. Date
Primary Intermediate Standard											
1	Primary Int. Std.	1000 ppb	Hg Standard	1000 ppm	F0764 4/28/23	0.10 mL	100 DI	133 5/9/23	LMP	2/27/23	2/28/23
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Secondary Intermediate Standard											
2	Secondary Int. Std.	1000 ppb	Hg Standard (2nd Source)	1000 ppm	F0752 4/28/23	0.10 mL	100 DI	133 5/9/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Primary Working Standard											
3	Primary Working Std.	50 ppb	Primary Int. Std.	1000 ppb	2 2/28/23	5.0 mL	100 DI	141 3/4/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Secondary Working Standard											
4	Secondary Working Std.	50 ppb	Secondary Int. Std.	1000 ppb	2 2/28/23	5.0 mL	100 DI	141 3/4/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			

①22380017

LMP 2/27/23

1382B

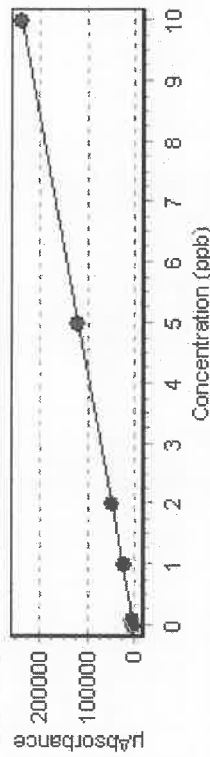
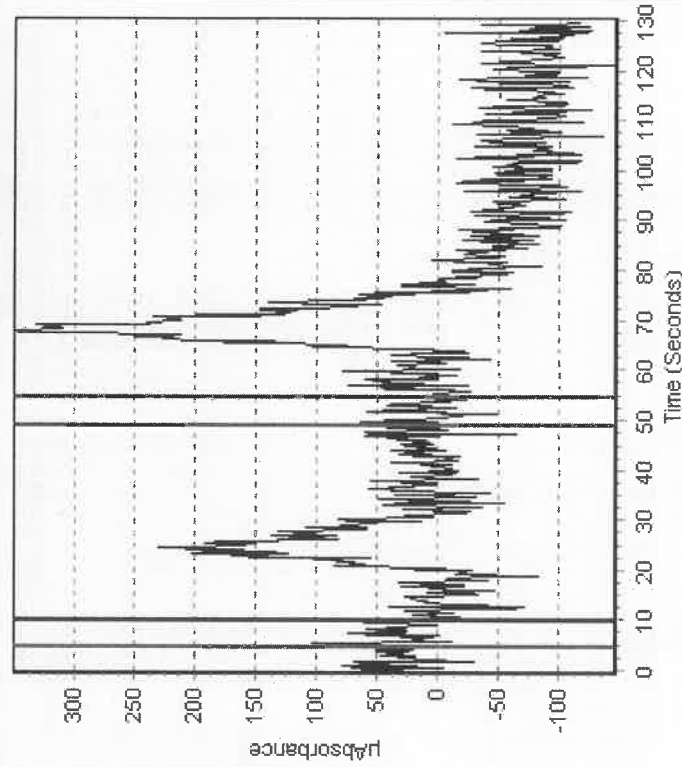
ENTHALPY ANALYTICAL					Method 29 Hg Prepsheet		
Job Nos: 0223-176							
Prep Date(s): 2/27/23							
Analyst(s) Lmp					Instrument: Walt Jr		
Calibration Standards and QC					Samples		
Spike Used	Calibration Standard	Spike Amount (mL)	Pip & Exp	Final Vol. (mL)	Sample ID	Aliquot Volume (mL)	Final Vol. (mL)
--	Calibration Blank	--	N/A	50	0223-176.1-3A	10	50
1st WS	Standard 1 - 0.1 ppb	0.1	133 5/9/23	50	.2		50
1st WS	Standard 2 - 1.0 ppb	1.0	134 1	50	.3		50
1st WS	Standard 3 - 2.0 ppb	2.0	1 1	50	.4		50
1st WS	Standard 4 - 5.0 ppb	5.0	141 3/4/23	50	.5		50
1st WS	Standard 5 - 10 ppb	10.0	1	50	.6		50
2nd WS	ICV/CCV - 5.0 ppb	5.0	1	50	.7		50
--	ICB/CCB	--	N/A	50	.8		50
Temp (°C): 95.4 Hotplate # 3					.9		50
1st WS ID: 3			Exp Date: 2/28/23		.10		50
2nd WS ID: 4			Exp Date: 1		.11		50
H2SO4 ID: 62252			Exp Date: 10/24		.12		50
HNO3 ID: 22380017			Exp Date: 9/24		.13		50
KMnO4 ID: ES-0842			Exp Date: 8/23/23		.14		50
K2S2O8 ID: ES-0828			Exp Date: 8/8/23		.15		50
HAS ID: ES-0836			Exp Date: 8/17/23		.16		50
SnCl2 ID: ES-0847			Exp Date: 3/6/23		.17		50
H2SO4 Pip & Exp: 139 3/8/23			HNO3 Pip & Exp: 139 3/8/23		.18		50
KMnO4 Pip & Exp: 1			K2S2O8 Pip & Exp: 1				50
HAS Pip & Exp: 1			Digitube ID: J506384-4932				50
LCS Pip & Exp: 141 3/4/23			MS Pip & Exp: 141 3/4/23		Digestion Time		
					Start: 10:00am Finish: 12:00pm		
Quality Control							
QC Sample	Sample ID	Aliq. Vol. (mL)	Final Vol. (mL)	Spike ID	ID Exp Date	Stock Conc	Volume Added (mL)
MB	N/A	20	50	N/A	N/A	N/A	N/A
LCS	N/A	20	50	3	2/28/23	50 ppb	5.0
MS	0223-176.1-3A	10	50	1	1	1	1
Duplicate	1 .2 1	1	50	N/A	N/A	N/A	N/A



Time	Sample Label	Conc (ppb)	μAbs	%RSD	Flag	%Residual
1:12	0223-176.8-3A	-0.002	71.7	34.83		
1:13	0223-176.9-3A	-0.003	58.5	18.66		
1:14	0223-176.10-3A	-0.002	75.1	15.86		
1:15	0223-176.11-3A	0.011	371.1	6.14		
1:16	0223-176.12-3A	-0.001	85.9	13.81		
1:17	0223-176.13-3A	0.004	220.4	12.35		
1:18	0223-176.14-3A	0.002	170.4	24.64		
1:19	0223-176.15-3A	0.002	177.8	28.30		
1:20	0223-176.16-3A	0.001	145.4	26.73		
S:6	CCV	4.830	115513.3	1.50		
S:7	CCB	-0.006	-32.7	4.83		
1:21	0223-176.17-3A	0.000	118.5	694.49		
1:22	0223-176.18-3A	-0.001	95.5	52.66		
S:7	CCV	4.860	116087.6	1.49		
S:8	CCB	-0.006	-19.2	9.69		

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Calibration Coeffs: 2.3866, 95222x + 120.310, R2: 0.99996, RSE: 2.80%

2/27/2023 1:41 PM	Worksheet Saved
2/27/2023 1:41 PM	Analysis completed normally
2/27/2023 1:41 PM	Sample 'CCB' measured. Conc.: -5.8500E-003 ppb (not diln. corrected)
2/27/2023 1:39 PM	QC Sample 'CCV'. Recovery was measured at 97.18 percent
2/27/2023 1:39 PM	Sample 'CCV' measured. Conc.: 4.860 ppb (not diln. corrected)
2/27/2023 1:37 PM	Sample '0223-176.18-3A' measured. Conc.: -1.0400E-003 ppb (not diln. corrected)
2/27/2023 1:34 PM	Sample '0223-176.17-3A' measured. Conc.: -7.4100E-005 ppb (not diln. corrected)
2/27/2023 1:32 PM	Sample 'CCB' measured. Conc.: -6.4100E-003 ppb (not diln. corrected)

Sample ID	Time Stamp	Sample Type	Dil. Conc.	Average Conc.	%RSD Conc.	Conc. Units
Cal Blank - 0 ug/mL	2/27/2023 12:21	Standard	0	0	0	0 ppb
Std. 1 - 0.1ug/mL	2/27/2023 12:24	Standard	0.1	0.1	0	0 ppb
Std. 2 - 1.0 ug/mL	2/27/2023 12:26	Standard	1	1	0	0 ppb
Std. 3 - 2.0 ug/mL	2/27/2023 12:28	Standard	2	2	0	0 ppb
Std. 4 - 5.0 ug/mL	2/27/2023 12:31	Standard	5	5	0	0 ppb
Std. 5 - 10.0 ug/mL	2/27/2023 12:33	Standard	10	10	0	0 ppb
ICV	2/27/2023 12:35	ICV	4.92	4.92	0	0 ppb
ICB	2/27/2023 12:37	ICB	-0.006	-0.006	0	0 ppb
0223-176.LB	2/27/2023 12:40	Unknown	-0.002	-0.002	0	0 ppb
0223-176.LCS	2/27/2023 12:42	Unknown	5	5	0	0 ppb
0223-176.1-3A	2/27/2023 12:44	Unknown	0.033	0.033	0	0 ppb
0223-176.1-3A MS	2/27/2023 12:46	Unknown	5.03	5.03	0	0 ppb
0223-176.2-3A	2/27/2023 12:49	Unknown	0.026	0.026	0	0 ppb
0223-176.2-3A DUP	2/27/2023 12:51	Unknown	0.028	0.028	0	0 ppb
0223-176.3-3A	2/27/2023 12:53	Unknown	-0.002	-0.002	0	0 ppb
0223-176.4-3A	2/27/2023 12:56	Unknown	0.01	0.01	0	0 ppb
0223-176.5-3A	2/27/2023 12:58	Unknown	0	0	0	0 ppb
0223-176.6-3A	2/27/2023 13:00	Unknown	0.002	0.002	0	0 ppb
CCV	2/27/2023 13:02	CCV	4.92	4.92	0	0 ppb
CCB	2/27/2023 13:05	CCB	-0.005	-0.005	0	0 ppb
0223-176.7-3A	2/27/2023 13:07	Unknown	0.003	0.003	0	0 ppb
0223-176.8-3A	2/27/2023 13:09	Unknown	-0.002	-0.002	0	0 ppb
0223-176.9-3A	2/27/2023 13:12	Unknown	-0.003	-0.003	0	0 ppb
0223-176.10-3A	2/27/2023 13:14	Unknown	-0.002	-0.002	0	0 ppb
0223-176.11-3A	2/27/2023 13:16	Unknown	0.011	0.011	0	0 ppb
0223-176.12-3A	2/27/2023 13:18	Unknown	-0.001	-0.001	0	0 ppb
0223-176.13-3A	2/27/2023 13:21	Unknown	0.004	0.004	0	0 ppb
0223-176.14-3A	2/27/2023 13:23	Unknown	0.002	0.002	0	0 ppb
0223-176.15-3A	2/27/2023 13:25	Unknown	0.002	0.002	0	0 ppb
0223-176.16-3A	2/27/2023 13:28	Unknown	0.001	0.001	0	0 ppb
CCV	2/27/2023 13:30	CCV	4.83	4.83	0	0 ppb
CCB	2/27/2023 13:32	CCB	-0.006	-0.006	0	0 ppb
0223-176.17-3A	2/27/2023 13:34	Unknown	0	0	0	0 ppb
0223-176.18-3A	2/27/2023 13:37	Unknown	-0.001	-0.001	0	0 ppb
CCV	2/27/2023 13:39	CCV	4.86	4.86	0	0 ppb
CCB	2/27/2023 13:41	CCB	-0.006	-0.006	0	0 ppb

Analyst: *LMP*

Date: *2/28/23*

Job #s

Describe Work Documented on This Page

0223-176

m29 Hg Analysis

1386A = CVAA std prep log

1386B = m29 Hg prep sheet

Supplies, Ancillary Equipment
Serial #s, Lot #s, Etc

NA

LMP 2/28/23

Reviewer's Initials & Date:

Metals Prep

EA Job# 0223-176 PR Page 149 of 186

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1380A

CVAA Standard Preparation Log *Std's must be prepared fresh daily

EA Std ID#Hg (Job #-1, 2, 3, etc.)	Std/Reagent Name	Conc.	Stock Standard/Reagent	Conc.	EA ID# & Exp Date	Amount Added	Final Volume (mL) & Diluent	Pipette & Exp Date	Analyst	Date	Exp. Date
Primary Intermediate Standard											
1	Primary Int. Std.	1000 ppb	Hg Standard	1000 ppm	F0764 4/28/23	0.10 mL	100 DI	133 5/9/23	LMP	2/28/23	3/1/23
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Secondary Intermediate Standard											
2	Secondary Int. Std.	1000 ppb	Hg Standard (2nd Source)	1000 ppm	F0752 4/28/23	0.10 mL	100 DI	133 5/9/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Primary Working Standard											
3	Primary Working Std.	50 ppb	Primary Int. Std.	1000 ppb	1 3/1/23	5.0 mL	100 DI	141 3/4/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Secondary Working Standard											
4	Secondary Working Std.	50 ppb	Secondary Int. Std.	1000 ppb	2 3/1/23	5.0 mL	100 DI	141 3/4/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			

① 22380017
 LMP 2/28/23

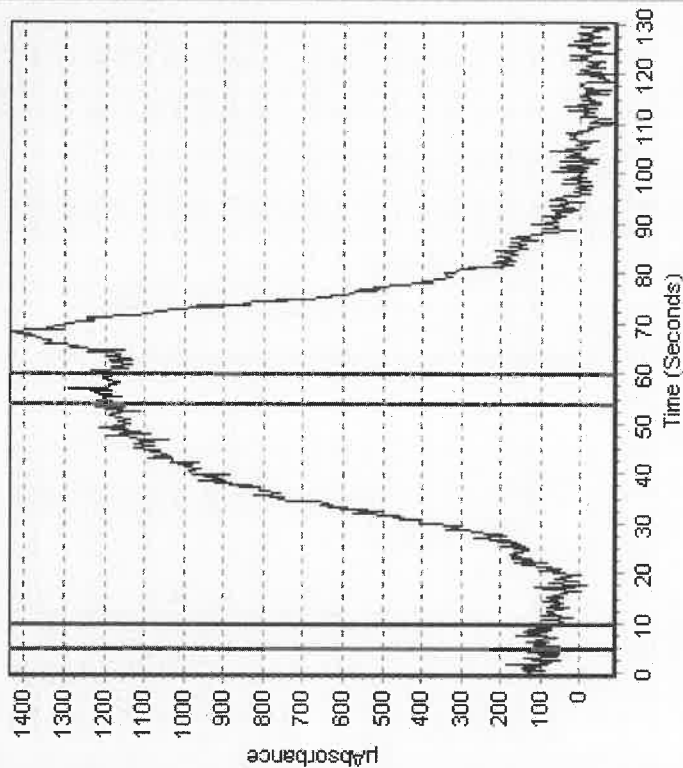
1386B

ENTHALPY ANALYTICAL					Method 29 Hg Prepsheet		
Job Nos: 0223-176							
Prep Date(s): 2/28/23							
Analyst(s) LMP					Instrument: naht, jr		
Calibration Standards and QC					Samples		
Spike Used	Calibration Standard	Spike Amount (mL)	Pip & Exp	Final Vol. (mL)	Sample ID	Aliquot Volume (mL)	Final Vol. (mL)
--	Calibration Blank	--	N/A	50	0223-176.1-23	5	50
1st WS	Standard 1 - 0.1 ppb	0.1	133 5/9/23	50	.2		50
1st WS	Standard 2 - 1.0 ppb	1.0	134	50	.3		50
1st WS	Standard 3 - 2.0 ppb	2.0	↓	50	.4		50
1st WS	Standard 4 - 5.0 ppb	5.0	141 3/4/23	50	.5		50
1st WS	Standard 5 - 10 ppb	10.0	↓	50	.6		50
2nd WS	ICV/CCV - 5.0 ppb	5.0	↓	50	.7		50
--	ICB/CCB	--	N/A	50	.8		50
Temp (°C): 95.5 Hotplate # 3					.9		50
1st WS ID: 3		Exp Date: 3/1/23			.10		50
2nd WS ID: 4		Exp Date: ±			.11		50
H2SO4 ID: 62252		Exp Date: 10/24			.12		50
HNO3 ID: 22380017		Exp Date: 9/24			.13		50
KMnO4 ID: ES-0842		Exp Date: 8/23/23			.14		50
K2S2O8 ID: ES-0828		Exp Date: 8/8/23			.15		50
HAS ID: ES-0836		Exp Date: 8/17/23			.16		50
SnCl2 ID: ES-0847		Exp Date: 3/10/23			.17		50
H2SO4 Pip & Exp: 139 3/8/23		HNO3 Pip & Exp: 139 3/8/23			.18		50
KMnO4 Pip & Exp: ↓		K2S2O8 Pip & Exp: ↓					50
HAS Pip & Exp: ↓		Digitube ID: J506384-4932					50
LCS Pip & Exp: 141 3/4/23		MS Pip & Exp: 141 3/4/23			Digestion Time		
					Start: 7:37am Finish: 9:37am		
Quality Control							
QC Sample	Sample ID	Aliq. Vol. (mL)	Final Vol. (mL)	Spike ID	ID Exp Date	Stock Conc	Volume Added (mL)
MB	N/A	20	50	N/A	N/A	N/A	N/A
LCS	N/A	20	50	3	3/1/23	50 ppb	5.0
MS	0223-176.1-23	10	50	↓	↓	↓	↓
Duplicate	↓ .2 ↓	↓	50	N/A	N/A	N/A	N/A

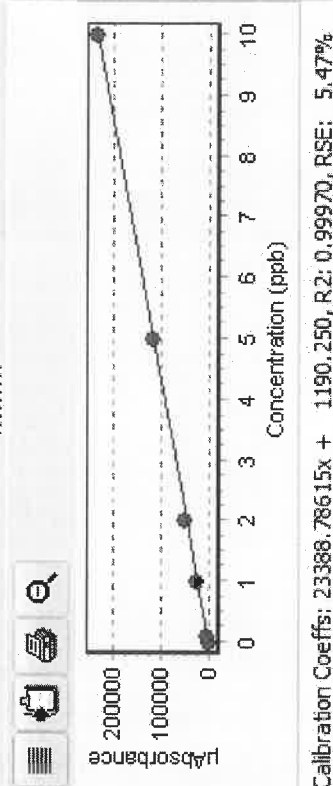


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Time	Sample Label	Conc (ppb)	μAbs	%RSD	Flag	%Residual
1:17	0223-176.13-2B	0.017	1588.4	3.95		
1:19	0223-176.14-2B	0.013	1489.2	2.72		
1:20	0223-176.15-2B	0.014	1523.0	3.96		
1:21	0223-176.16-2B	0.010	1418.5	11.92		
S:7	CCV	4.940	116699.7	0.99		
S:8	CCB	-0.003	1121.1	29.15		
1:21	0223-176.17-2B	0.003	1260.8	13.88		
1:22	0223-176.18-2B	0.032	1942.6	1.53		
S:7	CCV	4.890	115474.8	1.00		
S:8	CCB	-0.004	1095.1	18.01		



2/28/2023 11:21 AM	Worksheet Saved
2/28/2023 11:21 AM	Analysis completed normally
2/28/2023 11:21 AM	Sample 'CCB' measured. Conc.: -4.0700E-003 ppb (not diln. corrected)
2/28/2023 11:18 AM	QC Sample 'CCV'. Recovery was measured at 97.73 percent
2/28/2023 11:18 AM	Sample 'CCV' measured. Conc.: 4.890 ppb (not diln. corrected)
2/28/2023 11:16 AM	Sample '0223-176.18-2B' measured. Conc.: 3.2200E-002 ppb (not diln. corrected)
2/28/2023 11:14 AM	Sample '0223-176.17-2B' measured. Conc.: 3.0200E-003 ppb (not diln. corrected)
2/28/2023 11:11 AM	Sample 'CCB' measured. Conc.: -2.9600E-003 ppb (not diln. corrected)



Sample ID	Time Stamp	Sample Type	Dil. Conc.	Average Conc.	%RSD Conc.	Conc. Units
Cal Blank - 0 ug/mL	2/28/2023 10:01	Standard	0	0	0	0 ppb
Std. 1 - 0.1ug/mL	2/28/2023 10:03	Standard	0.1	0.1	0	0 ppb
Std. 2 - 1.0 ug/mL	2/28/2023 10:05	Standard	1	1	0	0 ppb
Std. 3 - 2.0 ug/mL	2/28/2023 10:07	Standard	2	2	0	0 ppb
Std. 4 - 5.0 ug/mL	2/28/2023 10:10	Standard	5	5	0	0 ppb
Std. 5 - 10.0 ug/mL	2/28/2023 10:12	Standard	10	10	0	0 ppb
ICV	2/28/2023 10:14	ICV	5.01	5.01	0	0 ppb
ICB	2/28/2023 10:17	ICB	-0.002	-0.002	0	0 ppb
0223-176.LB	2/28/2023 10:19	Unknown	0	0	0	0 ppb
0223-176.LCS	2/28/2023 10:21	Unknown	5.14	5.14	0	0 ppb
0223-176.1-2B	2/28/2023 10:23	Unknown	0.009	0.009	0	0 ppb
0223-176.1-2B MS	2/28/2023 10:26	Unknown	5.1	5.1	0	0 ppb
0223-176.2-2B	2/28/2023 10:28	Unknown	0.029	0.029	0	0 ppb
0223-176.2-2B DUP	2/28/2023 10:30	Unknown	0.032	0.032	0	0 ppb
0223-176.3-2B	2/28/2023 10:33	Unknown	0.011	0.011	0	0 ppb
0223-176.4-2B	2/28/2023 10:35	Unknown	0.038	0.038	0	0 ppb
0223-176.5-2B	2/28/2023 10:37	Unknown	0.013	0.013	0	0 ppb
0223-176.6-2B	2/28/2023 10:39	Unknown	0.02	0.02	0	0 ppb
CCV	2/28/2023 10:42	CCV	4.95	4.95	0	0 ppb
CCB	2/28/2023 10:44	CCB	-0.004	-0.004	0	0 ppb
0223-176.7-2B	2/28/2023 10:46	Unknown	0.002	0.002	0	0 ppb
0223-176.8-2B	2/28/2023 10:49	Unknown	-0.001	-0.001	0	0 ppb
0223-176.9-2B	2/28/2023 10:51	Unknown	0.035	0.035	0	0 ppb
0223-176.10-2B	2/28/2023 10:53	Unknown	0.007	0.007	0	0 ppb
0223-176.11-2B	2/28/2023 10:55	Unknown	0.028	0.028	0	0 ppb
0223-176.12-2B	2/28/2023 10:58	Unknown	0.021	0.021	0	0 ppb
0223-176.13-2B	2/28/2023 11:00	Unknown	0.017	0.017	0	0 ppb
0223-176.14-2B	2/28/2023 11:02	Unknown	0.013	0.013	0	0 ppb
0223-176.15-2B	2/28/2023 11:04	Unknown	0.014	0.014	0	0 ppb
0223-176.16-2B	2/28/2023 11:07	Unknown	0.01	0.01	0	0 ppb
CCV	2/28/2023 11:09	CCV	4.94	4.94	0	0 ppb
CCB	2/28/2023 11:11	CCB	-0.003	-0.003	0	0 ppb
0223-176.17-2B	2/28/2023 11:14	Unknown	0.003	0.003	0	0 ppb
0223-176.18-2B	2/28/2023 11:16	Unknown	0.032	0.032	0	0 ppb
CCV	2/28/2023 11:18	CCV	4.89	4.89	0	0 ppb
CCB	2/28/2023 11:21	CCB	-0.004	-0.004	0	0 ppb

Analyst: MAL

Date: 3/1/23

Job #s

0223-176

Describe Work Documented on This Page

Hg Analysis

1388A = CVAA Standard Preparation Log
1388B = Method 29 Hg Prepsheet

Supplies, Ancillary Equipment
Serial #s, Lot #s, Etc

N/A

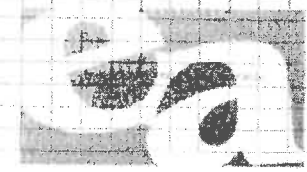
Reviewer's Initials & Date:

Metals Prep

EA Job# 0223-176R Page 154 of 186

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ENTHALPY
ANALYTICAL

1388A

CVAA Standard Preparation Log *Stdts must be prepared fresh daily

EA Std ID#Hg (Job #, 1, 2, 3, etc.)	Std/Reagent Name	Conc.	Stock Standard/Reagent	Conc.	EA ID# & Exp Date	Amount Added	Final Volume (mL) & Diluent	Pipette & Exp Date	Analyst	Date	Exp. Date
Primary Intermediate Standard											
1	Primary Int. Std.	1000 ppb	Hg Standard	1000 ppm	F0752- 4/28/23	0.10 mL	100 DI	133 5/9/23	MAL	3/1/23	3/2/23
"	"	"	HNO3	67-70%	(1)	0.5 mL	"	134 5/9/23			
Secondary Intermediate Standard											
2	Secondary Int. Std.	1000 ppb	Hg Standard (2nd Source)	1000 ppm	F0764 12/31/28	0.10 mL	100 DI	133 5/9/23			
"	"	"	HNO3	67-70%	(1)	0.5 mL	"	134 5/9/23			
Primary Working Standard											
3	Primary Working Std.	50 ppb	Primary Int. Std.	1000 ppb	1 3/2/23	5.0 mL	100 DI	141 3/9/23			
"	"	"	HNO3	67-70%	(1)	0.5 mL	"	134 5/9/23			
Secondary Working Standard											
4	Secondary Working Std.	50 ppb	Secondary Int. Std.	1000 ppb	2 3/2/23	5.0 mL	100 DI	141 3/4/23			
"	"	"	HNO3	67-70%	(1)	0.5 mL	"	134 5/9/23			

223800017 exp. 9/24 Lmp for MAL 3/6/23

(1) 62764 EE

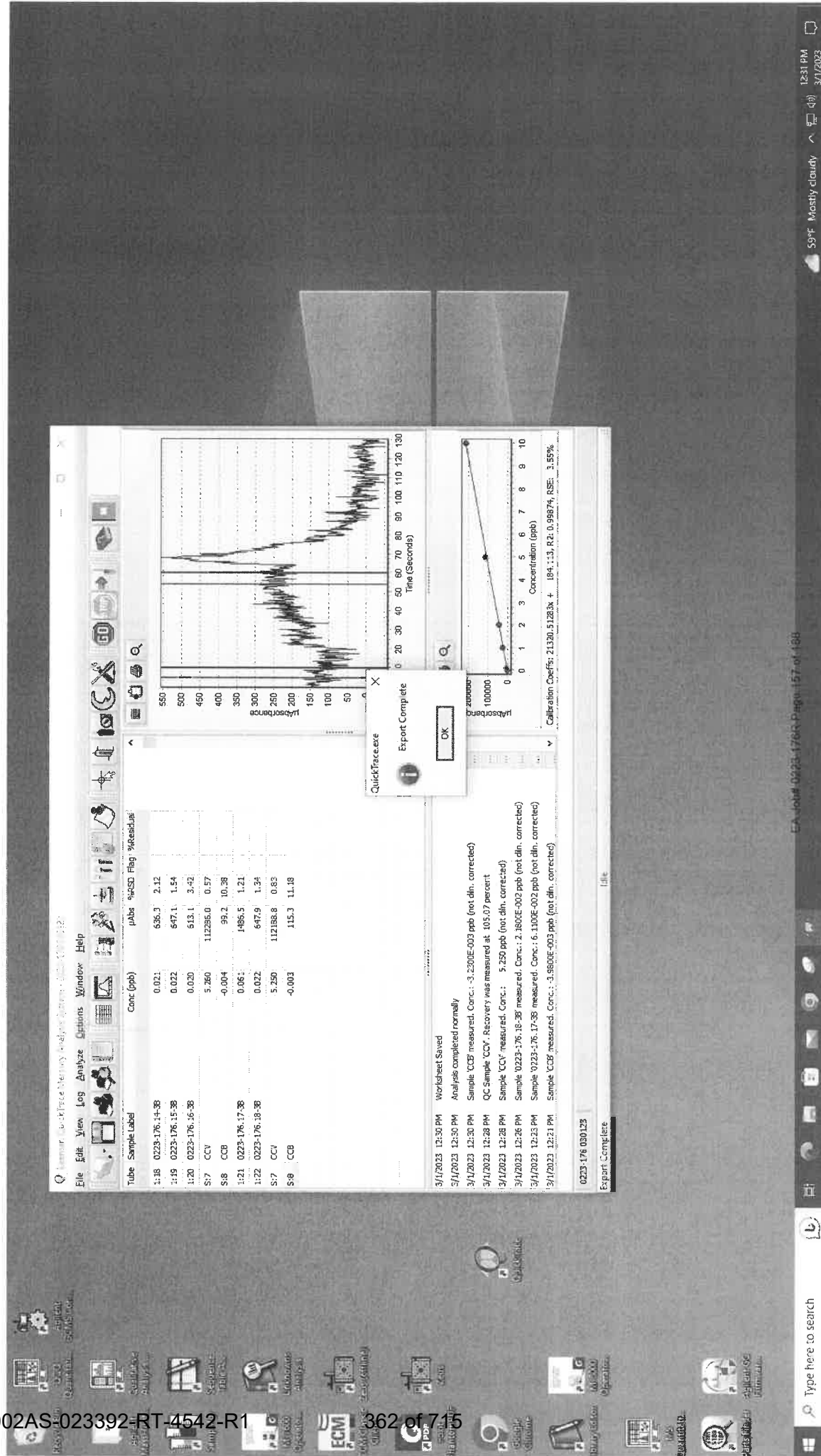
exp. 5/4/24 Lmp for MAL

3/6/23

1388B

ENTHALPY ANALYTICAL					Method 29 Hg Prepsheet		
Job Nos:					0223-176		
Prep Date(s):					3/1/23		
Analyst(s):					MAL Instrument: Walt Jr.		
Calibration Standards and QC					Samples		
Spike Used	Calibration Standard	Spike Amount (mL)	Pip & Exp	Final Vol. (mL)	Sample ID	Aliquot Volume (mL)	Final Vol. (mL)
--	Calibration Blank	--	N/A	50	0223-176.1-38	10.0	50
1st WS	Standard 1 - 0.1 ppb	0.1	133 5/9/23	50	2		50
1st WS	Standard 2 - 1.0 ppb	1.0	134 L	50	3		50
1st WS	Standard 3 - 2.0 ppb	2.0	134 L	50	4		50
1st WS	Standard 4 - 5.0 ppb	5.0	141 3/4/23	50	5		50
1st WS	Standard 5 - 10 ppb	10.0	L	50	6		50
2nd WS	ICV/CCV - 5.0 ppb	5.0	L	50	7		50
--	ICB/CCB	--	N/A	50	8		50
Temp (°C): 45.8 Hotplate #: 3					9		50
1st WS ID: 3 Exp Date: 2/2/23					10		50
2nd WS ID: 4 Exp Date: L					11		50
H2SO4 ID: 62252 Exp Date: 10/24					12		50
HNO3 ID: 62164 22380017 Exp Date: 5/4/23 9/12/24					13		50
KMnO4 ID: ES-0842 Exp Date: 8/23/23					14		50
K2S2O8 ID: ES-0828 Exp Date: 8/8/23					15		50
HAS ID: ES-0836 Exp Date: 8/17/23					16		50
SnCl2 ID: ES-0847 Exp Date: 3/6/23					17		50
H2SO4 Pip & Exp: 139 3/8/23 HNO3 Pip & Exp: 139 3/8/23					18		50
KMnO4 Pip & Exp: L K2S2O8 Pip & Exp: L							50
HAS Pip & Exp: L Digitube ID: J506384-4932							50
LCS Pip & Exp: 141 3/4/23 MS Pip & Exp: 141 3/4/23					Digestion Time		
					Start: 8:33am Finish: 10:33am		
Quality Control							
QC Sample	Sample ID	Aliq. Vol. (mL)	Final Vol. (mL)	Spike ID	ID Exp Date	Stock Conc	Volume Added (mL)
MB	N/A	20	50	N/A	N/A	N/A	N/A
LCS	N/A	20	50	3	3/2/23	50 ppb	5.0
MS	0223-176.1-38 MS	10	50	4	L	L	L
Duplicate	0223-176.2-38 DUP	10	50	N/A	N/A	N/A	N/A

① EE LMP for MAL 3/6/23



Sample ID	Time Stamp	Sample Type	Dil. Conc.	Average Conc.	%RSD Conc.	Conc. Units
Cal Blank - 0 ug/mL	3/1/2023 11:10	Standard	0	0	0	0 ppb
Std. 1 - 0.1ug/mL	3/1/2023 11:13	Standard	0.1	0.1	0	0 ppb
Std. 2 - 1.0 ug/mL	3/1/2023 11:15	Standard	1	1	0	0 ppb
Std. 3 - 2.0 ug/mL	3/1/2023 11:17	Standard	2	2	0	0 ppb
Std. 4 - 5.0 ug/mL	3/1/2023 11:19	Standard	5	5	0	0 ppb
Std. 5 - 10.0 ug/mL	3/1/2023 11:22	Standard	10	10	0	0 ppb
ICV	3/1/2023 11:24	ICV	5.51	5.51	0	0 ppb
ICB	3/1/2023 11:26	ICB	-0.004	-0.004	0	0 ppb
0223-176.LB	3/1/2023 11:29	Unknown	0	0	0	0 ppb
0223-176.LCS	3/1/2023 11:31	Unknown	5.07	5.07	0	0 ppb
0223-176.1-3B	3/1/2023 11:33	Unknown	-0.001	-0.001	0	0 ppb
0233-176.1-3B MS	3/1/2023 11:35	Unknown	5.29	5.29	0	0 ppb
0223-176.2-3B	3/1/2023 11:38	Unknown	0.014	0.014	0	0 ppb
0223-176.2-3B DUP	3/1/2023 11:40	Unknown	0.017	0.017	0	0 ppb
0223-176.3-3B	3/1/2023 11:42	Unknown	0.017	0.017	0	0 ppb
0223-176.4-3B	3/1/2023 11:45	Unknown	0.021	0.021	0	0 ppb
0223-176.5-3B	3/1/2023 11:47	Unknown	0.017	0.017	0	0 ppb
0223-176.6-3B	3/1/2023 11:49	Unknown	0.026	0.026	0	0 ppb
CCV	3/1/2023 11:51	CCV	5.29	5.29	0	0 ppb
CCB	3/1/2023 11:54	CCB	-0.002	-0.002	0	0 ppb
0223-176.7-3B	3/1/2023 11:56	Unknown	0.022	0.022	0	0 ppb
0223-176.8-3B	3/1/2023 11:58	Unknown	0.021	0.021	0	0 ppb
0223-176.9-3B	3/1/2023 12:01	Unknown	0.02	0.02	0	0 ppb
0223-176.10-3B	3/1/2023 12:03	Unknown	0.022	0.022	0	0 ppb
0223-176.11-3B	3/1/2023 12:05	Unknown	0.019	0.019	0	0 ppb
0223-176.12-3B	3/1/2023 12:07	Unknown	0.018	0.018	0	0 ppb
0223-176.13-3B	3/1/2023 12:10	Unknown	0.021	0.021	0	0 ppb
0223-176.14-3B	3/1/2023 12:12	Unknown	0.021	0.021	0	0 ppb
0223-176.15-3B	3/1/2023 12:14	Unknown	0.022	0.022	0	0 ppb
0223-176.16-3B	3/1/2023 12:16	Unknown	0.02	0.02	0	0 ppb
CCV	3/1/2023 12:19	CCV	5.26	5.26	0	0 ppb
CCB	3/1/2023 12:21	CCB	-0.004	-0.004	0	0 ppb
0223-176.17-3B	3/1/2023 12:23	Unknown	0.061	0.061	0	0 ppb
0223-176.18-3B	3/1/2023 12:26	Unknown	0.022	0.022	0	0 ppb
CCV	3/1/2023 12:28	CCV	5.25	5.25	0	0 ppb
CCB	3/1/2023 12:30	CCB	-0.003	-0.003	0	0 ppb

Analyst: LMP

Date: 3/16/25

Job #s

0223-176

Describe Work Documented on This Page

m29 Hg Analysis

1395A = CVAA std prep log

1395B = m29 Hg prep sheet

Supplies, Ancillary Equipment
Serial #s, Lot #s, Etc

NA

Reviewer's Initials & Date:

Metals Prep

EA Job# 0223-176 Page 159 of 186

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1395A

CVAA Standard Preparation Log *Stds must be prepared fresh daily

EA Std ID#Hg (Job #1, 2, 3, etc.)	Std/Reagent Name	Conc.	Stock Standard/Reagent	Conc.	EA ID# & Exp Date	Amount Added	Final Volume (mL) & Diluent	Pipette & Exp Date	Analyst	Date	Exp. Date
Primary Intermediate Standard											
1	Primary Int. Std.	1000 ppb	Hg Standard	1000 ppm	F0704 4/28/23	0.10 mL	100 DI	133 5/9/23	LMP	3/6/23	3/7/23
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Secondary Intermediate Standard											
2	Secondary Int. Std.	1000 ppb	Hg Standard (2nd Source)	1000 ppm	F0752 4/28/23	0.10 mL	100 DI	133 5/9/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Primary Working Standard											
3	Primary Working Std.	50 ppb	Primary Int. Std.	1000 ppb	1 3/7/23	5.0 mL	100 DI	143 5/9/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Secondary Working Standard											
4	Secondary Working Std.	50 ppb	Secondary Int. Std.	1000 ppb	2 3/7/23	5.0 mL	100 DI	143 5/9/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			

① 22380017
 LMP 3/6/23

1395B

ENTHALPY ANALYTICAL					Method 29 Hg Prepsheet		
Job Nos: 0223-176							
Prep Date(s): 3/6/23							
Analyst(s) LMP					Instrument: Walt jr		
Calibration Standards and QC					Samples		
Spike Used	Calibration Standard	Spike Amount (mL)	Pip & Exp	Final Vol. (mL)	Sample ID	Aliquot Volume (mL)	Final Vol. (mL)
--	Calibration Blank	--	N/A	50	0223-176.1-3C	10	50
1st WS	Standard 1 - 0.1 ppb	0.1	133 5/9/23	50	.2		50
1st WS	Standard 2 - 1.0 ppb	1.0	134	50	.3		50
1st WS	Standard 3 - 2.0 ppb	2.0	1	50	.4		50
1st WS	Standard 4 - 5.0 ppb	5.0	143	50	.5		50
1st WS	Standard 5 - 10 ppb	10.0	1	50	.6		50
2nd WS	ICV/CCV - 5.0 ppb	5.0	1	50	.7		50
--	ICB/CCB	--	N/A	50	.8		50
Temp (°C): 95.9					Hotplate # 3		
1st WS ID: 3					Exp Date: 3/7/23		
2nd WS ID: 4					Exp Date: 1		
H2SO4 ID: 62252					Exp Date: 10/24		
HNO3 ID: 22380017					Exp Date: 9/24		
KMnO4 ID: ES-0846					Exp Date: 8/27/23		
K2S2O8 ID: ES-0843					Exp Date: 8/24/23		
HAS ID: ES-0840					Exp Date: 8/22/23		
SnCl2 ID: ES-0847					Exp Date: 3/6/23		
H2SO4 Pip & Exp: 139 3/8/23					HNO3 Pip & Exp: 139 3/8/23		
KMnO4 Pip & Exp: 1					K2S2O8 Pip & Exp: 1		
HAS Pip & Exp: 1					Digitube ID: J506384-4932		
LCS Pip & Exp: 143 5/9/23					MS Pip & Exp: 143 5/9/23		
					Digestion Time		
					Start: 7:11 am Finish: 9:11 am		
Quality Control							
QC Sample	Sample ID	Aliq. Vol. (mL)	Final Vol. (mL)	Spike ID	ID Exp Date	Stock Conc	Volume Added (mL)
MB	N/A	20	50	N/A	N/A	N/A	N/A
LCS	N/A	20	50	3	3/7/23	50 ppb	5.0
MS	0223-176.1-3C	10	50	1	1	1	1
Duplicate	1 .2 1	1	50	N/A	N/A	N/A	N/A

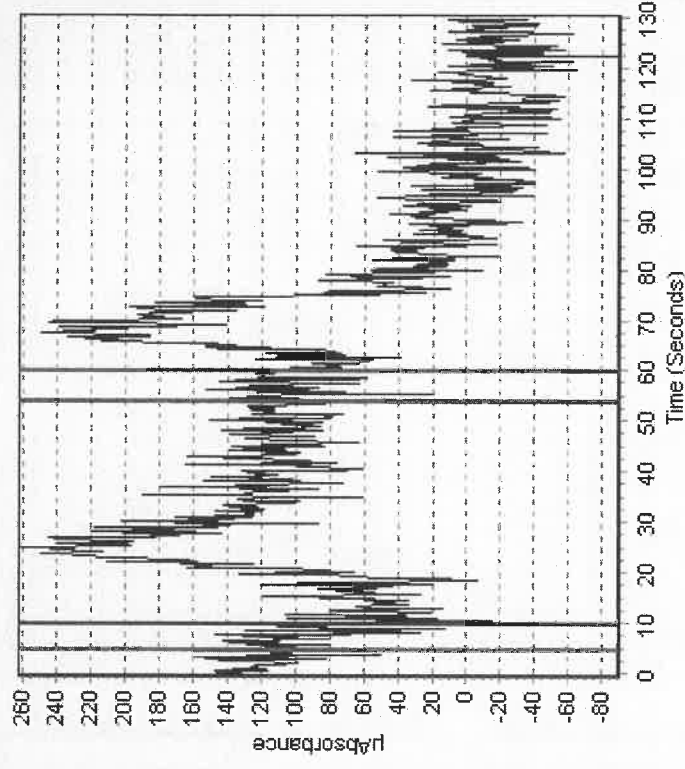
DEE LMP

EA Job# 0223-176R Page 161 of 186

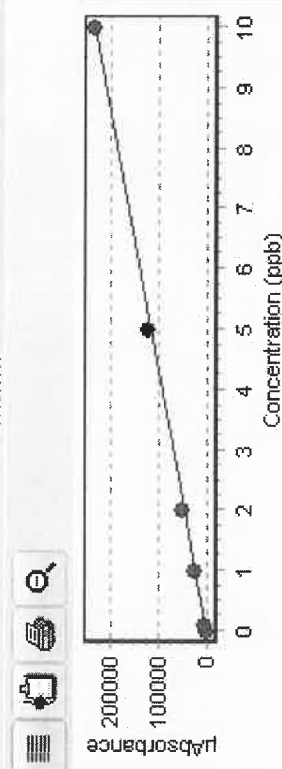


Sample Label	Conc (ppb)	μAbs	%RSD	Flag	%Residual
0223-176.11-3C	0.083	2022.4	0.73		
0223-176.12-3C	0.072	1764.2	0.77		
0223-176.13-3C	0.075	1829.3	0.45		
0223-176.14-3C	0.070	1713.6	1.34		
0223-176.15-3C	0.085	2067.8	1.10		
0223-176.16-3C	0.072	1748.3	1.47		
CCV	5.020	116849.3	0.83		
CCB	-0.003	7.0	18.95		
0223-176.17-3C	0.733	17122.1	1.18		
0223-176.18-3C	0.018	504.9	4.69		
CCV	5.050	117618.6	0.98		
CCB	-0.003	8.7	18.68		

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3/6/2023 10:52 AM	Sample 'CCB' measured. Conc.: -3.2500E-003 ppb (not diln. corrected)
3/6/2023 10:50 AM	QC Sample 'CCV'. Recovery was measured at 100.44 percent
3/6/2023 10:50 AM	Sample 'CCV' measured. Conc.: 5.020 ppb (not diln. corrected)
3/6/2023 10:48 AM	Sample '0223-176.16-3C' measured. Conc.: 7.1600E-002 ppb (not diln. corrected)
3/6/2023 10:45 AM	Sample '0223-176.15-3C' measured. Conc.: 8.5400E-002 ppb (not diln. corrected)
3/6/2023 10:43 AM	Sample '0223-176.14-3C' measured. Conc.: 7.0100E-002 ppb (not diln. corrected)
3/6/2023 10:41 AM	Sample '0223-176.13-3C' measured. Conc.: 7.5100E-002 ppb (not diln. corrected)
3/6/2023 10:38 AM	Sample '0223-176.12-3C' measured. Conc.: 7.2300E-002 ppb (not diln. corrected)



Calibration Coeffs: 23251.55730x + 82.655, R2: 0.99950, RSE: 4.49%

Sample ID	Time Stamp	Sample Type	Dil. Conc.	Average Conc.	%RSD Conc.	Conc. Units
Cal Blank - 0 ug/mL	3/6/2023 9:41	Standard	0	0		0 ppb
Std. 1 - 0.1ug/mL	3/6/2023 9:44	Standard	0.1	0.1		0 ppb
Std. 2 - 1.0 ug/mL	3/6/2023 9:46	Standard	1	1		0 ppb
Std. 3 - 2.0 ug/mL	3/6/2023 9:48	Standard	2	2		0 ppb
Std. 4 - 5.0 ug/mL	3/6/2023 9:50	Standard	5	5		0 ppb
Std. 5 - 10.0 ug/mL	3/6/2023 9:53	Standard	10	10		0 ppb
ICV	3/6/2023 9:55	ICV	5.12	5.12		0 ppb
ICB	3/6/2023 9:57	ICB	-0.005	-0.005		0 ppb
0223-176.LB	3/6/2023 10:00	Unknown	0.009	0.009		0 ppb
0223-176.LCS	3/6/2023 10:02	Unknown	5.08	5.08		0 ppb
0223-176.1-3C	3/6/2023 10:04	Unknown	0.288	0.288		0 ppb
0223-176.1-3C MS	3/6/2023 10:06	Unknown	5.13	5.13		0 ppb
0223-176.2-3C	3/6/2023 10:09	Unknown	0.153	0.153		0 ppb
0223-176.2-3C DUP	3/6/2023 10:11	Unknown	0.156	0.156		0 ppb
0223-176.3-3C	3/6/2023 10:13	Unknown	0.471	0.471		0 ppb
0223-176.4-3C	3/6/2023 10:16	Unknown	0.134	0.134		0 ppb
0223-176.5-3C	3/6/2023 10:18	Unknown	0.072	0.072		0 ppb
0223-176.6-3C	3/6/2023 10:20	Unknown	0.115	0.115		0 ppb
CCV	3/6/2023 10:22	CCV	5.08	5.08		0 ppb
CCB	3/6/2023 10:25	CCB	-0.004	-0.004		0 ppb
0223-176.7-3C	3/6/2023 10:27	Unknown	0.058	0.058		0 ppb
0223-176.8-3C	3/6/2023 10:29	Unknown	0.301	0.301		0 ppb
0223-176.9-3C	3/6/2023 10:32	Unknown	0.02	0.02		0 ppb
0223-176.10-3C	3/6/2023 10:34	Unknown	0.067	0.067		0 ppb
0223-176.11-3C	3/6/2023 10:36	Unknown	0.083	0.083		0 ppb
0223-176.12-3C	3/6/2023 10:38	Unknown	0.072	0.072		0 ppb
0223-176.13-3C	3/6/2023 10:41	Unknown	0.075	0.075		0 ppb
0223-176.14-3C	3/6/2023 10:43	Unknown	0.07	0.07		0 ppb
0223-176.15-3C	3/6/2023 10:45	Unknown	0.085	0.085		0 ppb
0223-176.16-3C	3/6/2023 10:48	Unknown	0.072	0.072		0 ppb
CCV	3/6/2023 10:50	CCV	5.02	5.02		0 ppb
CCB	3/6/2023 10:52	CCB	-0.003	-0.003		0 ppb
0223-176.17-3C	3/6/2023 10:54	Unknown	0.733	0.733		0 ppb
0223-176.18-3C	3/6/2023 10:57	Unknown	0.018	0.018		0 ppb
CCV	3/6/2023 10:59	CCV	5.05	5.05		0 ppb
CCB	3/6/2023 11:01	CCB	-0.003	-0.003		0 ppb

Analyst: LMP

Date: 3/7/23

Job #s

0223-176

Describe Work Documented on This Page

m29 Hg Analysis

Supplies, Ancillary Equipment
Serial #s, Lot #s, Etc

1398A = CVAA std prep log

1398B = m29 Hg prep sheet

NA

Reviewer's Initials & Date:

Metals Prep

EA Job# 0223-176 Rep 138164 of 186

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1398A

CVAA Standard Preparation Log *Stds must be prepared fresh daily

EA Std ID#Hg (Job #1, 2, 3, etc.)	Std/Reagent Name	Conc.	Stock Standard/Reagent	Conc.	EA ID# & Exp Date	Amount Added	Final Volume (mL) & Diluent	Pipette & Exp Date	Analyst	Date	Exp. Date
Primary Intermediate Standard											
1	Primary Int. Std.	1000 ppb	Hg Standard	1000 ppm	F0704 4/28/23	0.10 mL	100 DI	133 5/9/23	LMP	3/7/23	3/8/23
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Secondary Intermediate Standard											
2	Secondary Int. Std.	1000 ppb	Hg Standard (2nd Source)	1000 ppm	F0752 4/28/23	0.10 mL	100 DI	133 5/9/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Primary Working Standard											
3	Primary Working Std.	50 ppb	Primary Int. Std.	1000 ppb	1 3/8/23	5.0 mL	100 DI	143 5/9/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			
Secondary Working Standard											
4	Secondary Working Std.	50 ppb	Secondary Int. Std.	1000 ppb	2 3/8/23	5.0 mL	100 DI	143 5/9/23			
"	"	"	HNO3	67-70%	① 9/24	0.5 mL	"	134 5/9/23			

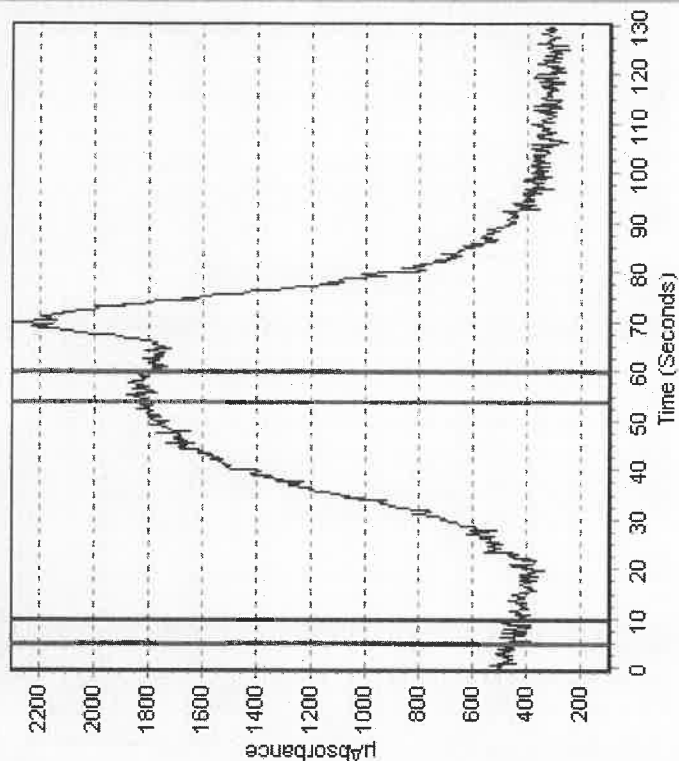
①22380017
 LMP 3/7/23

1398B

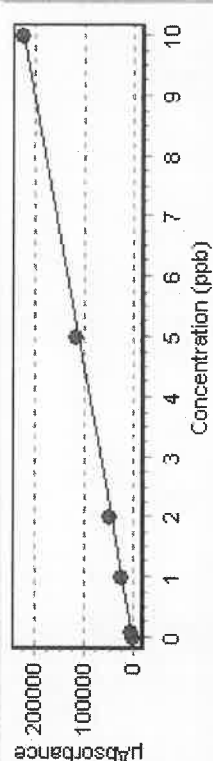
ENTHALPY ANALYTICAL					Method 29 Hg Prepsheet		
Job Nos: 0223-176							
Prep Date(s): 3/7/23							
Analyst(s) LMP					Instrument: walt jr		
Calibration Standards and QC					Samples		
Spike Used	Calibration Standard	Spike Amount (mL)	Pip & Exp	Final Vol. (mL)	Sample ID	Aliquot Volume (mL)	Final Vol. (mL)
--	Calibration Blank	--	N/A	50	0223-176.1-1B	10	50
1st WS	Standard 1 - 0.1 ppb	0.1	133 5/9/23	50	.2		50
1st WS	Standard 2 - 1.0 ppb	1.0	134	50	.3		50
1st WS	Standard 3 - 2.0 ppb	2.0	1	50	.4		50
1st WS	Standard 4 - 5.0 ppb	5.0	143	50	.5		50
1st WS	Standard 5 - 10 ppb	10.0	1	50	.6		50
2nd WS	ICV/CCV - 5.0 ppb	5.0	1	50	.7		50
--	ICB/CCB	--	N/A	50	.8		50
Temp (°C): 95.5					Hotplate # 3		
1st WS ID: 3					Exp Date: 3/8/23		
2nd WS ID: 4					Exp Date: 1		
H2SO4 ID: 62252					Exp Date: 10/24		
HNO3 ID: 22380017					Exp Date: 9/24		
KMnO4 ID: ES-0846					Exp Date: 8/27/23		
K2S2O8 ID: ES-0843					Exp Date: 8/24/23		
HAS ID: ES-0840					Exp Date: 8/22/23		
SnCl2 ID: ES-0854					Exp Date: 3/14/23		
H2SO4 Pip & Exp: 139 3/8/23					HNO3 Pip & Exp: 139 3/8/23		
KMnO4 Pip & Exp: 1					K2S2O8 Pip & Exp: 1		
HAS Pip & Exp: 1					Digitube ID: J506384-4932		
LCS Pip & Exp: 143 5/9/23					MS Pip & Exp: 143 5/9/23		
					Digestion Time		
					Start: 8:02am Finish: 10:02am		
Quality Control							
QC Sample	Sample ID	Aliq. Vol. (mL)	Final Vol. (mL)	Spike ID	ID Exp Date	Stock Conc	Volume Added (mL)
MB	N/A	20	50	N/A	N/A	N/A	N/A
LCS	N/A	20	50	3	3/8/23	50 ppb	5.0
MS	0223-176.1-1B	10	50	1	1	1	1
Duplicate	1 .2 1	1	50	N/A	N/A	N/A	N/A



Sample Label	Conc (ppb)	µAbs	%RSD	Flag	%Residual
Cal Blank - 0 ug/mL	0.000	1478.8	0.57		
Std. 1 - 0.1 ug/mL	0.100	4242.6	0.24		24.91
Std. 2 - 1.0 ug/mL	1.000	24884.2	0.27		5.78
Std. 3 - 2.0 ug/mL	2.000	47391.0	0.29		3.75
Std. 4 - 5.0 ug/mL	5.000	114661.4	0.45		2.30
Std. 5 - 10.0 ug/mL	10.000	221015.6	0.51		-0.79
S:7 ICV	5.090	114196.5	0.37		
S:8 ICB	-0.004	1383.8	11.64		
1:1 0223-176.LB	0.658	16042.2	0.24		
3:2 0223-176.LCS	4.970	111515.1	0.47		
1:3 0223-176.1-1B	-0.018	1077.0	3.41		
1:4 0223-176.1-1B MS	4.650	104464.8	0.70		
1:5 0223-176.2-1B	-0.048	419.7	3.43		
1:6 0223-176.2-1B DUP	-0.014	1175.6	5.71		
1:7 0223-176.3-1B	-0.031	793.7	0.58		
1:8 0223-176.4-1B	-0.020	1032.2	3.33		
1:9 0223-176.5-1B	0.010	1067.3	2.61		



3/7/2023 12:05 PM	Worksheet Saved
3/7/2023 12:04 PM	Analysis completed normally
3/7/2023 12:04 PM	Sample 'CCB' measured. Conc.: -3.8400E-003 ppb (not diln. corrected)
3/7/2023 12:02 PM	QC Sample 'CCV'. Recovery was measured at 102.92 percent
3/7/2023 12:02 PM	Sample 'CCV' measured. Conc.: 5.150 ppb (not diln. corrected)
3/7/2023 12:00 PM	Sample '0223-176.LB Repour' measured. Conc.: 1.2700E-003 ppb (not diln. corrected)
3/7/2023 11:57 AM	Worksheet Saved
3/7/2023 11:56 AM	Analysis Aborted by Operator



Calibration Coeffs: 22127.43463x + 1478.756, R2: 0.99954, RSE: 14.98%

Sample ID	Time Stamp	Sample Type	Average Conc	%RSD Conc.	Conc. Units
Cal Blank - 0 ug/mL	3/7/2023 10:34	Standard	0	0	ppb
Std. 1 - 0.1ug/mL	3/7/2023 10:37	Standard	0.1	0	ppb
Std. 2 - 1.0 ug/mL	3/7/2023 10:39	Standard	1	0	ppb
Std. 3 - 2.0 ug/mL	3/7/2023 10:41	Standard	2	0	ppb
Std. 4 - 5.0 ug/mL	3/7/2023 10:43	Standard	5	0	ppb
Std. 5 - 10.0 ug/mL	3/7/2023 10:46	Standard	10	0	ppb
ICV	3/7/2023 10:48	ICV	5.09	0	ppb
ICB	3/7/2023 10:50	ICB	-0.004	0	ppb
0223-176.LB	3/7/2023 10:53	Unknown	0.658 ^①	0	ppb
0223-176.LCS	3/7/2023 10:55	Unknown	4.97	0	ppb
0223-176.1-1B	3/7/2023 10:57	Unknown	-0.018	0	ppb
0223-176.1-1B MS	3/7/2023 10:59	Unknown	4.65	0	ppb
0223-176.2-1B	3/7/2023 11:02	Unknown	-0.048	0	ppb
0223-176.2-1B DUP	3/7/2023 11:04	Unknown	-0.014	0	ppb
0223-176.3-1B	3/7/2023 11:06	Unknown	-0.031	0	ppb
0223-176.4-1B	3/7/2023 11:09	Unknown	-0.02	0	ppb
0223-176.5-1B	3/7/2023 11:11	Unknown	-0.019	0	ppb
0223-176.6-1B	3/7/2023 11:13	Unknown	-0.016	0	ppb
CCV	3/7/2023 11:15	CCV	5.06	0	ppb
CCB	3/7/2023 11:18	CCB	-0.007	0	ppb
0223-176.7-1B	3/7/2023 11:20	Unknown	-0.021	0	ppb
0223-176.8-1B	3/7/2023 11:22	Unknown	-0.017	0	ppb
0223-176.9-1B	3/7/2023 11:25	Unknown	-0.027	0	ppb
0223-176.10-1B	3/7/2023 11:27	Unknown	-0.028	0	ppb
0223-176.11-1B	3/7/2023 11:29	Unknown	-0.023	0	ppb
0223-176.12-1B	3/7/2023 11:32	Unknown	-0.031	0	ppb
0223-176.13-1B	3/7/2023 11:34	Unknown	-0.03	0	ppb
0223-176.14-1B	3/7/2023 11:36	Unknown	-0.031	0	ppb
0223-176.15-1B	3/7/2023 11:39	Unknown	-0.03	0	ppb
0223-176.16-1B	3/7/2023 11:41	Unknown	-0.027	0	ppb
CCV	3/7/2023 11:43	CCV	5.09	0	ppb
CCB	3/7/2023 11:46	CCB	-0.005	0	ppb
0223-176.17-1B	3/7/2023 11:48	Unknown	-0.025	0	ppb
0223-176.18-1B	3/7/2023 11:50	Unknown	-0.029	0	ppb
0223-176.LB Repour	3/7/2023 12:00	Unknown	0.001 ^①	0	ppb
CCV	3/7/2023 12:02	CCV	5.15	0	ppb
CCB	3/7/2023 12:04	CCB	-0.004	0	ppb

① See repour + reanalysis

NR 3/14/23

Location: _____

Drawer: _____

Analyst: LMP

Cabinet: _____

Folder: _____

Date: 2/27/23

Job #s

0123-099

0223-176

Describe Work Documented on This Page

m29 Hg Analysis

Walt Jr 201A = Analytical Sequence
↓ 201B ↓

Supplies, Ancillary Equipment
Serial #s, Lot #s, Etc

NA

Reviewer's Initials & Date:

Walt Jr.
page 201

EA Job# 0223-176R Page 169 of 186

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Walt jr 2013

Sample ID	Time Stamp	Sample Type
Cal Blank - 0 ug/mL	2/27/2023 12:21	Standard
Std. 1 - 0.1ug/mL	2/27/2023 12:24	Standard
Std. 2 - 1.0 ug/mL	2/27/2023 12:26	Standard
Std. 3 - 2.0 ug/mL	2/27/2023 12:28	Standard
Std. 4 - 5.0 ug/mL	2/27/2023 12:31	Standard
Std. 5 - 10.0 ug/mL	2/27/2023 12:33	Standard
ICV	2/27/2023 12:35	ICV
ICB	2/27/2023 12:37	ICB
0223-176.LB	2/27/2023 12:40	Unknown
0223-176.LCS	2/27/2023 12:42	Unknown
0223-176.1-3A	2/27/2023 12:44	Unknown
0223-176.1-3A MS	2/27/2023 12:46	Unknown
0223-176.2-3A	2/27/2023 12:49	Unknown
0223-176.2-3A DUP	2/27/2023 12:51	Unknown
0223-176.3-3A	2/27/2023 12:53	Unknown
0223-176.4-3A	2/27/2023 12:56	Unknown
0223-176.5-3A	2/27/2023 12:58	Unknown
0223-176.6-3A	2/27/2023 13:00	Unknown
CCV	2/27/2023 13:02	CCV
CCB	2/27/2023 13:05	CCB
0223-176.7-3A	2/27/2023 13:07	Unknown
0223-176.8-3A	2/27/2023 13:09	Unknown
0223-176.9-3A	2/27/2023 13:12	Unknown
0223-176.10-3A	2/27/2023 13:14	Unknown
0223-176.11-3A	2/27/2023 13:16	Unknown
0223-176.12-3A	2/27/2023 13:18	Unknown
0223-176.13-3A	2/27/2023 13:21	Unknown
0223-176.14-3A	2/27/2023 13:23	Unknown
0223-176.15-3A	2/27/2023 13:25	Unknown
0223-176.16-3A	2/27/2023 13:28	Unknown
CCV	2/27/2023 13:30	CCV
CCB	2/27/2023 13:32	CCB
0223-176.17-3A	2/27/2023 13:34	Unknown
0223-176.18-3A	2/27/2023 13:37	Unknown
CCV	2/27/2023 13:39	CCV
CCB	2/27/2023 13:41	CCB

Location: _____

Drawer: _____

Analyst: LMP

Cabinet: _____

Folder: _____

Date: 2/28/23

Job #s	Describe Work Documented on This Page
0223-176	m29 Hy Analysis
waitjr 203A = Analytical Sequence	
Supplies, Ancillary Equipment Serial #s, Lot #s, Etc	
NA	

Reviewer's Initials & Date:

Walt Jr.
page 203



wait jr 203A

Sample ID	Time Stamp	Sample Type
Cal Blank - 0 ug/mL	2/28/2023 10:01	Standard
Std. 1 - 0.1ug/mL	2/28/2023 10:03	Standard
Std. 2 - 1.0 ug/mL	2/28/2023 10:05	Standard
Std. 3 - 2.0 ug/mL	2/28/2023 10:07	Standard
Std. 4 - 5.0 ug/mL	2/28/2023 10:10	Standard
Std. 5 - 10.0 ug/mL	2/28/2023 10:12	Standard
ICV	2/28/2023 10:14	ICV
ICB	2/28/2023 10:17	ICB
0223-176.LB	2/28/2023 10:19	Unknown
0223-176.LCS	2/28/2023 10:21	Unknown
0223-176.1-2B	2/28/2023 10:23	Unknown
0223-176.1-2B MS	2/28/2023 10:26	Unknown
0223-176.2-2B	2/28/2023 10:28	Unknown
0223-176.2-2B DUP	2/28/2023 10:30	Unknown
0223-176.3-2B	2/28/2023 10:33	Unknown
0223-176.4-2B	2/28/2023 10:35	Unknown
0223-176.5-2B	2/28/2023 10:37	Unknown
0223-176.6-2B	2/28/2023 10:39	Unknown
CCV	2/28/2023 10:42	CCV
CCB	2/28/2023 10:44	CCB
0223-176.7-2B	2/28/2023 10:46	Unknown
0223-176.8-2B	2/28/2023 10:49	Unknown
0223-176.9-2B	2/28/2023 10:51	Unknown
0223-176.10-2B	2/28/2023 10:53	Unknown
0223-176.11-2B	2/28/2023 10:55	Unknown
0223-176.12-2B	2/28/2023 10:58	Unknown
0223-176.13-2B	2/28/2023 11:00	Unknown
0223-176.14-2B	2/28/2023 11:02	Unknown
0223-176.15-2B	2/28/2023 11:04	Unknown
0223-176.16-2B	2/28/2023 11:07	Unknown
CCV	2/28/2023 11:09	CCV
CCB	2/28/2023 11:11	CCB
0223-176.17-2B	2/28/2023 11:14	Unknown
0223-176.18-2B	2/28/2023 11:16	Unknown
CCV	2/28/2023 11:18	CCV
CCB	2/28/2023 11:21	CCB

Location: _____

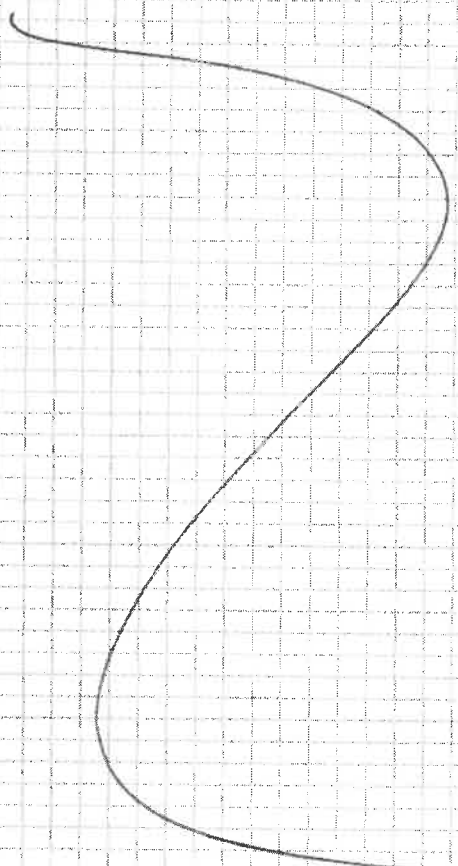
Drawer: _____

Analyst: LMP

Cabinet: _____

Folder: _____

Date: 3/1/23

Job #s 0223 -176	Describe Work Documented on This Page m29 Hg Analysis
<p>Walt Jr 204A = Analytical Sequence</p> 	
Supplies, Ancillary Equipment Serial #s, Lot #s, Etc NA	

Reviewer's Initials & Date:

Walt Jr.
page 204



walt jr 204A

Sample ID	Time Stamp
Cal Blank - 0 ug/mL	3/1/2023 11:10
Std. 1 - 0.1ug/mL	3/1/2023 11:13
Std. 2 - 1.0 ug/mL	3/1/2023 11:15
Std. 3 - 2.0 ug/mL	3/1/2023 11:17
Std. 4 - 5.0 ug/mL	3/1/2023 11:19
Std. 5 - 10.0 ug/mL	3/1/2023 11:22
ICV	3/1/2023 11:24
ICB	3/1/2023 11:26
0223-176.LB	3/1/2023 11:29
0223-176.LCS	3/1/2023 11:31
0223-176.1-3B	3/1/2023 11:33
0233-176.1-3B MS	3/1/2023 11:35
0223-176.2-3B	3/1/2023 11:38
0223-176.2-3B DUP	3/1/2023 11:40
0223-176.3-3B	3/1/2023 11:42
0223-176.4-3B	3/1/2023 11:45
0223-176.5-3B	3/1/2023 11:47
0223-176.6-3B	3/1/2023 11:49
CCV	3/1/2023 11:51
CCB	3/1/2023 11:54
0223-176.7-3B	3/1/2023 11:56
0223-176.8-3B	3/1/2023 11:58
0223-176.9-3B	3/1/2023 12:01
0223-176.10-3B	3/1/2023 12:03
0223-176.11-3B	3/1/2023 12:05
0223-176.12-3B	3/1/2023 12:07
0223-176.13-3B	3/1/2023 12:10
0223-176.14-3B	3/1/2023 12:12
0223-176.15-3B	3/1/2023 12:14
0223-176.16-3B	3/1/2023 12:16
CCV	3/1/2023 12:19
CCB	3/1/2023 12:21
0223-176.17-3B	3/1/2023 12:23
0223-176.18-3B	3/1/2023 12:26
CCV	3/1/2023 12:28
CCB	3/1/2023 12:30

Location: _____

Drawer: _____

Analyst: LMP

Cabinet: _____

Folder: _____

Date: 3/16/23

Job #s

0223-176

Describe Work Documented on This Page

m29 Hg Analysis

Walt Jr 205 A = Analytical Sequence

Supplies, Ancillary Equipment
Serial #s, Lot #s, Etc

NA

Reviewer's Initials & Date:

Walt Jr.
page 205

EA Job# 0223-176R Page 175 of 186

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Walt Jr 205A

Sample ID	Time Stamp	Sample Type
Cal Blank - 0 ug/mL	3/6/2023 9:41	Standard
Std. 1 - 0.1ug/mL	3/6/2023 9:44	Standard
Std. 2 - 1.0 ug/mL	3/6/2023 9:46	Standard
Std. 3 - 2.0 ug/mL	3/6/2023 9:48	Standard
Std. 4 - 5.0 ug/mL	3/6/2023 9:50	Standard
Std. 5 - 10.0 ug/mL	3/6/2023 9:53	Standard
ICV	3/6/2023 9:55	ICV
ICB	3/6/2023 9:57	ICB
0223-176.LB	3/6/2023 10:00	Unknown
0223-176.LCS	3/6/2023 10:02	Unknown
0223-176.1-3C	3/6/2023 10:04	Unknown
0223-176.1-3C MS	3/6/2023 10:06	Unknown
0223-176.2-3C	3/6/2023 10:09	Unknown
0223-176.2-3C DUP	3/6/2023 10:11	Unknown
0223-176.3-3C	3/6/2023 10:13	Unknown
0223-176.4-3C	3/6/2023 10:16	Unknown
0223-176.5-3C	3/6/2023 10:18	Unknown
0223-176.6-3C	3/6/2023 10:20	Unknown
CCV	3/6/2023 10:22	CCV
CCB	3/6/2023 10:25	CCB
0223-176.7-3C	3/6/2023 10:27	Unknown
0223-176.8-3C	3/6/2023 10:29	Unknown
0223-176.9-3C	3/6/2023 10:32	Unknown
0223-176.10-3C	3/6/2023 10:34	Unknown
0223-176.11-3C	3/6/2023 10:36	Unknown
0223-176.12-3C	3/6/2023 10:38	Unknown
0223-176.13-3C	3/6/2023 10:41	Unknown
0223-176.14-3C	3/6/2023 10:43	Unknown
0223-176.15-3C	3/6/2023 10:45	Unknown
0223-176.16-3C	3/6/2023 10:48	Unknown
CCV	3/6/2023 10:50	CCV
CCB	3/6/2023 10:52	CCB
0223-176.17-3C	3/6/2023 10:54	Unknown
0223-176.18-3C	3/6/2023 10:57	Unknown
CCV	3/6/2023 10:59	CCV
CCB	3/6/2023 11:01	CCB

Location: _____

Drawer: _____

Analyst: LMP

Cabinet: _____

Folder: _____

Date: 3/7/23

Job #s

0223-176
0123-137

Describe Work Documented on This Page

m29 Hg Analysis

Walt Jr 206A = Analytical Sequence

↓ 206B = ↓

Supplies, Ancillary Equipment
Serial #s, Lot #s, Etc

NA

Reviewer's Initials & Date:

Walt Jr.
page 206

EA Job# 0223-176R Page 177 of 186

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walt jr 206B

Sample ID	Time Stamp	Sample Type
Cal Blank - 0 ug/mL	3/7/2023 10:34	Standard
Std. 1 - 0.1ug/mL	3/7/2023 10:37	Standard
Std. 2 - 1.0 ug/mL	3/7/2023 10:39	Standard
Std. 3 - 2.0 ug/mL	3/7/2023 10:41	Standard
Std. 4 - 5.0 ug/mL	3/7/2023 10:43	Standard
Std. 5 - 10.0 ug/mL	3/7/2023 10:46	Standard
ICV	3/7/2023 10:48	ICV
ICB	3/7/2023 10:50	ICB
0223-176.LB	3/7/2023 10:53	Unknown
0223-176.LCS	3/7/2023 10:55	Unknown
0223-176.1-1B	3/7/2023 10:57	Unknown
0223-176.1-1B MS	3/7/2023 10:59	Unknown
0223-176.2-1B	3/7/2023 11:02	Unknown
0223-176.2-1B DUP	3/7/2023 11:04	Unknown
0223-176.3-1B	3/7/2023 11:06	Unknown
0223-176.4-1B	3/7/2023 11:09	Unknown
0223-176.5-1B	3/7/2023 11:11	Unknown
0223-176.6-1B	3/7/2023 11:13	Unknown
CCV	3/7/2023 11:15	CCV
CCB	3/7/2023 11:18	CCB
0223-176.7-1B	3/7/2023 11:20	Unknown
0223-176.8-1B	3/7/2023 11:22	Unknown
0223-176.9-1B	3/7/2023 11:25	Unknown
0223-176.10-1B	3/7/2023 11:27	Unknown
0223-176.11-1B	3/7/2023 11:29	Unknown
0223-176.12-1B	3/7/2023 11:32	Unknown
0223-176.13-1B	3/7/2023 11:34	Unknown
0223-176.14-1B	3/7/2023 11:36	Unknown
0223-176.15-1B	3/7/2023 11:39	Unknown
0223-176.16-1B	3/7/2023 11:41	Unknown
CCV	3/7/2023 11:43	CCV
CCB	3/7/2023 11:46	CCB
0223-176.17-1B	3/7/2023 11:48	Unknown
0223-176.18-1B	3/7/2023 11:50	Unknown
0223-176.LB Repour	3/7/2023 12:00	Unknown
CCV	3/7/2023 12:02	CCV
CCB	3/7/2023 12:04	CCB

Calculation of MDL per SOP ENT-027 Enter values into the highlighted cells.

Date Analyzed 8/5/22
Analyst R Burnette
Date Reviewed 8/15/22
Reviewed By AMC

Instrument Walt Jr
Logbook Page Metals Prep 1015
Injector (F/R) NA
Column NA
Injector (F/R) NA
Column NA

Seven (or more) replicates of a low concentration peak (farthest from the mean area) may be removed assuming the value(s) to be an outlier. At least

MDL = S_{id} * Student's t-value

t-value = 3.143 N=7 Degrees of Freedom
t-value = 2.998 N=8 Degrees of Freedom
t-value = 2.896 N=9 Degrees of Freedom
t-value = 2.821 N=10 Degrees of Freedom

Job # (s)
Applicable Method(s) 7470 & EPA Method 29 & EPA Method 101A
Matrix
Solvent

Compound #	1	2	3	4	5
Compound Name	Hg				
Notes (if needed)					

Units	ppb	ppb	ppb	ppb	ppb
Test Std Concentrations	#1 0.10300 #2 0.10200 #3 0.08500 #4 0.09800 #5 0.11100 #6 0.12600 #7 0.12000 #8 0.10900 #9 #10	#1 0.00000 #2 0.00000 #3 0.00000 #4 0.00000 #5 0.00000 #6 0.00000 #7 0.00000 #8 0.00000 #9 0.00000 #10 0.00000	#1 0.00000 #2 0.00000 #3 0.00000 #4 0.00000 #5 0.00000 #6 0.00000 #7 0.00000 #8 0.00000 #9 0.00000 #10 0.00000	#1 0.00000 #2 0.00000 #3 0.00000 #4 0.00000 #5 0.00000 #6 0.00000 #7 0.00000 #8 0.00000 #9 0.00000 #10 0.00000	#1 0.00000 #2 0.00000 #3 0.00000 #4 0.00000 #5 0.00000 #6 0.00000 #7 0.00000 #8 0.00000 #9 0.00000 #10 0.00000
Standard Deviation	0.0128	0.0000	0.0000	0.0000	0.0000
Student's T factor	2.998	2.821	2.821	2.821	2.821
Calculated MDL = S _{id} * t	0.039	0.000	0.000	0.000	0.000
Slope of Cal Curve	0.99989	0.00000	0.00000	0.00000	0.00000
Integration Area Reject	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Lowest Integratable Conc.	0.000	0	0	0	0
Concentration of Std	0.100	0.000	0.000	0.000	0.000
Lowest Part 136 App B value*	0.010	0.000	0.000	0.000	0.000
MDL value <1/10 Std Value?	Pass	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MDL to Use	USE 0.03852	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MDL to use	USE 0.050 due to noise	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

*40 CFR Part 136 Appendix B, a common detection limit guidance, indicates that the MDL can not be <1/10th the standard used to set the MDL. MDL to use is the maximum of the Calculated MDL, lowest integratable concentration and the Lowest Part 136 B value.

1015B

Analyst: RAB

Date: 8/5/22

Job #s

0722-161, MOL Study

Describe Work Documented on This Page

M29 Hg Prep

1015 A: CVAA Standard Preparation Log

1015 B: Method 29 Hg Prepsheet

Supplies, Ancillary Equipment
Serial #s, Lot #s, Etc

N/A

Reviewer's Initials & Date:

Metals Prep
page 1015

EA Job# 0223-176R Page 180 of 186

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CVAA Standard Preparation Log *stds must be prepared fresh daily

EA Std ID#Hg (Job #, 1, 2, 3, etc.)	Std/Reagent Name	Conc.	Stock Standard/Reagent	Conc.	EA ID# & Exp Date	Amount Added	Final Volume (mL) & Diluent	Pipette & Exp Date	Analyst	Date	Exp. Date
Primary Intermediate Standard											
1	Primary Int. Std.	1000 ppb	Hg Standard	1000 ppm	F0794 10/1/23	0.10 mL	100 DI	133 9/7/22	RAB	8/5/22	8/6/22
2	"	"	HNO3	67-70%	XA2089056 3-24	0.5 mL	"	134 9/7/22			
Secondary Intermediate Standard											
3	Secondary Int. Std.	1000 ppb	Hg Standard (2ml Source)	1000 ppm	F0764 4/28/23	0.10 mL	100 DI	133 9/7/22			
4	"	"	HNO3	67-70%	XA2089056 3-24	0.5 mL	"	134 9/7/22			
Primary Working Standard											
5	Primary Working Std.	50 ppb	Primary Int. Std.	1000 ppb	① 8/6/22	5.0 mL	100 DI	141 9/6/22			
6	"	"	HNO3	67-70%	XA2089056 3-24	0.5 mL	"	134 9/7/22			
Secondary Working Standard											
7	Secondary Working Std.	50 ppb	Secondary Int. Std.	1000 ppb	2 8/6/22	5.0 mL	100 DI	141 9/6/22			
8	"	"	HNO3	67-70%	XA2089056 3-24	0.5 mL	"	134 9/7/22			

ENTHALPY ANALYTICAL					Method 29 Hg Prepsheet		
Job Nos: 0722-161, MDL Study							
Prep Date(s): 8/5/22							
Analyst(s) RAB					Instrument: Walt Jr.		
Calibration Standards and QC					Samples		
Spike Used	Calibration Standard	Spike Amount (mL)	Pip & Exp	Final Vol. (mL)	Sample ID	Aliquot Volume (mL)	Final Vol. (mL)
--	Calibration Blank	--		50	0722-161.1-1B	10.0	50
1st WS	Standard 1 - 0.1 ppb	0.1	133 9/7/22	50	.2		50
1st WS	Standard 2 - 1.0 ppb	1.0	134 9/7/22	50	.3		50
1st WS	Standard 3 - 2.0 ppb	2.0	1	50	.4		50
1st WS	Standard 4 - 5.0 ppb	5.0	141 9/6/22	50	MDL, 1	0.1 ①	50
1st WS	Standard 5 - 10 ppb	10.0	1	50	.2		50
2nd WS	ICV/CCV - 5.0 ppb	5.0	1	50	.3		50
--	ICB/CCB	--		50	.4		50
Temp (°C): 95.1 Hotplate # 3					.5		50
1st WS ID: 3 Exp Date: 8/6/22					.6		50
2nd WS ID: 4 Exp Date: 8/6/22					.7		50
H2SO4 ID: SCA 134 9977 Exp Date: 6/24 ②					.8		50
HNO3 ID: SCA 208 9036 Exp Date: 3-24							50
KMnO4 ID: ES-0689 Exp Date: 2/3/23							50
K2S2O8 ID: ES-0689 ③ Exp Date: 2/3/23 ④							50
HAS ID: ES-0675 Exp Date: 1/19/23							50
SnCl2 ID: ES-0688 Exp Date: 8/7/22							50
H2SO4 Pip & Exp: 139 9/7/22 HNO3 Pip & Exp: 139 9/7/22							50
KMnO4 Pip & Exp: 1 K2S2O8 Pip & Exp: 1							50
HAS Pip & Exp: 1 Digitube ID: J 537215-2104							50
LCS Pip & Exp: 141 9/6/22 MS Pip & Exp: 141 9/6/22					Digestion Time		
					Start: 9:57 AM Finish: 11:57 AM		
Quality Control							
QC Sample	Sample ID	Aliq. Vol. (mL)	Final Vol. (mL)	Spike ID	ID Exp Date	Stock Conc	Volume Added (mL)
MB	N/A	20	50	N/A	N/A	N/A	N/A
LCS	N/A	20	50	3	8/6/22	50 ppb	5.0
MS	0722-161.1-1B	10.0	50	1	1	1	1
Duplicate	1 .2 1	1	50	N/A	N/A	N/A	N/A

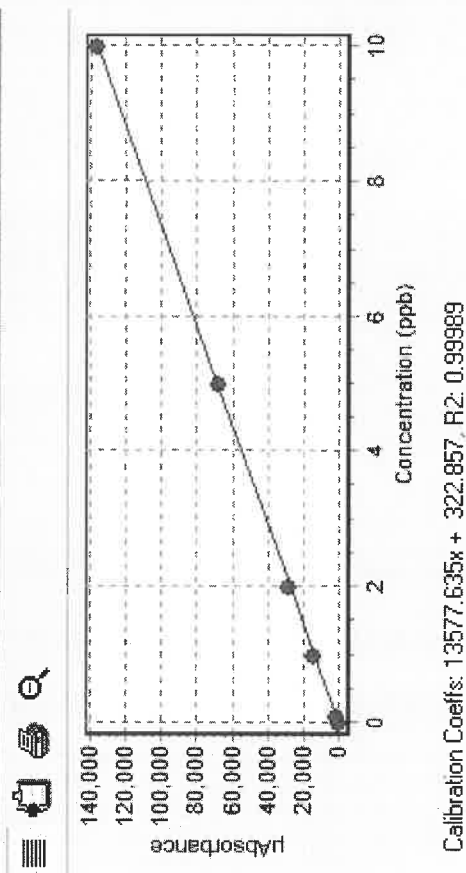
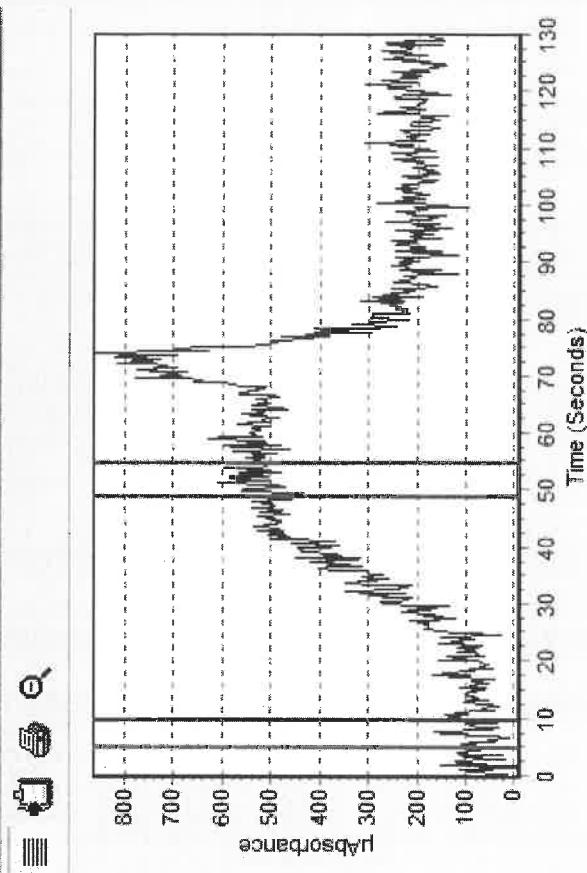
Sample ID	Time Stamp	Sample Type	Average Conc.	%RSD Conc.	Conc. Units
Cal Blank - 0 ug/mL	8/5/2022 12:42	Standard	0	0	ppb
Std. 1 - 0.1ug/mL	8/5/2022 12:45	Standard	0.1	0	ppb
Std. 2 - 1.0 ug/mL	8/5/2022 12:47	Standard	1	0	ppb
Std. 3 - 2.0 ug/mL	8/5/2022 12:49	Standard	2	0	ppb
Std. 4 - 5.0 ug/mL	8/5/2022 12:51	Standard	5	0	ppb
Std. 5 - 10.0 ug/mL	8/5/2022 12:54	Standard	10	0	ppb
ICV	8/5/2022 12:56	ICV	5.12	0.001	ppb
ICB	8/5/2022 12:58	ICB	0.011	0.014	ppb
0722-161.LB	8/5/2022 13:01	Unknown	0	0.79	ppb
0722-161.LCS	8/5/2022 13:03	Unknown	5.01	0.001	ppb
MDL.1	8/5/2022 13:05	Unknown	0.103	0.001	ppb
MDL.2	8/5/2022 13:08	Unknown	0.102	0.001	ppb
MDL.3	8/5/2022 13:10	Unknown	0.085	0.002	ppb
MDL.4	8/5/2022 13:12	Unknown	0.098	0.001	ppb
MDL.5	8/5/2022 13:14	Unknown	0.111	0.002	ppb
MDL.6	8/5/2022 13:17	Unknown	0.126	0.001	ppb
MDL.7	8/5/2022 13:19	Unknown	0.12	0.001	ppb
MDL.8	8/5/2022 13:21	Unknown	0.109	0.002	ppb
CCV	8/5/2022 13:24	CCV	5.43	0.001	ppb
CCB	8/5/2022 13:26	CCB	-0.002	0.04	ppb
0722-161.1-1B	8/5/2022 13:28	Unknown	0.035	0.006	ppb
0722-161.1-1B MS	8/5/2022 13:31	Unknown	4.86	0.001	ppb
0722-161.2-1B	8/5/2022 13:33	Unknown	0.057	0.002	ppb
0722-161.2-1B DUP	8/5/2022 13:35	Unknown	0.063	0.002	ppb
0722-161.3-1B	8/5/2022 13:37	Unknown	0.011	0.006	ppb
0722-161.4-1B	8/5/2022 13:40	Unknown	0.036	0.002	ppb
CCV	8/5/2022 13:42	CCV	4.65	0.001	ppb
CCB	8/5/2022 13:44	CCB	0.01	0.005	ppb



Analysis

Tube	Sample Label	Conc. ppb	µAbs	Flag	%RSD Abs
1:8	MDL6	0.126	2033.18		0.6
1:9	MDL7	0.120	1950.14		1.0
1:10	MDL8	0.109	1807.27		1.7
S:7	CCV	5.430	74077.57		0.5
S:8	CCB	-0.002	293.35		4.0
1:11	0722-161.1-1B	0.035	793.29		3.7
1:12	0722-161.1-1B MS	4.860	66267.06		1.1
1:13	0722-161.2-1B	0.057	1102.79		1.4
1:14	0722-161.2-1B DUP	0.063	1170.92		1.7
1:15	0722-161.3-1B	0.011	471.68		1.9
1:16	0722-161.4-1B	0.036	807.84		1.2
S:7	CCV	4.650	63482.34		1.2
S:8	CCB	0.010	460.20		1.4

Worksheet Saved
 8/5/2022 1:44:48 PM Sample 'CCB' measured. Conc.: 1.0100E-002 ppb (not dlin. correct)
 8/5/2022 1:44:48 PM QC Sample 'CCV' recovery was measured at 93.03 percent
 8/5/2022 1:42:28 PM Sample 'CCV' measured. Conc.: 4.650 ppb (not dlin. corrected)
 8/5/2022 1:42:28 PM Sample '0722-161.4-1B' measured. Conc.: 3.5700E-002 ppb (not
 8/5/2022 1:40:08 PM Sample '0722-161.3-1B' measured. Conc.: 1.1000E-002 ppb (not
 8/5/2022 1:37:52 PM Sample '0722-161.2-1B DUP' measured. Conc.: 6.2500E-002 ppb
 8/5/2022 1:35:36 PM Sample '0722-161.2-1B' measured. Conc.: 5.7400E-002 ppb (not
 8/5/2022 1:33:21 PM Sample '0722-161.1-1B MS' measured. Conc.: 4.860 ppb (not dlin
 8/5/2022 1:31:05 PM Sample '0722-161.1-1B' measured. Conc.: 3.4600E-002 ppb (not
 8/5/2022 1:28:47 PM Sample 'CCB' measured. Conc.: 2.1700E-003 ppb (not dlin. correct)
 8/5/2022 1:26:28 PM QC Sample 'CCV' recovery was measured at 108.64 percent



Walt Jr Pg 117A

JSS
8/5/22

Sheet1

Sample ID	Time Stamp	Sample Type
Cal Blank - 0 ug/mL	8/5/2022 12:42:51 PM	Standard
Std. 1 - 0.1ug/mL	8/5/2022 12:45:07 PM	Standard
Std. 2 - 1.0 ug/mL	8/5/2022 12:47:24 PM	Standard
Std. 3 - 2.0 ug/mL	8/5/2022 12:49:41 PM	Standard
Std. 4 - 5.0 ug/mL	8/5/2022 12:51:59 PM	Standard
Std. 5 - 10.0 ug/mL	8/5/2022 12:54:19 PM	Standard
ICV	8/5/2022 12:56:38 PM	ICV
ICB	8/5/2022 12:58:59 PM	ICB
0722-161.LB	8/5/2022 1:01:14 PM	Unknown
0722-161.LCS	8/5/2022 1:03:30 PM	Unknown
MDL.1	8/5/2022 1:05:46 PM	Unknown
MDL.2	8/5/2022 1:08:03 PM	Unknown
MDL.3	8/5/2022 1:10:20 PM	Unknown
MDL.4	8/5/2022 1:12:37 PM	Unknown
MDL.5	8/5/2022 1:14:54 PM	Unknown
MDL.6	8/5/2022 1:17:12 PM	Unknown
MDL.7	8/5/2022 1:19:30 PM	Unknown
MDL.8	8/5/2022 1:21:48 PM	Unknown
CCV	8/5/2022 1:24:08 PM	CCV
CCB	8/5/2022 1:26:28 PM	CCB
0722-161.1-1B	8/5/2022 1:28:47 PM	Unknown
0722-161.1-1B MS	8/5/2022 1:31:05 PM	Unknown
0722-161.2-1B	8/5/2022 1:33:21 PM	Unknown
0722-161.2-1B DUP	8/5/2022 1:35:36 PM	Unknown
0722-161.3-1B	8/5/2022 1:37:52 PM	Unknown
0722-161.4-1B	8/5/2022 1:40:08 PM	Unknown
CCV	8/5/2022 1:42:28 PM	CCV
CCB	8/5/2022 1:44:48 PM	CCB

**This Is The Last Page
Of This Report.**



Appendix A.5

EPA Method 320 Data

**Sunshine Canyon Landfill
Sylmar, CA
Turbine 4 & Turbine 5
USEPA Method 320 Testing**

**February 7, 8, 14 & 15, 2023
PROJ-023392**

By

Phillip Kauppi
District Manager / Chemist

April 12, 2023

**Sunshine Canyon Landfill
Sylmar, CA
Turbine 4 & Turbine 5
USEPA Method 320 Testing
February 7, 8, 14 & 15, 2023
PROJ-023392**

Scope

Montrose Air Quality Services (MAQS, Mt. Pleasant, MI) was contracted to conduct emissions testing on Turbine 4 and Turbine 5 at Sunshine Canyon Landfill in Sylmar, CA. Testing was performed February 7, 8, 14 and 15, 2023 to determine concentrations of gaseous formaldehyde (CH₂O), hydrochloric acid (HCl), hydrofluoric acid (HF), and moisture (H₂O) from the turbines.

US EPA Method 320 was performed to quantify the concentration levels of gaseous emissions. Trevor Tilmann (MAQS) performed data collection. Phillip Kauppi (MAQS) performed data validation, and report generation.

Procedures

FTIR Method 320 Instrumental Configuration & Sample Collection

FTIR data were collected using an MKS MultiGas 2030 FTIR spectrometer. The FTIR was equipped with a temperature-controlled, 5.11-meter multipass gas cell maintained at 191°C. All data were collected at 0.5 cm⁻¹ resolution. Each FTIR spectrum was derived from the coaddition of 64 scans, with a new data point generated approximately every 60 seconds.

Sample gas continuously passed through the FTIR gas cell via heated head sampling pump. Total sample flow was approximately ten liters per minute. Gas flow and sampling system pressure were monitored using a rotameter and pressure transducer. See Table 1 below for sampling system details.

Table 1 – FTIR Sampling System

Source	MKS Serial #	Sampling Line	Probe Assembly	Particulate Filter Media	Operating Temperatures
Turbine 4	017796313	50', 3/8" dia. Teflon	3', 3/8" dia. SS + heated filter element	0.01μ borosilicate	191°C FTIR + system
Turbine 5					

FTIR diagnostics were performed on the instrument daily to ensure signal intensity and line shape were acceptable to make measurements. See these results in the FTIR Diagnostics appendix.

FTIR QA/QC Methodology

QA/QC procedures followed US EPA Method 320. See Tables 2 and 3 below for QA/QC procedure details and list of calibration gas standards. All calibration gases were introduced to the analyzer and sampling system using instrument grade stainless steel rotameters. All QA/QC procedures were within the acceptance criteria allowance of the EPA methodology. QA/QC calculations are presented in detail below.

Table 2 – FTIR QA/QC Procedures

QA/QC Specification	Purpose	Calibration Gas Analyte	Delivery	Frequency	Acceptance Criteria	Result
M320: Zero	Verify that the FTIR is free of contaminants & zero the FTIR	Nitrogen (zero)	Direct to FTIR	Daily - pre/post test	< MDL or Noise	Pass
M320: Calibration Transfer Standard (CTS) Direct	Verify FTIR stability, confirm optical path length	Ethylene	Direct to FTIR	Daily - pre-test	+/- 5% cert. value	Pass
M320: Analyte Direct	Verify FTIR calibration	Formaldehyde/SF6 HCl/SF6 HF/SF6	Direct to FTIR	Daily - pre-test	Determine FTIR response to be used for analyte spike calcs	Pass
M320: CTS Response	Verify system stability, recovery, RT	Ethylene	Sampling System	Daily - pre/post test runs	+/- 5% of Direct Measurement	Pass
M320: Zero Response	Verify system is free of contaminants, system bias	Nitrogen (zero)	Sampling System	Daily - pre/post test	Bias correct data	Pass
M320: Analyte Spike	Verify system ability to deliver and quantify analyte of interest in the presence of other effluent gases	Formaldehyde/SF6 HCl/SF6 HF/SF6	Dynamic Addition to Sampling System, 1:10 effluent	Daily - pre-test	+/- 30% theoretical recovery	Pass

Table 3 – Calibration Gas Standards

Components	Concentration (ppm)	Vendor	Cylinder #	Standard Type
Formaldehyde/SF6	19.71, 4.97	Apel Reimer	CC751990	Certified Standard +/- 5%, 2%
HCl, SF6	99.9, 5.0	Airgas	CC715847	GMACS +/- 2.30%, 0.96%
HF, SF6	111.2, 4.999	Airgas	EB01146042	Certified Standard +/- 10%
Ethylene	100.2	Airgas	CC14351	Primary +/- 1%
Nitrogen	Zero gas	Praxair	CC700873	UHP Grade

FTIR QA/QC Calculations

Method 320: Analyte Spiking

Formaldehyde, HCl and HF spiking was performed daily at each source prior to testing to verify the ability of the sampling system to quantitatively deliver a sample containing formaldehyde, HCl and HF from the base of the probe to the FTIR. The spike target dilution ratio was 1:10 or

less. Analyte spiking assures the ability of the FTIR to quantify formaldehyde, HCl and HF in the presence of effluent gas.

As part of the spiking procedure, samples from the sources were measured to determine native formaldehyde, HCl and HF concentrations to be used in the spike recovery calculations. The spiking gases contained a low concentration of sulfur hexafluoride (SF₆). The determined SF₆ concentration in the spiked sample was used to calculate the dilution factor of the spike and thus used to calculate the concentration of the spiked formaldehyde, HCl and HF. The following equations illustrates the percent recovery calculation.

$$DF = \frac{SF_6(sp)}{SF_6(dir)} \quad (\text{Sec. 9.3.1 (3) USEPA Method 320})$$

$$CS = DF * Spike(dir) + Unspike(1 - DF) \quad (\text{Sec. 9.3.1 (2) USEPA Method 320})$$

DF = Dilution factor of the spike gas
SF₆(nat) = SF₆ concentration measured directly in unspiked sample
SF₆(dir) = SF₆ concentration measured directly in undiluted spike gas
SF₆(spk) = Diluted SF₆ concentration measured in a spiked sample
H₂O(nat) = Native H₂O concentration measured in unspiked samples
H₂O(sp) = Diluted H₂O concentration measured in a spiked sample
Spike_{dir} = Concentration of the analyte in the spike standard measure by the FTIR directly
CS = Expected concentration of the spiked samples
Unspike = Native concentration of analytes in unspiked samples

USEPA Method 320 Method Validation Procedure

Section 13 of USEPA Method 320, which is based on EPA Method 301 was used to validate HF and HCl. Analyte spiking, as described above was performed to generate the validation data. A data set of 12 spiked and 12 unspiked measurements were used to calculate the relative bias and precision assessment for HF and HCl.

The HF data were collected on Turbine 4 on February 9, 2023. The determined bias analysis was acceptable, and no bias correction was required. The precision assessment was acceptable, at 4.62%.

The HCl data were collected from Turbine 4 on February 7 and 8, 2023, Turbine 5 on February 14 and 15, 2023, and FG KG 6 Scrubber Stack (Holcim Alpena Cement Plant) on March 5, 2020. Eight spiked pairs were collected on the turbines, four spiked pairs were collected on the scrubber stack. The determined bias analysis was acceptable, and no bias correction was required. The precision assessment was acceptable, at 3.14%.

See the USEPA Method 301 Validation Appendix for all Method 301 Calculations and raw data.

FTIR Post Collection Data Validation

As part of the data validation procedure, reference spectra are manually fit to that of the sample spectra and a concentration is determined. The reference spectra are scaled to match the peak amplitude of the sample, thus providing a scale factor. The scale factor multiplied by the reference spectra concentration is used to determine the concentration value for the sample spectra. Sample pressure and temperature corrections are then applied to compute the final sample concentration. The manually calculated results are then compared with the software-generated results. The data is then validated if the two concentrations are within $\pm 20\%$ agreement. If there is a difference greater than $\pm 20\%$ the spectra are reviewed for possible spectra interferences or any other potential causes leading to misquantified data.

Results and Discussion

Detection Limit

The FTIR detection limit for each analyte was calculated following Annex A2 of ASTM D6348-12 procedure using spectra that contained similar amounts of moisture. The minimum detectable concentration of the analytes was calculated as three times the standard deviation of the noise in the FTIR system. This minimum concentration can be detected with a probability of 99.7 %. See Table 4 below for determined minimum detectable concentrations.

Table 4 - FTIR Detection Limits

Analyte	Detection Limit (ppmv wet)	Detection Limit (%v wet)
H ₂ O	-	0.1
Formaldehyde	0.2	-
HCl	0.2	-
HF	0.4	-

Turbine 4 & Turbine 5

Seven, sixty-minute test runs were performed on Turbine 4 over February 7 and 8, 2023. Seven, sixty-minute test runs were performed on Turbine 5 on February 14 and 15, 2023. All Method 320 FTIR data concentration data were determined on a wet concentration (ppmvw) volume basis. The determined moisture content was used to calculate formaldehyde, HCl and HF on a dry basis (ppmvd).

Analyte spiking was performed to confirm the ability of the measurement system to deliver and quantify formaldehyde, HCl and HF. See the FTIR QA/QC Data and Run Results Appendix for all concentration results. See Tables 5 and 6 below for a summary of test run results.

Table 5 – Turbine 4 – Test Run Averages

Test Detail	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)
02/07/2023 Turbine 4 - Run 1 10:50 - 11:50	5.61	0.51	1.62	< 0.2	0.54	1.72	< 0.2
02/07/2023 Turbine 4 - Run 2 12:00 - 12:56 ; 13:04 - 13:08	5.57	0.46	1.58	< 0.2	0.49	1.67	< 0.2
02/07/2023 Turbine 4 - Run 3 13:15 - 14:15	5.56	0.48	1.69	< 0.2	0.50	1.79	< 0.2
02/08/2023 Turbine 4 - Run 4 09:06 - 10:06	5.69	0.42	1.53	< 0.2	0.45	1.62	< 0.2
02/08/2023 Turbine 4 - Run 5 10:19 - 11:19	5.69	0.48	1.71	< 0.2	0.51	1.81	< 0.2
02/08/2023 Turbine 4 - Run 6 11:23 - 12:18 ; 12:27 - 12:32	5.70	0.53	1.80	< 0.2	0.56	1.90	< 0.2
02/08/2023 Turbine 4 - Run 7 13:05 - 14:05	5.65	0.56	1.89	< 0.2	0.60	2.00	< 0.2

Table 6 – Turbine 5 – Test Run Averages

Test Detail	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)
02/14/2023 Turbine 5 - Run 1 9:15 - 10:15	5.85	0.27	1.19	< 0.2	0.29	1.26	< 0.2
02/14/2023 Turbine 5 - Run 2 10:20 - 11:20	5.70	0.30	1.26	< 0.2	0.31	1.34	< 0.2
02/14/2023 Turbine 5 - Run 3 11:25 - 12:09; 12:18 - 12:34	5.68	0.33	1.32	< 0.2	0.35	1.40	< 0.2
02/14/2023 Turbine 5 - Run 4 12:40 - 13:40	5.63	0.36	1.37	< 0.2	0.38	1.45	< 0.2
02/15/2023 Turbine 5 - Run 5 9:05 - 10:05	5.46	0.27	1.14	< 0.2	0.29	1.21	< 0.2
02/15/2023 Turbine 5 - Run 6 10:10 - 11:10	5.37	0.31	1.44	< 0.2	0.33	1.52	< 0.2
02/15/2023 Turbine 5 - Run 7 11:15 - 11:45; 12:00 - 12:30	5.31	0.37	1.56	< 0.2	0.39	1.64	< 0.2

The following Appendices are included:

- FTIR QA/QC Data
- FTIR Run Data
- Certificates of Analysis
- USEPA Method 301 Validation



Phillip Kauppi

District Manager / Chemist

SunshineCanyonLandfill_2023Feb_PROJ-023392_txt_Rev1

Date: April 8, 2024

APPENDIX

FTIR Test Run Data

Turbine 4 - Run 1

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T4_001183.LAB	2/7/2023	10:50:59	5.63	0.50	1.63	0.02	0.53	1.73	0.02	191.9	1.004
T4_001184.LAB	2/7/2023	10:51:59	5.60	0.54	1.66	0.03	0.58	1.76	0.03	191.8	1.004
T4_001185.LAB	2/7/2023	10:52:59	5.58	0.46	1.62	0.05	0.49	1.71	0.05	191.8	1.004
T4_001186.LAB	2/7/2023	10:53:59	5.59	0.51	1.58	0.08	0.54	1.68	0.09	191.8	1.005
T4_001187.LAB	2/7/2023	10:54:59	5.59	0.53	1.56	0.02	0.57	1.65	0.02	191.8	1.005
T4_001188.LAB	2/7/2023	10:55:59	5.59	0.49	1.56	0.05	0.52	1.66	0.05	191.7	1.005
T4_001189.LAB	2/7/2023	10:56:59	5.59	0.49	1.53	0.08	0.52	1.62	0.08	191.8	1.007
T4_001190.LAB	2/7/2023	10:57:59	5.61	0.48	1.54	-0.09	0.51	1.64	-0.10	191.8	1.006
T4_001191.LAB	2/7/2023	10:58:59	5.61	0.51	1.56	-0.02	0.54	1.66	-0.02	191.9	1.006
T4_001192.LAB	2/7/2023	10:59:59	5.62	0.49	1.55	-0.02	0.52	1.65	-0.02	191.8	1.006
T4_001193.LAB	2/7/2023	11:00:59	5.62	0.49	1.60	-0.07	0.52	1.69	-0.07	191.7	1.004
T4_001194.LAB	2/7/2023	11:01:59	5.58	0.53	1.64	0.02	0.56	1.74	0.02	191.6	1.005
T4_001195.LAB	2/7/2023	11:02:59	5.61	0.54	1.64	0.06	0.57	1.74	0.06	191.6	1.003
T4_001196.LAB	2/7/2023	11:03:58	5.60	0.57	1.63	-0.03	0.61	1.72	-0.03	191.7	1.003
T4_001197.LAB	2/7/2023	11:04:59	5.61	0.53	1.60	0.07	0.56	1.70	0.07	191.8	1.005
T4_001198.LAB	2/7/2023	11:05:59	5.62	0.46	1.61	0.01	0.48	1.71	0.01	191.8	1.004
T4_001199.LAB	2/7/2023	11:06:58	5.61	0.51	1.59	0.05	0.54	1.68	0.05	191.7	1.006
T4_001200.LAB	2/7/2023	11:07:58	5.61	0.49	1.61	-0.01	0.52	1.70	-0.01	191.7	1.005
T4_001201.LAB	2/7/2023	11:08:58	5.61	0.47	1.61	0.01	0.49	1.70	0.01	191.6	1.006
T4_001202.LAB	2/7/2023	11:09:58	5.59	0.51	1.61	0.03	0.54	1.70	0.04	191.7	1.006
T4_001203.LAB	2/7/2023	11:10:58	5.61	0.57	1.64	0.05	0.60	1.74	0.05	191.7	1.006
T4_001204.LAB	2/7/2023	11:11:58	5.62	0.53	1.70	-0.02	0.56	1.80	-0.02	191.7	1.004
T4_001205.LAB	2/7/2023	11:12:58	5.60	0.50	1.71	0.05	0.53	1.81	0.06	191.8	1.004
T4_001206.LAB	2/7/2023	11:13:58	5.61	0.55	1.66	0.08	0.59	1.76	0.08	191.7	1.003
T4_001207.LAB	2/7/2023	11:14:58	5.60	0.47	1.61	-0.06	0.49	1.71	-0.07	191.7	1.004
T4_001208.LAB	2/7/2023	11:15:58	5.62	0.56	1.61	0.09	0.60	1.70	0.10	191.7	1.004
T4_001209.LAB	2/7/2023	11:16:58	5.63	0.50	1.61	0.05	0.53	1.71	0.05	191.7	1.004
T4_001210.LAB	2/7/2023	11:17:58	5.63	0.44	1.60	0.01	0.47	1.69	0.01	191.7	1.005
T4_001211.LAB	2/7/2023	11:18:58	5.61	0.50	1.60	0.01	0.53	1.70	0.01	191.7	1.006
T4_001212.LAB	2/7/2023	11:19:58	5.61	0.47	1.60	-0.04	0.50	1.70	-0.04	191.7	1.007
T4_001213.LAB	2/7/2023	11:20:57	5.61	0.51	1.60	0.02	0.54	1.69	0.02	191.7	1.006
T4_001214.LAB	2/7/2023	11:21:57	5.63	0.48	1.66	0.08	0.51	1.76	0.09	191.7	1.004
T4_001215.LAB	2/7/2023	11:22:57	5.66	0.51	1.70	0.00	0.54	1.80	0.00	191.8	1.003
T4_001216.LAB	2/7/2023	11:23:57	5.63	0.50	1.67	0.02	0.53	1.76	0.02	191.8	1.005
T4_001217.LAB	2/7/2023	11:24:57	5.62	0.53	1.63	-0.03	0.56	1.73	-0.03	191.7	1.004
T4_001218.LAB	2/7/2023	11:25:57	5.64	0.52	1.60	0.02	0.55	1.70	0.02	191.7	1.004
T4_001219.LAB	2/7/2023	11:26:57	5.63	0.49	1.62	0.01	0.52	1.72	0.01	191.6	1.005
T4_001220.LAB	2/7/2023	11:27:57	5.61	0.51	1.63	0.12	0.54	1.73	0.12	191.6	1.005
T4_001221.LAB	2/7/2023	11:28:57	5.59	0.50	1.62	0.04	0.53	1.71	0.05	191.7	1.006
T4_001222.LAB	2/7/2023	11:29:57	5.63	0.52	1.61	-0.02	0.56	1.71	-0.02	191.7	1.005
T4_001223.LAB	2/7/2023	11:30:58	5.65	0.52	1.63	0.06	0.55	1.73	0.06	191.7	1.007
T4_001224.LAB	2/7/2023	11:31:57	5.71	0.52	1.70	0.07	0.55	1.81	0.07	193.1	1.000
T4_001225.LAB	2/7/2023	11:32:57	5.63	0.54	1.69	0.04	0.57	1.79	0.04	191.6	1.003
T4_001226.LAB	2/7/2023	11:33:57	5.60	0.52	1.70	-0.06	0.55	1.80	-0.06	191.6	1.004
T4_001227.LAB	2/7/2023	11:34:57	5.63	0.51	1.66	0.07	0.54	1.76	0.07	191.6	1.004
T4_001228.LAB	2/7/2023	11:35:56	5.60	0.49	1.64	0.05	0.52	1.74	0.05	191.6	1.003
T4_001229.LAB	2/7/2023	11:36:57	5.63	0.52	1.63	0.05	0.56	1.73	0.06	191.8	1.004
T4_001230.LAB	2/7/2023	11:37:57	5.60	0.49	1.61	-0.05	0.52	1.71	-0.05	191.7	1.006
T4_001231.LAB	2/7/2023	11:38:57	5.58	0.49	1.61	0.01	0.52	1.71	0.01	191.7	1.007
T4_001232.LAB	2/7/2023	11:39:57	5.60	0.53	1.59	-0.02	0.56	1.68	-0.02	191.6	1.005
T4_001233.LAB	2/7/2023	11:40:56	5.59	0.50	1.57	0.06	0.53	1.66	0.06	191.7	1.006
T4_001234.LAB	2/7/2023	11:41:56	5.62	0.47	1.59	0.06	0.50	1.69	0.06	191.6	1.006
T4_001235.LAB	2/7/2023	11:42:56	5.61	0.51	1.65	0.06	0.54	1.75	0.06	191.7	1.003
T4_001236.LAB	2/7/2023	11:43:56	5.61	0.54	1.66	-0.01	0.58	1.76	-0.01	191.7	1.004
T4_001237.LAB	2/7/2023	11:44:56	5.63	0.55	1.63	0.03	0.58	1.72	0.03	191.6	1.003
T4_001238.LAB	2/7/2023	11:45:56	5.63	0.53	1.61	-0.04	0.56	1.70	-0.04	191.6	1.004
T4_001239.LAB	2/7/2023	11:46:56	5.60	0.49	1.59	-0.03	0.52	1.69	-0.03	191.6	1.005
T4_001240.LAB	2/7/2023	11:47:56	5.61	0.49	1.61	-0.01	0.52	1.70	-0.01	191.6	1.004
T4_001241.LAB	2/7/2023	11:48:56	5.62	0.51	1.58	0.07	0.54	1.68	0.07	191.6	1.004
T4_001242.LAB	2/7/2023	11:49:56	5.62	0.51	1.60	0.05	0.54	1.69	0.05	191.6	1.005
T4_001243.LAB	2/7/2023	11:50:56	5.61	0.49	1.56	-0.04	0.52	1.66	-0.04	191.6	1.004
02/07/2023 Turbine 4 - Run 1 10:50 - 11:50	Minimum		5.58	0.44	1.53	-0.09	0.47	1.62	-0.10		
	Maximum		5.71	0.57	1.71	0.12	0.61	1.81	0.12		
	Average		5.61	0.51	1.62	0.02	0.54	1.72	0.02		

Turbine 4 - Run 2

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T4_001259.LAB	2/7/2023	12:00:59	5.61	0.41	1.49	0.02	0.43	1.58	0.02	191.7	1.006
T4_001260.LAB	2/7/2023	12:01:59	5.59	0.44	1.50	0.01	0.47	1.59	0.02	191.6	1.006
T4_001261.LAB	2/7/2023	12:02:59	5.60	0.48	1.56	-0.01	0.51	1.65	-0.01	191.6	1.005
T4_001262.LAB	2/7/2023	12:03:59	5.61	0.51	1.60	-0.09	0.54	1.70	-0.10	191.6	1.004
T4_001263.LAB	2/7/2023	12:04:59	5.60	0.47	1.58	-0.01	0.49	1.67	-0.01	191.7	1.003
T4_001264.LAB	2/7/2023	12:05:58	5.60	0.49	1.58	0.04	0.52	1.67	0.04	191.6	1.004
T4_001265.LAB	2/7/2023	12:06:58	5.59	0.47	1.55	-0.04	0.50	1.64	-0.05	191.7	1.004
T4_001266.LAB	2/7/2023	12:07:58	5.59	0.47	1.57	-0.01	0.50	1.66	-0.01	191.7	1.002
T4_001267.LAB	2/7/2023	12:08:58	5.60	0.48	1.55	-0.02	0.51	1.64	-0.02	191.7	1.004
T4_001268.LAB	2/7/2023	12:09:59	5.56	0.45	1.54	0.03	0.48	1.63	0.03	191.7	1.005
T4_001269.LAB	2/7/2023	12:10:58	5.59	0.44	1.57	0.01	0.46	1.66	0.01	191.6	1.005
T4_001270.LAB	2/7/2023	12:11:58	5.59	0.49	1.54	0.07	0.52	1.64	0.07	191.6	1.006
T4_001271.LAB	2/7/2023	12:12:58	5.57	0.48	1.57	0.10	0.50	1.66	0.10	191.6	1.006
T4_001272.LAB	2/7/2023	12:13:58	5.57	0.49	1.62	-0.01	0.52	1.71	-0.01	191.7	1.004
T4_001273.LAB	2/7/2023	12:14:58	5.56	0.48	1.61	0.02	0.50	1.70	0.03	191.7	1.004
T4_001274.LAB	2/7/2023	12:15:58	5.60	0.48	1.57	0.00	0.51	1.67	0.00	191.7	1.002
T4_001275.LAB	2/7/2023	12:16:58	5.60	0.50	1.55	0.09	0.53	1.64	0.10	191.6	1.003
T4_001276.LAB	2/7/2023	12:17:58	5.59	0.45	1.54	-0.01	0.47	1.63	-0.01	191.6	1.003
T4_001277.LAB	2/7/2023	12:18:58	5.57	0.48	1.55	-0.06	0.51	1.64	-0.06	191.6	1.005
T4_001278.LAB	2/7/2023	12:19:58	5.58	0.46	1.55	0.07	0.49	1.64	0.07	191.7	1.005
T4_001279.LAB	2/7/2023	12:20:58	5.60	0.43	1.56	0.03	0.46	1.65	0.03	191.6	1.005
T4_001280.LAB	2/7/2023	12:21:58	5.58	0.49	1.55	0.05	0.52	1.64	0.06	191.7	1.006
T4_001281.LAB	2/7/2023	12:22:58	5.58	0.45	1.59	0.03	0.48	1.68	0.03	191.7	1.004
T4_001282.LAB	2/7/2023	12:23:57	5.57	0.48	1.64	-0.02	0.50	1.74	-0.02	191.7	1.003
T4_001283.LAB	2/7/2023	12:24:57	5.56	0.51	1.63	0.01	0.54	1.73	0.02	191.7	1.004
T4_001284.LAB	2/7/2023	12:25:58	5.58	0.50	1.60	0.06	0.53	1.70	0.06	191.6	1.002
T4_001285.LAB	2/7/2023	12:26:57	5.56	0.49	1.57	0.03	0.52	1.67	0.03	191.7	1.003
T4_001286.LAB	2/7/2023	12:27:57	5.54	0.43	1.57	0.03	0.46	1.66	0.04	191.7	1.003
T4_001287.LAB	2/7/2023	12:28:57	5.57	0.43	1.54	0.05	0.46	1.63	0.05	191.7	1.003
T4_001288.LAB	2/7/2023	12:29:57	5.55	0.42	1.54	-0.04	0.44	1.63	-0.04	191.7	1.004
T4_001289.LAB	2/7/2023	12:30:57	5.53	0.43	1.52	-0.04	0.46	1.61	-0.04	191.7	1.005
T4_001290.LAB	2/7/2023	12:31:57	5.54	0.42	1.55	-0.05	0.45	1.64	-0.06	191.6	1.005
T4_001291.LAB	2/7/2023	12:32:57	5.53	0.45	1.57	0.02	0.48	1.66	0.02	191.6	1.005
T4_001292.LAB	2/7/2023	12:33:57	5.57	0.44	1.60	0.02	0.47	1.69	0.02	191.7	1.002
T4_001293.LAB	2/7/2023	12:34:57	5.54	0.49	1.62	0.04	0.52	1.71	0.04	191.8	1.002
T4_001294.LAB	2/7/2023	12:35:57	5.54	0.42	1.57	0.04	0.44	1.66	0.04	191.7	1.000
T4_001295.LAB	2/7/2023	12:36:57	5.55	0.44	1.56	0.02	0.46	1.65	0.03	191.7	1.003
T4_001296.LAB	2/7/2023	12:37:57	5.52	0.45	1.54	0.02	0.47	1.63	0.02	191.6	1.004
T4_001297.LAB	2/7/2023	12:38:57	5.57	0.44	1.56	0.04	0.47	1.65	0.05	191.6	1.003
T4_001298.LAB	2/7/2023	12:39:57	5.54	0.47	1.56	0.05	0.50	1.65	0.05	191.6	1.003
T4_001299.LAB	2/7/2023	12:40:57	5.57	0.48	1.56	0.06	0.51	1.65	0.07	191.7	1.004
T4_001300.LAB	2/7/2023	12:41:56	5.64	0.44	1.59	-0.01	0.47	1.68	-0.01	234.1	1.085
T4_001301.LAB	2/7/2023	12:42:56	5.57	0.45	1.60	-0.04	0.48	1.69	-0.04	191.7	1.003
T4_001302.LAB	2/7/2023	12:43:56	5.61	0.48	1.65	0.08	0.51	1.75	0.09	193.1	0.999
T4_001303.LAB	2/7/2023	12:44:56	5.56	0.47	1.67	0.06	0.49	1.76	0.07	191.7	1.002
T4_001304.LAB	2/7/2023	12:45:56	5.58	0.50	1.66	0.06	0.53	1.76	0.07	191.6	1.003
T4_001305.LAB	2/7/2023	12:46:56	5.55	0.48	1.61	0.03	0.50	1.70	0.03	191.6	1.001
T4_001306.LAB	2/7/2023	12:47:56	5.59	0.47	1.58	0.04	0.50	1.68	0.05	191.7	1.002
T4_001307.LAB	2/7/2023	12:48:56	5.58	0.45	1.59	0.01	0.48	1.68	0.01	191.8	1.003
T4_001308.LAB	2/7/2023	12:49:56	5.63	0.47	1.61	0.03	0.50	1.70	0.03	232.5	1.082
T4_001309.LAB	2/7/2023	12:50:56	5.56	0.45	1.59	-0.02	0.48	1.68	-0.02	191.7	1.003
T4_001310.LAB	2/7/2023	12:51:56	5.53	0.44	1.57	0.02	0.47	1.66	0.02	191.6	1.004
T4_001311.LAB	2/7/2023	12:52:56	5.52	0.45	1.56	0.05	0.48	1.65	0.05	191.7	1.004
T4_001312.LAB	2/7/2023	12:53:56	5.52	0.46	1.59	0.03	0.49	1.68	0.03	191.7	1.003
T4_001313.LAB	2/7/2023	12:54:56	5.58	0.46	1.65	0.03	0.49	1.75	0.03	191.7	1.003
T4_001314.LAB	2/7/2023	12:55:56	5.54	0.50	1.62	0.06	0.53	1.71	0.07	191.7	1.002
T4_001315.LAB	2/7/2023	12:56:56	5.55	0.48	1.59	0.08	0.51	1.68	0.09	191.7	1.001
T4_001323.LAB	2/7/2023	13:04:55	5.51	0.45	1.58	0.01	0.48	1.67	0.02	191.7	1.002
T4_001324.LAB	2/7/2023	13:05:55	5.55	0.45	1.62	0.06	0.47	1.72	0.06	191.7	1.002
T4_001325.LAB	2/7/2023	13:06:55	5.53	0.44	1.61	-0.02	0.47	1.71	-0.02	191.6	1.001
T4_001326.LAB	2/7/2023	13:07:55	5.54	0.44	1.58	0.00	0.46	1.67	0.00	191.7	1.002
T4_001327.LAB	2/7/2023	13:08:55	5.55	0.43	1.58	-0.01	0.46	1.67	-0.01	191.7	1.001
02/07/2023 Turbine 4 - Run 2 12:00 - 12:56 ; 13:04 -	Minimum		5.51	0.41	1.49	-0.09	0.43	1.58	-0.10		
	Maximum		5.64	0.51	1.67	0.10	0.54	1.76	0.10		
	Average		5.57	0.46	1.58	0.02	0.49	1.67	0.02		

Turbine 4 - Run 3

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T4_001340.LAB	2/7/2023	13:15:47	5.54	0.40	1.60	-0.10	0.43	1.70	-0.11	191.7	1.002
T4_001341.LAB	2/7/2023	13:16:47	5.57	0.41	1.62	0.13	0.43	1.71	0.14	191.7	1.001
T4_001342.LAB	2/7/2023	13:17:47	5.55	0.41	1.60	0.05	0.43	1.70	0.05	191.7	1.001
T4_001343.LAB	2/7/2023	13:18:47	5.51	0.41	1.58	0.01	0.43	1.67	0.01	191.7	1.001
T4_001344.LAB	2/7/2023	13:19:47	5.55	0.42	1.59	-0.06	0.45	1.68	-0.07	191.7	1.003
T4_001345.LAB	2/7/2023	13:20:47	5.54	0.46	1.58	0.05	0.49	1.67	0.05	191.6	1.003
T4_001346.LAB	2/7/2023	13:21:47	5.57	0.39	1.61	0.06	0.41	1.70	0.06	191.7	1.002
T4_001347.LAB	2/7/2023	13:22:47	5.54	0.47	1.57	-0.07	0.50	1.67	-0.07	191.7	1.002
T4_001348.LAB	2/7/2023	13:23:46	5.56	0.42	1.59	0.03	0.45	1.68	0.04	191.6	1.003
T4_001349.LAB	2/7/2023	13:24:47	5.56	0.42	1.60	0.02	0.44	1.69	0.02	191.6	1.004
T4_001350.LAB	2/7/2023	13:25:46	5.56	0.45	1.67	0.07	0.47	1.77	0.07	191.6	1.003
T4_001351.LAB	2/7/2023	13:26:46	5.58	0.50	1.70	0.03	0.53	1.81	0.04	191.7	1.002
T4_001352.LAB	2/7/2023	13:27:46	5.53	0.49	1.68	0.03	0.52	1.78	0.03	191.6	1.001
T4_001353.LAB	2/7/2023	13:28:46	5.57	0.48	1.64	-0.02	0.51	1.74	-0.02	191.7	1.002
T4_001354.LAB	2/7/2023	13:29:46	5.56	0.48	1.66	0.03	0.51	1.76	0.03	191.6	1.002
T4_001355.LAB	2/7/2023	13:30:46	5.55	0.47	1.62	-0.01	0.49	1.71	-0.01	191.6	1.003
T4_001356.LAB	2/7/2023	13:31:46	5.56	0.41	1.65	-0.01	0.44	1.75	-0.02	191.7	1.004
T4_001357.LAB	2/7/2023	13:32:46	5.56	0.46	1.64	0.00	0.49	1.74	0.00	191.7	1.005
T4_001358.LAB	2/7/2023	13:33:46	5.58	0.46	1.65	0.01	0.49	1.75	0.02	191.7	1.003
T4_001359.LAB	2/7/2023	13:34:46	5.58	0.46	1.68	-0.04	0.49	1.78	-0.04	191.8	1.003
T4_001360.LAB	2/7/2023	13:35:46	5.60	0.50	1.74	-0.04	0.53	1.84	-0.04	191.7	1.003
T4_001361.LAB	2/7/2023	13:36:46	5.58	0.46	1.79	-0.04	0.48	1.90	-0.05	191.7	1.002
T4_001362.LAB	2/7/2023	13:37:46	5.56	0.49	1.77	0.10	0.52	1.87	0.11	191.7	1.002
T4_001363.LAB	2/7/2023	13:38:46	5.56	0.50	1.72	0.06	0.53	1.82	0.06	191.7	1.002
T4_001364.LAB	2/7/2023	13:39:46	5.60	0.54	1.73	0.04	0.57	1.83	0.04	191.7	1.001
T4_001365.LAB	2/7/2023	13:40:46	5.56	0.51	1.71	0.08	0.54	1.82	0.08	191.6	1.002
T4_001366.LAB	2/7/2023	13:41:46	5.58	0.53	1.72	0.03	0.56	1.82	0.03	191.7	1.002
T4_001367.LAB	2/7/2023	13:42:45	5.58	0.47	1.72	0.07	0.49	1.83	0.07	191.7	1.002
T4_001368.LAB	2/7/2023	13:43:45	5.58	0.49	1.71	0.05	0.52	1.81	0.05	191.7	1.004
T4_001369.LAB	2/7/2023	13:44:46	5.59	0.52	1.73	-0.01	0.55	1.83	-0.01	191.7	1.004
T4_001370.LAB	2/7/2023	13:45:45	5.54	0.48	1.76	0.07	0.51	1.86	0.08	191.7	1.002
T4_001371.LAB	2/7/2023	13:46:45	5.57	0.47	1.78	0.07	0.50	1.88	0.07	191.7	1.003
T4_001372.LAB	2/7/2023	13:47:45	5.51	0.52	1.76	0.04	0.55	1.86	0.04	191.7	1.001
T4_001373.LAB	2/7/2023	13:48:45	5.53	0.48	1.72	0.02	0.50	1.82	0.02	191.7	1.003
T4_001374.LAB	2/7/2023	13:49:45	5.59	0.50	1.72	0.09	0.53	1.82	0.09	191.7	1.001
T4_001375.LAB	2/7/2023	13:50:45	5.54	0.49	1.70	0.04	0.51	1.80	0.04	191.7	1.003
T4_001376.LAB	2/7/2023	13:51:45	5.55	0.50	1.67	0.04	0.53	1.77	0.05	191.7	1.003
T4_001377.LAB	2/7/2023	13:52:45	5.55	0.50	1.68	0.07	0.53	1.78	0.07	191.7	1.003
T4_001378.LAB	2/7/2023	13:53:45	5.56	0.50	1.69	0.07	0.52	1.79	0.08	191.7	1.002
T4_001379.LAB	2/7/2023	13:54:45	5.55	0.49	1.68	0.00	0.52	1.78	0.00	191.7	1.005
T4_001380.LAB	2/7/2023	13:55:45	5.55	0.45	1.70	0.02	0.47	1.80	0.02	191.7	1.003
T4_001381.LAB	2/7/2023	13:56:45	5.59	0.54	1.74	0.04	0.57	1.84	0.04	191.7	1.002
T4_001382.LAB	2/7/2023	13:57:45	5.59	0.50	1.76	0.05	0.53	1.86	0.05	191.7	1.002
T4_001383.LAB	2/7/2023	13:58:44	5.60	0.51	1.73	0.02	0.54	1.84	0.02	191.7	1.002
T4_001384.LAB	2/7/2023	13:59:44	5.56	0.44	1.71	0.06	0.47	1.81	0.06	191.7	1.002
T4_001385.LAB	2/7/2023	14:00:44	5.58	0.48	1.69	0.01	0.51	1.80	0.01	191.7	1.002
T4_001386.LAB	2/7/2023	14:01:45	5.55	0.48	1.67	0.05	0.50	1.77	0.05	191.7	1.003
T4_001387.LAB	2/7/2023	14:02:44	5.57	0.50	1.68	0.08	0.53	1.78	0.09	191.7	1.003
T4_001388.LAB	2/7/2023	14:03:44	5.59	0.50	1.67	0.00	0.53	1.77	0.00	191.7	1.002
T4_001389.LAB	2/7/2023	14:04:44	5.58	0.47	1.67	-0.01	0.50	1.77	-0.01	191.7	1.004
T4_001390.LAB	2/7/2023	14:05:44	5.57	0.49	1.72	0.07	0.52	1.82	0.08	191.7	1.002
T4_001391.LAB	2/7/2023	14:06:44	5.60	0.52	1.77	0.03	0.55	1.87	0.03	191.7	1.001
T4_001392.LAB	2/7/2023	14:07:44	5.59	0.54	1.77	0.05	0.58	1.87	0.05	191.7	1.002
T4_001393.LAB	2/7/2023	14:08:44	5.60	0.48	1.74	-0.03	0.51	1.84	-0.03	191.7	1.000
T4_001394.LAB	2/7/2023	14:09:44	5.56	0.46	1.71	0.07	0.48	1.81	0.07	191.7	1.001
T4_001395.LAB	2/7/2023	14:10:44	5.56	0.49	1.68	0.02	0.52	1.78	0.02	191.8	1.001
T4_001396.LAB	2/7/2023	14:11:44	5.58	0.45	1.68	-0.03	0.47	1.78	-0.03	191.8	1.002
T4_001397.LAB	2/7/2023	14:12:44	5.56	0.46	1.69	0.05	0.49	1.79	0.06	191.7	1.003
T4_001398.LAB	2/7/2023	14:13:44	5.56	0.50	1.69	0.00	0.52	1.79	0.00	191.7	1.003
T4_001399.LAB	2/7/2023	14:14:44	5.56	0.47	1.66	0.02	0.49	1.76	0.02	191.7	1.004
T4_001400.LAB	2/7/2023	14:15:44	5.59	0.50	1.70	0.01	0.52	1.80	0.01	191.7	1.002
02/07/2023 Turbine 4 - Run 3 13:15 - 14:15	Minimum		5.51	0.39	1.57	-0.10	0.41	1.67	-0.11		
	Maximum		5.60	0.54	1.79	0.13	0.58	1.90	0.14		
	Average		5.56	0.48	1.69	0.03	0.50	1.79	0.03		

Turbine 4 - Run 4

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T4_001761.LAB	2/8/2023	9:06:02	5.66	0.36	1.52	0.11	0.39	1.61	0.12	191.8	1.002
T4_001762.LAB	2/8/2023	9:07:02	5.66	0.38	1.52	-0.01	0.40	1.61	-0.01	191.8	1.003
T4_001763.LAB	2/8/2023	9:08:02	5.68	0.40	1.50	0.00	0.43	1.59	0.00	191.8	1.004
T4_001764.LAB	2/8/2023	9:09:02	5.67	0.37	1.48	-0.09	0.39	1.57	-0.10	191.8	1.005
T4_001765.LAB	2/8/2023	9:10:02	5.65	0.35	1.47	0.09	0.37	1.56	0.09	191.7	1.004
T4_001766.LAB	2/8/2023	9:11:02	5.67	0.38	1.46	0.04	0.40	1.55	0.04	191.7	1.005
T4_001767.LAB	2/8/2023	9:12:02	5.69	0.37	1.45	0.01	0.39	1.54	0.01	191.7	1.005
T4_001768.LAB	2/8/2023	9:13:02	5.67	0.37	1.50	0.12	0.40	1.59	0.13	191.8	1.005
T4_001769.LAB	2/8/2023	9:14:02	5.68	0.36	1.53	0.08	0.39	1.62	0.09	191.8	1.003
T4_001770.LAB	2/8/2023	9:15:02	5.68	0.41	1.52	0.01	0.43	1.61	0.01	191.9	1.003
T4_001771.LAB	2/8/2023	9:16:02	5.68	0.43	1.49	0.05	0.46	1.58	0.06	191.8	1.002
T4_001772.LAB	2/8/2023	9:17:02	5.68	0.34	1.46	-0.05	0.36	1.55	-0.05	191.8	1.003
T4_001773.LAB	2/8/2023	9:18:01	5.68	0.42	1.45	-0.05	0.44	1.54	-0.06	191.8	1.003
T4_001774.LAB	2/8/2023	9:19:02	5.69	0.39	1.46	-0.03	0.42	1.55	-0.03	191.7	1.003
T4_001775.LAB	2/8/2023	9:20:01	5.68	0.40	1.47	-0.01	0.42	1.56	-0.01	191.7	1.004
T4_001776.LAB	2/8/2023	9:21:01	5.66	0.37	1.47	0.03	0.39	1.55	0.03	191.8	1.006
T4_001777.LAB	2/8/2023	9:22:01	5.65	0.37	1.44	0.01	0.40	1.53	0.01	191.8	1.005
T4_001778.LAB	2/8/2023	9:23:02	5.66	0.41	1.44	0.05	0.43	1.53	0.05	191.8	1.006
T4_001779.LAB	2/8/2023	9:24:01	5.69	0.38	1.52	0.01	0.40	1.61	0.01	191.8	1.004
T4_001780.LAB	2/8/2023	9:25:01	5.69	0.42	1.55	-0.05	0.45	1.65	-0.05	191.8	1.003
T4_001781.LAB	2/8/2023	9:26:01	5.68	0.42	1.51	0.01	0.44	1.60	0.01	191.8	1.002
T4_001782.LAB	2/8/2023	9:27:01	5.69	0.41	1.50	0.03	0.43	1.59	0.04	191.7	1.003
T4_001783.LAB	2/8/2023	9:28:01	5.67	0.38	1.46	0.13	0.41	1.54	0.13	191.7	1.003
T4_001784.LAB	2/8/2023	9:29:01	5.68	0.42	1.47	0.08	0.45	1.56	0.08	191.7	1.003
T4_001785.LAB	2/8/2023	9:30:01	5.69	0.38	1.47	0.04	0.40	1.56	0.04	191.8	1.005
T4_001786.LAB	2/8/2023	9:31:01	5.70	0.41	1.46	0.00	0.44	1.55	0.00	191.8	1.004
T4_001787.LAB	2/8/2023	9:32:01	5.70	0.42	1.46	-0.01	0.45	1.55	-0.01	191.8	1.006
T4_001788.LAB	2/8/2023	9:33:01	5.72	0.42	1.49	0.01	0.44	1.58	0.02	191.8	1.005
T4_001789.LAB	2/8/2023	9:34:01	5.69	0.43	1.50	0.02	0.46	1.59	0.02	191.7	1.006
T4_001790.LAB	2/8/2023	9:35:01	5.71	0.39	1.56	0.01	0.41	1.65	0.01	191.7	1.004
T4_001791.LAB	2/8/2023	9:36:00	5.71	0.47	1.58	0.07	0.49	1.68	0.07	191.8	1.003
T4_001792.LAB	2/8/2023	9:37:00	5.69	0.46	1.57	0.08	0.48	1.66	0.08	191.8	1.003
T4_001793.LAB	2/8/2023	9:38:01	5.67	0.45	1.53	0.02	0.48	1.62	0.02	191.8	1.003
T4_001794.LAB	2/8/2023	9:39:01	5.68	0.41	1.54	0.02	0.44	1.64	0.02	191.9	1.004
T4_001795.LAB	2/8/2023	9:40:00	5.68	0.43	1.52	0.04	0.46	1.61	0.04	191.8	1.003
T4_001796.LAB	2/8/2023	9:41:00	5.68	0.38	1.50	0.05	0.41	1.59	0.06	191.7	1.004
T4_001797.LAB	2/8/2023	9:42:00	5.69	0.41	1.50	0.04	0.44	1.59	0.05	191.7	1.005
T4_001798.LAB	2/8/2023	9:43:00	5.65	0.41	1.52	0.03	0.44	1.61	0.03	191.6	1.004
T4_001799.LAB	2/8/2023	9:44:00	5.67	0.40	1.50	0.14	0.43	1.59	0.15	191.7	1.007
T4_001800.LAB	2/8/2023	9:45:00	5.69	0.48	1.53	0.04	0.51	1.62	0.05	191.8	1.007
T4_001801.LAB	2/8/2023	9:46:00	5.71	0.44	1.58	0.01	0.46	1.67	0.01	191.9	1.004
T4_001802.LAB	2/8/2023	9:47:00	5.70	0.44	1.60	0.01	0.47	1.70	0.02	191.8	1.004
T4_001803.LAB	2/8/2023	9:48:00	5.69	0.46	1.57	0.05	0.49	1.67	0.05	191.7	1.002
T4_001804.LAB	2/8/2023	9:49:00	5.68	0.44	1.55	0.03	0.47	1.65	0.03	191.7	1.003
T4_001805.LAB	2/8/2023	9:50:00	5.71	0.46	1.57	0.06	0.48	1.67	0.06	191.7	1.004
T4_001806.LAB	2/8/2023	9:51:00	5.70	0.48	1.54	0.07	0.51	1.63	0.07	191.8	1.004
T4_001807.LAB	2/8/2023	9:51:59	5.69	0.44	1.54	0.03	0.46	1.63	0.03	191.8	1.004
T4_001808.LAB	2/8/2023	9:52:59	5.70	0.47	1.57	-0.03	0.49	1.66	-0.03	191.8	1.005
T4_001809.LAB	2/8/2023	9:53:59	5.69	0.42	1.57	0.11	0.45	1.66	0.12	191.8	1.005
T4_001810.LAB	2/8/2023	9:54:59	5.68	0.44	1.56	0.03	0.46	1.65	0.03	191.7	1.006
T4_001811.LAB	2/8/2023	9:55:59	5.69	0.46	1.60	0.02	0.49	1.70	0.03	191.6	1.005
T4_001812.LAB	2/8/2023	9:56:59	5.71	0.44	1.63	0.11	0.46	1.73	0.11	191.7	1.003
T4_001813.LAB	2/8/2023	9:57:59	5.71	0.49	1.65	0.08	0.51	1.75	0.09	191.7	1.002
T4_001814.LAB	2/8/2023	9:58:59	5.72	0.45	1.62	0.03	0.48	1.71	0.03	191.8	1.003
T4_001815.LAB	2/8/2023	9:59:59	5.71	0.46	1.59	0.08	0.49	1.69	0.09	191.8	1.005
T4_001816.LAB	2/8/2023	10:00:59	5.73	0.50	1.60	0.03	0.53	1.70	0.03	191.7	1.004
T4_001817.LAB	2/8/2023	10:01:59	5.71	0.46	1.58	-0.01	0.49	1.68	-0.01	191.7	1.004
T4_001818.LAB	2/8/2023	10:02:59	5.70	0.48	1.58	0.02	0.51	1.67	0.02	191.6	1.004
T4_001819.LAB	2/8/2023	10:03:59	5.70	0.44	1.58	0.11	0.46	1.67	0.12	191.8	1.005
T4_001820.LAB	2/8/2023	10:04:59	5.69	0.45	1.56	-0.05	0.47	1.66	-0.05	191.8	1.005
T4_001821.LAB	2/8/2023	10:05:59	5.69	0.44	1.58	0.00	0.47	1.67	0.00	191.9	1.005
T4_001822.LAB	2/8/2023	10:06:59	5.70	0.49	1.60	0.03	0.52	1.70	0.03	191.9	1.007
02/08/2023 Turbine 4 - Run 4 09:06 - 10:06	Minimum	5.65	0.34	1.44	-0.09	0.36	1.53	-0.10			
	Maximum	5.73	0.50	1.65	0.14	0.53	1.75	0.15			
	Average	5.69	0.42	1.53	0.03	0.45	1.62	0.03			

Turbine 4 - Run 5

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T4_001840.LAB	2/8/2023	10:19:05	5.68	0.42	1.62	-0.01	0.44	1.71	-0.01	191.9	1.003
T4_001841.LAB	2/8/2023	10:20:05	5.68	0.38	1.60	0.04	0.40	1.69	0.04	191.9	1.004
T4_001842.LAB	2/8/2023	10:21:05	5.69	0.40	1.54	0.08	0.43	1.63	0.08	191.8	1.003
T4_001843.LAB	2/8/2023	10:22:05	5.68	0.43	1.58	-0.05	0.45	1.67	-0.05	191.7	1.005
T4_001844.LAB	2/8/2023	10:23:05	5.66	0.41	1.56	0.03	0.43	1.66	0.03	191.7	1.004
T4_001845.LAB	2/8/2023	10:24:04	5.66	0.41	1.60	-0.01	0.43	1.69	-0.01	191.7	1.005
T4_001846.LAB	2/8/2023	10:25:04	5.70	0.39	1.59	0.07	0.41	1.69	0.07	191.8	1.005
T4_001847.LAB	2/8/2023	10:26:05	5.69	0.42	1.60	0.05	0.45	1.70	0.05	191.9	1.004
T4_001848.LAB	2/8/2023	10:27:04	5.70	0.43	1.63	0.04	0.46	1.73	0.05	191.8	1.005
T4_001849.LAB	2/8/2023	10:28:04	5.68	0.47	1.66	0.03	0.50	1.76	0.03	191.7	1.005
T4_001850.LAB	2/8/2023	10:29:04	5.68	0.46	1.71	0.08	0.49	1.81	0.08	191.7	1.003
T4_001851.LAB	2/8/2023	10:30:04	5.69	0.47	1.72	-0.02	0.50	1.82	-0.02	191.7	1.003
T4_001852.LAB	2/8/2023	10:31:04	5.69	0.50	1.68	0.03	0.54	1.78	0.03	191.7	1.003
T4_001853.LAB	2/8/2023	10:32:04	5.69	0.49	1.67	0.00	0.52	1.77	0.00	191.8	1.003
T4_001854.LAB	2/8/2023	10:33:04	5.68	0.41	1.66	0.01	0.44	1.76	0.01	191.8	1.005
T4_001855.LAB	2/8/2023	10:34:04	5.70	0.46	1.66	0.07	0.49	1.76	0.07	191.8	1.003
T4_001856.LAB	2/8/2023	10:35:04	5.68	0.46	1.68	-0.01	0.49	1.78	-0.01	191.7	1.005
T4_001857.LAB	2/8/2023	10:36:04	5.71	0.46	1.67	0.00	0.49	1.77	0.00	191.6	1.005
T4_001858.LAB	2/8/2023	10:37:04	5.70	0.47	1.69	0.05	0.49	1.80	0.05	191.6	1.006
T4_001859.LAB	2/8/2023	10:38:04	5.70	0.50	1.71	0.01	0.53	1.81	0.01	191.7	1.006
T4_001860.LAB	2/8/2023	10:39:04	5.69	0.48	1.75	0.08	0.51	1.86	0.09	191.8	1.005
T4_001861.LAB	2/8/2023	10:40:04	5.70	0.49	1.79	0.10	0.52	1.90	0.10	191.8	1.003
T4_001862.LAB	2/8/2023	10:41:03	5.71	0.53	1.74	0.03	0.56	1.84	0.03	191.8	1.001
T4_001863.LAB	2/8/2023	10:42:03	5.71	0.50	1.71	0.03	0.53	1.82	0.03	191.7	1.002
T4_001864.LAB	2/8/2023	10:43:03	5.69	0.51	1.72	0.01	0.54	1.82	0.01	191.7	1.005
T4_001865.LAB	2/8/2023	10:44:03	5.71	0.49	1.71	-0.07	0.52	1.82	-0.07	191.7	1.005
T4_001866.LAB	2/8/2023	10:45:03	5.70	0.46	1.72	-0.06	0.49	1.83	-0.06	191.7	1.006
T4_001867.LAB	2/8/2023	10:46:03	5.72	0.49	1.74	0.07	0.51	1.84	0.07	191.7	1.005
T4_001868.LAB	2/8/2023	10:47:03	5.70	0.48	1.73	0.04	0.51	1.83	0.04	191.8	1.005
T4_001869.LAB	2/8/2023	10:48:03	5.71	0.50	1.75	0.03	0.53	1.85	0.03	191.7	1.005
T4_001870.LAB	2/8/2023	10:49:03	5.69	0.51	1.78	-0.03	0.54	1.89	-0.03	191.6	1.005
T4_001871.LAB	2/8/2023	10:50:03	5.71	0.54	1.83	0.05	0.57	1.94	0.05	191.6	1.004
T4_001872.LAB	2/8/2023	10:51:03	5.68	0.51	1.82	0.00	0.54	1.93	0.00	191.6	1.005
T4_001873.LAB	2/8/2023	10:52:03	5.68	0.53	1.78	0.04	0.56	1.88	0.04	191.7	1.003
T4_001874.LAB	2/8/2023	10:53:03	5.69	0.52	1.76	0.04	0.55	1.86	0.04	191.7	1.002
T4_001875.LAB	2/8/2023	10:54:03	5.69	0.51	1.75	0.03	0.54	1.86	0.03	191.7	1.004
T4_001876.LAB	2/8/2023	10:55:02	5.68	0.50	1.73	0.03	0.53	1.83	0.03	191.7	1.004
T4_001877.LAB	2/8/2023	10:56:02	5.65	0.45	1.69	0.02	0.47	1.79	0.03	191.8	1.005
T4_001878.LAB	2/8/2023	10:57:02	5.66	0.45	1.70	0.03	0.47	1.80	0.03	191.7	1.005
T4_001879.LAB	2/8/2023	10:58:02	5.66	0.50	1.72	0.05	0.53	1.82	0.05	191.6	1.005
T4_001880.LAB	2/8/2023	10:59:02	5.65	0.45	1.72	0.04	0.48	1.83	0.04	191.6	1.005
T4_001881.LAB	2/8/2023	11:00:02	5.69	0.52	1.75	-0.04	0.55	1.85	-0.05	191.6	1.003
T4_001882.LAB	2/8/2023	11:01:02	5.71	0.51	1.79	0.01	0.54	1.90	0.01	191.6	1.004
T4_001883.LAB	2/8/2023	11:02:02	5.71	0.51	1.77	0.02	0.54	1.87	0.02	191.7	1.003
T4_001884.LAB	2/8/2023	11:03:02	5.70	0.52	1.76	0.02	0.55	1.87	0.02	191.7	1.001
T4_001885.LAB	2/8/2023	11:04:02	5.69	0.50	1.75	0.06	0.53	1.85	0.07	191.6	1.003
T4_001886.LAB	2/8/2023	11:05:02	5.68	0.50	1.74	0.02	0.53	1.85	0.02	191.6	1.005
T4_001887.LAB	2/8/2023	11:06:02	5.68	0.49	1.71	0.04	0.52	1.82	0.05	191.7	1.006
T4_001888.LAB	2/8/2023	11:07:02	5.69	0.46	1.73	-0.01	0.49	1.83	-0.01	191.7	1.005
T4_001889.LAB	2/8/2023	11:08:02	5.68	0.49	1.72	0.05	0.52	1.83	0.05	191.7	1.006
T4_001890.LAB	2/8/2023	11:09:02	5.67	0.50	1.73	0.03	0.53	1.83	0.03	191.7	1.006
T4_001891.LAB	2/8/2023	11:10:02	5.62	0.53	1.76	0.09	0.56	1.86	0.10	191.6	1.004
T4_001892.LAB	2/8/2023	11:11:02	5.64	0.50	1.78	-0.09	0.53	1.89	-0.09	191.6	1.003
T4_001893.LAB	2/8/2023	11:12:01	5.66	0.47	1.78	-0.01	0.49	1.89	-0.01	191.6	1.001
T4_001894.LAB	2/8/2023	11:13:02	5.66	0.46	1.75	0.12	0.49	1.86	0.13	191.7	1.003
T4_001895.LAB	2/8/2023	11:14:01	5.68	0.44	1.73	0.03	0.47	1.84	0.03	191.7	1.004
T4_001896.LAB	2/8/2023	11:15:01	5.67	0.50	1.69	0.06	0.53	1.79	0.06	191.7	1.005
T4_001897.LAB	2/8/2023	11:16:01	5.69	0.48	1.70	0.08	0.51	1.80	0.08	191.7	1.003
T4_001898.LAB	2/8/2023	11:17:01	5.67	0.47	1.70	0.03	0.50	1.80	0.03	191.6	1.005
T4_001899.LAB	2/8/2023	11:18:01	5.69	0.55	1.72	-0.05	0.59	1.82	-0.05	191.6	1.006
T4_001900.LAB	2/8/2023	11:19:01	5.69	0.50	1.72	0.02	0.53	1.82	0.02	191.6	1.006
02/08/2023 Turbine 4 - Run 5 10:19 - 11:19	Minimum		5.62	0.38	1.54	-0.09	0.40	1.63	-0.09		
	Maximum		5.72	0.55	1.83	0.12	0.59	1.94	0.13		
	Average		5.69	0.48	1.71	0.02	0.51	1.81	0.03		

Turbine 4 - Run 6

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T4_001910.LAB	2/8/2023	11:23:04	5.69	0.46	1.73	0.07	0.49	1.84	0.08	191.6	1.002
T4_001911.LAB	2/8/2023	11:24:04	5.71	0.52	1.71	0.11	0.55	1.81	0.12	191.6	1.003
T4_001912.LAB	2/8/2023	11:25:04	5.69	0.50	1.69	-0.02	0.53	1.79	-0.02	191.6	1.002
T4_001913.LAB	2/8/2023	11:26:04	5.69	0.48	1.70	0.04	0.50	1.80	0.04	191.6	1.005
T4_001914.LAB	2/8/2023	11:27:04	5.68	0.49	1.70	0.04	0.52	1.81	0.04	191.6	1.005
T4_001915.LAB	2/8/2023	11:28:04	5.70	0.44	1.67	0.05	0.47	1.78	0.05	191.6	1.004
T4_001916.LAB	2/8/2023	11:29:04	5.68	0.47	1.72	0.00	0.50	1.82	0.00	191.6	1.006
T4_001917.LAB	2/8/2023	11:30:03	5.69	0.48	1.72	-0.01	0.51	1.83	-0.01	191.6	1.006
T4_001918.LAB	2/8/2023	11:31:04	5.68	0.53	1.76	-0.02	0.56	1.87	-0.02	191.6	1.006
T4_001919.LAB	2/8/2023	11:32:03	5.70	0.48	1.79	0.09	0.51	1.90	0.10	191.6	1.004
T4_001920.LAB	2/8/2023	11:33:03	5.70	0.49	1.80	0.02	0.52	1.91	0.02	191.7	1.002
T4_001921.LAB	2/8/2023	11:34:03	5.71	0.47	1.79	0.01	0.50	1.90	0.01	191.7	1.002
T4_001922.LAB	2/8/2023	11:35:03	5.71	0.50	1.74	-0.01	0.53	1.84	-0.01	191.7	1.004
T4_001923.LAB	2/8/2023	11:36:03	5.72	0.52	1.77	-0.01	0.55	1.88	-0.01	191.6	1.003
T4_001924.LAB	2/8/2023	11:37:03	5.72	0.53	1.74	0.02	0.57	1.85	0.02	191.6	1.004
T4_001925.LAB	2/8/2023	11:38:03	5.73	0.55	1.76	0.05	0.58	1.87	0.05	191.6	1.004
T4_001926.LAB	2/8/2023	11:39:03	5.73	0.52	1.74	-0.01	0.55	1.84	-0.01	191.6	1.005
T4_001927.LAB	2/8/2023	11:40:03	5.72	0.50	1.78	0.01	0.53	1.88	0.01	191.6	1.006
T4_001928.LAB	2/8/2023	11:41:03	5.73	0.56	1.83	0.04	0.59	1.94	0.04	191.6	1.005
T4_001929.LAB	2/8/2023	11:42:03	5.71	0.57	1.87	0.06	0.60	1.99	0.06	191.6	1.005
T4_001930.LAB	2/8/2023	11:43:03	5.73	0.55	1.89	0.03	0.59	2.00	0.03	191.6	1.002
T4_001931.LAB	2/8/2023	11:44:03	5.71	0.53	1.83	0.04	0.56	1.94	0.04	191.6	1.004
T4_001932.LAB	2/8/2023	11:45:03	5.74	0.56	1.85	0.00	0.60	1.96	0.00	191.6	1.003
T4_001933.LAB	2/8/2023	11:46:02	5.74	0.53	1.84	0.02	0.57	1.95	0.02	191.6	1.003
T4_001934.LAB	2/8/2023	11:47:02	5.74	0.55	1.83	0.09	0.58	1.95	0.09	191.6	1.003
T4_001935.LAB	2/8/2023	11:48:02	5.71	0.54	1.80	-0.01	0.57	1.91	-0.01	191.6	1.004
T4_001936.LAB	2/8/2023	11:49:02	5.70	0.55	1.81	-0.03	0.58	1.92	-0.03	191.6	1.004
T4_001937.LAB	2/8/2023	11:50:02	5.68	0.52	1.81	0.08	0.55	1.92	0.08	191.6	1.005
T4_001938.LAB	2/8/2023	11:51:02	5.70	0.57	1.84	-0.01	0.60	1.95	-0.01	191.6	1.005
T4_001939.LAB	2/8/2023	11:52:02	5.73	0.56	1.89	0.05	0.59	2.01	0.05	191.6	1.004
T4_001940.LAB	2/8/2023	11:53:02	5.72	0.55	1.89	-0.02	0.58	2.00	-0.02	191.6	1.003
T4_001941.LAB	2/8/2023	11:54:02	5.73	0.51	1.85	0.12	0.54	1.97	0.13	191.6	1.002
T4_001942.LAB	2/8/2023	11:55:02	5.69	0.53	1.82	0.05	0.57	1.93	0.06	191.5	1.004
T4_001943.LAB	2/8/2023	11:56:02	5.70	0.55	1.83	-0.01	0.58	1.94	-0.01	191.6	1.002
T4_001944.LAB	2/8/2023	11:57:02	5.73	0.53	1.80	0.05	0.56	1.91	0.05	191.6	1.003
T4_001945.LAB	2/8/2023	11:58:02	5.72	0.47	1.81	0.10	0.50	1.92	0.11	191.5	1.003
T4_001946.LAB	2/8/2023	11:59:02	5.70	0.57	1.79	0.07	0.60	1.90	0.07	191.5	1.004
T4_001947.LAB	2/8/2023	12:00:02	5.69	0.56	1.78	-0.05	0.60	1.89	-0.06	191.6	1.005
T4_001948.LAB	2/8/2023	12:01:02	5.71	0.54	1.82	0.04	0.58	1.93	0.05	191.6	1.005
T4_001949.LAB	2/8/2023	12:02:01	5.72	0.57	1.85	-0.08	0.61	1.96	-0.08	191.5	1.003
T4_001950.LAB	2/8/2023	12:03:01	5.71	0.57	1.89	0.03	0.61	2.00	0.03	191.6	1.002
T4_001951.LAB	2/8/2023	12:04:01	5.70	0.53	1.83	0.01	0.56	1.94	0.01	191.6	1.003
T4_001952.LAB	2/8/2023	12:05:01	5.71	0.57	1.83	0.11	0.60	1.94	0.12	191.6	1.002
T4_001953.LAB	2/8/2023	12:06:01	5.72	0.60	1.79	-0.01	0.64	1.90	-0.01	191.6	1.001
T4_001954.LAB	2/8/2023	12:07:01	5.71	0.56	1.80	0.02	0.59	1.91	0.03	191.6	1.003
T4_001955.LAB	2/8/2023	12:08:01	5.69	0.54	1.80	-0.01	0.57	1.90	-0.01	191.6	1.004
T4_001956.LAB	2/8/2023	12:09:01	5.68	0.58	1.80	0.00	0.62	1.90	0.00	191.6	1.005
T4_001957.LAB	2/8/2023	12:10:01	5.67	0.52	1.80	0.01	0.55	1.91	0.01	191.6	1.003
T4_001958.LAB	2/8/2023	12:11:01	5.67	0.57	1.79	0.01	0.61	1.90	0.01	191.6	1.005
T4_001959.LAB	2/8/2023	12:12:01	5.70	0.52	1.84	-0.07	0.55	1.96	-0.08	191.6	1.003
T4_001960.LAB	2/8/2023	12:13:01	5.70	0.56	1.88	0.01	0.59	1.99	0.02	191.6	1.001
T4_001961.LAB	2/8/2023	12:14:01	5.68	0.54	1.84	0.02	0.58	1.95	0.03	191.6	1.002
T4_001962.LAB	2/8/2023	12:15:01	5.68	0.55	1.81	-0.04	0.58	1.92	-0.05	191.6	1.002
T4_001963.LAB	2/8/2023	12:16:01	5.68	0.54	1.79	-0.01	0.57	1.90	-0.01	191.6	1.002
T4_001964.LAB	2/8/2023	12:17:00	5.68	0.56	1.78	0.10	0.60	1.89	0.11	191.6	1.004
T4_001965.LAB	2/8/2023	12:18:01	5.66	0.58	1.80	0.06	0.62	1.91	0.07	191.6	1.003
T4_001974.LAB	2/8/2023	12:27:00	5.65	0.53	1.76	0.08	0.56	1.87	0.09	191.6	1.003
T4_001975.LAB	2/8/2023	12:28:00	5.67	0.53	1.76	0.04	0.56	1.86	0.04	191.6	1.003
T4_001976.LAB	2/8/2023	12:29:00	5.67	0.55	1.78	0.02	0.58	1.88	0.02	191.6	1.004
T4_001977.LAB	2/8/2023	12:30:00	5.65	0.49	1.75	0.02	0.52	1.85	0.02	191.6	1.004
T4_001978.LAB	2/8/2023	12:31:00	5.65	0.53	1.77	0.13	0.56	1.88	0.14	191.6	1.005
T4_001979.LAB	2/8/2023	12:32:00	5.66	0.53	1.84	0.04	0.56	1.95	0.05	191.6	1.003
02/08/2023 Turbine 4 - Run 6 11:23 - 12:18 ; 12:27 -	Minimum		5.65	0.44	1.67	-0.08	0.47	1.78	-0.08		
	Maximum		5.74	0.60	1.89	0.13	0.64	2.01	0.14		
	Average		5.70	0.53	1.80	0.03	0.56	1.90	0.03		

Turbine 4 - Run 7

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T4_002018.LAB	2/8/2023	13:05:20	5.66	0.56	1.85	0.00	0.60	1.96	0.00	191.6	1.000
T4_002019.LAB	2/8/2023	13:06:20	5.65	0.53	1.84	0.01	0.56	1.95	0.01	191.6	1.001
T4_002020.LAB	2/8/2023	13:07:20	5.65	0.58	1.84	0.03	0.61	1.95	0.03	191.5	1.002
T4_002021.LAB	2/8/2023	13:08:20	5.65	0.54	1.83	-0.01	0.57	1.94	-0.01	191.6	1.002
T4_002022.LAB	2/8/2023	13:09:20	5.64	0.52	1.83	0.11	0.56	1.94	0.12	191.5	1.002
T4_002023.LAB	2/8/2023	13:10:20	5.64	0.57	1.82	0.02	0.61	1.93	0.02	191.6	1.002
T4_002024.LAB	2/8/2023	13:11:20	5.62	0.50	1.85	0.06	0.53	1.96	0.06	191.6	1.004
T4_002025.LAB	2/8/2023	13:12:20	5.65	0.56	1.88	0.09	0.60	2.00	0.10	191.6	1.002
T4_002026.LAB	2/8/2023	13:13:19	5.63	0.56	1.92	0.03	0.59	2.03	0.04	191.6	1.001
T4_002027.LAB	2/8/2023	13:14:20	5.63	0.57	1.92	0.08	0.61	2.04	0.09	191.6	1.002
T4_002028.LAB	2/8/2023	13:15:19	5.60	0.50	1.87	0.04	0.53	1.98	0.05	191.6	1.001
T4_002029.LAB	2/8/2023	13:16:19	5.69	0.58	1.88	0.03	0.62	2.00	0.03	191.5	1.002
T4_002030.LAB	2/8/2023	13:17:19	5.60	0.52	1.85	0.04	0.55	1.95	0.05	191.5	1.003
T4_002031.LAB	2/8/2023	13:18:19	5.67	0.58	1.88	0.08	0.62	1.99	0.08	191.5	1.001
T4_002032.LAB	2/8/2023	13:19:19	5.66	0.56	1.87	0.03	0.59	1.98	0.03	191.6	1.001
T4_002033.LAB	2/8/2023	13:20:19	5.66	0.53	1.84	0.04	0.57	1.95	0.04	191.6	1.002
T4_002034.LAB	2/8/2023	13:21:19	5.66	0.55	1.85	0.13	0.58	1.96	0.13	191.6	1.003
T4_002035.LAB	2/8/2023	13:22:19	5.68	0.59	1.91	0.02	0.62	2.02	0.03	191.6	1.002
T4_002036.LAB	2/8/2023	13:23:19	5.65	0.56	1.96	0.11	0.59	2.07	0.12	191.6	1.002
T4_002037.LAB	2/8/2023	13:24:19	5.66	0.60	1.96	-0.07	0.64	2.08	-0.08	191.6	1.000
T4_002038.LAB	2/8/2023	13:25:19	5.67	0.54	1.90	0.07	0.57	2.02	0.07	191.6	0.999
T4_002039.LAB	2/8/2023	13:26:19	5.67	0.57	1.89	-0.02	0.61	2.00	-0.02	191.6	0.999
T4_002040.LAB	2/8/2023	13:27:19	5.67	0.58	1.86	-0.02	0.62	1.97	-0.02	191.6	1.001
T4_002041.LAB	2/8/2023	13:28:19	5.68	0.61	1.87	0.08	0.64	1.98	0.08	191.6	1.002
T4_002042.LAB	2/8/2023	13:29:18	5.65	0.56	1.86	0.06	0.59	1.97	0.06	191.6	1.002
T4_002043.LAB	2/8/2023	13:30:19	5.63	0.56	1.84	-0.04	0.59	1.95	-0.05	191.6	1.002
T4_002044.LAB	2/8/2023	13:31:18	5.61	0.56	1.83	-0.02	0.59	1.94	-0.03	191.6	1.003
T4_002045.LAB	2/8/2023	13:32:19	5.63	0.58	1.86	0.08	0.62	1.97	0.08	191.6	1.003
T4_002046.LAB	2/8/2023	13:33:18	5.64	0.54	1.92	0.05	0.57	2.04	0.05	191.6	1.001
T4_002047.LAB	2/8/2023	13:34:18	5.64	0.57	1.96	0.06	0.61	2.08	0.06	191.6	1.001
T4_002048.LAB	2/8/2023	13:35:18	5.63	0.58	1.92	0.03	0.61	2.04	0.03	191.6	1.000
T4_002049.LAB	2/8/2023	13:36:18	5.63	0.59	1.87	0.06	0.62	1.99	0.07	191.6	1.000
T4_002050.LAB	2/8/2023	13:37:18	5.64	0.58	1.89	-0.01	0.61	2.01	-0.01	191.6	1.000
T4_002051.LAB	2/8/2023	13:38:18	5.66	0.55	1.89	-0.03	0.59	2.01	-0.03	191.6	1.000
T4_002052.LAB	2/8/2023	13:39:18	5.63	0.57	1.84	0.02	0.60	1.95	0.02	191.6	1.002
T4_002053.LAB	2/8/2023	13:40:18	5.64	0.61	1.88	0.05	0.64	1.99	0.05	191.6	1.002
T4_002054.LAB	2/8/2023	13:41:18	5.64	0.58	1.85	0.02	0.61	1.96	0.02	191.6	1.001
T4_002055.LAB	2/8/2023	13:42:18	5.64	0.57	1.89	0.09	0.61	2.00	0.10	191.6	1.003
T4_002056.LAB	2/8/2023	13:43:18	5.63	0.55	1.92	0.03	0.58	2.03	0.03	191.6	1.001
T4_002057.LAB	2/8/2023	13:44:18	5.63	0.58	1.97	0.03	0.62	2.08	0.03	191.6	1.001
T4_002058.LAB	2/8/2023	13:45:17	5.65	0.61	1.98	0.02	0.65	2.10	0.02	191.6	0.998
T4_002059.LAB	2/8/2023	13:46:17	5.64	0.56	1.92	0.06	0.60	2.03	0.06	191.6	1.001
T4_002060.LAB	2/8/2023	13:47:17	5.66	0.56	1.90	0.01	0.59	2.02	0.01	191.6	1.001
T4_002061.LAB	2/8/2023	13:48:17	5.64	0.54	1.86	-0.01	0.57	1.97	-0.02	191.6	1.001
T4_002062.LAB	2/8/2023	13:49:17	5.65	0.57	1.86	-0.10	0.60	1.97	-0.10	191.5	1.001
T4_002063.LAB	2/8/2023	13:50:17	5.66	0.56	1.90	0.01	0.59	2.01	0.01	191.6	1.002
T4_002064.LAB	2/8/2023	13:51:17	5.67	0.56	1.89	0.09	0.60	2.00	0.09	191.6	1.002
T4_002065.LAB	2/8/2023	13:52:17	5.64	0.56	1.88	0.05	0.59	1.99	0.06	191.6	1.003
T4_002066.LAB	2/8/2023	13:53:17	5.64	0.57	1.88	0.03	0.60	1.99	0.03	191.6	1.002
T4_002067.LAB	2/8/2023	13:54:17	5.63	0.59	1.92	0.01	0.63	2.03	0.01	191.6	1.002
T4_002068.LAB	2/8/2023	13:55:17	5.65	0.61	1.96	0.02	0.65	2.08	0.03	191.6	1.000
T4_002069.LAB	2/8/2023	13:56:17	5.66	0.59	1.93	0.02	0.62	2.04	0.02	191.6	1.000
T4_002070.LAB	2/8/2023	13:57:17	5.65	0.53	1.89	0.03	0.56	2.00	0.03	191.5	1.000
T4_002071.LAB	2/8/2023	13:58:17	5.65	0.57	1.89	-0.02	0.61	2.00	-0.02	191.5	1.000
T4_002072.LAB	2/8/2023	13:59:17	5.64	0.56	1.87	0.10	0.59	1.98	0.11	191.5	1.000
T4_002073.LAB	2/8/2023	14:00:17	5.65	0.55	1.87	-0.08	0.59	1.98	-0.09	191.5	1.001
T4_002074.LAB	2/8/2023	14:01:17	5.66	0.55	1.89	0.01	0.58	2.01	0.01	191.5	1.000
T4_002075.LAB	2/8/2023	14:02:16	5.65	0.56	1.87	0.05	0.59	1.98	0.05	191.5	1.002
T4_002076.LAB	2/8/2023	14:03:16	5.66	0.56	1.88	0.05	0.60	1.99	0.06	191.6	1.002
T4_002077.LAB	2/8/2023	14:04:16	5.65	0.54	1.92	-0.05	0.57	2.03	-0.05	191.5	1.002
T4_002078.LAB	2/8/2023	14:05:16	5.64	0.57	1.94	0.00	0.61	2.05	0.00	191.5	1.001
02/08/2023 Turbine 4 - Run 7 13:05 - 14:05	Minimum		5.60	0.50	1.82	-0.10	0.53	1.93	-0.10		
	Maximum		5.69	0.61	1.98	0.13	0.65	2.10	0.13		
	Average		5.65	0.56	1.89	0.03	0.60	2.00	0.03		

Turbine 5 - Run 1

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T5_003226.LAB	2/14/2023	9:15:11	6.03	0.26	1.29	0.14	0.28	1.37	0.15	191.9	1.004
T5_003227.LAB	2/14/2023	9:16:11	6.02	0.28	1.24	0.09	0.29	1.32	0.09	191.9	1.004
T5_003228.LAB	2/14/2023	9:17:11	6.03	0.26	1.23	0.18	0.28	1.31	0.19	191.8	1.004
T5_003229.LAB	2/14/2023	9:18:11	6.04	0.25	1.24	0.05	0.27	1.32	0.05	191.8	1.005
T5_003230.LAB	2/14/2023	9:19:11	6.04	0.26	1.23	0.12	0.27	1.30	0.13	191.8	1.007
T5_003231.LAB	2/14/2023	9:20:11	6.03	0.28	1.23	0.06	0.30	1.30	0.07	191.8	1.007
T5_003232.LAB	2/14/2023	9:21:11	6.03	0.27	1.21	0.13	0.28	1.29	0.14	191.8	1.007
T5_003233.LAB	2/14/2023	9:22:11	6.02	0.29	1.25	0.04	0.31	1.33	0.04	191.8	1.005
T5_003234.LAB	2/14/2023	9:23:11	5.99	0.27	1.25	0.15	0.29	1.33	0.16	191.8	1.006
T5_003235.LAB	2/14/2023	9:24:10	6.02	0.27	1.26	0.04	0.29	1.34	0.04	191.8	1.003
T5_003236.LAB	2/14/2023	9:25:11	5.99	0.31	1.23	0.14	0.33	1.30	0.15	191.8	1.003
T5_003237.LAB	2/14/2023	9:26:10	5.97	0.27	1.19	0.07	0.29	1.27	0.08	191.8	1.006
T5_003238.LAB	2/14/2023	9:27:10	5.99	0.28	1.15	0.15	0.30	1.23	0.16	191.9	1.005
T5_003239.LAB	2/14/2023	9:28:10	5.97	0.26	1.17	0.11	0.28	1.25	0.12	191.9	1.006
T5_003240.LAB	2/14/2023	9:29:10	5.97	0.24	1.16	0.15	0.26	1.24	0.16	191.9	1.006
T5_003241.LAB	2/14/2023	9:30:10	5.97	0.25	1.16	0.12	0.26	1.23	0.12	191.9	1.007
T5_003242.LAB	2/14/2023	9:31:10	5.97	0.27	1.15	0.08	0.28	1.22	0.09	191.9	1.007
T5_003243.LAB	2/14/2023	9:32:10	5.97	0.26	1.20	0.15	0.28	1.28	0.16	191.8	1.005
T5_003244.LAB	2/14/2023	9:33:10	5.96	0.30	1.23	0.19	0.32	1.31	0.20	191.7	1.005
T5_003245.LAB	2/14/2023	9:34:10	5.94	0.27	1.22	0.12	0.29	1.30	0.12	191.7	1.005
T5_003246.LAB	2/14/2023	9:35:10	5.93	0.27	1.17	0.19	0.29	1.24	0.20	191.7	1.005
T5_003247.LAB	2/14/2023	9:36:10	5.95	0.25	1.18	0.12	0.26	1.25	0.12	191.8	1.005
T5_003248.LAB	2/14/2023	9:37:10	5.94	0.23	1.13	0.10	0.25	1.21	0.10	191.9	1.004
T5_003249.LAB	2/14/2023	9:38:10	5.93	0.22	1.12	0.11	0.24	1.19	0.11	191.9	1.006
T5_003250.LAB	2/14/2023	9:39:10	5.90	0.25	1.14	0.07	0.26	1.21	0.07	191.8	1.006
T5_003251.LAB	2/14/2023	9:40:09	5.90	0.25	1.13	0.06	0.26	1.20	0.06	191.8	1.007
T5_003252.LAB	2/14/2023	9:41:09	5.86	0.27	1.10	0.06	0.29	1.17	0.06	191.8	1.007
T5_003253.LAB	2/14/2023	9:42:09	5.88	0.23	1.14	0.04	0.25	1.21	0.04	191.7	1.006
T5_003254.LAB	2/14/2023	9:43:09	5.86	0.23	1.18	0.09	0.24	1.26	0.09	191.7	1.005
T5_003255.LAB	2/14/2023	9:44:09	5.85	0.31	1.22	0.06	0.33	1.30	0.06	191.7	1.003
T5_003256.LAB	2/14/2023	9:45:09	5.83	0.26	1.18	0.04	0.28	1.25	0.04	191.8	1.002
T5_003257.LAB	2/14/2023	9:46:09	5.83	0.29	1.15	0.14	0.31	1.23	0.15	191.8	1.005
T5_003258.LAB	2/14/2023	9:47:09	5.85	0.23	1.15	0.14	0.25	1.23	0.15	191.8	1.003
T5_003259.LAB	2/14/2023	9:48:09	5.82	0.24	1.14	0.05	0.25	1.21	0.05	191.8	1.007
T5_003260.LAB	2/14/2023	9:49:09	5.81	0.27	1.11	0.10	0.29	1.18	0.11	191.8	1.005
T5_003261.LAB	2/14/2023	9:50:09	5.79	0.26	1.14	0.05	0.27	1.21	0.05	191.8	1.006
T5_003262.LAB	2/14/2023	9:51:09	5.76	0.28	1.11	0.09	0.30	1.18	0.10	191.8	1.008
T5_003263.LAB	2/14/2023	9:52:09	5.76	0.26	1.15	0.07	0.28	1.22	0.08	191.8	1.007
T5_003264.LAB	2/14/2023	9:53:09	5.77	0.31	1.20	0.11	0.33	1.28	0.12	191.8	1.007
T5_003265.LAB	2/14/2023	9:54:09	5.76	0.25	1.19	0.09	0.26	1.27	0.10	191.7	1.004
T5_003266.LAB	2/14/2023	9:55:08	5.76	0.30	1.20	0.03	0.31	1.27	0.03	191.7	1.003
T5_003267.LAB	2/14/2023	9:56:09	5.74	0.31	1.19	0.12	0.33	1.27	0.13	191.7	1.004
T5_003268.LAB	2/14/2023	9:57:08	5.76	0.30	1.16	0.12	0.32	1.23	0.13	191.7	1.004
T5_003269.LAB	2/14/2023	9:58:08	5.74	0.28	1.17	0.06	0.30	1.24	0.06	191.6	1.004
T5_003270.LAB	2/14/2023	9:59:08	5.74	0.28	1.16	0.06	0.30	1.23	0.07	191.7	1.006
T5_003271.LAB	2/14/2023	10:00:08	5.74	0.23	1.15	0.07	0.25	1.22	0.08	191.7	1.005
T5_003272.LAB	2/14/2023	10:01:08	5.73	0.27	1.16	-0.02	0.28	1.23	-0.02	191.8	1.008
T5_003273.LAB	2/14/2023	10:02:08	5.73	0.23	1.19	0.11	0.25	1.26	0.12	191.9	1.006
T5_003274.LAB	2/14/2023	10:03:08	5.71	0.27	1.20	0.03	0.29	1.28	0.03	191.9	1.006
T5_003275.LAB	2/14/2023	10:04:08	5.70	0.29	1.24	0.12	0.30	1.31	0.13	191.9	1.005
T5_003276.LAB	2/14/2023	10:05:08	5.69	0.31	1.25	0.07	0.33	1.33	0.08	191.9	1.004
T5_003277.LAB	2/14/2023	10:06:08	5.73	0.31	1.21	0.12	0.33	1.28	0.12	191.8	1.004
T5_003278.LAB	2/14/2023	10:07:08	5.71	0.26	1.20	0.06	0.28	1.27	0.06	191.7	1.004
T5_003279.LAB	2/14/2023	10:08:08	5.70	0.30	1.17	0.00	0.32	1.24	0.00	191.7	1.004
T5_003280.LAB	2/14/2023	10:09:08	5.72	0.29	1.17	0.08	0.31	1.25	0.08	191.7	1.004
T5_003281.LAB	2/14/2023	10:10:07	5.72	0.30	1.15	0.03	0.32	1.22	0.03	191.7	1.005
T5_003282.LAB	2/14/2023	10:11:08	5.72	0.28	1.19	0.03	0.29	1.26	0.03	191.8	1.007
T5_003283.LAB	2/14/2023	10:12:08	5.70	0.26	1.16	0.07	0.27	1.23	0.08	191.9	1.007
T5_003284.LAB	2/14/2023	10:13:07	5.67	0.25	1.17	0.08	0.27	1.24	0.09	191.9	1.006
T5_003285.LAB	2/14/2023	10:14:07	5.69	0.30	1.23	0.16	0.32	1.30	0.16	191.9	1.005
T5_003286.LAB	2/14/2023	10:15:07	5.69	0.28	1.25	0.09	0.29	1.32	0.09	191.8	1.004
02/14/2023 Turbine 5 - Run 1 9:15 - 10:15	Minimum		5.67	0.22	1.10	-0.02	0.24	1.17	-0.02		
	Maximum		6.04	0.31	1.29	0.19	0.33	1.37	0.20		
	Average		5.85	0.27	1.19	0.09	0.29	1.26	0.10		

Turbine 5 - Run 2

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T5_003297.LAB	2/14/2023	10:20:08	5.68	0.28	1.14	0.12	0.30	1.21	0.13	191.9	1.007
T5_003298.LAB	2/14/2023	10:21:08	5.67	0.24	1.15	0.12	0.26	1.22	0.12	191.8	1.007
T5_003299.LAB	2/14/2023	10:22:08	5.67	0.26	1.14	0.15	0.28	1.21	0.16	191.8	1.007
T5_003300.LAB	2/14/2023	10:23:08	5.67	0.26	1.16	0.06	0.27	1.23	0.07	191.8	1.007
T5_003301.LAB	2/14/2023	10:24:08	5.68	0.25	1.19	0.09	0.27	1.27	0.09	191.8	1.004
T5_003302.LAB	2/14/2023	10:25:08	5.68	0.30	1.23	0.04	0.32	1.30	0.04	191.8	1.005
T5_003303.LAB	2/14/2023	10:26:08	5.69	0.27	1.23	0.17	0.28	1.31	0.18	191.8	1.004
T5_003304.LAB	2/14/2023	10:27:08	5.69	0.24	1.21	0.04	0.25	1.28	0.04	191.8	1.004
T5_003305.LAB	2/14/2023	10:28:08	5.69	0.27	1.21	0.04	0.28	1.29	0.04	191.8	1.004
T5_003306.LAB	2/14/2023	10:29:08	5.67	0.27	1.18	0.00	0.28	1.26	0.00	191.8	1.006
T5_003307.LAB	2/14/2023	10:30:08	5.70	0.27	1.19	-0.06	0.28	1.27	-0.07	191.8	1.006
T5_003308.LAB	2/14/2023	10:31:08	5.71	0.26	1.18	0.00	0.28	1.26	0.01	191.7	1.005
T5_003309.LAB	2/14/2023	10:32:08	5.69	0.25	1.21	0.04	0.26	1.28	0.04	191.8	1.007
T5_003310.LAB	2/14/2023	10:33:08	5.68	0.28	1.20	0.16	0.29	1.28	0.17	191.8	1.007
T5_003311.LAB	2/14/2023	10:34:07	5.70	0.25	1.25	0.01	0.26	1.32	0.01	191.9	1.007
T5_003312.LAB	2/14/2023	10:35:07	5.69	0.25	1.28	0.11	0.26	1.36	0.11	191.8	1.005
T5_003313.LAB	2/14/2023	10:36:07	5.69	0.26	1.28	0.09	0.27	1.36	0.09	191.8	1.005
T5_003314.LAB	2/14/2023	10:37:07	5.71	0.24	1.25	0.08	0.26	1.33	0.08	191.7	1.004
T5_003315.LAB	2/14/2023	10:38:07	5.72	0.32	1.24	0.13	0.34	1.31	0.14	191.7	1.003
T5_003316.LAB	2/14/2023	10:39:07	5.67	0.29	1.22	0.10	0.31	1.29	0.11	191.7	1.006
T5_003317.LAB	2/14/2023	10:40:07	5.69	0.28	1.22	0.05	0.30	1.29	0.06	191.8	1.004
T5_003318.LAB	2/14/2023	10:41:07	5.73	0.27	1.25	0.01	0.29	1.32	0.01	191.9	1.005
T5_003319.LAB	2/14/2023	10:42:07	5.70	0.29	1.21	0.03	0.31	1.28	0.03	191.9	1.008
T5_003320.LAB	2/14/2023	10:43:07	5.71	0.31	1.25	0.03	0.33	1.33	0.03	191.8	1.008
T5_003321.LAB	2/14/2023	10:44:07	5.71	0.28	1.27	0.04	0.30	1.35	0.04	191.8	1.006
T5_003322.LAB	2/14/2023	10:45:07	5.71	0.29	1.31	0.06	0.31	1.39	0.07	191.7	1.005
T5_003323.LAB	2/14/2023	10:46:07	5.68	0.29	1.33	0.13	0.31	1.41	0.14	191.7	1.003
T5_003324.LAB	2/14/2023	10:47:07	5.70	0.29	1.32	0.07	0.31	1.40	0.07	191.7	1.003
T5_003325.LAB	2/14/2023	10:48:07	5.72	0.31	1.29	0.11	0.33	1.36	0.12	191.8	1.003
T5_003326.LAB	2/14/2023	10:49:06	5.71	0.29	1.26	0.02	0.31	1.34	0.02	191.8	1.005
T5_003327.LAB	2/14/2023	10:50:06	5.69	0.29	1.28	0.07	0.31	1.35	0.08	191.8	1.006
T5_003328.LAB	2/14/2023	10:51:06	5.68	0.27	1.23	0.10	0.29	1.31	0.10	191.8	1.006
T5_003329.LAB	2/14/2023	10:52:07	5.69	0.26	1.28	0.09	0.28	1.35	0.09	191.7	1.006
T5_003330.LAB	2/14/2023	10:53:06	5.69	0.28	1.25	0.11	0.29	1.32	0.12	191.7	1.007
T5_003331.LAB	2/14/2023	10:54:06	5.72	0.28	1.28	0.01	0.30	1.35	0.02	191.7	1.007
T5_003332.LAB	2/14/2023	10:55:06	5.68	0.32	1.33	0.15	0.34	1.41	0.16	191.8	1.005
T5_003333.LAB	2/14/2023	10:56:06	5.71	0.31	1.35	0.08	0.33	1.43	0.08	191.9	1.004
T5_003334.LAB	2/14/2023	10:57:06	5.71	0.32	1.32	0.13	0.34	1.40	0.14	191.9	1.004
T5_003335.LAB	2/14/2023	10:58:06	5.74	0.33	1.31	0.02	0.35	1.39	0.02	191.8	1.004
T5_003336.LAB	2/14/2023	10:59:06	5.70	0.32	1.29	0.05	0.34	1.37	0.05	191.7	1.004
T5_003337.LAB	2/14/2023	11:00:06	5.66	0.33	1.26	0.02	0.35	1.34	0.02	191.6	1.006
T5_003338.LAB	2/14/2023	11:01:06	5.68	0.32	1.26	0.13	0.34	1.34	0.13	191.6	1.005
T5_003339.LAB	2/14/2023	11:02:06	5.70	0.36	1.27	0.05	0.38	1.35	0.06	191.7	1.005
T5_003340.LAB	2/14/2023	11:03:06	5.67	0.31	1.27	0.09	0.32	1.34	0.09	191.8	1.007
T5_003341.LAB	2/14/2023	11:04:06	5.70	0.31	1.26	0.05	0.32	1.34	0.06	191.8	1.007
T5_003342.LAB	2/14/2023	11:05:05	5.72	0.37	1.34	0.12	0.39	1.42	0.13	191.9	1.006
T5_003343.LAB	2/14/2023	11:06:05	5.70	0.29	1.37	0.02	0.31	1.45	0.02	191.8	1.004
T5_003344.LAB	2/14/2023	11:07:06	5.70	0.32	1.35	0.08	0.34	1.43	0.08	191.7	1.004
T5_003345.LAB	2/14/2023	11:08:05	5.68	0.33	1.32	0.04	0.35	1.40	0.04	191.7	1.005
T5_003346.LAB	2/14/2023	11:09:05	5.71	0.31	1.31	0.17	0.33	1.39	0.18	191.8	1.003
T5_003347.LAB	2/14/2023	11:10:05	5.72	0.35	1.28	0.10	0.37	1.35	0.11	191.9	1.005
T5_003348.LAB	2/14/2023	11:11:05	5.70	0.34	1.28	0.12	0.36	1.36	0.13	191.9	1.007
T5_003349.LAB	2/14/2023	11:12:05	5.74	0.31	1.31	0.13	0.33	1.39	0.14	191.9	1.006
T5_003350.LAB	2/14/2023	11:13:05	5.75	0.34	1.28	0.11	0.36	1.36	0.11	191.8	1.005
T5_003351.LAB	2/14/2023	11:14:05	5.70	0.30	1.29	0.09	0.31	1.37	0.10	191.6	1.006
T5_003352.LAB	2/14/2023	11:15:05	5.70	0.37	1.33	0.03	0.39	1.41	0.03	191.6	1.005
T5_003353.LAB	2/14/2023	11:16:05	5.73	0.31	1.35	0.11	0.33	1.43	0.11	191.6	1.003
T5_003354.LAB	2/14/2023	11:17:05	5.69	0.32	1.33	0.16	0.34	1.41	0.17	191.7	1.003
T5_003355.LAB	2/14/2023	11:18:05	5.71	0.31	1.29	0.06	0.33	1.37	0.06	191.8	1.003
T5_003356.LAB	2/14/2023	11:19:05	5.72	0.35	1.25	0.06	0.37	1.32	0.07	191.8	1.001
T5_003357.LAB	2/14/2023	11:20:05	5.71	0.32	1.24	0.12	0.34	1.31	0.12	191.8	1.004
02/14/2023 Turbine 5 - Run 2 10:20 - 11:20	Minimum		5.66	0.24	1.14	-0.06	0.25	1.21	-0.07		
	Maximum		5.75	0.37	1.37	0.17	0.39	1.45	0.18		
	Average		5.70	0.30	1.26	0.08	0.31	1.34	0.08		

Turbine 5 - Run 3

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T5_003368.LAB	2/14/2023	11:25:38	5.73	0.27	1.24	0.12	0.29	1.31	0.12	191.9	1.004
T5_003369.LAB	2/14/2023	11:26:38	5.73	0.28	1.27	0.11	0.30	1.35	0.11	191.9	1.002
T5_003370.LAB	2/14/2023	11:27:38	5.68	0.31	1.26	0.11	0.33	1.33	0.12	191.9	1.004
T5_003371.LAB	2/14/2023	11:28:38	5.69	0.29	1.23	0.07	0.31	1.30	0.08	191.8	1.003
T5_003372.LAB	2/14/2023	11:29:38	5.71	0.29	1.22	0.06	0.31	1.30	0.07	191.7	1.002
T5_003373.LAB	2/14/2023	11:30:38	5.70	0.25	1.21	0.01	0.27	1.29	0.01	191.7	1.005
T5_003374.LAB	2/14/2023	11:31:38	5.71	0.29	1.21	0.13	0.30	1.29	0.14	191.7	1.004
T5_003375.LAB	2/14/2023	11:32:38	5.71	0.25	1.23	0.10	0.26	1.30	0.11	191.7	1.003
T5_003376.LAB	2/14/2023	11:33:37	5.69	0.27	1.26	0.02	0.29	1.33	0.02	191.8	1.007
T5_003377.LAB	2/14/2023	11:34:37	5.74	0.30	1.25	0.11	0.31	1.33	0.12	191.9	1.005
T5_003378.LAB	2/14/2023	11:35:38	5.73	0.29	1.32	0.08	0.31	1.40	0.08	191.8	1.004
T5_003379.LAB	2/14/2023	11:36:37	5.64	0.28	1.33	0.09	0.29	1.41	0.09	191.7	1.003
T5_003380.LAB	2/14/2023	11:37:37	5.65	0.31	1.32	0.11	0.33	1.40	0.12	191.6	1.003
T5_003381.LAB	2/14/2023	11:38:37	5.69	0.30	1.29	0.09	0.32	1.37	0.10	191.6	1.004
T5_003382.LAB	2/14/2023	11:39:37	5.70	0.26	1.29	0.11	0.28	1.37	0.11	191.7	1.003
T5_003383.LAB	2/14/2023	11:40:37	5.71	0.28	1.27	0.20	0.29	1.35	0.22	191.8	1.004
T5_003384.LAB	2/14/2023	11:41:37	5.71	0.30	1.28	0.04	0.32	1.36	0.04	191.9	1.005
T5_003385.LAB	2/14/2023	11:42:37	5.69	0.31	1.27	0.04	0.33	1.35	0.05	191.8	1.005
T5_003386.LAB	2/14/2023	11:43:37	5.69	0.32	1.29	0.12	0.34	1.37	0.12	191.7	1.005
T5_003387.LAB	2/14/2023	11:44:37	5.69	0.32	1.29	0.05	0.34	1.37	0.05	191.6	1.006
T5_003388.LAB	2/14/2023	11:45:37	5.69	0.31	1.33	0.10	0.33	1.41	0.11	191.6	1.004
T5_003389.LAB	2/14/2023	11:46:37	5.68	0.34	1.37	0.13	0.36	1.45	0.14	191.6	1.003
T5_003390.LAB	2/14/2023	11:47:37	5.69	0.35	1.37	0.00	0.37	1.45	0.01	191.7	1.002
T5_003391.LAB	2/14/2023	11:48:37	5.70	0.30	1.35	-0.03	0.32	1.43	-0.03	191.8	1.001
T5_003392.LAB	2/14/2023	11:49:36	5.68	0.29	1.30	0.22	0.31	1.38	0.24	191.8	1.003
T5_003393.LAB	2/14/2023	11:50:36	5.71	0.31	1.34	0.08	0.32	1.42	0.09	191.8	1.003
T5_003394.LAB	2/14/2023	11:51:36	5.69	0.33	1.31	0.05	0.35	1.39	0.05	191.7	1.004
T5_003395.LAB	2/14/2023	11:52:37	5.71	0.34	1.32	0.11	0.36	1.40	0.11	191.6	1.004
T5_003396.LAB	2/14/2023	11:53:36	5.68	0.31	1.31	0.08	0.33	1.39	0.09	191.6	1.003
T5_003397.LAB	2/14/2023	11:54:36	5.67	0.34	1.30	0.10	0.36	1.38	0.10	191.7	1.005
T5_003398.LAB	2/14/2023	11:55:36	5.69	0.32	1.33	0.11	0.34	1.41	0.11	191.7	1.005
T5_003399.LAB	2/14/2023	11:56:36	5.67	0.35	1.37	0.11	0.37	1.45	0.12	191.8	1.004
T5_003400.LAB	2/14/2023	11:57:36	5.71	0.37	1.40	0.08	0.39	1.49	0.09	191.8	1.002
T5_003401.LAB	2/14/2023	11:58:36	5.70	0.35	1.36	0.04	0.37	1.44	0.04	191.7	1.003
T5_003402.LAB	2/14/2023	11:59:36	5.69	0.34	1.33	0.03	0.37	1.41	0.03	191.6	1.002
T5_003403.LAB	2/14/2023	12:00:36	5.68	0.35	1.31	0.05	0.37	1.39	0.06	191.7	1.002
T5_003404.LAB	2/14/2023	12:01:36	5.68	0.36	1.31	0.10	0.38	1.39	0.10	191.7	1.002
T5_003405.LAB	2/14/2023	12:02:36	5.66	0.35	1.28	0.05	0.37	1.35	0.06	191.8	1.003
T5_003406.LAB	2/14/2023	12:03:36	5.67	0.31	1.30	0.14	0.33	1.37	0.14	191.9	1.003
T5_003407.LAB	2/14/2023	12:04:36	5.67	0.34	1.30	0.12	0.36	1.38	0.12	191.9	1.003
T5_003408.LAB	2/14/2023	12:05:35	5.67	0.32	1.31	0.04	0.34	1.39	0.04	191.8	1.005
T5_003409.LAB	2/14/2023	12:06:35	5.67	0.34	1.38	0.14	0.36	1.47	0.15	191.7	1.005
T5_003410.LAB	2/14/2023	12:07:36	5.65	0.34	1.38	0.03	0.36	1.47	0.03	191.7	1.003
T5_003411.LAB	2/14/2023	12:08:35	5.70	0.36	1.38	0.05	0.39	1.46	0.06	191.7	1.002
T5_003412.LAB	2/14/2023	12:09:35	5.67	0.35	1.37	-0.03	0.37	1.45	-0.03	191.6	1.002
T5_003421.LAB	2/14/2023	12:18:35	5.64	0.37	1.39	0.09	0.40	1.48	0.09	191.8	1.002
T5_003422.LAB	2/14/2023	12:19:35	5.66	0.39	1.36	0.09	0.41	1.45	0.10	191.8	1.002
T5_003423.LAB	2/14/2023	12:20:34	5.67	0.37	1.36	0.03	0.39	1.44	0.03	191.8	1.001
T5_003424.LAB	2/14/2023	12:21:35	5.67	0.38	1.35	0.10	0.40	1.43	0.11	191.7	1.002
T5_003425.LAB	2/14/2023	12:22:34	5.65	0.37	1.35	0.10	0.40	1.43	0.11	191.6	1.004
T5_003426.LAB	2/14/2023	12:23:34	5.67	0.39	1.36	0.08	0.42	1.44	0.08	191.6	1.004
T5_003427.LAB	2/14/2023	12:24:34	5.66	0.38	1.34	0.11	0.40	1.42	0.11	191.6	1.004
T5_003428.LAB	2/14/2023	12:25:34	5.63	0.37	1.35	0.09	0.39	1.43	0.09	191.7	1.004
T5_003429.LAB	2/14/2023	12:26:34	5.67	0.37	1.42	0.08	0.39	1.50	0.08	191.8	1.004
T5_003430.LAB	2/14/2023	12:27:34	5.64	0.40	1.44	0.04	0.42	1.53	0.05	191.8	1.003
T5_003431.LAB	2/14/2023	12:28:34	5.67	0.38	1.44	0.08	0.40	1.52	0.09	191.7	1.001
T5_003432.LAB	2/14/2023	12:29:34	5.68	0.35	1.41	0.14	0.37	1.49	0.15	191.7	1.002
T5_003433.LAB	2/14/2023	12:30:34	5.68	0.37	1.34	0.12	0.39	1.42	0.12	191.6	1.001
T5_003434.LAB	2/14/2023	12:31:34	5.63	0.35	1.36	0.11	0.37	1.44	0.12	191.6	1.001
T5_003435.LAB	2/14/2023	12:32:34	5.61	0.39	1.31	0.12	0.42	1.39	0.13	191.7	1.002
T5_003436.LAB	2/14/2023	12:33:34	5.66	0.36	1.33	0.13	0.38	1.41	0.14	191.7	1.004
T5_003437.LAB	2/14/2023	12:34:34	5.63	0.39	1.32	0.17	0.41	1.40	0.18	191.8	1.004
02/14/2023 Turbine 5 - Run 3 11:25 - 12:09; 12:18 -	Minimum		5.61	0.25	1.21	-0.03	0.26	1.29	-0.03		
	Maximum		5.74	0.40	1.44	0.22	0.42	1.53	0.24		
	Average		5.68	0.33	1.32	0.09	0.35	1.40	0.09		

Turbine 5 - Run 4

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T5_003449.LAB	2/14/2023	12:40:57	5.64	0.37	1.31	-0.03	0.39	1.39	-0.03	191.7	1.001
T5_003450.LAB	2/14/2023	12:41:57	5.63	0.34	1.27	0.00	0.36	1.35	0.00	191.8	1.003
T5_003451.LAB	2/14/2023	12:42:57	5.63	0.34	1.30	0.09	0.36	1.38	0.09	191.8	1.004
T5_003452.LAB	2/14/2023	12:43:56	5.64	0.32	1.29	0.10	0.34	1.36	0.10	191.7	1.003
T5_003453.LAB	2/14/2023	12:44:56	5.64	0.35	1.32	0.05	0.37	1.40	0.05	191.6	1.002
T5_003454.LAB	2/14/2023	12:45:56	5.63	0.37	1.32	0.07	0.39	1.40	0.07	191.6	1.005
T5_003455.LAB	2/14/2023	12:46:56	5.62	0.36	1.36	0.09	0.38	1.44	0.09	191.6	1.004
T5_003456.LAB	2/14/2023	12:47:56	5.60	0.34	1.39	0.00	0.36	1.47	0.00	191.7	1.002
T5_003457.LAB	2/14/2023	12:48:56	5.62	0.34	1.41	0.06	0.36	1.49	0.06	191.8	1.001
T5_003458.LAB	2/14/2023	12:49:56	5.64	0.34	1.36	0.09	0.36	1.44	0.09	191.8	1.000
T5_003459.LAB	2/14/2023	12:50:56	5.63	0.37	1.36	0.10	0.39	1.44	0.10	191.7	1.002
T5_003460.LAB	2/14/2023	12:51:56	5.63	0.33	1.35	0.09	0.35	1.43	0.10	191.7	1.002
T5_003461.LAB	2/14/2023	12:52:56	5.60	0.30	1.33	0.09	0.32	1.41	0.09	191.6	1.003
T5_003462.LAB	2/14/2023	12:53:56	5.60	0.37	1.33	0.16	0.39	1.41	0.17	191.6	1.003
T5_003463.LAB	2/14/2023	12:54:56	5.64	0.34	1.33	0.09	0.36	1.41	0.09	191.7	1.003
T5_003464.LAB	2/14/2023	12:55:56	5.62	0.36	1.34	0.12	0.39	1.42	0.13	191.8	1.004
T5_003465.LAB	2/14/2023	12:56:56	5.64	0.37	1.35	0.04	0.39	1.44	0.04	191.8	1.004
T5_003466.LAB	2/14/2023	12:57:56	5.66	0.38	1.39	0.09	0.41	1.47	0.10	191.8	1.002
T5_003467.LAB	2/14/2023	12:58:56	5.63	0.38	1.41	0.04	0.40	1.50	0.04	191.7	1.002
T5_003468.LAB	2/14/2023	12:59:55	5.62	0.34	1.37	0.17	0.36	1.46	0.18	191.6	1.002
T5_003469.LAB	2/14/2023	13:00:55	5.61	0.35	1.35	0.11	0.38	1.44	0.11	191.6	1.001
T5_003470.LAB	2/14/2023	13:01:55	5.63	0.37	1.36	0.08	0.39	1.44	0.09	191.6	1.001
T5_003471.LAB	2/14/2023	13:02:55	5.62	0.36	1.35	0.00	0.38	1.43	0.00	191.7	1.001
T5_003472.LAB	2/14/2023	13:03:56	5.62	0.34	1.34	0.11	0.36	1.42	0.12	191.8	1.002
T5_003473.LAB	2/14/2023	13:04:55	5.63	0.40	1.34	0.05	0.42	1.42	0.05	191.8	1.004
T5_003474.LAB	2/14/2023	13:05:55	5.63	0.33	1.36	0.06	0.35	1.44	0.06	191.8	1.004
T5_003475.LAB	2/14/2023	13:06:55	5.64	0.35	1.37	0.13	0.37	1.45	0.14	191.7	1.004
T5_003476.LAB	2/14/2023	13:07:55	5.66	0.37	1.41	0.11	0.39	1.50	0.12	191.7	1.003
T5_003477.LAB	2/14/2023	13:08:55	5.63	0.38	1.43	0.13	0.40	1.52	0.14	191.6	1.001
T5_003478.LAB	2/14/2023	13:09:55	5.62	0.37	1.41	0.06	0.39	1.50	0.07	191.6	1.002
T5_003479.LAB	2/14/2023	13:10:55	5.64	0.35	1.37	0.10	0.38	1.45	0.11	191.7	1.001
T5_003480.LAB	2/14/2023	13:11:55	5.68	0.36	1.38	0.07	0.39	1.46	0.07	191.7	1.000
T5_003481.LAB	2/14/2023	13:12:55	5.68	0.37	1.37	0.07	0.40	1.45	0.08	191.7	1.001
T5_003482.LAB	2/14/2023	13:13:55	5.65	0.36	1.36	0.06	0.38	1.44	0.07	191.8	1.003
T5_003483.LAB	2/14/2023	13:14:55	5.64	0.37	1.35	0.10	0.39	1.43	0.11	191.7	1.002
T5_003484.LAB	2/14/2023	13:15:55	5.63	0.36	1.33	0.09	0.39	1.41	0.10	191.6	1.002
T5_003485.LAB	2/14/2023	13:16:54	5.65	0.36	1.36	0.00	0.38	1.44	0.00	191.6	1.004
T5_003486.LAB	2/14/2023	13:17:55	5.62	0.36	1.37	0.15	0.38	1.46	0.15	191.7	1.003
T5_003487.LAB	2/14/2023	13:18:54	5.63	0.39	1.42	0.06	0.42	1.50	0.06	191.7	1.001
T5_003488.LAB	2/14/2023	13:19:54	5.65	0.38	1.41	0.05	0.40	1.49	0.05	191.8	1.001
T5_003489.LAB	2/14/2023	13:20:54	5.68	0.40	1.40	0.13	0.42	1.49	0.14	191.7	1.000
T5_003490.LAB	2/14/2023	13:21:54	5.60	0.32	1.35	0.08	0.34	1.43	0.09	191.7	1.002
T5_003491.LAB	2/14/2023	13:22:54	5.60	0.33	1.34	0.01	0.35	1.42	0.01	191.7	1.002
T5_003492.LAB	2/14/2023	13:23:54	5.58	0.35	1.30	0.06	0.37	1.38	0.06	191.7	1.002
T5_003493.LAB	2/14/2023	13:24:54	5.67	0.37	1.34	0.00	0.39	1.42	0.00	191.7	1.002
T5_003494.LAB	2/14/2023	13:25:54	5.62	0.35	1.34	0.07	0.37	1.42	0.08	191.7	1.004
T5_003495.LAB	2/14/2023	13:26:54	5.60	0.31	1.35	0.10	0.32	1.43	0.11	191.8	1.005
T5_003496.LAB	2/14/2023	13:27:54	5.63	0.33	1.36	0.06	0.35	1.44	0.07	191.7	1.003
T5_003497.LAB	2/14/2023	13:28:54	5.65	0.41	1.41	0.01	0.44	1.50	0.01	191.7	1.002
T5_003498.LAB	2/14/2023	13:29:54	5.63	0.40	1.43	0.04	0.42	1.52	0.04	191.6	1.000
T5_003499.LAB	2/14/2023	13:30:54	5.62	0.35	1.38	0.01	0.37	1.46	0.01	191.7	0.999
T5_003500.LAB	2/14/2023	13:31:54	5.63	0.40	1.38	0.13	0.43	1.46	0.14	191.7	1.001
T5_003501.LAB	2/14/2023	13:32:54	5.64	0.41	1.38	0.08	0.43	1.46	0.08	191.7	1.000
T5_003502.LAB	2/14/2023	13:33:53	5.67	0.38	1.36	0.10	0.40	1.44	0.10	191.8	1.000
T5_003503.LAB	2/14/2023	13:34:54	5.62	0.37	1.36	0.07	0.39	1.44	0.07	191.7	1.002
T5_003504.LAB	2/14/2023	13:35:53	5.64	0.41	1.38	0.03	0.43	1.46	0.03	191.7	1.003
T5_003505.LAB	2/14/2023	13:36:53	5.63	0.38	1.37	0.04	0.41	1.45	0.05	191.6	1.003
T5_003506.LAB	2/14/2023	13:37:53	5.63	0.38	1.41	0.07	0.40	1.49	0.07	191.6	1.003
T5_003507.LAB	2/14/2023	13:38:53	5.65	0.40	1.44	0.11	0.42	1.53	0.12	191.7	1.002
T5_003508.LAB	2/14/2023	13:39:53	5.62	0.39	1.43	0.05	0.42	1.52	0.05	191.7	1.000
T5_003509.LAB	2/14/2023	13:40:53	5.63	0.38	1.41	0.06	0.40	1.50	0.06	191.8	1.000
02/14/2023 Turbine 5 - Run 4 12:40 - 13:40	Minimum		5.58	0.30	1.27	-0.03	0.32	1.35	-0.03		
	Maximum		5.68	0.41	1.44	0.17	0.44	1.53	0.18		
	Average		5.63	0.36	1.37	0.07	0.38	1.45	0.08		

Turbine 5 - Run 5

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T5_003872.LAB	2/15/2023	9:05:29	5.47	0.22	1.15	0.10	0.24	1.21	0.10	191.9	0.998
T5_003873.LAB	2/15/2023	9:06:29	5.47	0.27	1.11	0.05	0.28	1.18	0.06	191.9	1.000
T5_003874.LAB	2/15/2023	9:07:29	5.49	0.29	1.09	0.05	0.30	1.15	0.06	191.9	0.999
T5_003875.LAB	2/15/2023	9:08:29	5.49	0.24	1.11	0.01	0.25	1.18	0.01	191.9	1.000
T5_003876.LAB	2/15/2023	9:09:29	5.44	0.24	1.09	-0.01	0.25	1.15	-0.01	191.9	1.001
T5_003877.LAB	2/15/2023	9:10:29	5.48	0.29	1.10	0.03	0.30	1.16	0.03	191.9	0.999
T5_003878.LAB	2/15/2023	9:11:29	5.46	0.29	1.12	-0.02	0.31	1.18	-0.02	191.9	0.999
T5_003879.LAB	2/15/2023	9:12:29	5.50	0.28	1.14	0.01	0.29	1.21	0.01	191.9	0.997
T5_003880.LAB	2/15/2023	9:13:28	5.49	0.28	1.08	0.03	0.30	1.14	0.04	191.9	0.997
T5_003881.LAB	2/15/2023	9:14:28	5.48	0.25	1.07	0.09	0.27	1.13	0.10	191.9	0.998
T5_003882.LAB	2/15/2023	9:15:28	5.49	0.25	1.06	0.08	0.26	1.13	0.08	191.9	0.998
T5_003883.LAB	2/15/2023	9:16:28	5.47	0.24	1.05	0.04	0.25	1.11	0.04	191.9	0.998
T5_003884.LAB	2/15/2023	9:17:28	5.47	0.25	1.05	0.02	0.26	1.11	0.02	191.9	1.000
T5_003885.LAB	2/15/2023	9:18:28	5.48	0.25	1.03	0.07	0.26	1.09	0.07	191.9	1.001
T5_003886.LAB	2/15/2023	9:19:28	5.48	0.29	1.04	0.11	0.31	1.10	0.12	191.9	1.001
T5_003887.LAB	2/15/2023	9:20:28	5.48	0.28	1.06	0.07	0.29	1.12	0.07	191.9	1.000
T5_003888.LAB	2/15/2023	9:21:28	5.46	0.27	1.08	0.07	0.28	1.14	0.07	191.9	1.000
T5_003889.LAB	2/15/2023	9:22:28	5.46	0.28	1.10	0.04	0.29	1.16	0.04	191.8	0.999
T5_003890.LAB	2/15/2023	9:23:28	5.46	0.26	1.09	0.03	0.28	1.15	0.03	191.8	0.998
T5_003891.LAB	2/15/2023	9:24:28	5.48	0.27	1.08	0.01	0.28	1.15	0.01	191.9	0.997
T5_003892.LAB	2/15/2023	9:25:28	5.48	0.25	1.07	0.12	0.26	1.13	0.12	191.9	0.998
T5_003893.LAB	2/15/2023	9:26:28	5.47	0.25	1.05	0.03	0.27	1.12	0.03	191.8	0.999
T5_003894.LAB	2/15/2023	9:27:27	5.46	0.26	1.03	0.06	0.28	1.09	0.07	191.8	1.000
T5_003895.LAB	2/15/2023	9:28:28	5.46	0.27	1.05	0.09	0.28	1.11	0.10	191.8	1.000
T5_003896.LAB	2/15/2023	9:29:27	5.46	0.26	1.06	-0.11	0.28	1.12	-0.12	191.9	1.001
T5_003897.LAB	2/15/2023	9:30:27	5.46	0.28	1.07	0.14	0.29	1.13	0.14	191.9	1.001
T5_003898.LAB	2/15/2023	9:31:27	5.45	0.25	1.08	0.03	0.27	1.14	0.03	191.9	1.000
T5_003899.LAB	2/15/2023	9:32:27	5.46	0.28	1.11	0.11	0.30	1.18	0.12	191.9	0.999
T5_003900.LAB	2/15/2023	9:33:27	5.46	0.28	1.11	0.05	0.30	1.18	0.05	191.9	0.997
T5_003901.LAB	2/15/2023	9:34:27	5.47	0.25	1.10	0.12	0.27	1.17	0.13	191.9	0.997
T5_003902.LAB	2/15/2023	9:35:27	5.46	0.29	1.09	0.05	0.31	1.16	0.05	191.9	0.999
T5_003903.LAB	2/15/2023	9:36:27	5.45	0.29	1.10	0.08	0.30	1.16	0.08	191.9	0.998
T5_003904.LAB	2/15/2023	9:37:27	5.46	0.27	1.08	0.15	0.29	1.15	0.16	191.9	0.999
T5_003905.LAB	2/15/2023	9:38:27	5.46	0.28	1.09	-0.04	0.29	1.16	-0.04	191.9	1.000
T5_003906.LAB	2/15/2023	9:39:27	5.46	0.24	1.11	0.01	0.25	1.17	0.01	191.9	1.000
T5_003907.LAB	2/15/2023	9:40:27	5.47	0.27	1.14	0.04	0.29	1.21	0.04	191.9	1.000
T5_003908.LAB	2/15/2023	9:41:27	5.45	0.31	1.16	0.04	0.33	1.23	0.04	191.9	1.000
T5_003909.LAB	2/15/2023	9:42:27	5.44	0.28	1.20	0.03	0.29	1.27	0.04	191.8	0.999
T5_003910.LAB	2/15/2023	9:43:26	5.45	0.27	1.23	0.01	0.29	1.30	0.01	191.8	0.998
T5_003911.LAB	2/15/2023	9:44:26	5.47	0.32	1.21	-0.01	0.34	1.28	-0.01	191.9	0.998
T5_003912.LAB	2/15/2023	9:45:26	5.45	0.30	1.20	0.05	0.32	1.27	0.06	191.9	0.999
T5_003913.LAB	2/15/2023	9:46:26	5.45	0.27	1.18	0.04	0.29	1.25	0.04	191.9	0.999
T5_003914.LAB	2/15/2023	9:47:26	5.45	0.26	1.18	0.06	0.28	1.25	0.06	191.9	1.000
T5_003915.LAB	2/15/2023	9:48:26	5.42	0.24	1.19	-0.02	0.26	1.26	-0.02	191.9	1.001
T5_003916.LAB	2/15/2023	9:49:26	5.43	0.29	1.19	0.06	0.31	1.26	0.06	191.9	1.001
T5_003917.LAB	2/15/2023	9:50:26	5.45	0.28	1.20	0.11	0.30	1.27	0.12	191.9	1.001
T5_003918.LAB	2/15/2023	9:51:26	5.45	0.25	1.20	0.04	0.26	1.27	0.04	191.9	1.001
T5_003919.LAB	2/15/2023	9:52:26	5.45	0.29	1.24	0.06	0.31	1.31	0.06	191.9	1.001
T5_003920.LAB	2/15/2023	9:53:26	5.44	0.28	1.25	0.04	0.30	1.32	0.04	191.9	1.000
T5_003921.LAB	2/15/2023	9:54:26	5.45	0.28	1.25	0.05	0.30	1.33	0.06	191.9	0.998
T5_003922.LAB	2/15/2023	9:55:26	5.45	0.28	1.23	0.12	0.29	1.30	0.13	191.9	0.998
T5_003923.LAB	2/15/2023	9:56:26	5.44	0.27	1.23	0.09	0.29	1.30	0.09	191.9	0.999
T5_003924.LAB	2/15/2023	9:57:26	5.44	0.25	1.22	0.11	0.26	1.29	0.11	191.8	1.000
T5_003925.LAB	2/15/2023	9:58:26	5.43	0.28	1.22	0.02	0.29	1.29	0.02	191.8	1.000
T5_003926.LAB	2/15/2023	9:59:26	5.44	0.28	1.22	-0.02	0.29	1.29	-0.02	191.8	1.001
T5_003927.LAB	2/15/2023	10:00:25	5.45	0.26	1.22	0.04	0.27	1.29	0.04	191.9	1.001
T5_003928.LAB	2/15/2023	10:01:25	5.45	0.30	1.25	0.08	0.32	1.33	0.09	191.9	1.000
T5_003929.LAB	2/15/2023	10:02:25	5.44	0.30	1.29	0.02	0.31	1.37	0.02	191.8	1.000
T5_003930.LAB	2/15/2023	10:03:25	5.42	0.29	1.31	0.06	0.31	1.39	0.06	191.9	0.999
T5_003931.LAB	2/15/2023	10:04:25	5.43	0.31	1.32	0.06	0.32	1.40	0.06	191.9	0.997
T5_003932.LAB	2/15/2023	10:05:25	5.42	0.25	1.31	0.01	0.27	1.38	0.01	191.9	0.999
02/15/2023 Turbine 5 - Run 5 9:05 - 10:05	Minimum		5.42	0.22	1.03	-0.11	0.24	1.09	-0.12		
	Maximum		5.50	0.32	1.32	0.15	0.34	1.40	0.16		
	Average		5.46	0.27	1.14	0.05	0.29	1.21	0.05		

Turbine 5 - Run 6

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T5_003943.LAB	2/15/2023	10:10:34	5.41	0.24	1.36	0.05	0.26	1.44	0.05	191.8	1.000
T5_003944.LAB	2/15/2023	10:11:34	5.41	0.28	1.36	0.07	0.29	1.44	0.07	191.8	1.002
T5_003945.LAB	2/15/2023	10:12:34	5.42	0.30	1.37	0.02	0.32	1.44	0.02	191.8	1.000
T5_003946.LAB	2/15/2023	10:13:34	5.43	0.34	1.40	0.06	0.36	1.48	0.06	191.8	1.000
T5_003947.LAB	2/15/2023	10:14:34	5.43	0.28	1.40	0.10	0.29	1.48	0.11	191.8	0.999
T5_003948.LAB	2/15/2023	10:15:34	5.40	0.30	1.37	0.14	0.32	1.45	0.15	191.8	0.999
T5_003949.LAB	2/15/2023	10:16:34	5.41	0.30	1.37	0.11	0.31	1.45	0.11	191.8	0.999
T5_003950.LAB	2/15/2023	10:17:34	5.39	0.28	1.36	0.04	0.30	1.43	0.04	191.7	1.000
T5_003951.LAB	2/15/2023	10:18:34	5.39	0.31	1.37	0.03	0.33	1.45	0.03	191.7	1.001
T5_003952.LAB	2/15/2023	10:19:34	5.41	0.30	1.37	0.03	0.32	1.45	0.03	191.8	1.000
T5_003953.LAB	2/15/2023	10:20:34	5.42	0.33	1.38	0.03	0.35	1.46	0.04	191.9	1.001
T5_003954.LAB	2/15/2023	10:21:34	5.40	0.27	1.38	0.04	0.28	1.46	0.04	191.9	1.002
T5_003955.LAB	2/15/2023	10:22:34	5.40	0.28	1.41	0.01	0.29	1.49	0.01	191.8	1.000
T5_003956.LAB	2/15/2023	10:23:34	5.40	0.26	1.45	0.06	0.28	1.54	0.06	191.8	1.000
T5_003957.LAB	2/15/2023	10:24:34	5.40	0.31	1.43	0.04	0.33	1.51	0.04	191.8	0.998
T5_003958.LAB	2/15/2023	10:25:34	5.39	0.30	1.42	0.03	0.32	1.50	0.04	191.7	1.000
T5_003959.LAB	2/15/2023	10:26:33	5.39	0.27	1.41	0.04	0.29	1.49	0.05	191.8	0.999
T5_003960.LAB	2/15/2023	10:27:34	5.40	0.31	1.38	0.03	0.33	1.46	0.04	191.9	1.000
T5_003961.LAB	2/15/2023	10:28:33	5.39	0.31	1.40	0.03	0.33	1.48	0.03	191.9	1.000
T5_003962.LAB	2/15/2023	10:29:33	5.39	0.33	1.38	0.12	0.35	1.46	0.13	191.9	0.999
T5_003963.LAB	2/15/2023	10:30:33	5.39	0.28	1.40	0.09	0.30	1.47	0.09	191.8	1.001
T5_003964.LAB	2/15/2023	10:31:33	5.38	0.32	1.38	0.08	0.34	1.46	0.09	191.9	1.001
T5_003965.LAB	2/15/2023	10:32:33	5.40	0.32	1.46	0.07	0.34	1.54	0.08	191.8	1.000
T5_003966.LAB	2/15/2023	10:33:33	5.37	0.32	1.47	-0.01	0.34	1.55	-0.01	191.7	1.001
T5_003967.LAB	2/15/2023	10:34:33	5.38	0.31	1.48	0.00	0.33	1.56	0.00	191.8	0.999
T5_003968.LAB	2/15/2023	10:35:33	5.39	0.32	1.48	0.05	0.34	1.57	0.05	191.8	0.999
T5_003969.LAB	2/15/2023	10:36:33	5.38	0.31	1.46	0.05	0.32	1.54	0.05	191.9	0.999
T5_003970.LAB	2/15/2023	10:37:33	5.37	0.34	1.42	0.07	0.36	1.50	0.08	191.9	1.001
T5_003971.LAB	2/15/2023	10:38:33	5.39	0.28	1.45	0.01	0.30	1.54	0.01	191.8	1.000
T5_003972.LAB	2/15/2023	10:39:33	5.37	0.31	1.40	0.06	0.32	1.48	0.06	191.8	1.001
T5_003973.LAB	2/15/2023	10:40:33	5.37	0.33	1.44	0.03	0.35	1.52	0.03	191.8	1.002
T5_003974.LAB	2/15/2023	10:41:33	5.36	0.37	1.42	0.05	0.39	1.51	0.05	191.7	1.003
T5_003975.LAB	2/15/2023	10:42:32	5.36	0.33	1.47	0.04	0.35	1.55	0.05	191.7	1.002
T5_003976.LAB	2/15/2023	10:43:32	5.35	0.31	1.47	0.06	0.33	1.56	0.06	191.8	1.001
T5_003977.LAB	2/15/2023	10:44:32	5.35	0.34	1.50	0.02	0.36	1.58	0.02	191.9	1.000
T5_003978.LAB	2/15/2023	10:45:32	5.36	0.33	1.45	0.09	0.35	1.53	0.10	191.9	0.998
T5_003979.LAB	2/15/2023	10:46:32	5.36	0.36	1.46	0.02	0.38	1.54	0.02	191.8	0.998
T5_003980.LAB	2/15/2023	10:47:32	5.37	0.30	1.46	0.04	0.31	1.54	0.04	191.8	0.999
T5_003981.LAB	2/15/2023	10:48:32	5.36	0.30	1.42	0.02	0.32	1.50	0.02	191.8	1.000
T5_003982.LAB	2/15/2023	10:49:32	5.35	0.30	1.41	0.11	0.31	1.49	0.11	191.7	1.000
T5_003983.LAB	2/15/2023	10:50:32	5.35	0.29	1.45	0.09	0.31	1.53	0.09	191.7	1.002
T5_003984.LAB	2/15/2023	10:51:32	5.37	0.29	1.45	0.04	0.31	1.53	0.04	191.8	1.002
T5_003985.LAB	2/15/2023	10:52:32	5.37	0.33	1.45	0.06	0.35	1.54	0.06	191.9	1.002
T5_003986.LAB	2/15/2023	10:53:32	5.35	0.34	1.49	0.10	0.36	1.58	0.10	191.9	1.000
T5_003987.LAB	2/15/2023	10:54:32	5.34	0.33	1.53	0.00	0.34	1.61	0.00	191.8	1.000
T5_003988.LAB	2/15/2023	10:55:32	5.34	0.35	1.52	0.00	0.37	1.61	0.00	191.7	0.998
T5_003989.LAB	2/15/2023	10:56:32	5.36	0.34	1.48	0.05	0.36	1.57	0.05	191.7	0.999
T5_003990.LAB	2/15/2023	10:57:32	5.34	0.33	1.46	0.12	0.35	1.54	0.12	191.7	0.999
T5_003991.LAB	2/15/2023	10:58:31	5.34	0.30	1.45	-0.02	0.32	1.54	-0.02	191.8	1.000
T5_003992.LAB	2/15/2023	10:59:31	5.35	0.30	1.47	0.13	0.32	1.55	0.14	191.8	1.001
T5_003993.LAB	2/15/2023	11:00:31	5.33	0.26	1.45	-0.02	0.28	1.53	-0.02	191.8	1.001
T5_003994.LAB	2/15/2023	11:01:31	5.33	0.28	1.45	0.10	0.30	1.54	0.11	191.8	1.002
T5_003995.LAB	2/15/2023	11:02:31	5.33	0.36	1.47	0.05	0.38	1.56	0.05	191.7	1.000
T5_003996.LAB	2/15/2023	11:03:31	5.33	0.36	1.52	0.07	0.38	1.60	0.08	191.7	0.999
T5_003997.LAB	2/15/2023	11:04:31	5.32	0.39	1.52	0.03	0.41	1.60	0.03	191.7	1.000
T5_003998.LAB	2/15/2023	11:05:31	5.33	0.36	1.53	-0.02	0.38	1.62	-0.02	191.8	0.998
T5_003999.LAB	2/15/2023	11:06:31	5.35	0.32	1.46	0.05	0.34	1.54	0.05	191.8	0.998
T5_004000.LAB	2/15/2023	11:07:31	5.32	0.37	1.47	0.07	0.39	1.56	0.07	191.8	0.999
T5_004001.LAB	2/15/2023	11:08:31	5.30	0.33	1.46	0.15	0.35	1.54	0.16	191.7	1.002
T5_004002.LAB	2/15/2023	11:09:31	5.33	0.35	1.47	0.02	0.37	1.55	0.02	191.7	1.001
T5_004003.LAB	2/15/2023	11:10:31	5.35	0.33	1.48	0.02	0.35	1.57	0.02	191.8	1.000
02/15/2023 Turbine 5 - Run 6 10:10 - 11:10	Minimum		5.30	0.24	1.36	-0.02	0.26	1.43	-0.02		
	Maximum		5.43	0.39	1.53	0.15	0.41	1.62	0.16		
	Average		5.37	0.31	1.44	0.05	0.33	1.52	0.05		

Turbine 5 - Run 7

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	HCl (ppmv dry)	HF (ppmv dry)	Formaldehyde (ppmv dry)	FTIR Gas Cell Temperature (°C)	FTIR Gas Cell Pressure (atm)
T5_004014.LAB	2/15/2023	11:15:31	5.31	0.32	1.50	-0.01	0.33	1.58	-0.01	191.8	0.999
T5_004015.LAB	2/15/2023	11:16:31	5.32	0.35	1.48	0.10	0.37	1.57	0.11	191.7	0.999
T5_004016.LAB	2/15/2023	11:17:31	5.34	0.31	1.47	0.13	0.33	1.55	0.14	191.8	0.999
T5_004017.LAB	2/15/2023	11:18:31	5.32	0.32	1.45	0.03	0.34	1.53	0.04	191.8	1.001
T5_004018.LAB	2/15/2023	11:19:31	5.32	0.31	1.44	0.02	0.33	1.52	0.03	191.9	1.001
T5_004019.LAB	2/15/2023	11:20:31	5.32	0.29	1.44	0.03	0.31	1.53	0.03	191.8	1.000
T5_004020.LAB	2/15/2023	11:21:31	5.32	0.33	1.48	0.03	0.35	1.56	0.03	191.8	1.000
T5_004021.LAB	2/15/2023	11:22:31	5.31	0.32	1.48	0.07	0.34	1.56	0.08	191.8	1.001
T5_004022.LAB	2/15/2023	11:23:31	5.32	0.36	1.50	0.06	0.38	1.59	0.06	191.7	1.000
T5_004023.LAB	2/15/2023	11:24:31	5.32	0.34	1.52	0.03	0.36	1.60	0.03	191.8	0.999
T5_004024.LAB	2/15/2023	11:25:31	5.32	0.35	1.53	0.07	0.36	1.62	0.07	191.9	0.999
T5_004025.LAB	2/15/2023	11:26:31	5.33	0.37	1.52	0.09	0.39	1.61	0.09	191.9	0.999
T5_004026.LAB	2/15/2023	11:27:31	5.31	0.34	1.49	0.04	0.36	1.57	0.04	191.8	0.998
T5_004027.LAB	2/15/2023	11:28:31	5.30	0.36	1.50	0.11	0.38	1.58	0.12	191.6	1.000
T5_004028.LAB	2/15/2023	11:29:30	5.32	0.35	1.51	0.06	0.37	1.59	0.06	191.6	1.000
T5_004029.LAB	2/15/2023	11:30:30	5.32	0.36	1.50	0.14	0.38	1.59	0.15	191.7	1.000
T5_004030.LAB	2/15/2023	11:31:30	5.34	0.32	1.48	0.06	0.34	1.57	0.06	191.8	1.001
T5_004031.LAB	2/15/2023	11:32:30	5.32	0.35	1.51	0.05	0.36	1.59	0.06	191.8	1.002
T5_004032.LAB	2/15/2023	11:33:30	5.33	0.33	1.54	0.02	0.35	1.63	0.02	191.8	1.001
T5_004033.LAB	2/15/2023	11:34:30	5.31	0.36	1.59	0.05	0.38	1.68	0.05	191.7	1.000
T5_004034.LAB	2/15/2023	11:35:30	5.31	0.37	1.57	0.04	0.39	1.66	0.04	191.6	0.998
T5_004035.LAB	2/15/2023	11:36:30	5.30	0.36	1.54	0.03	0.38	1.63	0.03	191.7	0.998
T5_004036.LAB	2/15/2023	11:37:30	5.31	0.38	1.54	0.06	0.40	1.63	0.06	191.8	1.000
T5_004037.LAB	2/15/2023	11:38:30	5.32	0.37	1.53	0.04	0.39	1.62	0.04	191.9	1.000
T5_004038.LAB	2/15/2023	11:39:30	5.31	0.36	1.51	0.04	0.38	1.60	0.04	191.9	1.000
T5_004039.LAB	2/15/2023	11:40:30	5.31	0.34	1.52	0.03	0.35	1.60	0.03	191.8	1.000
T5_004040.LAB	2/15/2023	11:41:30	5.30	0.33	1.52	0.05	0.35	1.60	0.05	191.7	1.001
T5_004041.LAB	2/15/2023	11:42:30	5.30	0.36	1.52	0.03	0.38	1.60	0.03	191.7	1.001
T5_004042.LAB	2/15/2023	11:43:30	5.30	0.38	1.54	0.02	0.40	1.63	0.02	191.8	1.002
T5_004043.LAB	2/15/2023	11:44:29	5.31	0.37	1.60	0.11	0.39	1.69	0.12	191.8	1.000
T5_004044.LAB	2/15/2023	11:45:29	5.30	0.38	1.58	0.03	0.41	1.67	0.03	191.9	0.999
T5_004059.LAB	2/15/2023	12:00:29	5.34	0.41	1.58	0.02	0.43	1.67	0.02	191.7	0.999
T5_004060.LAB	2/15/2023	12:01:28	5.32	0.39	1.59	0.02	0.41	1.67	0.02	191.8	1.000
T5_004061.LAB	2/15/2023	12:02:28	5.30	0.38	1.58	-0.04	0.41	1.67	-0.04	191.8	1.001
T5_004062.LAB	2/15/2023	12:03:28	5.31	0.42	1.59	-0.01	0.44	1.68	-0.01	191.8	1.001
T5_004063.LAB	2/15/2023	12:04:28	5.31	0.40	1.62	-0.03	0.42	1.71	-0.03	191.7	1.000
T5_004064.LAB	2/15/2023	12:05:28	5.30	0.42	1.64	0.05	0.44	1.73	0.06	191.7	0.998
T5_004065.LAB	2/15/2023	12:06:28	5.29	0.43	1.62	0.10	0.46	1.71	0.11	191.7	0.999
T5_004066.LAB	2/15/2023	12:07:28	5.31	0.40	1.61	0.03	0.42	1.71	0.03	191.8	0.998
T5_004067.LAB	2/15/2023	12:08:28	5.29	0.38	1.58	0.03	0.40	1.67	0.03	191.8	0.999
T5_004068.LAB	2/15/2023	12:09:28	5.30	0.37	1.57	-0.02	0.39	1.66	-0.02	191.8	1.000
T5_004069.LAB	2/15/2023	12:10:28	5.29	0.39	1.57	0.06	0.42	1.66	0.06	191.7	1.000
T5_004070.LAB	2/15/2023	12:11:28	5.29	0.38	1.58	-0.04	0.40	1.67	-0.04	191.6	1.001
T5_004071.LAB	2/15/2023	12:12:28	5.28	0.41	1.57	-0.01	0.44	1.66	-0.01	191.6	1.001
T5_004072.LAB	2/15/2023	12:13:28	5.29	0.40	1.61	-0.04	0.42	1.70	-0.04	191.7	1.001
T5_004073.LAB	2/15/2023	12:14:28	5.30	0.41	1.66	0.11	0.43	1.75	0.12	191.8	1.001
T5_004074.LAB	2/15/2023	12:15:27	5.30	0.40	1.66	-0.05	0.43	1.75	-0.05	191.8	0.999
T5_004075.LAB	2/15/2023	12:16:28	5.29	0.41	1.62	0.09	0.43	1.72	0.09	191.6	0.998
T5_004076.LAB	2/15/2023	12:17:27	5.29	0.39	1.60	-0.05	0.41	1.69	-0.05	191.6	0.997
T5_004077.LAB	2/15/2023	12:18:27	5.29	0.38	1.57	0.01	0.41	1.66	0.01	191.6	1.000
T5_004078.LAB	2/15/2023	12:19:27	5.29	0.42	1.59	0.04	0.44	1.68	0.04	191.8	0.999
T5_004079.LAB	2/15/2023	12:20:27	5.30	0.38	1.58	0.01	0.40	1.66	0.01	191.9	1.000
T5_004080.LAB	2/15/2023	12:21:27	5.29	0.40	1.56	0.08	0.42	1.65	0.09	191.9	1.002
T5_004081.LAB	2/15/2023	12:22:27	5.29	0.40	1.55	0.03	0.42	1.63	0.04	191.7	1.002
T5_004082.LAB	2/15/2023	12:23:27	5.32	0.39	1.61	-0.03	0.41	1.70	-0.03	191.7	1.000
T5_004083.LAB	2/15/2023	12:24:27	5.31	0.42	1.65	-0.02	0.44	1.74	-0.02	191.6	0.999
T5_004084.LAB	2/15/2023	12:25:27	5.31	0.46	1.66	-0.01	0.49	1.75	-0.01	191.7	0.999
T5_004085.LAB	2/15/2023	12:26:27	5.32	0.40	1.62	0.09	0.42	1.71	0.09	191.7	0.999
T5_004086.LAB	2/15/2023	12:27:27	5.34	0.37	1.60	0.04	0.39	1.69	0.04	191.9	0.999
T5_004087.LAB	2/15/2023	12:28:27	5.34	0.36	1.58	0.01	0.38	1.67	0.02	191.8	0.998
T5_004088.LAB	2/15/2023	12:29:27	5.32	0.43	1.58	0.13	0.45	1.67	0.14	191.7	0.998
T5_004089.LAB	2/15/2023	12:30:27	5.30	0.42	1.55	0.03	0.44	1.64	0.03	191.7	1.001
02/15/2023 Turbine 5 - Run 7 11:15 - 11:45; 12:00 -	Minimum		5.28	0.29	1.44	-0.05	0.31	1.52	-0.05		
	Maximum		5.34	0.46	1.66	0.14	0.49	1.75	0.15		
	Average		5.31	0.37	1.56	0.04	0.39	1.64	0.04		

APPENDIX

FTIR QA/QC Data

Nitrogen (Zero) Direct Purge to FTIR

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_N2_DIR_000629BKG.LAB	2/7/2023	7:39:14	0.00	0.00	0.00	0.00	0.00	0.00
T4_N2_DIR_000630.LAB	2/7/2023	7:39:27	0.00	-0.02	0.00	-0.14	-0.02	0.00
T4_N2_DIR_000631.LAB	2/7/2023	7:39:34	0.00	0.01	0.01	0.31	0.20	0.00
T4_N2_DIR_000632.LAB	2/7/2023	7:39:42	0.00	-0.02	0.01	0.17	0.14	0.00
T4_N2_DIR_000633.LAB	2/7/2023	7:39:49	0.00	-0.01	0.00	-0.08	-0.15	0.00
T4_N2_DIR_000634.LAB	2/7/2023	7:39:57	0.01	-0.03	0.01	-0.08	0.11	0.01
T4_N2_DIR_000635.LAB	2/7/2023	7:40:04	0.00	0.01	0.03	0.06	0.08	0.00
T4_N2_DIR_000636.LAB	2/7/2023	7:40:12	0.02	-0.01	-0.04	0.10	0.04	0.00
T4_N2_DIR_000637.LAB	2/7/2023	7:40:19	0.00	0.03	-0.02	-0.21	0.06	0.00

CTS, 100.2 ppm Ethylene/5.000 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T4_CTS_DIR_000640.LAB	2/7/2023	7:41:15	0.00	-0.12	0.05	0.10	100.27	5.08	100.1%
T4_CTS_DIR_000641.LAB	2/7/2023	7:41:22	0.01	-0.04	-0.04	0.14	100.85	5.11	100.6%
T4_CTS_DIR_000642.LAB	2/7/2023	7:41:29	0.01	-0.02	0.07	0.10	100.90	5.11	100.7%
T4_CTS_DIR_000643.LAB	2/7/2023	7:41:37	0.01	-0.03	-0.03	0.02	101.22	5.11	101.0%
T4_CTS_DIR_000644.LAB	2/7/2023	7:41:44	0.01	-0.03	0.03	0.26	101.06	5.11	100.9%
T4_CTS_DIR_000645.LAB	2/7/2023	7:41:52	0.01	-0.10	-0.01	0.11	100.48	5.11	100.3%
T4_CTS_DIR_000646.LAB	2/7/2023	7:41:59	0.00	0.08	0.01	-0.05	100.72	5.10	100.5%
T4_CTS_DIR_000647.LAB	2/7/2023	7:42:07	0.00	-0.01	0.00	-0.08	101.20	5.11	101.0%
		Average					100.84		

19.71 ppm Formaldehyde/4.97 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_HCHO_DIR_000659.LAB	2/7/2023	7:50:57	0.00	-0.08	0.00	16.20	-0.36	5.02
T4_HCHO_DIR_000660.LAB	2/7/2023	7:51:04	0.01	-0.18	0.01	16.30	-0.36	5.02
T4_HCHO_DIR_000661.LAB	2/7/2023	7:51:11	0.01	-0.12	0.00	16.09	-0.31	5.01
T4_HCHO_DIR_000662.LAB	2/7/2023	7:51:19	0.00	-0.04	-0.04	16.22	-0.30	5.01
T4_HCHO_DIR_000663.LAB	2/7/2023	7:51:27	0.00	-0.12	-0.08	16.16	-0.66	5.02
T4_HCHO_DIR_000664.LAB	2/7/2023	7:51:34	0.01	-0.19	-0.06	16.10	-0.19	5.03
T4_HCHO_DIR_000665.LAB	2/7/2023	7:51:41	0.00	-0.15	-0.04	16.47	-0.26	5.02
T4_HCHO_DIR_000666.LAB	2/7/2023	7:51:49	0.00	-0.12	0.03	16.15	-0.38	5.03
		Average				16.21		5.02

99.9 ppm HCl/5.00 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_HCL_DIR_000668.LAB	2/7/2023	7:59:05	-0.01	95.74	0.18	-0.14	-0.31	4.98
T4_HCL_DIR_000669.LAB	2/7/2023	7:59:12	0.01	97.66	0.14	0.18	-0.30	4.97
T4_HCL_DIR_000670.LAB	2/7/2023	7:59:20	0.01	97.71	0.22	0.20	-0.29	4.97
T4_HCL_DIR_000671.LAB	2/7/2023	7:59:27	0.00	97.63	0.18	0.11	-0.16	4.99
T4_HCL_DIR_000672.LAB	2/7/2023	7:59:35	0.01	97.84	0.22	0.40	-0.43	4.98
T4_HCL_DIR_000673.LAB	2/7/2023	7:59:42	0.00	96.11	0.15	0.10	-0.34	4.99
T4_HCL_DIR_000674.LAB	2/7/2023	7:59:50	-0.01	96.13	0.16	0.09	-0.26	4.97
T4_HCL_DIR_000675.LAB	2/7/2023	7:59:57	0.00	95.98	0.15	-0.02	-0.21	4.99
		Average		96.85				4.98

111.2 ppm HF/4.999 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_HF_DIR_000709.LAB	2/7/2023	8:18:47	0.00	1.20	103.19	-0.17	-0.48	4.97
T4_HF_DIR_000710.LAB	2/7/2023	8:18:55	0.00	1.29	103.09	0.09	-0.06	4.96
T4_HF_DIR_000711.LAB	2/7/2023	8:19:02	0.01	1.22	102.59	-0.04	-0.08	4.98
T4_HF_DIR_000712.LAB	2/7/2023	8:19:10	0.00	1.13	102.54	0.04	-0.02	4.98
T4_HF_DIR_000713.LAB	2/7/2023	8:19:17	0.00	1.17	102.87	-0.22	-0.37	4.98
T4_HF_DIR_000714.LAB	2/7/2023	8:19:25	0.01	1.13	102.71	0.21	-0.20	4.97
T4_HF_DIR_000715.LAB	2/7/2023	8:19:32	0.00	1.03	102.61	-0.01	-0.17	4.97
T4_HF_DIR_000716.LAB	2/7/2023	8:19:40	0.00	1.05	102.88	0.13	-0.14	4.97
		Average			102.81			4.97

100.2 ppm Ethylene/SF6 System Purge and Response Time Test

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %	Response Time (sec)
T4_CTS_RT_000717.LAB	2/7/2023	8:23:08	5.61	1.07	2.52	-0.08	0.07	0.04	0.1%	-
T4_CTS_RT_000718.LAB	2/7/2023	8:23:15	4.89	1.17	2.30	0.23	1.54	0.16	1.5%	8
T4_CTS_RT_000719.LAB	2/7/2023	8:23:22	0.21	0.24	0.20	0.46	89.38	4.77	88.6%	16
T4_CTS_RT_000720.LAB	2/7/2023	8:23:30	0.04	0.18	0.03	0.24	101.58	5.14	100.7%	23
T4_CTS_RT_000721.LAB	2/7/2023	8:23:37	0.02	0.28	0.06	-0.07	101.73	5.14	100.9%	
T4_CTS_RT_000722.LAB	2/7/2023	8:23:45	0.03	0.23	0.06	0.12	101.80	5.15	101.0%	
T4_CTS_RT_000723.LAB	2/7/2023	8:23:52	0.02	0.09	-0.01	-0.20	101.92	5.17	101.1%	
T4_CTS_RT_000724.LAB	2/7/2023	8:24:00	0.00	0.09	-0.01	0.15	101.81	5.17	101.0%	
T4_CTS_RT_000725.LAB	2/7/2023	8:24:07	0.02	0.12	0.00	0.02	100.23	5.11	99.4%	
T4_CTS_RT_000726.LAB	2/7/2023	8:24:15	0.01	0.13	-0.01	0.21	101.47	5.15	100.6%	
T4_CTS_RT_000727.LAB	2/7/2023	8:24:22	0.02	0.18	0.00	0.00	100.83	5.14	100.0%	

Nitrogen (Zero) System Purge and Response Time Test

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %	Response Time (sec)
T4_N2_RT_000728.LAB	2/7/2023	8:24:49	0.01	0.10	0.01	0.17	101.40	5.13	100.6%	-
T4_N2_RT_000729.LAB	2/7/2023	8:24:57	0.52	0.25	0.44	-0.10	81.41	4.17	80.7%	8
T4_N2_RT_000730.LAB	2/7/2023	8:25:04	0.10	0.33	0.18	0.02	2.64	0.13	2.6%	15
T4_N2_RT_000731.LAB	2/7/2023	8:25:12	0.02	0.16	-0.02	-0.11	0.24	0.01	0.2%	23
T4_N2_RT_000732.LAB	2/7/2023	8:25:19	0.02	0.15	0.02	-0.01	0.15	0.01	0.1%	
T4_N2_RT_000733.LAB	2/7/2023	8:25:27	0.01	0.09	0.01	-0.08	0.08	0.00	0.1%	
T4_N2_RT_000734.LAB	2/7/2023	8:25:34	0.02	0.08	-0.06	-0.04	-0.03	0.00	0.0%	
T4_N2_RT_000735.LAB	2/7/2023	8:25:42	0.01	0.14	-0.07	0.04	-0.01	0.00	0.0%	
T4_N2_RT_000736.LAB	2/7/2023	8:25:49	0.01	0.13	-0.03	0.01	-0.05	0.00	0.0%	
T4_N2_RT_000737.LAB	2/7/2023	8:25:56	0.01	0.06	-0.01	0.04	-0.33	0.01	-0.3%	
T4_N2_RT_000738.LAB	2/7/2023	8:26:04	0.01	0.01	-0.01	-0.08	0.13	-0.01	0.1%	
Average			0.01	0.10	-0.02	-0.03	0.02	0.00		

Turbine 4 Prior to Analyte Spike

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_000739.LAB	2/7/2023	8:27:33	5.63	1.08	2.46	0.09	0.24	0.00
T4_000740.LAB	2/7/2023	8:28:33	5.63	1.02	2.21	-0.05	0.25	0.00
T4_000741.LAB	2/7/2023	8:29:33	5.63	1.03	2.13	0.08	0.17	0.00
Average				1.04		0.04		0.00

Turbine 4 Analyte Spike, Using 19.71 ppm Formaldehyde/4.97 ppm SF6

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	Formaldehyde Recovery %
T4_HCHO_SPK_000766.LAB	2/7/2023	8:33:22	5.18	0.86	1.95	1.30	0.15	0.39	0.077	100.6%
T4_HCHO_SPK_000767.LAB	2/7/2023	8:33:29	5.18	0.84	1.97	1.21	0.21	0.39	0.078	93.3%
T4_HCHO_SPK_000768.LAB	2/7/2023	8:33:37	5.17	1.00	1.88	1.10	0.11	0.39	0.078	84.6%
T4_HCHO_SPK_000769.LAB	2/7/2023	8:33:44	5.17	0.83	1.91	1.10	0.10	0.39	0.077	85.6%
T4_HCHO_SPK_000770.LAB	2/7/2023	8:33:51	5.18	0.78	1.96	1.36	0.19	0.39	0.077	106.0%
T4_HCHO_SPK_000771.LAB	2/7/2023	8:33:59	5.20	0.78	1.91	1.14	0.02	0.38	0.076	89.5%
T4_HCHO_SPK_000772.LAB	2/7/2023	8:34:06	5.19	0.94	1.95	1.40	0.23	0.38	0.077	109.2%
T4_HCHO_SPK_000773.LAB	2/7/2023	8:34:14	5.17	0.94	1.89	1.16	0.11	0.39	0.078	88.6%
Spike Average										94.7%

Turbine 4 Prior to Analyte Spike

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_000775.LAB	2/7/2023	8:36:51	5.61	0.92	1.93	0.01	0.17	0.00
T4_000776.LAB	2/7/2023	8:37:51	5.63	0.86	1.95	-0.07	0.14	0.00
T4_000777.LAB	2/7/2023	8:38:51	5.61	0.90	1.91	-0.08	0.16	0.00
Average				0.89		-0.04		0.00

Turbine 4 Analyte Spike, Using 99.9 ppm HCl/5.00 ppm SF6

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	HCl Recovery %
T4_HCL_SPK_000831.LAB	2/7/2023	8:46:31	5.17	8.19	1.99	0.29	0.10	0.42	0.084	91.2%
T4_HCL_SPK_000832.LAB	2/7/2023	8:46:38	5.13	8.30	2.05	0.04	0.15	0.40	0.081	96.1%
T4_HCL_SPK_000833.LAB	2/7/2023	8:46:46	5.17	8.20	2.04	0.04	0.01	0.41	0.083	92.6%
T4_HCL_SPK_000834.LAB	2/7/2023	8:46:53	5.16	8.39	2.05	0.14	0.20	0.42	0.084	93.9%
T4_HCL_SPK_000835.LAB	2/7/2023	8:47:01	5.15	8.16	2.00	0.05	0.06	0.42	0.084	91.0%
T4_HCL_SPK_000836.LAB	2/7/2023	8:47:08	5.12	8.19	2.00	0.04	0.07	0.41	0.082	94.0%
T4_HCL_SPK_000837.LAB	2/7/2023	8:47:16	5.15	8.25	1.99	0.07	0.01	0.42	0.084	92.0%
T4_HCL_SPK_000838.LAB	2/7/2023	8:47:23	5.19	8.32	2.03	0.31	-0.03	0.42	0.085	92.3%
Spike Average										92.9%

Turbine 4 Prior to Analyte Spike

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_000839.LAB	2/7/2023	8:49:41	5.63	1.72	1.69	0.03	0.16	0.00
T4_000840.LAB	2/7/2023	8:50:41	5.62	1.42	1.67	-0.01	0.18	0.00
T4_000841.LAB	2/7/2023	8:51:41	5.63	1.27	1.68	0.03	0.17	0.00
Average					1.68			0.00

Turbine 4 Analyte Spike, Using 111.2 ppm HF/4.999 ppm SF6

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	HF Recovery %
T4_HF_SPK_001083.LAB	2/7/2023	9:22:22	5.16	0.71	9.03	0.06	0.11	0.41	0.082	90.3%
T4_HF_SPK_001084.LAB	2/7/2023	9:22:30	5.11	0.63	9.09	-0.14	-0.01	0.41	0.081	91.7%
T4_HF_SPK_001085.LAB	2/7/2023	9:22:37	5.17	0.56	9.07	0.10	0.05	0.42	0.084	89.2%
T4_HF_SPK_001086.LAB	2/7/2023	9:22:44	5.14	0.59	9.07	-0.10	0.36	0.41	0.081	91.5%
T4_HF_SPK_001087.LAB	2/7/2023	9:22:52	5.12	0.63	9.01	0.09	0.11	0.40	0.080	92.5%
T4_HF_SPK_001088.LAB	2/7/2023	9:23:00	5.16	0.63	9.10	-0.03	0.12	0.41	0.082	91.2%
T4_HF_SPK_001089.LAB	2/7/2023	9:23:07	5.11	0.66	9.08	-0.01	0.18	0.41	0.082	90.6%
T4_HF_SPK_001090.LAB	2/7/2023	9:23:14	5.16	0.69	9.04	0.12	0.15	0.41	0.081	91.6%
Spike Average										91.1%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T4_CTS_SYS_001091.LAB	2/7/2023	9:24:48	0.02	0.10	0.04	-0.06	100.20	5.09	99.4%
T4_CTS_SYS_001092.LAB	2/7/2023	9:24:55	0.02	0.13	0.08	-0.02	100.64	5.11	99.8%
T4_CTS_SYS_001093.LAB	2/7/2023	9:25:03	0.03	0.02	0.03	0.17	101.30	5.12	100.5%
T4_CTS_SYS_001094.LAB	2/7/2023	9:25:10	0.01	-0.03	0.04	-0.06	101.28	5.11	100.4%
T4_CTS_SYS_001095.LAB	2/7/2023	9:25:18	0.01	0.06	0.00	0.15	100.27	5.10	99.4%
T4_CTS_SYS_001096.LAB	2/7/2023	9:25:25	0.00	0.01	-0.05	0.06	100.87	5.09	100.0%
T4_CTS_SYS_001097.LAB	2/7/2023	9:25:33	0.01	-0.02	0.03	-0.03	100.88	5.12	100.0%
T4_CTS_SYS_001098.LAB	2/7/2023	9:25:40	0.00	-0.09	0.00	-0.12	100.85	5.11	100.0%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T4_CTS_SYS_001247.LAB	2/7/2023	11:54:44	0.05	0.04	-0.05	-0.03	100.68	5.11	99.8%
T4_CTS_SYS_001248.LAB	2/7/2023	11:54:51	0.04	0.09	0.00	-0.13	100.74	5.10	99.9%
T4_CTS_SYS_001249.LAB	2/7/2023	11:54:59	0.03	0.06	-0.05	0.01	100.47	5.11	99.6%
T4_CTS_SYS_001250.LAB	2/7/2023	11:55:06	0.03	0.10	-0.07	-0.15	101.13	5.12	100.3%
T4_CTS_SYS_001251.LAB	2/7/2023	11:55:14	0.02	-0.03	-0.12	-0.09	100.88	5.13	100.0%
T4_CTS_SYS_001252.LAB	2/7/2023	11:55:21	0.02	0.00	-0.08	-0.24	101.15	5.13	100.3%
T4_CTS_SYS_001253.LAB	2/7/2023	11:55:29	0.02	0.14	-0.05	-0.04	101.66	5.15	100.8%
T4_CTS_SYS_001254.LAB	2/7/2023	11:55:36	0.02	0.02	-0.06	-0.05	101.32	5.13	100.5%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T4_CTS_SYS_001329.LAB	2/7/2023	13:10:33	0.02	-0.02	-0.08	-0.02	100.80	5.11	100.0%
T4_CTS_SYS_001330.LAB	2/7/2023	13:10:41	0.02	0.01	-0.06	0.09	101.19	5.13	100.3%
T4_CTS_SYS_001331.LAB	2/7/2023	13:10:48	0.02	0.03	-0.03	-0.17	101.37	5.12	100.5%
T4_CTS_SYS_001332.LAB	2/7/2023	13:10:56	0.01	0.05	-0.04	-0.12	101.04	5.12	100.2%
T4_CTS_SYS_001333.LAB	2/7/2023	13:11:03	0.01	0.03	-0.10	-0.24	101.23	5.14	100.4%
T4_CTS_SYS_001334.LAB	2/7/2023	13:11:11	0.01	-0.07	-0.07	0.03	101.01	5.12	100.2%
T4_CTS_SYS_001335.LAB	2/7/2023	13:11:18	0.02	-0.08	-0.09	-0.07	101.55	5.13	100.7%
T4_CTS_SYS_001336.LAB	2/7/2023	13:11:26	0.01	0.00	-0.08	0.11	101.40	5.12	100.6%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T4_CTS_SYS_001401.LAB	2/7/2023	14:16:23	0.02	0.07	-0.05	0.15	100.71	5.12	99.9%
T4_CTS_SYS_001402.LAB	2/7/2023	14:16:31	0.02	-0.12	-0.09	0.08	100.76	5.12	99.9%
T4_CTS_SYS_001403.LAB	2/7/2023	14:16:38	0.02	0.08	-0.08	-0.11	101.64	5.13	100.8%
T4_CTS_SYS_001404.LAB	2/7/2023	14:16:46	0.02	0.01	-0.07	0.22	100.70	5.11	99.9%
T4_CTS_SYS_001405.LAB	2/7/2023	14:16:53	0.01	-0.01	-0.06	-0.02	100.82	5.11	100.0%
T4_CTS_SYS_001406.LAB	2/7/2023	14:17:01	0.02	-0.09	-0.12	-0.07	101.52	5.13	100.7%
T4_CTS_SYS_001407.LAB	2/7/2023	14:17:08	0.00	-0.07	-0.12	0.07	100.99	5.12	100.2%
T4_CTS_SYS_001408.LAB	2/7/2023	14:17:16	0.00	0.07	-0.08	-0.13	101.06	5.12	100.2%

Nitrogen (Zero) System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_N2_SYS_001409.LAB	2/7/2023	14:17:53	0.01	0.03	-0.10	0.13	-0.01	0.00
T4_N2_SYS_001410.LAB	2/7/2023	14:18:00	0.01	-0.09	-0.05	-0.03	-0.08	0.00
T4_N2_SYS_001411.LAB	2/7/2023	14:18:07	0.00	-0.05	-0.09	0.02	-0.10	0.01
T4_N2_SYS_001412.LAB	2/7/2023	14:18:15	0.01	-0.08	-0.10	0.16	0.16	0.00
T4_N2_SYS_001413.LAB	2/7/2023	14:18:22	0.00	0.03	-0.10	0.11	0.19	0.00
T4_N2_SYS_001414.LAB	2/7/2023	14:18:30	0.01	-0.04	-0.12	0.09	-0.03	0.00
T4_N2_SYS_001415.LAB	2/7/2023	14:18:38	0.00	0.00	-0.06	0.03	0.05	0.00
T4_N2_SYS_001416.LAB	2/7/2023	14:18:45	0.02	0.00	-0.04	-0.09	-0.03	0.00
Average			0.01	-0.03	-0.08	0.05	0.02	0.00

Nitrogen Direct Purge to FTIR

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_N2_DIR_001417.LAB	2/7/2023	14:23:09	0.00	-0.04	-0.09	0.00	-0.11	0.00
T4_N2_DIR_001418.LAB	2/7/2023	14:25:10	0.00	-0.05	-0.09	0.07	-0.08	0.00
T4_N2_DIR_001419.LAB	2/7/2023	14:27:09	0.00	-0.03	-0.09	-0.08	-0.05	0.00

Nitrogen (Zero) Direct Purge to FTIR

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_N2_DIR_001422.LAB	2/8/2023	7:18:11	0.00	-0.02	-0.06	0.01	-0.01	0.00
T4_N2_DIR_001423BKG.LAB	2/8/2023	7:20:17	0.00	0.00	0.00	0.00	0.00	0.00
T4_N2_DIR_001424.LAB	2/8/2023	7:20:30	0.00	-0.13	-0.02	0.19	0.11	-0.01
T4_N2_DIR_001425.LAB	2/8/2023	7:20:38	0.00	0.01	0.04	-0.15	0.03	-0.01
T4_N2_DIR_001426.LAB	2/8/2023	7:20:45	0.01	0.10	-0.01	0.26	-0.22	0.00
T4_N2_DIR_001427.LAB	2/8/2023	7:20:53	0.01	0.00	0.03	0.28	0.04	0.00
T4_N2_DIR_001428.LAB	2/8/2023	7:21:00	-0.01	-0.04	-0.03	0.01	-0.01	0.00
T4_N2_DIR_001429.LAB	2/8/2023	7:21:08	0.00	-0.03	-0.02	-0.24	0.02	-0.01
T4_N2_DIR_001430.LAB	2/8/2023	7:21:15	0.00	-0.05	-0.04	-0.09	-0.02	0.00
T4_N2_DIR_001431.LAB	2/8/2023	7:21:23	-0.01	-0.01	0.00	-0.06	0.05	0.00

CTS, 100.2 ppm Ethylene/5.000 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T4_CTS_DIR_001434.LAB	2/8/2023	7:22:24	0.00	0.01	0.04	-0.19	100.92	5.12	100.7%
T4_CTS_DIR_001435.LAB	2/8/2023	7:22:32	0.01	0.06	0.08	0.35	100.94	5.12	100.7%
T4_CTS_DIR_001436.LAB	2/8/2023	7:22:39	0.01	0.03	0.08	0.05	101.33	5.16	101.1%
T4_CTS_DIR_001437.LAB	2/8/2023	7:22:47	0.00	0.02	0.04	-0.05	100.80	5.12	100.6%
T4_CTS_DIR_001438.LAB	2/8/2023	7:22:54	0.01	0.06	-0.01	-0.21	100.67	5.12	100.5%
T4_CTS_DIR_001439.LAB	2/8/2023	7:23:02	0.01	-0.01	0.04	-0.01	100.75	5.11	100.5%
T4_CTS_DIR_001440.LAB	2/8/2023	7:23:09	0.01	-0.07	0.00	0.12	100.85	5.12	100.6%
T4_CTS_DIR_001441.LAB	2/8/2023	7:23:16	0.01	0.14	-0.01	0.15	100.74	5.12	100.5%
Average							100.87		

19.71 ppm Formaldehyde/4.97 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_HCHO_DIR_001472.LAB	2/8/2023	7:27:44	0.00	-0.06	0.01	16.15	-0.29	5.04
T4_HCHO_DIR_001473.LAB	2/8/2023	7:27:52	0.00	0.03	-0.05	16.26	-0.23	5.04
T4_HCHO_DIR_001474.LAB	2/8/2023	7:27:59	-0.01	-0.11	-0.01	16.16	-0.06	5.04
T4_HCHO_DIR_001475.LAB	2/8/2023	7:28:07	-0.01	-0.05	-0.02	16.27	-0.13	5.03
T4_HCHO_DIR_001476.LAB	2/8/2023	7:28:14	0.00	-0.10	0.03	16.21	-0.36	5.05
T4_HCHO_DIR_001477.LAB	2/8/2023	7:28:22	0.00	-0.05	0.01	16.22	0.02	5.05
T4_HCHO_DIR_001478.LAB	2/8/2023	7:28:29	0.00	-0.13	0.03	16.24	-0.27	5.05
T4_HCHO_DIR_001479.LAB	2/8/2023	7:28:37	0.00	-0.18	0.00	15.97	0.09	5.03
Average						16.19		5.04

99.9 ppm HCl/5.00 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_HCL_DIR_001486.LAB	2/8/2023	7:33:31	0.00	101.76	0.24	0.39	0.07	5.00
T4_HCL_DIR_001487.LAB	2/8/2023	7:33:38	0.00	101.86	0.21	0.29	-0.10	4.99
T4_HCL_DIR_001488.LAB	2/8/2023	7:33:46	0.00	99.41	0.17	0.46	0.15	5.00
T4_HCL_DIR_001489.LAB	2/8/2023	7:33:53	0.00	99.46	0.22	0.13	-0.29	5.00
T4_HCL_DIR_001490.LAB	2/8/2023	7:34:01	0.00	101.72	0.14	0.22	-0.17	5.00
T4_HCL_DIR_001491.LAB	2/8/2023	7:34:08	-0.01	99.81	0.20	0.11	-0.27	5.01
T4_HCL_DIR_001492.LAB	2/8/2023	7:34:16	0.00	99.60	0.21	0.32	-0.12	5.00
T4_HCL_DIR_001493.LAB	2/8/2023	7:34:23	0.00	101.85	0.24	0.17	-0.01	5.01
Average				100.68				5.00

111.2 ppm HF/4.999 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_HF_DIR_001508.LAB	2/8/2023	7:47:13	0.00	0.61	106.77	0.07	-0.08	4.95
T4_HF_DIR_001509.LAB	2/8/2023	7:47:20	0.00	0.59	106.09	-0.38	-0.06	4.97
T4_HF_DIR_001510.LAB	2/8/2023	7:47:28	0.00	0.60	105.96	-0.06	0.00	4.97
T4_HF_DIR_001511.LAB	2/8/2023	7:47:35	0.00	0.58	106.22	0.05	-0.32	4.97
T4_HF_DIR_001512.LAB	2/8/2023	7:47:43	-0.01	0.62	106.37	0.04	-0.27	4.97
T4_HF_DIR_001513.LAB	2/8/2023	7:47:50	0.00	0.56	105.99	0.00	-0.14	4.97
T4_HF_DIR_001514.LAB	2/8/2023	7:47:58	-0.01	0.57	105.93	-0.06	-0.12	4.95
T4_HF_DIR_001515.LAB	2/8/2023	7:48:05	0.01	0.56	106.14	0.02	-0.33	4.97
Average					106.18			4.97

100.2 ppm Ethylene/5.000 ppm SF6 System Purge and Response Time Test

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %	Response Time (sec)
T4_CTS_RT_001516.LAB	2/8/2023	7:51:31	5.58	0.52	2.19	0.12	0.32	0.03	0.3%	-
T4_CTS_RT_001517.LAB	2/8/2023	7:51:39	4.91	0.46	1.94	-0.09	2.29	0.13	2.3%	8
T4_CTS_RT_001518.LAB	2/8/2023	7:51:46	0.20	0.19	0.23	0.23	92.50	4.69	91.7%	15
T4_CTS_RT_001519.LAB	2/8/2023	7:51:54	0.03	0.01	0.08	-0.22	101.16	5.19	100.3%	23
T4_CTS_RT_001520.LAB	2/8/2023	7:52:01	0.02	0.10	0.08	0.07	101.17	5.16	100.3%	
T4_CTS_RT_001521.LAB	2/8/2023	7:52:09	0.01	-0.02	0.06	0.18	101.15	5.14	100.3%	
T4_CTS_RT_001522.LAB	2/8/2023	7:52:16	0.01	0.17	-0.01	0.00	101.44	5.16	100.6%	
T4_CTS_RT_001523.LAB	2/8/2023	7:52:24	0.01	0.18	0.02	-0.03	102.28	5.18	101.4%	
T4_CTS_RT_001524.LAB	2/8/2023	7:52:31	-0.01	0.13	0.08	-0.17	101.70	5.19	100.8%	
T4_CTS_RT_001525.LAB	2/8/2023	7:52:39	-0.01	0.10	0.00	-0.13	101.74	5.15	100.9%	
T4_CTS_RT_001526.LAB	2/8/2023	7:52:46	0.02	0.12	0.00	-0.20	101.30	5.15	100.4%	

Nitrogen (Zero) System Purge and Response Time Test

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %	Response Time (sec)
T4_N2_RT_001527.LAB	2/8/2023	7:53:14	0.01	0.11	-0.02	-0.06	101.87	5.15	101.0%	-
T4_N2_RT_001528.LAB	2/8/2023	7:53:21	1.00	0.09	0.78	-0.17	66.95	3.48	66.4%	8
T4_N2_RT_001529.LAB	2/8/2023	7:53:28	0.09	0.08	0.19	-0.12	2.68	0.13	2.7%	15
T4_N2_RT_001530.LAB	2/8/2023	7:53:36	0.02	0.02	0.04	0.12	0.45	0.01	0.4%	23
T4_N2_RT_001531.LAB	2/8/2023	7:53:43	0.00	0.04	0.05	0.15	0.24	0.00	0.2%	
T4_N2_RT_001532.LAB	2/8/2023	7:53:51	0.00	0.09	0.01	-0.05	0.17	-0.01	0.2%	
T4_N2_RT_001533.LAB	2/8/2023	7:53:58	0.01	0.03	0.06	-0.30	0.11	0.00	0.1%	
T4_N2_RT_001534.LAB	2/8/2023	7:54:06	-0.01	0.03	-0.01	-0.26	0.18	0.01	0.2%	
T4_N2_RT_001535.LAB	2/8/2023	7:54:13	0.00	-0.06	0.03	-0.36	0.10	0.00	0.1%	
T4_N2_RT_001536.LAB	2/8/2023	7:54:21	0.00	0.02	0.02	0.07	0.18	-0.01	0.2%	
T4_N2_RT_001537.LAB	2/8/2023	7:54:28	0.01	0.00	-0.01	0.05	0.17	0.00	0.2%	
Average			0.00	0.02	0.02	-0.07	0.20	0.00		

Turbine 4 Prior to Analyte Spike

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_001538.LAB	2/8/2023	7:55:49	5.58	0.44	1.94	0.02	0.28	0.00
T4_001539.LAB	2/8/2023	7:56:49	5.62	0.44	1.74	0.07	0.35	0.00
T4_001540.LAB	2/8/2023	7:57:50	5.65	0.41	1.64	-0.01	0.25	0.00
Average				0.43		0.03		0.00

Turbine 4 Analyte Spike, Using 19.71 ppm Formaldehyde/4.97 ppm SF6

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	Formaldehyde Recovery %
T4_HCHO_SPK_001556.LAB	2/8/2023	8:00:40	5.14	0.26	1.44	1.56	0.35	0.44	0.088	107.8%
T4_HCHO_SPK_001557.LAB	2/8/2023	8:00:47	5.17	0.30	1.32	1.52	0.13	0.44	0.088	105.0%
T4_HCHO_SPK_001558.LAB	2/8/2023	8:00:55	5.13	0.30	1.41	1.24	0.24	0.44	0.086	87.4%
T4_HCHO_SPK_001559.LAB	2/8/2023	8:01:02	5.15	0.21	1.40	1.47	0.29	0.44	0.088	101.9%
T4_HCHO_SPK_001560.LAB	2/8/2023	8:01:10	5.14	0.27	1.39	1.61	0.33	0.44	0.087	112.6%
T4_HCHO_SPK_001561.LAB	2/8/2023	8:01:17	5.17	0.34	1.43	1.59	0.23	0.43	0.086	112.2%
T4_HCHO_SPK_001562.LAB	2/8/2023	8:01:25	5.15	0.24	1.43	1.75	0.22	0.44	0.087	122.0%
T4_HCHO_SPK_001563.LAB	2/8/2023	8:01:32	5.17	0.35	1.37	1.54	0.37	0.44	0.088	105.9%
Spike Average										106.8%

Turbine 4 Analyte Spike, Using 99.9 ppm HCl/5.00 ppm SF6

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	HCl Recovery %
T4_HCL_SPK_001609.LAB	2/8/2023	8:08:22	5.14	8.15	1.78	-0.05	0.07	0.42	0.084	92.0%
T4_HCL_SPK_001610.LAB	2/8/2023	8:08:30	5.16	8.08	1.74	0.15	0.14	0.42	0.084	91.8%
T4_HCL_SPK_001611.LAB	2/8/2023	8:08:38	5.17	8.07	1.74	0.19	0.06	0.41	0.082	93.0%
T4_HCL_SPK_001612.LAB	2/8/2023	8:08:45	5.15	8.14	1.77	0.13	0.01	0.41	0.082	94.2%
T4_HCL_SPK_001613.LAB	2/8/2023	8:08:53	5.18	8.17	1.72	-0.03	0.07	0.42	0.084	92.7%
T4_HCL_SPK_001614.LAB	2/8/2023	8:09:00	5.18	8.15	1.81	-0.06	0.21	0.42	0.084	92.0%
T4_HCL_SPK_001615.LAB	2/8/2023	8:09:07	5.15	8.22	1.79	0.17	0.20	0.42	0.083	93.5%
T4_HCL_SPK_001616.LAB	2/8/2023	8:09:15	5.15	8.37	1.78	0.01	0.26	0.43	0.085	93.4%
Spike Average										92.8%

Turbine 4 Prior to Analyte Spike

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_001618.LAB	2/8/2023	8:11:58	5.65	0.97	1.55	-0.02	0.35	0.00
T4_001619.LAB	2/8/2023	8:12:58	5.65	0.77	1.53	-0.05	0.25	0.00
T4_001620.LAB	2/8/2023	8:13:58	5.64	0.68	1.55	-0.03	0.26	0.00
Average					1.54			0.00

Turbine 4 Analyte Spike, Using 111.2 ppm HF/4.999 ppm SF6

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	HF Recovery %
T4_HF_SPK_001710.LAB	2/8/2023	8:25:41	5.20	0.60	8.91	0.01	0.20	0.40	0.080	89.5%
T4_HF_SPK_001711.LAB	2/8/2023	8:25:48	5.15	0.69	8.96	-0.06	0.28	0.40	0.081	89.3%
T4_HF_SPK_001712.LAB	2/8/2023	8:25:56	5.20	0.68	9.00	-0.05	0.04	0.41	0.082	89.1%
T4_HF_SPK_001713.LAB	2/8/2023	8:26:03	5.23	0.63	9.07	0.13	0.07	0.41	0.082	89.4%
T4_HF_SPK_001714.LAB	2/8/2023	8:26:11	5.18	0.59	9.02	-0.03	0.05	0.40	0.081	90.4%
T4_HF_SPK_001715.LAB	2/8/2023	8:26:18	5.13	0.63	9.05	-0.01	0.28	0.40	0.080	91.3%
T4_HF_SPK_001716.LAB	2/8/2023	8:26:26	5.16	0.54	9.00	0.03	0.14	0.40	0.081	90.2%
T4_HF_SPK_001717.LAB	2/8/2023	8:26:33	5.27	0.64	9.13	0.08	0.05	0.40	0.081	91.3%
Spike Average										90.0%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T4_CTS_SYS_001718.LAB	2/8/2023	8:28:47	0.02	0.09	0.08	-0.01	100.75	5.09	99.9%
T4_CTS_SYS_001719.LAB	2/8/2023	8:28:55	0.01	0.19	0.07	-0.05	100.39	5.10	99.5%
T4_CTS_SYS_001720.LAB	2/8/2023	8:29:02	0.02	0.16	0.07	0.13	100.96	5.11	100.1%
T4_CTS_SYS_001721.LAB	2/8/2023	8:29:09	0.01	0.21	0.05	0.08	100.83	5.11	100.0%
T4_CTS_SYS_001722.LAB	2/8/2023	8:29:17	0.00	0.12	0.03	-0.12	100.95	5.11	100.1%
T4_CTS_SYS_001723.LAB	2/8/2023	8:29:24	0.01	0.03	0.08	0.20	101.47	5.12	100.6%
T4_CTS_SYS_001724.LAB	2/8/2023	8:29:32	0.01	0.08	0.01	-0.02	100.60	5.09	99.7%
T4_CTS_SYS_001725.LAB	2/8/2023	8:29:39	0.01	0.09	0.11	0.05	101.07	5.10	100.2%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T4_CTS_SYS_001823.LAB	2/8/2023	10:07:48	0.08	0.07	0.00	0.05	101.15	5.11	100.3%
T4_CTS_SYS_001824.LAB	2/8/2023	10:07:56	0.06	0.11	0.03	0.13	100.71	5.10	99.8%
T4_CTS_SYS_001825.LAB	2/8/2023	10:08:03	0.03	0.10	-0.04	0.07	101.02	5.11	100.1%
T4_CTS_SYS_001826.LAB	2/8/2023	10:08:11	0.02	0.03	-0.01	0.04	100.59	5.12	99.7%
T4_CTS_SYS_001827.LAB	2/8/2023	10:08:18	0.04	0.08	-0.02	0.05	100.87	5.13	100.0%
T4_CTS_SYS_001828.LAB	2/8/2023	10:08:26	0.03	0.10	0.00	-0.03	100.57	5.10	99.7%
T4_CTS_SYS_001829.LAB	2/8/2023	10:08:33	0.02	0.00	0.04	0.11	100.85	5.07	100.0%
T4_CTS_SYS_001830.LAB	2/8/2023	10:08:41	0.01	-0.07	-0.04	0.14	101.68	5.13	100.8%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T4_CTS_SYS_001901.LAB	2/8/2023	11:19:49	0.04	0.12	-0.03	-0.08	101.09	5.13	100.2%
T4_CTS_SYS_001902.LAB	2/8/2023	11:19:57	0.03	-0.01	-0.03	-0.13	100.64	5.15	99.8%
T4_CTS_SYS_001903.LAB	2/8/2023	11:20:04	0.01	-0.04	-0.03	0.05	100.91	5.12	100.0%
T4_CTS_SYS_001904.LAB	2/8/2023	11:20:12	0.01	0.08	-0.07	0.00	101.02	5.10	100.1%
T4_CTS_SYS_001905.LAB	2/8/2023	11:20:19	0.01	0.06	-0.03	-0.17	101.66	5.14	100.8%
T4_CTS_SYS_001906.LAB	2/8/2023	11:20:27	0.02	-0.01	-0.07	0.00	101.78	5.13	100.9%
T4_CTS_SYS_001907.LAB	2/8/2023	11:20:34	0.01	0.13	-0.04	0.13	100.66	5.11	99.8%
T4_CTS_SYS_001908.LAB	2/8/2023	11:20:42	0.01	0.04	-0.05	-0.07	100.67	5.10	99.8%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T4_CTS_SYS_001981.LAB	2/8/2023	12:34:01	0.02	0.00	0.00	0.11	100.70	5.10	99.8%
T4_CTS_SYS_001982.LAB	2/8/2023	12:34:08	0.01	0.09	-0.03	0.14	100.79	5.11	99.9%
T4_CTS_SYS_001983.LAB	2/8/2023	12:34:16	0.01	0.04	-0.03	0.02	102.03	5.16	101.1%
T4_CTS_SYS_001984.LAB	2/8/2023	12:34:23	0.01	0.10	-0.04	-0.11	101.43	5.14	100.6%
T4_CTS_SYS_001985.LAB	2/8/2023	12:34:31	0.01	0.04	-0.01	-0.06	101.81	5.15	100.9%
T4_CTS_SYS_001986.LAB	2/8/2023	12:34:38	-0.01	0.01	-0.01	0.05	101.13	5.10	100.3%
T4_CTS_SYS_001987.LAB	2/8/2023	12:34:46	0.01	0.05	-0.02	-0.02	101.19	5.14	100.3%
T4_CTS_SYS_001988.LAB	2/8/2023	12:34:53	0.01	0.00	-0.01	0.05	101.49	5.14	100.6%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T4_CTS_SYS_002079.LAB	2/8/2023	14:06:17	0.02	0.04	0.00	0.17	101.23	5.11	100.3%
T4_CTS_SYS_002080.LAB	2/8/2023	14:06:25	0.01	0.16	-0.01	-0.10	101.18	5.12	100.3%
T4_CTS_SYS_002081.LAB	2/8/2023	14:06:32	0.02	0.12	0.02	0.06	100.88	5.13	100.0%
T4_CTS_SYS_002082.LAB	2/8/2023	14:06:39	0.00	0.11	0.00	0.13	101.38	5.12	100.5%
T4_CTS_SYS_002083.LAB	2/8/2023	14:06:47	0.00	0.00	-0.04	-0.31	100.91	5.12	100.0%
T4_CTS_SYS_002084.LAB	2/8/2023	14:06:54	0.00	0.12	0.00	0.06	101.20	5.13	100.3%
T4_CTS_SYS_002085.LAB	2/8/2023	14:07:02	0.01	0.14	0.01	0.31	101.29	5.12	100.4%
T4_CTS_SYS_002086.LAB	2/8/2023	14:07:10	0.01	0.10	-0.06	-0.13	101.74	5.12	100.9%

Nitrogen (Zero) System Purge

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_N2_SYS_002087.LAB	2/8/2023	14:07:50	0.00	0.09	-0.05	-0.13	-0.07	-0.01
T4_N2_SYS_002088.LAB	2/8/2023	14:07:58	0.00	0.05	-0.04	-0.12	0.21	0.00
T4_N2_SYS_002089.LAB	2/8/2023	14:08:05	0.00	0.11	-0.05	-0.28	0.14	0.00
T4_N2_SYS_002090.LAB	2/8/2023	14:08:13	0.01	0.02	0.04	0.13	-0.08	0.01
T4_N2_SYS_002091.LAB	2/8/2023	14:08:20	0.00	-0.11	-0.06	0.24	-0.04	0.01
T4_N2_SYS_002092.LAB	2/8/2023	14:08:28	0.00	0.00	-0.07	-0.01	0.17	0.00
T4_N2_SYS_002093.LAB	2/8/2023	14:08:35	0.01	0.14	-0.02	-0.08	-0.07	0.00
T4_N2_SYS_002094.LAB	2/8/2023	14:08:43	0.01	0.02	-0.05	0.10	0.02	-0.01
Average			0.01	0.04	-0.04	-0.02	0.04	0.00

Nitrogen Direct Purge to FTIR

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T4_N2_DIR_002095.LAB	2/8/2023	14:13:38	0.00	0.02	-0.04	0.01	0.04	0.00
T4_N2_DIR_002096.LAB	2/8/2023	14:15:38	0.00	-0.02	-0.02	-0.02	0.11	0.00
T4_N2_DIR_002097.LAB	2/8/2023	14:17:38	0.00	-0.01	-0.04	0.05	0.05	0.00

Nitrogen (Zero) Direct Purge to FTIR

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_N2_DIR_002881BKG.LAB	2/14/2023	7:29:09	0.00	0.00	0.00	0.00	0.00	0.00
T5_N2_DIR_002882.LAB	2/14/2023	7:29:22	0.00	0.04	-0.02	-0.07	0.05	-0.01
T5_N2_DIR_002883.LAB	2/14/2023	7:29:29	0.00	-0.02	-0.04	-0.04	0.13	0.00
T5_N2_DIR_002884.LAB	2/14/2023	7:29:37	0.00	0.04	-0.04	0.06	0.06	0.00
T5_N2_DIR_002885.LAB	2/14/2023	7:29:44	0.00	0.07	-0.06	0.11	0.01	0.00
T5_N2_DIR_002886.LAB	2/14/2023	7:29:52	0.01	-0.03	-0.06	-0.15	-0.02	-0.01
T5_N2_DIR_002887.LAB	2/14/2023	7:29:59	0.01	0.06	-0.07	0.16	0.12	0.00
T5_N2_DIR_002888.LAB	2/14/2023	7:30:07	0.00	0.04	-0.04	-0.23	-0.06	0.00
T5_N2_DIR_002889.LAB	2/14/2023	7:30:14	0.00	-0.05	-0.02	0.12	-0.08	0.00

CTS, 100.2 ppm Ethylene/5.000 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T5_CTS_DIR_002898.LAB	2/14/2023	7:31:56	0.01	-0.02	0.04	0.21	100.32	5.09	100.1%
T5_CTS_DIR_002899.LAB	2/14/2023	7:32:03	0.00	0.09	-0.01	-0.03	100.76	5.11	100.6%
T5_CTS_DIR_002900.LAB	2/14/2023	7:32:11	0.00	-0.04	-0.04	-0.02	100.45	5.13	100.3%
T5_CTS_DIR_002901.LAB	2/14/2023	7:32:18	0.01	0.01	-0.06	0.17	101.23	5.13	101.0%
T5_CTS_DIR_002902.LAB	2/14/2023	7:32:26	-0.01	0.03	-0.09	0.08	100.24	5.08	100.0%
T5_CTS_DIR_002903.LAB	2/14/2023	7:32:33	0.00	0.05	-0.08	0.17	100.99	5.11	100.8%
T5_CTS_DIR_002904.LAB	2/14/2023	7:32:41	0.00	0.01	-0.12	0.06	100.32	5.10	100.1%
T5_CTS_DIR_002905.LAB	2/14/2023	7:32:48	0.01	-0.08	-0.11	-0.02	100.62	5.11	100.4%
Average							100.62	5.11	

99.9 ppm HCl/5.00 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_HCL_DIR_002912.LAB	2/14/2023	7:37:09	0.00	99.18	0.17	0.19	-0.27	4.98
T5_HCL_DIR_002913.LAB	2/14/2023	7:37:16	0.01	101.33	0.15	0.16	-0.31	4.99
T5_HCL_DIR_002914.LAB	2/14/2023	7:37:24	0.00	101.35	0.17	0.14	-0.21	5.00
T5_HCL_DIR_002915.LAB	2/14/2023	7:37:31	0.00	101.25	0.14	0.16	-0.17	4.99
T5_HCL_DIR_002916.LAB	2/14/2023	7:37:39	0.00	101.70	0.17	-0.01	-0.11	4.98
T5_HCL_DIR_002917.LAB	2/14/2023	7:37:46	0.01	101.39	0.12	-0.05	-0.27	4.99
T5_HCL_DIR_002918.LAB	2/14/2023	7:37:54	0.00	101.86	0.11	0.12	-0.12	4.99
T5_HCL_DIR_002919.LAB	2/14/2023	7:38:01	0.00	99.76	0.13	0.19	-0.22	4.97
Average				100.98				4.99

19.71 ppm Formaldehyde/4.97 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_HCHO_DIR_002937.LAB	2/14/2023	7:40:50	0.00	0.10	-0.14	16.23	-0.24	5.01
T5_HCHO_DIR_002938.LAB	2/14/2023	7:40:57	-0.01	0.20	-0.17	16.27	-0.21	5.02
T5_HCHO_DIR_002939.LAB	2/14/2023	7:41:05	0.01	0.14	-0.22	16.10	-0.36	5.02
T5_HCHO_DIR_002940.LAB	2/14/2023	7:41:12	0.00	0.23	-0.11	16.29	-0.33	5.00
T5_HCHO_DIR_002941.LAB	2/14/2023	7:41:20	0.00	0.12	-0.15	16.10	-0.29	5.01
T5_HCHO_DIR_002942.LAB	2/14/2023	7:41:27	0.00	0.07	-0.15	16.45	-0.33	5.01
T5_HCHO_DIR_002943.LAB	2/14/2023	7:41:35	0.00	0.17	-0.18	16.22	-0.20	5.03
T5_HCHO_DIR_002944.LAB	2/14/2023	7:41:42	0.00	0.06	-0.19	16.20	-0.28	5.01
Average						16.23		5.01

111.2 ppm HF/4.999 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_HF_DIR_002963.LAB	2/14/2023	7:49:15	-0.01	0.41	105.60	0.11	-0.19	4.96
T5_HF_DIR_002964.LAB	2/14/2023	7:49:23	0.00	0.47	105.80	-0.07	-0.33	4.96
T5_HF_DIR_002965.LAB	2/14/2023	7:49:30	-0.01	0.42	105.77	0.02	0.13	4.96
T5_HF_DIR_002966.LAB	2/14/2023	7:49:38	-0.01	0.45	105.95	-0.06	-0.16	4.96
T5_HF_DIR_002967.LAB	2/14/2023	7:49:45	0.00	0.41	105.94	-0.03	-0.02	4.97
T5_HF_DIR_002968.LAB	2/14/2023	7:49:53	-0.01	0.37	106.25	-0.06	-0.23	4.96
T5_HF_DIR_002969.LAB	2/14/2023	7:50:00	0.00	0.42	105.74	-0.02	-0.37	4.98
T5_HF_DIR_002970.LAB	2/14/2023	7:50:08	0.00	0.45	106.19	0.10	-0.25	4.97
Average					105.90			4.97

100.2 ppm Ethylene/5.000 ppm SF6 System Purge and Response Time Test

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %	Response Time (sec)
T5_CTS_RT_002971.LAB	2/14/2023	7:55:19	5.98	0.90	2.05	0.19	0.26	0.03	0.3%	-
T5_CTS_RT_002972.LAB	2/14/2023	7:55:26	5.46	0.82	1.94	0.56	3.01	0.25	3.0%	8
T5_CTS_RT_002973.LAB	2/14/2023	7:55:33	0.97	0.46	0.37	0.58	93.25	4.87	92.7%	15
T5_CTS_RT_002974.LAB	2/14/2023	7:55:41	0.19	0.24	-0.07	0.15	101.26	5.12	100.6%	23
T5_CTS_RT_002975.LAB	2/14/2023	7:55:48	0.12	0.21	-0.09	0.15	101.10	5.13	100.5%	
T5_CTS_RT_002976.LAB	2/14/2023	7:55:56	0.09	0.21	-0.13	0.19	101.42	5.15	100.8%	
T5_CTS_RT_002977.LAB	2/14/2023	7:56:03	0.07	0.27	-0.13	-0.01	101.28	5.14	100.7%	
T5_CTS_RT_002978.LAB	2/14/2023	7:56:11	0.05	0.15	-0.11	0.33	101.34	5.14	100.7%	
T5_CTS_RT_002979.LAB	2/14/2023	7:56:18	0.04	0.11	-0.16	0.14	101.44	5.15	100.8%	
T5_CTS_RT_002980.LAB	2/14/2023	7:56:26	0.03	0.15	-0.16	0.05	101.30	5.15	100.7%	
T5_CTS_RT_002981.LAB	2/14/2023	7:56:33	0.03	0.09	-0.17	0.17	101.61	5.14	101.0%	

Nitrogen (Zero) System Purge and Response Time Test

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %	Response Time (sec)
T5_N2_RT_002982.LAB	2/14/2023	7:56:59	0.02	0.05	-0.21	0.06	101.02	5.14	100.4%	-
T5_N2_RT_002983.LAB	2/14/2023	7:57:06	0.70	0.10	0.13	-0.01	80.80	4.16	80.3%	8
T5_N2_RT_002984.LAB	2/14/2023	7:57:14	0.51	0.30	0.17	0.12	9.16	0.47	9.1%	16
T5_N2_RT_002985.LAB	2/14/2023	7:57:21	0.03	0.19	-0.20	0.11	0.25	0.00	0.2%	23
T5_N2_RT_002986.LAB	2/14/2023	7:57:28	0.02	0.11	-0.22	0.04	0.09	-0.01	0.1%	
T5_N2_RT_002987.LAB	2/14/2023	7:57:36	0.01	0.13	-0.11	0.02	0.10	0.01	0.1%	
T5_N2_RT_002988.LAB	2/14/2023	7:57:44	0.03	0.02	-0.21	0.00	-0.06	0.00	-0.1%	
T5_N2_RT_002989.LAB	2/14/2023	7:57:51	-0.01	-0.01	-0.23	0.09	0.15	0.00	0.2%	
T5_N2_RT_002990.LAB	2/14/2023	7:57:59	0.02	0.15	-0.21	0.04	0.33	0.01	0.3%	
T5_N2_RT_002991.LAB	2/14/2023	7:58:06	0.00	0.12	-0.19	0.16	0.05	0.00	0.0%	
T5_N2_RT_002992.LAB	2/14/2023	7:58:13	0.01	0.08	-0.22	0.01	0.04	0.00	0.0%	
Average			0.01	0.10	-0.20	0.06	0.12	0.00		

Turbine 5 Prior to Analyte Spike

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_002994.LAB	2/14/2023	8:00:19	6.01	0.62	1.86	0.10	0.26	0.00
T5_002995.LAB	2/14/2023	8:01:19	6.01	0.50	1.68	0.06	0.33	0.00
T5_002996.LAB	2/14/2023	8:02:19	6.01	0.48	1.60	0.11	0.26	0.00
Average				0.53		0.09		0.00

Turbine 5 Analyte Spike, Using 19.71 ppm Formaldehyde/4.97 ppm SF6

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	Formaldehyde Recovery %
T5_HCHO_SPK_003007.LAB	2/14/2023	8:04:37	5.49	0.38	1.35	1.47	0.10	0.45	0.089	95.9%
T5_HCHO_SPK_003008.LAB	2/14/2023	8:04:44	5.48	0.41	1.34	1.55	0.22	0.45	0.090	100.4%
T5_HCHO_SPK_003009.LAB	2/14/2023	8:04:51	5.47	0.34	1.39	1.73	0.14	0.46	0.091	110.5%
T5_HCHO_SPK_003010.LAB	2/14/2023	8:04:59	5.46	0.40	1.37	1.63	0.12	0.45	0.091	105.1%
T5_HCHO_SPK_003011.LAB	2/14/2023	8:05:06	5.48	0.45	1.40	1.53	0.00	0.45	0.089	100.0%
T5_HCHO_SPK_003012.LAB	2/14/2023	8:05:14	5.48	0.34	1.30	1.46	0.09	0.44	0.089	95.8%
T5_HCHO_SPK_003013.LAB	2/14/2023	8:05:22	5.49	0.38	1.36	1.35	0.12	0.45	0.090	87.2%
T5_HCHO_SPK_003014.LAB	2/14/2023	8:05:29	5.46	0.46	1.40	1.36	0.16	0.44	0.089	89.0%
Spike Average										98.0%

Turbine 5 Prior to Analyte Spike

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_003020.LAB	2/14/2023	8:12:01	6.02	0.42	1.55	0.08	0.21	0.00
T5_003021.LAB	2/14/2023	8:13:01	6.02	0.42	1.54	0.06	0.15	0.00
T5_003022.LAB	2/14/2023	8:14:01	6.03	0.40	1.52	0.13	0.22	0.00
Average				0.41		0.09		0.00

Turbine 5 Analyte Spike, Using 99.9 ppm HCl/5.00 ppm SF6

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	HCl Recovery %
T5_HCL_SPK_003065.LAB	2/14/2023	8:19:47	5.56	7.76	1.70	0.21	0.20	0.40	0.080	92.2%
T5_HCL_SPK_003066.LAB	2/14/2023	8:19:54	5.53	7.74	1.72	0.22	0.08	0.40	0.080	91.3%
T5_HCL_SPK_003067.LAB	2/14/2023	8:20:02	5.54	7.79	1.73	-0.03	0.17	0.40	0.080	92.6%
T5_HCL_SPK_003068.LAB	2/14/2023	8:20:09	5.54	7.76	1.68	0.33	0.23	0.39	0.078	93.5%
T5_HCL_SPK_003069.LAB	2/14/2023	8:20:17	5.55	7.78	1.72	0.17	0.01	0.39	0.079	93.3%
T5_HCL_SPK_003070.LAB	2/14/2023	8:20:24	5.53	7.83	1.68	-0.05	0.26	0.40	0.081	91.8%
T5_HCL_SPK_003071.LAB	2/14/2023	8:20:32	5.57	7.87	1.70	-0.02	0.16	0.39	0.079	94.6%
T5_HCL_SPK_003072.LAB	2/14/2023	8:20:40	5.55	7.80	1.67	0.08	0.12	0.39	0.078	94.2%
Spike Average										92.9%

Turbine 5 Prior to Analyte Spike

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_003076.LAB	2/14/2023	8:25:11	6.04	0.63	1.42	0.06	0.23	0.00
T5_003077.LAB	2/14/2023	8:26:11	6.05	0.56	1.39	0.10	0.15	0.00
T5_003078.LAB	2/14/2023	8:27:11	6.05	0.53	1.39	0.02	0.24	0.00
Average					1.40			0.00

Turbine 5 Analyte Spike, Using 111.2 ppm HF/4.999 ppm SF6

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	HF Recovery %
T5_HF_SPK_003180.LAB	2/14/2023	8:40:18	5.49	0.47	9.58	0.05	0.03	0.43	0.086	91.8%
T5_HF_SPK_003181.LAB	2/14/2023	8:40:26	5.49	0.47	9.52	0.10	0.16	0.42	0.085	92.2%
T5_HF_SPK_003182.LAB	2/14/2023	8:40:33	5.51	0.53	9.54	-0.06	0.12	0.43	0.086	91.7%
T5_HF_SPK_003183.LAB	2/14/2023	8:40:40	5.50	0.46	9.55	-0.04	0.06	0.43	0.087	90.9%
T5_HF_SPK_003184.LAB	2/14/2023	8:40:48	5.49	0.51	9.57	-0.03	0.17	0.44	0.088	90.4%
T5_HF_SPK_003185.LAB	2/14/2023	8:40:55	5.50	0.48	9.66	0.03	0.15	0.44	0.089	90.6%
T5_HF_SPK_003186.LAB	2/14/2023	8:41:03	5.48	0.49	9.64	0.01	0.09	0.43	0.087	91.9%
T5_HF_SPK_003187.LAB	2/14/2023	8:41:10	5.47	0.51	9.53	-0.10	0.19	0.44	0.089	88.9%
Spike Average										91.1%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T5_CTS_SYS_003287.LAB	2/14/2023	10:15:49	0.05	-0.08	-0.20	-0.04	101.10	5.10	100.5%
T5_CTS_SYS_003288.LAB	2/14/2023	10:15:57	0.03	0.02	-0.28	0.10	101.05	5.12	100.4%
T5_CTS_SYS_003289.LAB	2/14/2023	10:16:04	0.01	0.06	-0.24	0.06	101.64	5.12	101.0%
T5_CTS_SYS_003290.LAB	2/14/2023	10:16:11	0.01	0.04	-0.27	-0.01	101.51	5.13	100.9%
T5_CTS_SYS_003291.LAB	2/14/2023	10:16:19	0.00	0.02	-0.24	0.00	101.40	5.12	100.8%
T5_CTS_SYS_003292.LAB	2/14/2023	10:16:26	0.01	0.16	-0.25	-0.08	100.40	5.11	99.8%
T5_CTS_SYS_003293.LAB	2/14/2023	10:16:34	0.00	0.06	-0.23	-0.13	100.63	5.10	100.0%
T5_CTS_SYS_003294.LAB	2/14/2023	10:16:41	-0.01	0.07	-0.27	-0.12	100.85	5.12	100.2%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T5_CTS_SYS_003358.LAB	2/14/2023	11:21:17	0.01	0.11	-0.23	0.19	101.17	5.11	100.6%
T5_CTS_SYS_003359.LAB	2/14/2023	11:21:24	0.02	-0.01	-0.31	-0.04	100.58	5.11	100.0%
T5_CTS_SYS_003360.LAB	2/14/2023	11:21:32	0.02	0.05	-0.25	-0.07	100.52	5.12	99.9%
T5_CTS_SYS_003361.LAB	2/14/2023	11:21:39	0.01	0.06	-0.22	0.12	100.70	5.12	100.1%
T5_CTS_SYS_003362.LAB	2/14/2023	11:21:47	0.01	-0.02	-0.23	0.15	100.84	5.10	100.2%
T5_CTS_SYS_003363.LAB	2/14/2023	11:21:54	0.01	0.12	-0.24	-0.24	100.98	5.10	100.4%
T5_CTS_SYS_003364.LAB	2/14/2023	11:22:02	0.01	0.08	-0.26	0.15	101.38	5.11	100.8%
T5_CTS_SYS_003365.LAB	2/14/2023	11:22:09	0.01	0.10	-0.25	0.07	101.03	5.11	100.4%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T5_CTS_SYS_003438.LAB	2/14/2023	12:35:37	0.03	0.22	-0.24	0.17	101.21	5.10	100.6%
T5_CTS_SYS_003439.LAB	2/14/2023	12:35:44	0.02	-0.04	-0.25	-0.02	101.11	5.11	100.5%
T5_CTS_SYS_003440.LAB	2/14/2023	12:35:52	0.01	0.01	-0.26	0.04	100.72	5.11	100.1%
T5_CTS_SYS_003441.LAB	2/14/2023	12:35:59	0.01	0.03	-0.24	0.10	100.75	5.12	100.1%
T5_CTS_SYS_003442.LAB	2/14/2023	12:36:07	0.01	0.02	-0.24	0.29	100.22	5.12	99.6%
T5_CTS_SYS_003443.LAB	2/14/2023	12:36:14	0.02	0.05	-0.24	0.01	101.03	5.11	100.4%
T5_CTS_SYS_003444.LAB	2/14/2023	12:36:22	0.00	0.11	-0.29	-0.07	101.22	5.12	100.6%
T5_CTS_SYS_003445.LAB	2/14/2023	12:36:29	0.00	0.09	-0.26	0.02	101.17	5.12	100.5%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T5_CTS_SYS_003510.LAB	2/14/2023	13:41:42	0.03	0.08	-0.21	-0.09	100.67	5.10	100.1%
T5_CTS_SYS_003511.LAB	2/14/2023	13:41:50	0.03	0.04	-0.20	-0.03	101.36	5.13	100.7%
T5_CTS_SYS_003512.LAB	2/14/2023	13:41:57	0.02	0.03	-0.26	0.14	101.37	5.12	100.8%
T5_CTS_SYS_003513.LAB	2/14/2023	13:42:05	0.02	0.05	-0.21	0.01	100.79	5.10	100.2%
T5_CTS_SYS_003514.LAB	2/14/2023	13:42:12	0.01	-0.06	-0.28	-0.29	100.53	5.12	99.9%
T5_CTS_SYS_003515.LAB	2/14/2023	13:42:20	0.02	0.02	-0.25	0.00	100.89	5.11	100.3%
T5_CTS_SYS_003516.LAB	2/14/2023	13:42:27	0.01	-0.03	-0.22	0.04	100.88	5.12	100.3%
T5_CTS_SYS_003517.LAB	2/14/2023	13:42:35	0.01	0.00	-0.23	0.10	100.90	5.10	100.3%

Nitrogen (Zero) System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_N2_SYS_003518.LAB	2/14/2023	13:43:12	0.01	-0.09	-0.27	-0.04	0.21	0.00
T5_N2_SYS_003519.LAB	2/14/2023	13:43:20	0.01	0.04	-0.27	0.01	0.08	0.00
T5_N2_SYS_003520.LAB	2/14/2023	13:43:27	0.00	0.01	-0.20	0.07	0.08	0.00
T5_N2_SYS_003521.LAB	2/14/2023	13:43:35	0.01	0.02	-0.26	0.02	-0.10	0.00
T5_N2_SYS_003522.LAB	2/14/2023	13:43:42	0.01	0.01	-0.26	0.00	0.12	0.00
T5_N2_SYS_003523.LAB	2/14/2023	13:43:49	0.00	0.07	-0.21	0.11	0.05	0.00
T5_N2_SYS_003524.LAB	2/14/2023	13:43:57	0.01	0.01	-0.27	0.20	0.18	0.00
T5_N2_SYS_003525.LAB	2/14/2023	13:44:04	0.02	-0.01	-0.24	0.22	0.05	0.00
Average			0.01	0.01	-0.25	0.08	0.08	0.00

Nitrogen (Zero) Direct Purge to FTIR

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_N2_DIR_003526.LAB	2/14/2023	13:49:05	0.00	-0.01	-0.25	0.04	0.04	0.00
T5_N2_DIR_003527.LAB	2/14/2023	13:51:05	0.00	0.00	-0.27	-0.01	0.05	0.00
T5_N2_DIR_003528.LAB	2/14/2023	13:53:05	0.00	0.00	-0.28	-0.03	0.01	0.00

Nitrogen (Zero) Direct Purge to FTIR

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_N2_DIR_003532BKG.LAB	2/15/2023	7:21:22	0.00	0.00	0.00	0.00	0.00	0.00
T5_N2_DIR_003533.LAB	2/15/2023	7:21:35	0.00	-0.03	-0.07	0.16	0.19	0.00
T5_N2_DIR_003534.LAB	2/15/2023	7:21:43	0.00	-0.02	-0.04	0.00	0.08	0.00
T5_N2_DIR_003535.LAB	2/15/2023	7:21:50	0.00	-0.08	-0.03	0.04	0.07	0.00
T5_N2_DIR_003536.LAB	2/15/2023	7:21:58	0.01	0.01	-0.02	-0.01	0.06	0.00
T5_N2_DIR_003537.LAB	2/15/2023	7:22:05	0.00	0.04	-0.03	0.03	0.04	0.00
T5_N2_DIR_003538.LAB	2/15/2023	7:22:13	-0.01	0.01	-0.01	-0.11	0.09	0.00
T5_N2_DIR_003539.LAB	2/15/2023	7:22:20	-0.01	-0.02	-0.02	-0.14	-0.06	0.00
T5_N2_DIR_003540.LAB	2/15/2023	7:22:28	0.00	-0.01	-0.04	0.11	0.17	0.00

CTS, 100.2 ppm Ethylene/5.000 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T5_CTS_DIR_003541.LAB	2/15/2023	7:23:08	0.00	-0.05	-0.01	0.03	100.26	5.09	100.1%
T5_CTS_DIR_003542.LAB	2/15/2023	7:23:16	0.01	0.06	0.00	0.07	100.78	5.11	100.6%
T5_CTS_DIR_003543.LAB	2/15/2023	7:23:23	0.01	0.03	0.09	0.06	100.55	5.10	100.4%
T5_CTS_DIR_003544.LAB	2/15/2023	7:23:30	0.01	-0.11	-0.02	0.30	100.47	5.09	100.3%
T5_CTS_DIR_003545.LAB	2/15/2023	7:23:38	0.01	0.05	0.01	0.15	100.44	5.10	100.2%
T5_CTS_DIR_003546.LAB	2/15/2023	7:23:46	0.00	0.01	0.01	-0.06	100.60	5.11	100.4%
T5_CTS_DIR_003547.LAB	2/15/2023	7:23:53	0.00	-0.02	0.00	-0.10	100.07	5.10	99.9%
T5_CTS_DIR_003548.LAB	2/15/2023	7:24:01	0.01	0.02	0.00	-0.07	100.26	5.10	100.1%
Average							100.43	5.10	

19.71 ppm Formaldehyde/4.97 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_HCHO_DIR_003560.LAB	2/15/2023	7:26:03	0.00	-0.10	-0.07	16.19	-0.19	5.02
T5_HCHO_DIR_003561.LAB	2/15/2023	7:26:11	0.00	-0.13	-0.04	15.98	-0.39	5.02
T5_HCHO_DIR_003562.LAB	2/15/2023	7:26:18	0.00	-0.18	-0.04	16.16	-0.24	5.03
T5_HCHO_DIR_003563.LAB	2/15/2023	7:26:26	0.00	-0.09	-0.07	16.10	-0.14	5.01
T5_HCHO_DIR_003564.LAB	2/15/2023	7:26:33	-0.01	-0.03	-0.06	16.02	-0.25	5.00
T5_HCHO_DIR_003565.LAB	2/15/2023	7:26:41	0.00	-0.14	-0.01	15.88	-0.19	5.02
T5_HCHO_DIR_003566.LAB	2/15/2023	7:26:48	0.00	-0.04	-0.02	16.18	-0.46	5.02
T5_HCHO_DIR_003567.LAB	2/15/2023	7:26:56	0.00	-0.21	-0.05	15.87	-0.19	5.01
Average						16.05		5.02

99.9 ppm HCl/5.00 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_HCL_DIR_003579.LAB	2/15/2023	7:30:56	0.00	104.49	0.18	0.09	-0.27	4.99
T5_HCL_DIR_003580.LAB	2/15/2023	7:31:04	0.00	104.57	0.14	0.06	-0.28	5.00
T5_HCL_DIR_003581.LAB	2/15/2023	7:31:11	0.00	102.33	0.14	0.03	-0.16	4.97
T5_HCL_DIR_003582.LAB	2/15/2023	7:31:18	0.00	104.42	0.16	0.03	-0.18	4.97
T5_HCL_DIR_003583.LAB	2/15/2023	7:31:26	0.00	104.70	0.18	0.09	-0.23	4.98
T5_HCL_DIR_003584.LAB	2/15/2023	7:31:33	-0.01	102.75	0.17	0.22	-0.22	4.98
T5_HCL_DIR_003585.LAB	2/15/2023	7:31:41	-0.01	102.68	0.15	0.15	-0.25	4.98
T5_HCL_DIR_003586.LAB	2/15/2023	7:31:48	0.01	104.71	0.17	0.23	-0.32	4.96
Average				103.83				4.98

111.2 ppm HF/4.999 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_HF_DIR_003607.LAB	2/15/2023	7:44:23	0.00	0.28	102.13	-0.03	-0.10	4.96
T5_HF_DIR_003608.LAB	2/15/2023	7:44:31	-0.01	0.33	102.34	-0.01	-0.33	4.96
T5_HF_DIR_003609.LAB	2/15/2023	7:44:38	-0.01	0.48	102.55	-0.07	0.00	4.95
T5_HF_DIR_003610.LAB	2/15/2023	7:44:45	-0.01	0.38	102.38	-0.29	-0.01	4.95
T5_HF_DIR_003611.LAB	2/15/2023	7:44:53	0.01	0.37	102.41	-0.22	-0.08	4.95
T5_HF_DIR_003612.LAB	2/15/2023	7:45:00	0.00	0.21	102.66	-0.20	-0.04	4.95
T5_HF_DIR_003613.LAB	2/15/2023	7:45:08	0.01	0.36	102.68	-0.06	-0.16	4.96
T5_HF_DIR_003614.LAB	2/15/2023	7:45:15	0.00	0.32	102.31	0.04	-0.14	4.96
Average					102.43			4.95

100.2 ppm Ethylene/5.000 ppm SF6 System Purge and Response Time Test

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %	Response Time (sec)
T5_CTS_RT_003615.LAB	2/15/2023	7:48:51	5.43	0.43	2.38	0.09	0.27	0.04	0.3%	-
T5_CTS_RT_003616.LAB	2/15/2023	7:48:59	4.29	0.27	2.01	0.35	6.41	0.33	6.4%	8
T5_CTS_RT_003617.LAB	2/15/2023	7:49:06	0.12	0.14	0.20	0.06	97.58	5.00	97.2%	15
T5_CTS_RT_003618.LAB	2/15/2023	7:49:14	0.03	0.11	0.05	-0.04	102.27	5.18	101.8%	
T5_CTS_RT_003619.LAB	2/15/2023	7:49:21	0.02	0.00	0.05	-0.09	101.97	5.17	101.5%	
T5_CTS_RT_003620.LAB	2/15/2023	7:49:29	0.00	0.10	0.02	-0.22	102.27	5.17	101.8%	
T5_CTS_RT_003621.LAB	2/15/2023	7:49:36	0.01	-0.05	0.05	-0.06	101.72	5.18	101.3%	
T5_CTS_RT_003622.LAB	2/15/2023	7:49:44	0.01	0.09	-0.01	-0.05	101.29	5.16	100.9%	
T5_CTS_RT_003623.LAB	2/15/2023	7:49:51	0.01	0.12	0.01	-0.04	101.42	5.15	101.0%	
T5_CTS_RT_003624.LAB	2/15/2023	7:49:59	0.01	0.00	0.00	0.06	101.92	5.17	101.5%	
T5_CTS_RT_003625.LAB	2/15/2023	7:50:06	0.00	0.01	-0.01	0.07	101.22	5.15	100.8%	

Nitrogen (Zero) System Purge and Response Time Test

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %	Response Time (sec)
T5_N2_RT_003626.LAB	2/15/2023	7:50:31	0.01	-0.05	0.01	0.29	101.32	5.15	100.9%	-
T5_N2_RT_003627.LAB	2/15/2023	7:50:38	0.78	0.03	0.65	0.06	70.19	3.64	69.9%	8
T5_N2_RT_003628.LAB	2/15/2023	7:50:46	0.07	0.01	0.20	0.23	1.87	0.10	1.9%	15
T5_N2_RT_003629.LAB	2/15/2023	7:50:53	0.01	0.11	0.01	-0.03	0.37	-0.01	0.4%	
T5_N2_RT_003630.LAB	2/15/2023	7:51:01	-0.01	-0.06	-0.04	-0.19	0.18	0.00	0.2%	
T5_N2_RT_003631.LAB	2/15/2023	7:51:08	0.00	0.05	-0.02	-0.11	0.03	0.01	0.0%	
T5_N2_RT_003632.LAB	2/15/2023	7:51:16	0.00	0.04	-0.01	0.13	-0.02	0.01	0.0%	
T5_N2_RT_003633.LAB	2/15/2023	7:51:23	-0.01	0.07	-0.02	0.18	-0.06	0.00	-0.1%	
T5_N2_RT_003634.LAB	2/15/2023	7:51:31	0.01	0.02	-0.02	-0.02	0.16	-0.01	0.2%	
T5_N2_RT_003635.LAB	2/15/2023	7:51:38	0.00	-0.04	-0.04	0.11	-0.08	0.00	-0.1%	
T5_N2_RT_003636.LAB	2/15/2023	7:51:46	0.01	-0.02	-0.03	0.10	0.02	0.00	0.0%	
Average			0.00	0.02	-0.02	0.02	0.07	0.00		

Turbine 5 Prior to Analyte Spike

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_003638.LAB	2/15/2023	7:53:24	5.46	0.41	1.77	0.07	0.15	0.00
T5_003639.LAB	2/15/2023	7:54:24	5.46	0.42	1.60	0.06	0.16	0.00
T5_003640.LAB	2/15/2023	7:55:24	5.46	0.40	1.53	0.10	0.23	0.00
Average				0.41		0.07		0.00

Turbine 5 Analyte Spike, Using 19.71 ppm Formaldehyde/4.97 ppm SF6

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	Formaldehyde Recovery %
T5_HCHO_SPK_003659.LAB	2/15/2023	7:58:13	5.04	0.33	1.45	1.11	0.23	0.39	0.077	85.1%
T5_HCHO_SPK_003660.LAB	2/15/2023	7:58:21	5.05	0.26	1.44	1.37	0.02	0.38	0.076	106.5%
T5_HCHO_SPK_003661.LAB	2/15/2023	7:58:28	5.05	0.30	1.52	1.00	0.00	0.38	0.075	78.7%
T5_HCHO_SPK_003662.LAB	2/15/2023	7:58:36	5.04	0.26	1.46	1.06	0.12	0.39	0.077	80.7%
T5_HCHO_SPK_003663.LAB	2/15/2023	7:58:43	5.05	0.26	1.46	1.10	0.25	0.39	0.078	83.4%
T5_HCHO_SPK_003664.LAB	2/15/2023	7:58:51	5.06	0.35	1.40	1.05	-0.01	0.38	0.076	81.3%
T5_HCHO_SPK_003665.LAB	2/15/2023	7:58:58	5.07	0.31	1.37	1.35	0.11	0.39	0.077	103.7%
T5_HCHO_SPK_003666.LAB	2/15/2023	7:59:06	5.09	0.22	1.41	1.24	0.16	0.39	0.078	94.4%
Spike Average										89.2%

Turbine 5 Analyte Spike, Using 99.9 ppm HCl/5.00 ppm SF6

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	HCl Recovery %
T5_HCL_SPK_003721.LAB	2/15/2023	8:06:22	5.13	7.68	1.26	-0.02	0.18	0.38	0.076	92.7%
T5_HCL_SPK_003722.LAB	2/15/2023	8:06:29	5.12	7.85	1.30	-0.02	0.17	0.39	0.078	92.7%
T5_HCL_SPK_003723.LAB	2/15/2023	8:06:37	5.09	7.74	1.27	0.08	0.07	0.37	0.075	94.9%
T5_HCL_SPK_003724.LAB	2/15/2023	8:06:44	5.08	7.69	1.32	0.12	0.08	0.37	0.074	94.8%
T5_HCL_SPK_003725.LAB	2/15/2023	8:06:52	5.10	7.75	1.31	-0.13	0.23	0.37	0.075	95.1%
T5_HCL_SPK_003726.LAB	2/15/2023	8:06:59	5.10	7.57	1.25	0.06	0.18	0.38	0.076	91.0%
T5_HCL_SPK_003727.LAB	2/15/2023	8:07:07	5.11	7.74	1.29	-0.01	0.17	0.37	0.075	95.1%
T5_HCL_SPK_003728.LAB	2/15/2023	8:07:14	5.07	7.68	1.24	0.03	-0.04	0.37	0.074	95.1%
Spike Average										93.9%

Turbine 5 Prior to Analyte Spike

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_003730.LAB	2/15/2023	8:09:46	5.48	0.73	1.30	0.05	0.17	0.00
T5_003731.LAB	2/15/2023	8:10:45	5.49	0.57	1.30	0.00	0.20	0.00
T5_003732.LAB	2/15/2023	8:11:45	5.48	0.53	1.27	0.02	0.19	0.00
Average					1.29			0.00

Turbine 5 Analyte Spike, Using 111.2 ppm HF/4.999 ppm SF6

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Dilution Factor	HF Recovery %
T5_HF_SPK_003825.LAB	2/15/2023	8:23:45	5.15	0.39	6.99	0.03	-0.06	0.31	0.063	91.6%
T5_HF_SPK_003826.LAB	2/15/2023	8:23:53	5.17	0.45	6.99	0.08	0.31	0.32	0.064	90.3%
T5_HF_SPK_003827.LAB	2/15/2023	8:24:00	5.18	0.46	6.94	-0.22	0.04	0.31	0.063	91.0%
T5_HF_SPK_003828.LAB	2/15/2023	8:24:08	5.18	0.48	7.07	0.06	0.17	0.31	0.063	91.9%
T5_HF_SPK_003829.LAB	2/15/2023	8:24:15	5.17	0.34	6.99	0.03	0.15	0.32	0.064	89.5%
T5_HF_SPK_003830.LAB	2/15/2023	8:24:23	5.20	0.42	7.09	-0.08	0.29	0.32	0.065	89.8%
T5_HF_SPK_003831.LAB	2/15/2023	8:24:30	5.20	0.33	7.01	0.18	-0.14	0.31	0.063	91.2%
T5_HF_SPK_003832.LAB	2/15/2023	8:24:38	5.15	0.47	6.98	-0.29	0.16	0.31	0.063	91.3%
Spike Average										90.8%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T5_CTS_SYS_003933.LAB	2/15/2023	10:06:14	0.03	0.13	-0.03	-0.27	100.95	5.11	100.5%
T5_CTS_SYS_003934.LAB	2/15/2023	10:06:22	0.03	0.18	-0.04	-0.18	100.72	5.10	100.3%
T5_CTS_SYS_003935.LAB	2/15/2023	10:06:29	0.01	0.05	-0.04	-0.18	100.78	5.13	100.3%
T5_CTS_SYS_003936.LAB	2/15/2023	10:06:37	0.01	0.04	-0.07	-0.20	100.75	5.11	100.3%
T5_CTS_SYS_003937.LAB	2/15/2023	10:06:44	0.01	0.06	-0.02	0.03	101.11	5.11	100.7%
T5_CTS_SYS_003938.LAB	2/15/2023	10:06:52	0.00	0.00	-0.09	-0.12	100.30	5.08	99.9%
T5_CTS_SYS_003939.LAB	2/15/2023	10:06:59	0.00	-0.12	-0.04	0.05	101.36	5.11	100.9%
T5_CTS_SYS_003940.LAB	2/15/2023	10:07:07	0.02	-0.01	-0.07	-0.26	101.30	5.12	100.9%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T5_CTS_SYS_004004.LAB	2/15/2023	11:11:04	0.03	0.01	-0.03	-0.03	100.44	5.11	100.0%
T5_CTS_SYS_004005.LAB	2/15/2023	11:11:12	0.02	0.01	-0.05	-0.09	100.68	5.10	100.2%
T5_CTS_SYS_004006.LAB	2/15/2023	11:11:19	0.01	0.10	-0.03	0.12	101.10	5.11	100.7%
T5_CTS_SYS_004007.LAB	2/15/2023	11:11:27	0.00	0.11	-0.06	-0.04	101.45	5.11	101.0%
T5_CTS_SYS_004008.LAB	2/15/2023	11:11:34	0.00	0.01	-0.04	0.06	101.20	5.12	100.8%
T5_CTS_SYS_004009.LAB	2/15/2023	11:11:42	0.01	0.14	-0.09	0.02	100.92	5.10	100.5%
T5_CTS_SYS_004010.LAB	2/15/2023	11:11:49	0.02	0.01	-0.09	-0.19	101.41	5.11	101.0%
T5_CTS_SYS_004011.LAB	2/15/2023	11:11:57	0.02	0.10	-0.04	-0.04	101.24	5.12	100.8%

100.2 ppm Ethylene/5.000 ppm SF6 System Purge

Spectrum	Date	Time	H2O (%)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)	Ethylene Recovery %
T5_CTS_SYS_004091.LAB	2/15/2023	12:32:44	0.02	0.16	-0.07	-0.03	101.27	5.12	100.8%
T5_CTS_SYS_004092.LAB	2/15/2023	12:32:52	0.02	0.02	-0.02	0.08	101.09	5.12	100.7%
T5_CTS_SYS_004093.LAB	2/15/2023	12:32:59	0.01	0.11	-0.04	-0.12	100.55	5.10	100.1%
T5_CTS_SYS_004094.LAB	2/15/2023	12:33:07	0.00	0.19	-0.07	-0.26	100.96	5.10	100.5%
T5_CTS_SYS_004095.LAB	2/15/2023	12:33:14	0.01	0.10	-0.07	0.07	101.68	5.14	101.2%
T5_CTS_SYS_004096.LAB	2/15/2023	12:33:22	0.00	0.17	-0.05	0.19	101.28	5.12	100.8%
T5_CTS_SYS_004097.LAB	2/15/2023	12:33:29	0.01	0.16	-0.05	-0.16	101.41	5.13	101.0%
T5_CTS_SYS_004098.LAB	2/15/2023	12:33:37	0.01	0.03	-0.08	-0.17	101.16	5.10	100.7%

Nitrogen (Zero) System Purge

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_N2_SYS_004099.LAB	2/15/2023	12:34:13	0.01	-0.02	-0.05	0.20	0.10	0.00
T5_N2_SYS_004100.LAB	2/15/2023	12:34:21	0.01	0.03	-0.05	-0.16	-0.04	0.00
T5_N2_SYS_004101.LAB	2/15/2023	12:34:28	0.00	0.13	-0.05	0.11	0.08	0.00
T5_N2_SYS_004102.LAB	2/15/2023	12:34:36	0.01	0.10	-0.03	-0.01	-0.04	0.00
T5_N2_SYS_004103.LAB	2/15/2023	12:34:43	0.01	0.12	-0.06	0.11	-0.10	-0.01
T5_N2_SYS_004104.LAB	2/15/2023	12:34:50	0.00	0.06	-0.09	-0.21	0.26	0.00
T5_N2_SYS_004105.LAB	2/15/2023	12:34:58	0.00	0.09	-0.08	-0.38	0.02	0.00
T5_N2_SYS_004106.LAB	2/15/2023	12:35:06	0.01	0.02	-0.09	-0.24	0.07	-0.01
Average			0.01	0.07	-0.06	-0.07	0.04	0.00

Nitrogen (Zero) Direct Purge to FTIR

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	HF (ppmv wet)	Formaldehyde (ppmv wet)	Ethylene (ppmv wet)	SF6 (ppmv wet)
T5_N2_DIR_004107.LAB	2/15/2023	12:39:31	0.00	0.01	-0.05	0.06	0.03	0.00
T5_N2_DIR_004108.LAB	2/15/2023	12:41:31	0.00	0.03	-0.06	0.03	0.03	0.00
T5_N2_DIR_004109.LAB	2/15/2023	12:43:31	0.00	0.01	-0.06	-0.02	0.01	0.00

APPENDIX

Certificates of Analysis

APEL-RIEMER ENVIRONMENTAL, INC

REFERENCE GASES AND ATMOSPHERIC CHEMISTRY

Certificate of Analysis

Gas-phase Calibration Standard

This gas-phase standard is intended to be used as a reference material for the calibration of instruments.

Statement about preparation and traceability:

Standards are gravimetrically prepared in high-pressure aluminum cylinders (Luxfer, Inc., Riverside, California). Cylinders are cleaned and treated to eliminate contamination and ensure inertness. Standards are prepared in N150 cylinders (~4000 Liters calibration gas), N033 cylinders (~800 Liters calibration gas), or N006 cylinders (~125 Liters calibration gas) at a pressure of 2000 psia UHP nitrogen. Valves are high purity stainless steel (Ceodeux, Lintgen, Luxembourg) with a CGA-350 fitting. Pure compounds as liquids and gases are obtained from a number of sources. All lot numbers are cataloged. The gravimetric preparation is performed using calibrated microbalances (Mettler-Toledo, Columbus, Ohio) and microsyringes (Hamilton, Reno, Nevada and SGE, Austin, Texas) for measuring the compounds and cylinder balances (Mettler-Toledo, Columbus, Ohio) for the balance gas. Balances are calibrated with NIST traceable weights.

We prepare each cylinder individually. Accuracy is better than +/- 5%. Analysis confirms the accuracy of the gravimetric preparation. We use a series of NIST, NIST-traceable, NPL, and in-house gravimetric standards to perform the instrument calibrations.

Stability varies depending on the compound, concentration, and cylinder size. Many compounds are stable for several years.

The calibration gas mixture in cylinder CC751990 is certified from the analysis date for 12 months.



Daniel D. Riemer, Ph.D.

May 15, 2022

Date

Cylinder: CC751990
Cylinder Date: 10/21
Valve: CGA350 SS 21/153406
Lot No.: 22117.3
Cylinder Pressure: 2000 psia
Analysis Date: May 15, 2022

Multi-component calibration mixture in ultra-pure nitrogen

Compound	CAS#	Concentration (ppm)	Uncertainty
Formaldehyde	50-0-0	19.71	±5%
Sulfur Hexafluoride	2551-62-4	4.97	±2%

Uncertainty is a conservative estimate of the combination of the uncertainties of the gravimetric preparation and analysis.

Formaldehyde Raw Material Lot No. - AA 10136752
Sulfur Hexafluoride Raw Material Lot No. - SQ Q9B-79

CERTIFICATE OF ANALYSIS

Grade of Product: PRIMARY STANDARD

Part Number:	X03NI99P15AC267	Reference Number:	54-401485086-1
Cylinder Number:	CC14351	Cylinder Volume:	144.4 CF
Laboratory:	124 - Chicago (SAP) - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	May 03, 2019	Valve Outlet:	350
Lot Number:	54-401485086-1		

Expiration Date: May 03, 2027

Primary Standard Gas Mixtures are traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
SULFUR HEXAFLUORIDE	5.000 PPM	5.000 PPM	+/- 1%
ETHYLENE	100.0 PPM	100.2 PPM	+/- 1%
NITROGEN	Balance		



Signature on file

W002AS-023392-RT-4542-R1
Approved for Release

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CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Customer: MONTROSE AIR QUALITY SERVICES LLC
Part Number: X03NI99C15A05C5
Cylinder Number: EB0116042
Laboratory: 124 - Plumsteadville - PA
Analysis Date: Jan 25, 2023
Lot Number: 160-402627146-1

Reference Number: 160-402627146-1
Cylinder Volume: 144.0 CF
Cylinder Pressure: 2016 PSIG
Valve Outlet: 330

Expiration Date: Jan 25, 2024

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T.
Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
SULFUR HEXAFLUORIDE	5.000 PPM	4.999 PPM	+/- 10%
HYDROGEN FLUORIDE	100.0 PPM	111.2 PPM	+/- 10%
NITROGEN	Balance		

Permanent Notes:-NA-



[Signature]

Approved for Release



an Air Liquide company

CERTIFICATE OF ACCURACY: **HCI GMACS** (Gas Manufacturer Alternative Certified Standard)

ASSAY LABORATORY

AIRGAS SPECIALTY GASES
Exploratory Products Group
6141 Easton Road
Plumsteadville, PA 18949

Lot No.: 160-402456622-1
P.O. No.: 28292

CUSTOMER INFORMATION

Montrose Air Quality Services, LLC
951 N. Old Rand Rd., STE 106
Wauconda, IL 60084
USA

PRODUCT INFORMATION

COMPOSITION	CERTIFIED CONCENTRATION		UNCERTAINTY (Abs)		UNCERTAINTY (Rel)	
Hydrogen Chloride	99.9	PPM	2.87	PPM	2.30	%
Sulfur Hexafluoride	5.0	PPM	0.05	PPM	0.96	%
Nitrogen	Bal					

Cylinder Number: **CC715847**
Cylinder Type: **30L Aluminum**
Cylinder Pressure: **1900 PSIG**
Mixture Dew Point: **N / A**

Certification Date: **26-Jul-2022**
Prior Certification Date: **None**
Expiration Date: **26-Jul-2024**
Part No.: **EO2NI99T15EC013**

CERTIFICATION DATA

GravStat™ Blending Process

COMPOSITION	MEASURED CONCENTRATION		UNCERTAINTY (Abs)		UNCERTAINTY (Rel)	
Hydrogen Chloride	100.1	PPM	0.867	PPM	0.87	%
Sulfur Hexafluoride	5.03	PPM	0.049	PPM	0.96	%

Confirming Analysis

COMPOSITION	MEASURED CONCENTRATION		UNCERTAINTY (Abs)		UNCERTAINTY (Rel)	
Hydrogen Chloride	99.7	PPM	2.12	PPM	2.13	%

INSTRUMENT MODEL / ANALYTICAL PRINCIPLE

CAI Model 700 FTIR

Reference Standard(s)

Cylinder Number: **GMPS ND65251**

COMPOSITION	CERTIFIED CONCENTRATION		UNCERTAINTY (Abs)		UNCERTAINTY (Rel)		EXPIRES:
Hydrogen Chloride	103.0	PPM	2.11	PPM	2.05	%	11-Feb-2023

Calibration Curve Data:

Curve Order	Correlation	Slope	Intercept
1st Order -	0.9998875	0.996220	0.654920
6 points, with zero			

INTERLOCK STATISTICS

	MEASURED CONCENTRATION		UNCERTAINTY (Abs)		UNCERTAINTY (Rel)	
GravStat Result	100.1	PPM	0.867	PPM	0.87	%
Analysis Result	99.7	PPM	2.12	PPM	2.13	%
Interlock Result	99.9	PPM	2.87	PPM	2.30	%

COMMENTS / SPECIAL INSTRUCTIONS

1. This GMACS was certified according to the EPA approved alternative (Alt-114) found at:
https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NRMRL&dirEntryId=336073
2. Do not use this standard if pressure is less than 200 psig.
3. Do not use or store this product at or below the stated dew point.
4. Replace valve plug when not in use.

APPROVED BY:

W002AS-023392-RT-4542-R1

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CERTIFICATE OF ACCURACY: HCl GMACS (Gas Manufacturer Alternative Certified Standard)
ASSAY LABORATORY

AIRGAS SPECIALTY GASES
Exploratory Products Group
6141 Easton Road
Plumsteadville, PA 18949

Lot #: 160-401223627-1
P.O. No.: 1021311

CUSTOMER INFORMATION

Montrose Air Quality Service
2625 Denison Drive
Mount Pleasant, MI 48858-5596
US

PRODUCT INFORMATION

COMPOSITION	CERTIFIED CONCENTRATION		UNCERTAINTY (Abs)		UNCERTAINTY (Rel)	
Hydrogen Chloride	9.90	PPM	0.20	PPM	2.03	%
Sulfur Hexafluoride	5.05	PPM	0.04	PPM	0.82	%
Nitrogen	Bal					

Cylinder Number: **CC482234** Certification Date: **28-Jun-18**
Cylinder Type: **30L Aluminum** Prior Certification Date: **None**
Cylinder Pressure: **1900 PSIG** Expiration Date: **28-Jun-20**
Mixture Dew Point: **N / A** Part No.: **X03NI99T15WC0A4**

CERTIFICATION DATA
GravStat™ Blending Process

COMPOSITION	MEASURED CONCENTRATION		UNCERTAINTY (Abs)		UNCERTAINTY (Rel)	
Hydrogen Chloride	10.01	PPM	0.038	PPM	0.379	%
Sulfur Hexafluoride	5.054	PPM	0.041	PPM	0.817	%

Confirming Analysis

COMPOSITION	MEASURED CONCENTRATION		UNCERTAINTY (Abs)		UNCERTAINTY (Rel)	
Hydrogen Chloride	9.78	PPM	0.19	PPM	1.99	%

INSTRUMENT MODEL / ANALYTICAL PRINCIPLE

Tiger Optics HALO HCl Cavity Ring Down Spectrometer

Reference Standard(s)

Cylinder Number: **GMPS ND50576**

COMPOSITION	CERTIFIED CONCENTRATION		UNCERTAINTY (Abs)		UNCERTAINTY (Rel)		EXPIRES:
Hydrogen Chloride	9.72	PPM	0.17	PPM	1.75	%	11-Jan-19

Calibration Curve Data:

Curve Order	Correlation	Slope (X ²)	Slope (X)	Intercept
2nd Order -	0.999945	9.8653E-04	-7.75406E-09	0.01974787
10 Points, with zero				

INTERLOCK STATISTICS

	MEASURED CONCENTRATION		UNCERTAINTY (Abs)		UNCERTAINTY (Rel)	
GravStat Result	10.01	PPM	0.038	PPM	0.379	%
Analysis Result	9.78	PPM	0.19	PPM	1.99	%
Interlock Result	9.90	PPM	0.20	PPM	2.03	%

COMMENTS / SPECIAL INSTRUCTIONS

1. This GMACS was certified according to the EPA approved alternative (Alt-114) found at <http://www3.epa.gov/ttn/emc/approalt.html>.
2. Do not use this standard if pressure is less than 200 psig.
3. Do not use or store this product at or below the stated dew point.

APPROVED BY:


TOM SASSAMAN

APPENDIX

USEPA Method 301 Validation



USEPA Method 301-Sec. 12.0
Analyte Spiking
Statistical Analysis and Performance Criteria

Client: DTE Sunshine Gas Producers - Los Angeles, CA - Turbine 4

Date: 2/9/2023

Tracer Gas: 4.99513 ppm v SF6

Spike Gas: 106.90169 ppm v HF

Test Run Number	Date	Spike Spectra	Native Spectra	Spiked Results	Unspiked Results	Difference (S _i -M _i -CS) d _i	Difference Squared d _i ²	Tracer Conc. ppm v	Dilution Factor DF	Calc'd. 1-DF	Diluted Spike Conc. ppm v CS	Intermed. Calc. (1-DF*M _i)	Theo. Spike Conc. ppm v VS	Recovery %R
				ppm v HF S _i	ppm v HF M _i									
1	2/9/2023	2251-2258	2167-2169	9.323	1.609	-1.311	1.720	0.422	0.0844	0.9156	9.03	1.4734	10.50	88.8%
2	2/9/2023	2259-2266	2291-2293	9.433	2.283	-1.154	1.333	0.388	0.0777	0.9223	8.30	2.1057	10.41	90.6%
3	2/9/2023	2337-2344	2296-2298	9.838	2.278	-1.191	1.418	0.409	0.0819	0.9181	8.75	2.0911	10.84	90.7%
4	2/9/2023	2356-2363	2383-2385	9.873	2.236	-0.874	0.764	0.398	0.0796	0.9204	8.51	2.0584	10.57	93.4%
5	2/9/2023	2460-2467	2388-2390	9.286	2.159	-0.694	0.482	0.365	0.0732	0.9268	7.82	2.0007	9.82	94.5%
6	2/9/2023	2488-2495	2516-2518	9.342	2.422	-0.959	0.919	0.368	0.0737	0.9263	7.88	2.2437	10.12	92.3%
7	2/9/2023	2578-2585	2521-2523	9.685	2.413	-0.921	0.847	0.383	0.0766	0.9234	8.19	2.2284	10.42	92.9%
8	2/9/2023	2596-2603	2620-2622	9.671	2.484	-0.865	0.748	0.376	0.0753	0.9247	8.05	2.2970	10.35	93.5%
9	2/9/2023	2681-2688	2626-2628	8.613	2.466	-0.645	0.416	0.317	0.0635	0.9365	6.79	2.3094	9.10	94.6%
10	2/9/2023	2705-2712	2732-2734	8.577	2.687	-0.959	0.919	0.320	0.0641	0.9359	6.85	2.5152	9.36	91.6%
11	2/9/2023	2802-2809	2738-2740	9.182	2.642	-0.575	0.331	0.332	0.0666	0.9334	7.11	2.4663	9.58	95.8%
12	2/9/2023	2826-2833	2854-2855	9.114	2.342	-0.925	0.856	0.360	0.0720	0.9280	7.70	2.1730	9.87	92.3%
Mean of valid test runs:				9.328	2.335	-0.923	0.896				7.92		10.08	92.60%

Number of test runs used in comparison:

n	=	12	test runs
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t value @ "n" runs (Table 301-3):

$t_{0.95}$	=	2.2010	
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Sum of Differences:

$\sum_i^n d_i$	=	-11.0730	
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Sum of Squared Differences:

$\sum_i^n d_i^2$	=	10.7527	
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Bias Analysis: Bias (Eq.301-18 derivative)

$d_i = \frac{(S_{1i} + S_{2i})}{2} - \frac{(M_{1i} + M_{2i})}{2} - CS$	or	$d_i = \overline{S_i} - \overline{M_i} - VS$	=	-0.9227	
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Bias Analysis: Numerical Bias (Eq. 301-19):

$B = \frac{\sum_i^n d_i}{n}$	=	-0.9227	
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Bias Analysis: Standard Deviation of the Differences (Eq. 301-20):

$SD_d = \sqrt{\frac{\sum_i^n (d_i - d_m)^2}{(n-1)}}$	=	0.2206	
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Bias Analysis: T-Test @ 95% (Eq. 301-21, where $t < t_{0.95}$):

$t = \frac{ d_m }{\left(\frac{SD_d}{\sqrt{n}}\right)}$	=	14.4928	evaluate using Relative Bias
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Bias Analysis: Relative Bias (Eq. 301-22, where $B_R < 10\%$):

$B_R = \left \frac{B}{VS} \right \times 100\%$	=	0.0916	acceptable-no Bias Correction required
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Bias Analysis: Bias Correction Factor (Eq. 301-8):

$CF = \left(\frac{1}{1 + \frac{B}{CS}} \right)$	=	1.1320	
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Precision Assessment: Precision Test Standard Deviation (Eq. 301-23):

$SD = \sqrt{\frac{\sum_i^n (s_i - s_m)^2}{(n-1)}}$	=	0.4220	
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Precision Assessment: Relative Standard Deviation (Eq.301-9 where RSD <20%)

$RSD = \left(\frac{SD}{S_m} \right) \times 100\%$	=	4.52%	acceptable
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% Spike Recovery (70%< %R <130%):

$\%R = \left(\frac{SD}{S_m} \right) \times 100\%$	=	92.60%	
--	---	--------	--



USEPA Method 301-Sec. 12.0
Analyte Spiking
Statistical Analysis and Performance Criteria

Client: DTE Sunshine Gas Producers - Los Angeles, CA

Client: Lafarge Cement, Alpena, MI

Date: Feb 7,8,14,15, 2023

Date: 3/5/2020

Tracer Gas: 4.99 ppm v SF6

Tracer Gas: 4.87 ppm v SF6

Spike Gas: 100.59 ppm v HCl

Spike Gas: 9.24 ppm v HCl

Test Run Number	Date	Spike Spectra	Native Spectra	Spiked Results	Unspiked Results	Difference (S _i -M _i -CS) d _i	Difference Squared d _i ²	Tracer Conc. ppm v	Dilution Factor DF	Calc'd. 1-DF	Diluted Spike Conc. ppm v CS	Intermed. Calc. (1-DF*M _i)	Theo. Spike Conc. ppm v VS	Recovery %R
				ppm v HCl S _i	ppm v HCl M _i									
1	2/7/2023	827-830	775-777	8.195	0.894	-1.152	1.328	0.419	0.0840	0.9160	8.45	0.8189	9.27	88.4%
2	2/7/2023	836-838	839-841	8.255	1.469	-1.607	2.582	0.416	0.0834	0.9166	8.39	1.3464	9.74	84.8%
3	2/8/2023	1608-1610	1538-1540	8.086	0.429	-0.776	0.602	0.418	0.0838	0.9162	8.43	0.3930	8.83	91.6%
4	2/8/2023	1614-1616	1618-1620	8.245	0.809	-1.058	1.119	0.421	0.0844	0.9156	8.49	0.7407	9.23	89.3%
5	2/14/2024	3061-3063	3020-3022	7.624	0.388	-0.137	0.019	0.365	0.0733	0.9267	7.37	0.3596	7.73	98.6%
6	2/14/2024	3070-3072	3076-3078	7.832	0.575	-0.672	0.451	0.393	0.0788	0.9212	7.93	0.5297	8.46	92.6%
7	2/15/2023	3715-3717	3638-3640	7.640	0.411	-0.316	0.100	0.374	0.0750	0.9250	7.55	0.3802	7.93	96.4%
8	2/15/2023	3726-3728	3730-3732	7.665	0.608	-0.468	0.219	0.373	0.0748	0.9252	7.53	0.5625	8.09	94.8%
9	3/5/2020	559-561	533-535	0.985	0.242	-0.162	0.026	0.477	0.0979	0.9021	0.91	0.2183	1.12	87.7%
10	3/5/2020	567-569	580-582	1.043	0.252	-0.105	0.011	0.472	0.0969	0.9031	0.90	0.2276	1.12	92.9%
11	3/5/2020	688-690	641-643	0.880	0.072	-0.082	0.007	0.469	0.0963	0.9037	0.89	0.0651	0.95	92.2%
12	3/5/2020	694-696	705-707	0.926	0.146	-0.123	0.015	0.476	0.0977	0.9023	0.90	0.1317	1.03	89.5%
Mean of valid test runs:				5.615	0.525	-0.555	0.540				5.64		6.13	91.55%

Number of test runs used in comparison:

n = 12 test runs

t value @ "n" runs (Table 301-3):

t_{0.95} = 2.2010

Sum of Differences:

$\sum_i^n d_i$ = -6.6582

Sum of Squared Differences:

$\sum_i^n d_i^2$ = 6.4797

Bias Analysis: Bias (Eq.301-18 derivative)

$d_i = \frac{(S_{1i} + S_{2i})}{2} - \frac{(M_{1i} + M_{2i})}{2} - CS$ or $d_i = \overline{S_i} - \overline{M_i} - VS$ = -0.5548

Bias Analysis: Numerical Bias (Eq. 301-19):

$B = \frac{\sum_i^n d_i}{n}$ = -0.5548

Bias Analysis: Standard Deviation of the Differences (Eq. 301-20):

$SD_d = \sqrt{\frac{\sum_i^n (d_i - d_m)^2}{(n-1)}}$ = 0.5032

Bias Analysis: T-Test @ 95% (Eq. 301-21, where t < t_{0.95}):

$t = \frac{|d_m|}{\left(\frac{SD_d}{\sqrt{n}}\right)}$ = 3.8196 evaluate using Relative Bias

Bias Analysis: Relative Bias (Eq. 301-22, where B_R <10%):

$B_R = \left|\frac{B}{VS}\right| \times 100\%$ = 0.0906 acceptable-no Bias Correction required

Bias Analysis: Bias Correction Factor (Eq. 301-8):

$CF = \left(\frac{1}{1 + \frac{B}{CS}}\right)$ = 1.1090

Precision Assessment: Precision Test Standard Deviation (Eq. 301-23):

$SD = \sqrt{\frac{\sum_i^n (s_i - s_m)^2}{(n-1)}}$ = 0.1763 average SD of each data set

Precision Assessment: Relative Standard Deviation (Eq.301-9 where RSD <20%)

$RSD = \left(\frac{SD}{S_m}\right) \times 100\%$ = 3.14% acceptable

% Spike Recovery (70%< %R <130%):

$\%R = \left(\frac{SD}{S_m}\right) \times 100\%$ = 91.55%

111.2 ppm HF/4.999 ppm SF6 Direct Purge

Spectrum		Time	H2O (%v)	HF (ppmv wet)	SF6 (ppmv wet)
T4_HF_DIR_002129.LAB	2/9/2023	7:45:41	-0.01	105.63	5.01
T4_HF_DIR_002130.LAB	2/9/2023	7:45:49	-0.01	105.47	4.99
T4_HF_DIR_002131.LAB	2/9/2023	7:45:56	-0.01	105.38	5.02
T4_HF_DIR_002132.LAB	2/9/2023	7:46:04	0.01	119.30	5.01
T4_HF_DIR_002133.LAB	2/9/2023	7:46:12	-0.01	104.34	4.98
T4_HF_DIR_002134.LAB	2/9/2023	7:46:19	-0.01	105.25	4.99
T4_HF_DIR_002135.LAB	2/9/2023	7:46:26	0.00	104.87	5.00
T4_HF_DIR_002136.LAB	2/9/2023	7:46:34	0.00	104.43	4.99
T4_HF_DIR_002137.LAB	2/9/2023	7:46:41	0.00	105.38	4.98
T4_HF_DIR_002138.LAB	2/9/2023	7:46:49	-0.01	104.48	5.01
T4_HF_DIR_002139.LAB	2/9/2023	7:46:57	0.00	104.40	4.99
T4_HF_DIR_002140.LAB	2/9/2023	7:47:04	-0.01	105.20	5.00
T4_HF_DIR_002141.LAB	2/9/2023	7:47:11	0.00	105.39	4.98
T4_HF_DIR_002142.LAB	2/9/2023	7:47:19	0.00	119.59	5.00
T4_HF_DIR_002143.LAB	2/9/2023	7:47:26	-0.01	105.36	5.00
T4_HF_DIR_002144.LAB	2/9/2023	7:47:34	-0.01	105.41	4.99
Average Direct				106.87	5.00

Spectrum		Time	H2O (%v)	HF (ppmv wet)	SF6 (ppmv wet)
T4_002167.LAB	2/9/2023	7:56:06	5.63	1.81	0.03
T4_002168.LAB	2/9/2023	7:57:06	5.64	1.78	0.03
T4_002169.LAB	2/9/2023	7:58:06	5.65	1.80	0.03

Spectrum		Time	H2O (%v)	HF (ppmv wet)	SF6 (ppmv wet)
T4_HF_SPK_002170.LAB	2/9/2023	7:59:31	5.65	1.70	0.03
T4_HF_SPK_002171.LAB	2/9/2023	7:59:39	5.62	1.73	0.03
T4_HF_SPK_002172.LAB	2/9/2023	7:59:46	5.64	1.64	0.03
T4_HF_SPK_002173.LAB	2/9/2023	7:59:54	5.63	1.74	0.03
T4_HF_SPK_002174.LAB	2/9/2023	8:00:01	5.29	1.66	0.03
T4_HF_SPK_002175.LAB	2/9/2023	8:00:09	5.46	1.72	0.03
T4_HF_SPK_002176.LAB	2/9/2023	8:00:16	5.47	1.65	0.03
T4_HF_SPK_002177.LAB	2/9/2023	8:00:24	5.48	1.66	0.03
T4_HF_SPK_002178.LAB	2/9/2023	8:00:31	5.25	1.56	0.03

1.61 0.03

T4_HF_SPK_002179.LAB	2/9/2023	8:00:38	5.15	1.55	0.11
T4_HF_SPK_002180.LAB	2/9/2023	8:00:46	5.17	1.57	0.43
T4_HF_SPK_002181.LAB	2/9/2023	8:00:53	5.16	1.70	0.45
T4_HF_SPK_002182.LAB	2/9/2023	8:01:01	5.14	1.83	0.44
T4_HF_SPK_002183.LAB	2/9/2023	8:01:09	5.17	2.12	0.44
T4_HF_SPK_002184.LAB	2/9/2023	8:01:16	5.16	2.50	0.44
T4_HF_SPK_002185.LAB	2/9/2023	8:01:24	5.16	2.80	0.45
T4_HF_SPK_002186.LAB	2/9/2023	8:01:31	5.12	3.24	0.44
T4_HF_SPK_002187.LAB	2/9/2023	8:01:38	5.18	3.48	0.45
T4_HF_SPK_002188.LAB	2/9/2023	8:01:46	5.16	3.85	0.45
T4_HF_SPK_002189.LAB	2/9/2023	8:01:54	5.16	4.17	0.44
T4_HF_SPK_002190.LAB	2/9/2023	8:02:01	5.14	4.38	0.44
T4_HF_SPK_002191.LAB	2/9/2023	8:02:08	5.15	4.66	0.45
T4_HF_SPK_002192.LAB	2/9/2023	8:02:16	5.15	4.87	0.44
T4_HF_SPK_002193.LAB	2/9/2023	8:02:23	5.15	5.09	0.44
T4_HF_SPK_002194.LAB	2/9/2023	8:02:31	5.15	5.35	0.44
T4_HF_SPK_002195.LAB	2/9/2023	8:02:39	5.15	5.50	0.45
T4_HF_SPK_002196.LAB	2/9/2023	8:02:46	5.11	5.67	0.44
T4_HF_SPK_002197.LAB	2/9/2023	8:02:53	5.15	5.82	0.44
T4_HF_SPK_002198.LAB	2/9/2023	8:03:01	5.17	5.98	0.44
T4_HF_SPK_002199.LAB	2/9/2023	8:03:08	5.15	6.09	0.45
T4_HF_SPK_002200.LAB	2/9/2023	8:03:16	5.17	6.20	0.44
T4_HF_SPK_002201.LAB	2/9/2023	8:03:23	5.15	6.40	0.44

Spectrum		Time	H2O (%)	HF (ppmv wet)	SF6 (ppmv wet)
T4_HF_SPK_002202.LAB	2/9/2023	8:03:31	5.15	6.46	0.44
T4_HF_SPK_002203.LAB	2/9/2023	8:03:38	5.17	6.59	0.45
T4_HF_SPK_002204.LAB	2/9/2023	8:03:46	5.18	6.76	0.44
T4_HF_SPK_002205.LAB	2/9/2023	8:03:54	5.15	6.78	0.44
T4_HF_SPK_002206.LAB	2/9/2023	8:04:01	5.13	6.86	0.44
T4_HF_SPK_002207.LAB	2/9/2023	8:04:08	5.17	7.01	0.44
T4_HF_SPK_002208.LAB	2/9/2023	8:04:16	5.15	7.10	0.45
T4_HF_SPK_002209.LAB	2/9/2023	8:04:24	5.18	7.18	0.44
T4_HF_SPK_002210.LAB	2/9/2023	8:04:31	5.17	7.23	0.44
T4_HF_SPK_002211.LAB	2/9/2023	8:04:39	5.16	7.38	0.44
T4_HF_SPK_002212.LAB	2/9/2023	8:04:46	5.19	7.39	0.45
T4_HF_SPK_002213.LAB	2/9/2023	8:04:53	5.19	7.46	0.44
T4_HF_SPK_002214.LAB	2/9/2023	8:05:01	5.17	7.54	0.44
T4_HF_SPK_002215.LAB	2/9/2023	8:05:08	5.17	7.52	0.44
T4_HF_SPK_002216.LAB	2/9/2023	8:05:16	5.15	7.70	0.44
T4_HF_SPK_002217.LAB	2/9/2023	8:05:23	5.18	7.72	0.44
T4_HF_SPK_002218.LAB	2/9/2023	8:05:31	5.18	7.72	0.45
T4_HF_SPK_002219.LAB	2/9/2023	8:05:38	5.18	7.83	0.44
T4_HF_SPK_002220.LAB	2/9/2023	8:05:46	5.17	7.94	0.44
T4_HF_SPK_002221.LAB	2/9/2023	8:05:53	5.20	7.92	0.44
T4_HF_SPK_002222.LAB	2/9/2023	8:06:01	5.18	7.93	0.44
T4_HF_SPK_002223.LAB	2/9/2023	8:06:08	5.17	7.92	0.44
T4_HF_SPK_002224.LAB	2/9/2023	8:06:16	5.20	8.06	0.45
T4_HF_SPK_002225.LAB	2/9/2023	8:06:23	5.20	8.10	0.44
T4_HF_SPK_002226.LAB	2/9/2023	8:06:31	5.20	8.13	0.44
T4_HF_SPK_002227.LAB	2/9/2023	8:06:38	5.18	8.14	0.43
T4_HF_SPK_002228.LAB	2/9/2023	8:06:46	5.20	8.25	0.44
T4_HF_SPK_002229.LAB	2/9/2023	8:06:53	5.19	8.27	0.43
T4_HF_SPK_002230.LAB	2/9/2023	8:07:01	5.18	8.36	0.44
T4_HF_SPK_002231.LAB	2/9/2023	8:07:08	5.21	8.37	0.44
T4_HF_SPK_002232.LAB	2/9/2023	8:07:16	5.19	8.35	0.44
T4_HF_SPK_002233.LAB	2/9/2023	8:07:23	5.18	8.31	0.43
T4_HF_SPK_002234.LAB	2/9/2023	8:07:31	5.18	8.50	0.44
T4_HF_SPK_002235.LAB	2/9/2023	8:07:38	5.19	8.40	0.43
T4_HF_SPK_002236.LAB	2/9/2023	8:07:46	5.20	8.40	0.44
T4_HF_SPK_002237.LAB	2/9/2023	8:07:53	5.19	8.50	0.43
T4_HF_SPK_002238.LAB	2/9/2023	8:08:01	5.18	8.53	0.43
T4_HF_SPK_002239.LAB	2/9/2023	8:08:08	5.17	8.55	0.43
T4_HF_SPK_002240.LAB	2/9/2023	8:08:16	5.18	8.61	0.43
T4_HF_SPK_002241.LAB	2/9/2023	8:08:23	5.17	8.68	0.43
T4_HF_SPK_002242.LAB	2/9/2023	8:08:31	5.18	8.73	0.43
T4_HF_SPK_002243.LAB	2/9/2023	8:08:38	5.18	8.65	0.44
T4_HF_SPK_002244.LAB	2/9/2023	8:08:46	5.21	8.75	0.44
T4_HF_SPK_002245.LAB	2/9/2023	8:08:53	5.18	8.73	0.44
T4_HF_SPK_002246.LAB	2/9/2023	8:09:01	5.16	8.74	0.44
T4_HF_SPK_002247.LAB	2/9/2023	8:09:08	5.16	8.76	0.44
T4_HF_SPK_002248.LAB	2/9/2023	8:09:16	5.16	8.77	0.44
T4_HF_SPK_002249.LAB	2/9/2023	8:09:23	5.15	8.90	0.44
T4_HF_SPK_002250.LAB	2/9/2023	8:09:31	5.17	8.91	0.44
T4_HF_SPK_002251.LAB	2/9/2023	8:09:38	5.16	8.93	0.43
T4_HF_SPK_002252.LAB	2/9/2023	8:09:46	5.13	8.90	0.44
T4_HF_SPK_002253.LAB	2/9/2023	8:09:53	5.15	8.98	0.44
T4_HF_SPK_002254.LAB	2/9/2023	8:10:01	5.15	9.02	0.44
T4_HF_SPK_002255.LAB	2/9/2023	8:10:08	5.17	9.04	0.44
T4_HF_SPK_002256.LAB	2/9/2023	8:10:15	5.17	9.14	0.44
T4_HF_SPK_002257.LAB	2/9/2023	8:10:23	5.18	9.13	0.45
T4_HF_SPK_002258.LAB	2/9/2023	8:10:30	5.17	9.22	0.44
T4_HF_SPK_002259.LAB	2/9/2023	8:10:38	5.15	9.30	0.44
T4_HF_SPK_002260.LAB	2/9/2023	8:10:46	5.15	9.26	0.45
T4_HF_SPK_002261.LAB	2/9/2023	8:10:53	5.19	9.34	0.44
T4_HF_SPK_002262.LAB	2/9/2023	8:11:01	5.17	9.29	0.44

Spectrum		Time	H2O (%)	HF (ppmv wet)	SF6 (ppmv wet)		
T4_HF_SPK_002263.LAB	2/9/2023	8:11:08	5.20	9.31	0.45	9.32	0.45
T4_HF_SPK_002264.LAB	2/9/2023	8:11:16	5.16	9.33	0.45		
T4_HF_SPK_002265.LAB	2/9/2023	8:11:23	5.19	9.44	0.44	9.43	0.44
T4_HF_SPK_002266.LAB	2/9/2023	8:11:30	5.20	9.42	0.45		
T4_HF_SPK_002267.LAB	2/9/2023	8:11:38	5.17	9.46	0.42		
T4_HF_SPK_002268.LAB	2/9/2023	8:11:45	5.61	9.38	0.08		
T4_HF_SPK_002269.LAB	2/9/2023	8:11:53	5.65	8.24	0.06		
T4_002270.LAB	2/9/2023	8:13:14	5.64	5.45	0.05		
T4_002271.LAB	2/9/2023	8:14:14	5.61	4.39	0.06		
T4_002272.LAB	2/9/2023	8:15:14	5.60	3.84	0.06		
T4_002273.LAB	2/9/2023	8:16:14	5.61	3.52	0.05		
T4_002274.LAB	2/9/2023	8:17:14	5.61	3.28	0.06		
T4_002275.LAB	2/9/2023	8:18:14	5.61	3.12	0.05		
T4_002276.LAB	2/9/2023	8:19:14	5.62	2.98	0.06		
T4_002277.LAB	2/9/2023	8:20:14	5.62	2.88	0.05		
T4_002278.LAB	2/9/2023	8:21:14	5.62	2.87	0.05		
T4_002279.LAB	2/9/2023	8:22:14	5.61	2.85	0.06		
T4_002280.LAB	2/9/2023	8:23:14	5.63	2.76	0.06		
T4_002281.LAB	2/9/2023	8:24:14	5.62	2.67	0.06		
T4_002282.LAB	2/9/2023	8:25:14	5.62	2.57	0.06		
T4_002283.LAB	2/9/2023	8:26:14	5.62	2.55	0.05		
T4_002284.LAB	2/9/2023	8:27:14	5.60	2.52	0.05		
T4_002285.LAB	2/9/2023	8:28:14	5.61	2.46	0.05		
T4_002286.LAB	2/9/2023	8:29:14	5.61	2.46	0.05		
T4_002287.LAB	2/9/2023	8:30:14	5.62	2.43	0.05		
T4_002288.LAB	2/9/2023	8:31:14	5.63	2.44	0.05		
T4_002289.LAB	2/9/2023	8:32:13	5.62	2.47	0.06		
T4_002290.LAB	2/9/2023	8:33:13	5.63	2.46	0.05		
T4_002291.LAB	2/9/2023	8:34:13	5.62	2.41	0.06		
T4_002292.LAB	2/9/2023	8:35:13	5.63	2.37	0.05		
T4_002293.LAB	2/9/2023	8:36:13	5.65	2.32	0.06		
T4_002294.LAB	2/9/2023	8:37:13	5.64	2.30	0.05		
T4_002295.LAB	2/9/2023	8:38:13	5.65	2.29	0.06	2.28	0.06
T4_002296.LAB	2/9/2023	8:39:13	5.65	2.28	0.06		
T4_002297.LAB	2/9/2023	8:40:13	5.66	2.27	0.05	2.28	0.05
T4_002298.LAB	2/9/2023	8:41:13	5.66	2.29	0.06		
T4_HF_SPK_002299.LAB	2/9/2023	8:42:13	5.09	2.19	0.57		
T4_HF_SPK_002300.LAB	2/9/2023	8:42:21	4.88	2.70	0.76		
T4_HF_SPK_002301.LAB	2/9/2023	8:42:28	4.86	3.64	0.74		
T4_HF_SPK_002302.LAB	2/9/2023	8:42:36	4.96	4.70	0.67		
T4_HF_SPK_002303.LAB	2/9/2023	8:42:43	5.15	5.60	0.54		
T4_HF_SPK_002304.LAB	2/9/2023	8:42:51	5.10	5.90	0.53		
T4_HF_SPK_002305.LAB	2/9/2023	8:42:58	5.18	6.36	0.53		
T4_HF_SPK_002306.LAB	2/9/2023	8:43:06	5.14	6.63	0.48		
T4_HF_SPK_002307.LAB	2/9/2023	8:43:13	5.14	6.80	0.49		
T4_HF_SPK_002308.LAB	2/9/2023	8:43:21	5.12	6.99	0.47		
T4_HF_SPK_002309.LAB	2/9/2023	8:43:28	5.16	7.14	0.48		
T4_HF_SPK_002310.LAB	2/9/2023	8:43:36	5.16	7.30	0.49		
T4_HF_SPK_002311.LAB	2/9/2023	8:43:43	5.17	7.44	0.47		
T4_HF_SPK_002312.LAB	2/9/2023	8:43:51	5.19	7.62	0.46		
T4_HF_SPK_002313.LAB	2/9/2023	8:43:58	5.21	7.69	0.46		
T4_HF_SPK_002314.LAB	2/9/2023	8:44:06	5.20	7.73	0.46		
T4_HF_SPK_002315.LAB	2/9/2023	8:44:13	5.19	7.89	0.46		
T4_HF_SPK_002316.LAB	2/9/2023	8:44:21	5.19	7.94	0.46		
T4_HF_SPK_002317.LAB	2/9/2023	8:44:28	5.18	8.02	0.47		
T4_HF_SPK_002318.LAB	2/9/2023	8:44:36	5.20	8.15	0.47		
T4_HF_SPK_002319.LAB	2/9/2023	8:44:43	5.16	8.10	0.46		
T4_HF_SPK_002320.LAB	2/9/2023	8:44:51	5.18	8.22	0.47		
T4_HF_SPK_002321.LAB	2/9/2023	8:44:58	5.14	8.31	0.45		
T4_HF_SPK_002322.LAB	2/9/2023	8:45:06	5.14	8.28	0.46		
T4_HF_SPK_002323.LAB	2/9/2023	8:45:13	5.17	8.47	0.46		

Spectrum		Time	H2O (%v)	HF (ppmv wet)	SF6 (ppmv wet)		
T4_HF_SPK_002324.LAB	2/9/2023	8:45:21	5.18	8.49	0.47		
T4_HF_SPK_002325.LAB	2/9/2023	8:45:28	5.20	8.73	0.46		
T4_HF_SPK_002326.LAB	2/9/2023	8:45:36	5.21	8.71	0.47		
T4_HF_SPK_002327.LAB	2/9/2023	8:45:43	5.22	8.78	0.47		
T4_HF_SPK_002328.LAB	2/9/2023	8:45:51	5.20	8.78	0.46		
T4_HF_SPK_002329.LAB	2/9/2023	8:45:58	5.16	8.82	0.46		
T4_HF_SPK_002330.LAB	2/9/2023	8:46:06	5.20	8.88	0.45		
T4_HF_SPK_002331.LAB	2/9/2023	8:46:13	5.21	8.96	0.46		
T4_HF_SPK_002332.LAB	2/9/2023	8:46:21	5.16	8.92	0.46		
T4_HF_SPK_002333.LAB	2/9/2023	8:46:28	5.19	9.02	0.45		
T4_HF_SPK_002334.LAB	2/9/2023	8:46:36	5.19	8.99	0.46		
T4_HF_SPK_002335.LAB	2/9/2023	8:46:43	5.18	9.07	0.46		
T4_HF_SPK_002336.LAB	2/9/2023	8:46:51	5.22	9.10	0.46		
T4_HF_SPK_002337.LAB	2/9/2023	8:46:58	5.19	9.20	0.47		
T4_HF_SPK_002338.LAB	2/9/2023	8:47:06	5.15	9.23	0.45		
T4_HF_SPK_002339.LAB	2/9/2023	8:47:13	5.18	9.21	0.46		
T4_HF_SPK_002340.LAB	2/9/2023	8:47:21	5.19	9.21	0.46		
T4_HF_SPK_002341.LAB	2/9/2023	8:47:28	5.17	9.23	0.46		
T4_HF_SPK_002342.LAB	2/9/2023	8:47:36	5.18	9.34	0.46		
T4_HF_SPK_002343.LAB	2/9/2023	8:47:43	5.16	9.30	0.46		
T4_HF_SPK_002344.LAB	2/9/2023	8:47:51	5.13	9.43	0.46		
T4_HF_SPK_002345.LAB	2/9/2023	8:47:58	5.17	9.38	0.46		
T4_HF_SPK_002346.LAB	2/9/2023	8:48:06	5.16	9.42	0.46		
T4_HF_SPK_002347.LAB	2/9/2023	8:48:13	5.19	9.45	0.47		
T4_HF_SPK_002348.LAB	2/9/2023	8:48:21	5.18	9.49	0.46		
T4_HF_SPK_002349.LAB	2/9/2023	8:48:28	5.19	9.51	0.47		
T4_HF_SPK_002350.LAB	2/9/2023	8:48:36	5.15	9.42	0.47		
T4_HF_SPK_002351.LAB	2/9/2023	8:48:43	5.14	9.48	0.46		
T4_HF_SPK_002352.LAB	2/9/2023	8:48:51	5.13	9.45	0.46		
T4_HF_SPK_002353.LAB	2/9/2023	8:48:58	5.19	9.53	0.47		
T4_HF_SPK_002354.LAB	2/9/2023	8:49:05	5.20	9.62	0.46		
T4_HF_SPK_002355.LAB	2/9/2023	8:49:13	5.18	9.63	0.46		
T4_HF_SPK_002356.LAB	2/9/2023	8:49:20	5.17	9.64	0.45		
T4_HF_SPK_002357.LAB	2/9/2023	8:49:28	5.19	9.74	0.47		
T4_HF_SPK_002358.LAB	2/9/2023	8:49:36	5.18	9.67	0.46		
T4_HF_SPK_002359.LAB	2/9/2023	8:49:43	5.18	9.71	0.46		
T4_HF_SPK_002360.LAB	2/9/2023	8:49:50	5.19	9.74	0.46		
T4_HF_SPK_002361.LAB	2/9/2023	8:49:58	5.20	9.72	0.46		
T4_HF_SPK_002362.LAB	2/9/2023	8:50:05	5.17	9.78	0.46		
T4_HF_SPK_002363.LAB	2/9/2023	8:50:13	5.18	9.76	0.45		
T4_HF_SPK_002364.LAB	2/9/2023	8:50:20	5.18	9.75	0.46		
T4_HF_SPK_002365.LAB	2/9/2023	8:50:28	5.18	9.83	0.46		
T4_HF_SPK_002366.LAB	2/9/2023	8:50:35	5.16	9.84	0.45		
T4_HF_SPK_002367.LAB	2/9/2023	8:50:43	5.20	9.84	0.46		
T4_HF_SPK_002368.LAB	2/9/2023	8:50:50	5.20	9.90	0.47	9.84	0.46
T4_HF_SPK_002369.LAB	2/9/2023	8:50:58	5.16	9.78	0.46		
T4_HF_SPK_002370.LAB	2/9/2023	8:51:05	5.21	9.88	0.45	9.87	0.46
T4_HF_SPK_002371.LAB	2/9/2023	8:51:13	5.19	9.87	0.46		
T4_002372.LAB	2/9/2023	8:52:38	5.67	6.34	0.06		
T4_002373.LAB	2/9/2023	8:53:38	5.65	4.91	0.06		
T4_002374.LAB	2/9/2023	8:54:38	5.67	4.31	0.05		
T4_002375.LAB	2/9/2023	8:55:38	5.66	3.86	0.06		
T4_002376.LAB	2/9/2023	8:56:37	5.66	3.53	0.06		
T4_002377.LAB	2/9/2023	8:57:37	5.65	3.32	0.06		
T4_002378.LAB	2/9/2023	8:58:37	5.64	3.10	0.06		
T4_002379.LAB	2/9/2023	8:59:38	5.67	2.90	0.06		
T4_002380.LAB	2/9/2023	9:00:37	5.65	2.70	0.06		
T4_002381.LAB	2/9/2023	9:01:37	5.68	2.61	0.05		
T4_002382.LAB	2/9/2023	9:02:37	5.64	2.52	0.06		
T4_002383.LAB	2/9/2023	9:03:37	5.65	2.44	0.06		
T4_002384.LAB	2/9/2023	9:04:37	5.66	2.44	0.06		

Spectrum		Time	H2O (%v)	HF (ppmv wet)	SF6 (ppmv wet)	
T4_002385.LAB	2/9/2023	9:05:37	5.67	2.42	0.06	
T4_002386.LAB	2/9/2023	9:06:37	5.66	2.39	0.06	
T4_002387.LAB	2/9/2023	9:07:37	5.64	2.26	0.06	2.24 0.06
T4_002388.LAB	2/9/2023	9:08:37	5.65	2.21	0.06	
T4_002389.LAB	2/9/2023	9:09:37	5.67	2.18	0.06	2.16 0.06
T4_002390.LAB	2/9/2023	9:10:37	5.65	2.14	0.06	
T4_HF_SPK_002391.LAB	2/9/2023	9:11:42	5.22	1.98	0.46	
T4_HF_SPK_002392.LAB	2/9/2023	9:11:50	5.11	2.31	0.54	
T4_HF_SPK_002393.LAB	2/9/2023	9:11:57	5.16	2.92	0.52	
T4_HF_SPK_002394.LAB	2/9/2023	9:12:05	5.14	3.44	0.51	
T4_HF_SPK_002395.LAB	2/9/2023	9:12:12	5.14	3.98	0.51	
T4_HF_SPK_002396.LAB	2/9/2023	9:12:20	5.17	4.58	0.48	
T4_HF_SPK_002397.LAB	2/9/2023	9:12:27	5.21	5.00	0.46	
T4_HF_SPK_002398.LAB	2/9/2023	9:12:35	5.16	5.32	0.47	
T4_HF_SPK_002399.LAB	2/9/2023	9:12:42	5.17	5.72	0.47	
T4_HF_SPK_002400.LAB	2/9/2023	9:12:50	5.18	5.98	0.47	
T4_HF_SPK_002401.LAB	2/9/2023	9:12:57	5.18	6.19	0.47	
T4_HF_SPK_002402.LAB	2/9/2023	9:13:05	5.24	6.48	0.42	
T4_HF_SPK_002403.LAB	2/9/2023	9:13:12	5.25	6.50	0.42	
T4_HF_SPK_002404.LAB	2/9/2023	9:13:20	5.28	6.66	0.42	
T4_HF_SPK_002405.LAB	2/9/2023	9:13:27	5.24	6.68	0.43	
T4_HF_SPK_002406.LAB	2/9/2023	9:13:35	5.25	6.81	0.42	
T4_HF_SPK_002407.LAB	2/9/2023	9:13:42	5.25	6.85	0.41	
T4_HF_SPK_002408.LAB	2/9/2023	9:13:50	5.27	7.05	0.43	
T4_HF_SPK_002409.LAB	2/9/2023	9:13:57	5.23	7.06	0.41	
T4_HF_SPK_002410.LAB	2/9/2023	9:14:05	5.23	7.15	0.42	
T4_HF_SPK_002411.LAB	2/9/2023	9:14:12	5.27	7.17	0.42	
T4_HF_SPK_002412.LAB	2/9/2023	9:14:20	5.24	7.34	0.41	
T4_HF_SPK_002413.LAB	2/9/2023	9:14:27	5.25	7.45	0.42	
T4_HF_SPK_002414.LAB	2/9/2023	9:14:35	5.25	7.51	0.41	
T4_HF_SPK_002415.LAB	2/9/2023	9:14:42	5.27	7.65	0.41	
T4_HF_SPK_002416.LAB	2/9/2023	9:14:50	5.26	7.62	0.42	
T4_HF_SPK_002417.LAB	2/9/2023	9:14:57	5.27	7.73	0.42	
T4_HF_SPK_002418.LAB	2/9/2023	9:15:05	5.27	7.79	0.41	
T4_HF_SPK_002419.LAB	2/9/2023	9:15:12	5.28	7.91	0.42	
T4_HF_SPK_002420.LAB	2/9/2023	9:15:20	5.27	7.84	0.42	
T4_HF_SPK_002421.LAB	2/9/2023	9:15:27	5.21	7.84	0.41	
T4_HF_SPK_002422.LAB	2/9/2023	9:15:35	5.23	7.97	0.42	
T4_HF_SPK_002423.LAB	2/9/2023	9:15:42	5.28	8.02	0.42	
T4_HF_SPK_002424.LAB	2/9/2023	9:15:50	5.30	8.13	0.42	
T4_HF_SPK_002425.LAB	2/9/2023	9:15:57	5.30	8.16	0.42	
T4_HF_SPK_002426.LAB	2/9/2023	9:16:05	5.27	8.17	0.42	
T4_HF_SPK_002427.LAB	2/9/2023	9:16:12	5.25	8.20	0.43	
T4_HF_SPK_002428.LAB	2/9/2023	9:16:20	5.26	8.25	0.42	
T4_HF_SPK_002429.LAB	2/9/2023	9:16:27	5.25	8.28	0.42	
T4_HF_SPK_002430.LAB	2/9/2023	9:16:35	5.23	8.34	0.42	
T4_HF_SPK_002431.LAB	2/9/2023	9:16:42	5.28	8.41	0.43	
T4_HF_SPK_002432.LAB	2/9/2023	9:16:50	5.25	8.31	0.42	
T4_HF_SPK_002433.LAB	2/9/2023	9:16:57	5.25	8.35	0.43	
T4_HF_SPK_002434.LAB	2/9/2023	9:17:04	5.23	8.35	0.41	
T4_HF_SPK_002435.LAB	2/9/2023	9:17:12	5.24	8.44	0.42	
T4_HF_SPK_002436.LAB	2/9/2023	9:17:20	5.24	8.46	0.42	
T4_HF_SPK_002437.LAB	2/9/2023	9:17:27	5.20	8.42	0.41	
T4_HF_SPK_002438.LAB	2/9/2023	9:17:35	5.21	8.50	0.42	
T4_HF_SPK_002439.LAB	2/9/2023	9:17:42	5.21	8.40	0.42	
T4_HF_SPK_002440.LAB	2/9/2023	9:17:49	5.25	8.53	0.42	
T4_HF_SPK_002441.LAB	2/9/2023	9:17:57	5.24	8.67	0.43	
T4_HF_SPK_002442.LAB	2/9/2023	9:18:05	5.27	8.66	0.43	
T4_HF_SPK_002443.LAB	2/9/2023	9:18:12	5.22	8.69	0.43	
T4_HF_SPK_002444.LAB	2/9/2023	9:18:19	5.25	8.73	0.42	
T4_HF_SPK_002445.LAB	2/9/2023	9:18:27	5.24	8.74	0.43	

Spectrum		Time	H2O (%)	HF (ppmv wet)	SF6 (ppmv wet)		
T4_HF_SPK_002446.LAB	2/9/2023	9:18:34	5.25	8.74	0.42		
T4_HF_SPK_002447.LAB	2/9/2023	9:18:42	5.23	8.72	0.43		
T4_HF_SPK_002448.LAB	2/9/2023	9:18:49	5.22	8.69	0.42		
T4_HF_SPK_002449.LAB	2/9/2023	9:18:57	5.24	8.71	0.42		
T4_HF_SPK_002450.LAB	2/9/2023	9:19:05	5.24	8.78	0.43		
T4_HF_SPK_002451.LAB	2/9/2023	9:19:12	5.24	8.74	0.42		
T4_HF_SPK_002452.LAB	2/9/2023	9:19:19	5.25	8.84	0.42		
T4_HF_SPK_002453.LAB	2/9/2023	9:19:27	5.26	8.92	0.43		
T4_HF_SPK_002454.LAB	2/9/2023	9:19:35	5.23	8.82	0.42		
T4_HF_SPK_002455.LAB	2/9/2023	9:19:42	5.24	8.89	0.43		
T4_HF_SPK_002456.LAB	2/9/2023	9:19:49	5.26	8.95	0.42		
T4_HF_SPK_002457.LAB	2/9/2023	9:19:57	5.24	8.90	0.42		
T4_HF_SPK_002458.LAB	2/9/2023	9:20:04	5.25	8.89	0.42		
T4_HF_SPK_002459.LAB	2/9/2023	9:20:12	5.26	8.95	0.43		
T4_HF_SPK_002460.LAB	2/9/2023	9:20:19	5.26	8.98	0.43		
T4_HF_SPK_002461.LAB	2/9/2023	9:20:27	5.28	8.97	0.42		
T4_HF_SPK_002462.LAB	2/9/2023	9:20:34	5.24	8.96	0.42		
T4_HF_SPK_002463.LAB	2/9/2023	9:20:42	5.23	8.99	0.42		
T4_HF_SPK_002464.LAB	2/9/2023	9:20:49	5.26	9.02	0.43		
T4_HF_SPK_002465.LAB	2/9/2023	9:20:57	5.25	9.01	0.42		
T4_HF_SPK_002466.LAB	2/9/2023	9:21:04	5.26	8.96	0.42		
T4_HF_SPK_002467.LAB	2/9/2023	9:21:12	5.26	9.09	0.43		
T4_HF_SPK_002468.LAB	2/9/2023	9:21:19	5.22	9.03	0.42		
T4_HF_SPK_002469.LAB	2/9/2023	9:21:27	5.23	9.04	0.42		
T4_HF_SPK_002470.LAB	2/9/2023	9:21:35	5.25	9.05	0.42		
T4_HF_SPK_002471.LAB	2/9/2023	9:21:42	5.27	9.11	0.42		
T4_HF_SPK_002472.LAB	2/9/2023	9:21:49	5.27	9.12	0.43		
T4_HF_SPK_002473.LAB	2/9/2023	9:21:57	5.24	9.15	0.43		
T4_HF_SPK_002474.LAB	2/9/2023	9:22:04	5.25	9.07	0.43		
T4_HF_SPK_002475.LAB	2/9/2023	9:22:12	5.24	9.16	0.41		
T4_HF_SPK_002476.LAB	2/9/2023	9:22:19	5.20	9.07	0.43		
T4_HF_SPK_002477.LAB	2/9/2023	9:22:27	5.25	9.07	0.42		
T4_HF_SPK_002478.LAB	2/9/2023	9:22:34	5.25	9.15	0.43		
T4_HF_SPK_002479.LAB	2/9/2023	9:22:42	5.22	9.17	0.42		
T4_HF_SPK_002480.LAB	2/9/2023	9:22:49	5.21	9.16	0.42		
T4_HF_SPK_002481.LAB	2/9/2023	9:22:57	5.22	9.15	0.42		
T4_HF_SPK_002482.LAB	2/9/2023	9:23:04	5.23	9.16	0.43		
T4_HF_SPK_002483.LAB	2/9/2023	9:23:12	5.21	9.15	0.42		
T4_HF_SPK_002484.LAB	2/9/2023	9:23:19	5.25	9.19	0.42		
T4_HF_SPK_002485.LAB	2/9/2023	9:23:27	5.22	9.15	0.42		
T4_HF_SPK_002486.LAB	2/9/2023	9:23:34	5.27	9.26	0.42		
T4_HF_SPK_002487.LAB	2/9/2023	9:23:42	5.31	9.31	0.42		
T4_HF_SPK_002488.LAB	2/9/2023	9:23:49	5.29	9.32	0.42		
T4_HF_SPK_002489.LAB	2/9/2023	9:23:57	5.33	9.37	0.42		
T4_HF_SPK_002490.LAB	2/9/2023	9:24:04	5.29	9.28	0.43		
T4_HF_SPK_002491.LAB	2/9/2023	9:24:12	5.23	9.23	0.42		
T4_HF_SPK_002492.LAB	2/9/2023	9:24:19	5.23	9.29	0.42		
T4_HF_SPK_002493.LAB	2/9/2023	9:24:27	5.21	9.24	0.42		
T4_HF_SPK_002494.LAB	2/9/2023	9:24:34	5.19	9.25	0.42		
T4_HF_SPK_002495.LAB	2/9/2023	9:24:42	5.24	9.26	0.43	9.29	0.42
T4_HF_SPK_002496.LAB	2/9/2023	9:24:49	5.24	9.32	0.42		
T4_HF_SPK_002497.LAB	2/9/2023	9:24:57	5.24	9.32	0.42	9.34	0.42
T4_HF_SPK_002498.LAB	2/9/2023	9:25:04	5.24	9.37	0.43		
T4_002499.LAB	2/9/2023	9:26:29	5.67	6.14	0.06		
T4_002500.LAB	2/9/2023	9:27:29	5.69	4.80	0.06		
T4_002501.LAB	2/9/2023	9:28:29	5.67	4.07	0.06		
T4_002502.LAB	2/9/2023	9:29:29	5.66	3.61	0.05		
T4_002503.LAB	2/9/2023	9:30:29	5.65	3.32	0.06		
T4_002504.LAB	2/9/2023	9:31:29	5.66	3.12	0.06		
T4_002505.LAB	2/9/2023	9:32:29	5.65	3.01	0.06		
T4_002506.LAB	2/9/2023	9:33:29	5.66	2.88	0.05		

Spectrum		Time	H2O (%v)	HF (ppmv wet)	SF6 (ppmv wet)	
T4_002507.LAB	2/9/2023	9:34:28	5.66	2.76	0.06	
T4_002508.LAB	2/9/2023	9:35:29	5.66	2.69	0.06	
T4_002509.LAB	2/9/2023	9:36:28	5.71	2.69	0.06	
T4_002510.LAB	2/9/2023	9:37:28	5.66	2.64	0.06	
T4_002511.LAB	2/9/2023	9:38:28	5.66	2.63	0.06	
T4_002512.LAB	2/9/2023	9:39:28	5.66	2.55	0.06	
T4_002513.LAB	2/9/2023	9:40:28	5.68	2.48	0.06	
T4_002514.LAB	2/9/2023	9:41:28	5.69	2.46	0.06	
T4_002515.LAB	2/9/2023	9:42:28	5.71	2.42	0.06	
T4_002516.LAB	2/9/2023	9:43:28	5.70	2.39	0.06	
T4_002517.LAB	2/9/2023	9:44:28	5.70	2.39	0.06	
T4_002518.LAB	2/9/2023	9:45:28	5.72	2.39	0.06	
T4_002519.LAB	2/9/2023	9:46:28	5.70	2.38	0.05	
T4_002520.LAB	2/9/2023	9:47:28	5.69	2.42	0.06	2.42 0.06
T4_002521.LAB	2/9/2023	9:48:28	5.66	2.43	0.05	
T4_002522.LAB	2/9/2023	9:49:28	5.68	2.43	0.06	2.41 0.06
T4_002523.LAB	2/9/2023	9:50:28	5.68	2.40	0.06	
T4_HF_SPK_002524.LAB	2/9/2023	9:51:34	5.17	2.24	0.46	
T4_HF_SPK_002525.LAB	2/9/2023	9:51:42	5.19	2.63	0.49	
T4_HF_SPK_002526.LAB	2/9/2023	9:51:49	5.23	3.12	0.44	
T4_HF_SPK_002527.LAB	2/9/2023	9:51:57	5.21	3.59	0.44	
T4_HF_SPK_002528.LAB	2/9/2023	9:52:04	5.23	4.11	0.43	
T4_HF_SPK_002529.LAB	2/9/2023	9:52:12	5.21	4.47	0.44	
T4_HF_SPK_002530.LAB	2/9/2023	9:52:19	5.24	4.84	0.44	
T4_HF_SPK_002531.LAB	2/9/2023	9:52:27	5.24	5.25	0.44	
T4_HF_SPK_002532.LAB	2/9/2023	9:52:34	5.21	5.52	0.44	
T4_HF_SPK_002533.LAB	2/9/2023	9:52:42	5.21	5.85	0.44	
T4_HF_SPK_002534.LAB	2/9/2023	9:52:49	5.23	6.12	0.44	
T4_HF_SPK_002535.LAB	2/9/2023	9:52:57	5.23	6.38	0.44	
T4_HF_SPK_002536.LAB	2/9/2023	9:53:04	5.20	6.53	0.45	
T4_HF_SPK_002537.LAB	2/9/2023	9:53:12	5.16	6.64	0.43	
T4_HF_SPK_002538.LAB	2/9/2023	9:53:19	5.17	6.79	0.44	
T4_HF_SPK_002539.LAB	2/9/2023	9:53:26	5.21	7.00	0.43	
T4_HF_SPK_002540.LAB	2/9/2023	9:53:34	5.24	7.19	0.44	
T4_HF_SPK_002541.LAB	2/9/2023	9:53:41	5.21	7.26	0.43	
T4_HF_SPK_002542.LAB	2/9/2023	9:53:49	5.22	7.42	0.44	
T4_HF_SPK_002543.LAB	2/9/2023	9:53:57	5.21	7.45	0.44	
T4_HF_SPK_002544.LAB	2/9/2023	9:54:04	5.19	7.53	0.43	
T4_HF_SPK_002545.LAB	2/9/2023	9:54:11	5.19	7.67	0.44	
T4_HF_SPK_002546.LAB	2/9/2023	9:54:19	5.19	7.76	0.44	
T4_HF_SPK_002547.LAB	2/9/2023	9:54:26	5.17	7.83	0.44	
T4_HF_SPK_002548.LAB	2/9/2023	9:54:34	5.20	8.00	0.44	
T4_HF_SPK_002549.LAB	2/9/2023	9:54:41	5.22	8.05	0.43	
T4_HF_SPK_002550.LAB	2/9/2023	9:54:49	5.21	8.10	0.44	
T4_HF_SPK_002551.LAB	2/9/2023	9:54:56	5.19	8.15	0.43	
T4_HF_SPK_002552.LAB	2/9/2023	9:55:04	5.21	8.27	0.43	
T4_HF_SPK_002553.LAB	2/9/2023	9:55:11	5.22	8.31	0.43	
T4_HF_SPK_002554.LAB	2/9/2023	9:55:19	5.14	8.27	0.44	
T4_HF_SPK_002555.LAB	2/9/2023	9:55:27	5.16	8.35	0.43	
T4_HF_SPK_002556.LAB	2/9/2023	9:55:34	5.19	8.43	0.44	
T4_HF_SPK_002557.LAB	2/9/2023	9:55:41	5.19	8.43	0.44	
T4_HF_SPK_002558.LAB	2/9/2023	9:55:49	5.19	8.53	0.43	
T4_HF_SPK_002559.LAB	2/9/2023	9:55:56	5.18	8.50	0.44	
T4_HF_SPK_002560.LAB	2/9/2023	9:56:04	5.17	8.49	0.44	
T4_HF_SPK_002561.LAB	2/9/2023	9:56:11	5.18	8.61	0.44	
T4_HF_SPK_002562.LAB	2/9/2023	9:56:19	5.13	8.65	0.44	
T4_HF_SPK_002563.LAB	2/9/2023	9:56:26	5.17	8.73	0.43	
T4_HF_SPK_002564.LAB	2/9/2023	9:56:34	5.18	8.79	0.44	
T4_HF_SPK_002565.LAB	2/9/2023	9:56:41	5.19	8.83	0.44	
T4_HF_SPK_002566.LAB	2/9/2023	9:56:49	5.22	8.89	0.44	
T4_HF_SPK_002567.LAB	2/9/2023	9:56:56	5.18	8.91	0.43	

Spectrum		Time	H2O (%)	HF (ppmv wet)	SF6 (ppmv wet)		
T4_HF_SPK_002568.LAB	2/9/2023	9:57:04	5.18	9.00	0.44		
T4_HF_SPK_002569.LAB	2/9/2023	9:57:12	5.19	9.04	0.43		
T4_HF_SPK_002570.LAB	2/9/2023	9:57:19	5.21	9.05	0.44		
T4_HF_SPK_002571.LAB	2/9/2023	9:57:27	5.21	9.13	0.44		
T4_HF_SPK_002572.LAB	2/9/2023	9:57:34	5.22	9.18	0.44		
T4_HF_SPK_002573.LAB	2/9/2023	9:57:41	5.20	9.18	0.44		
T4_HF_SPK_002574.LAB	2/9/2023	9:57:49	5.20	9.21	0.44		
T4_HF_SPK_002575.LAB	2/9/2023	9:57:56	5.22	9.27	0.44		
T4_HF_SPK_002576.LAB	2/9/2023	9:58:04	5.21	9.33	0.44		
T4_HF_SPK_002577.LAB	2/9/2023	9:58:11	5.21	9.30	0.44		
T4_HF_SPK_002578.LAB	2/9/2023	9:58:19	5.20	9.38	0.43		
T4_HF_SPK_002579.LAB	2/9/2023	9:58:26	5.19	9.36	0.44		
T4_HF_SPK_002580.LAB	2/9/2023	9:58:34	5.17	9.35	0.44		
T4_HF_SPK_002581.LAB	2/9/2023	9:58:41	5.17	9.48	0.44		
T4_HF_SPK_002582.LAB	2/9/2023	9:58:49	5.21	9.44	0.44		
T4_HF_SPK_002583.LAB	2/9/2023	9:58:56	5.17	9.48	0.45		
T4_HF_SPK_002584.LAB	2/9/2023	9:59:04	5.19	9.56	0.45		
T4_HF_SPK_002585.LAB	2/9/2023	9:59:11	5.20	9.62	0.45		
T4_HF_SPK_002586.LAB	2/9/2023	9:59:19	5.21	9.50	0.45		
T4_HF_SPK_002587.LAB	2/9/2023	9:59:26	5.18	9.47	0.44		
T4_HF_SPK_002588.LAB	2/9/2023	9:59:34	5.17	9.51	0.45		
T4_HF_SPK_002589.LAB	2/9/2023	9:59:41	5.20	9.67	0.44		
T4_HF_SPK_002590.LAB	2/9/2023	9:59:49	5.19	9.53	0.44		
T4_HF_SPK_002591.LAB	2/9/2023	9:59:56	5.21	9.65	0.44		
T4_HF_SPK_002592.LAB	2/9/2023	10:00:04	5.23	9.64	0.45		
T4_HF_SPK_002593.LAB	2/9/2023	10:00:11	5.23	9.72	0.45		
T4_HF_SPK_002594.LAB	2/9/2023	10:00:19	5.21	9.69	0.44		
T4_HF_SPK_002595.LAB	2/9/2023	10:00:26	5.21	9.67	0.45		
T4_HF_SPK_002596.LAB	2/9/2023	10:00:34	5.21	9.71	0.45		
T4_HF_SPK_002597.LAB	2/9/2023	10:00:41	5.18	9.61	0.44		
T4_HF_SPK_002598.LAB	2/9/2023	10:00:49	5.21	9.75	0.44		
T4_HF_SPK_002599.LAB	2/9/2023	10:00:56	5.20	9.74	0.45		
T4_HF_SPK_002600.LAB	2/9/2023	10:01:04	5.21	9.71	0.44	9.69	0.44
T4_HF_SPK_002601.LAB	2/9/2023	10:01:11	5.21	9.66	0.44		
T4_HF_SPK_002602.LAB	2/9/2023	10:01:19	5.19	9.68	0.44	9.67	0.44
T4_HF_SPK_002603.LAB	2/9/2023	10:01:26	5.19	9.66	0.43		
T4_002604.LAB	2/9/2023	10:02:49	5.65	6.38	0.06		
T4_002605.LAB	2/9/2023	10:03:49	5.62	4.83	0.06		
T4_002606.LAB	2/9/2023	10:04:49	5.62	4.17	0.06		
T4_002607.LAB	2/9/2023	10:05:49	5.62	3.77	0.06		
T4_002608.LAB	2/9/2023	10:06:49	5.59	3.51	0.06		
T4_002609.LAB	2/9/2023	10:07:49	5.57	3.32	0.06		
T4_002610.LAB	2/9/2023	10:08:49	5.55	3.24	0.06		
T4_002611.LAB	2/9/2023	10:09:49	5.56	3.15	0.06		
T4_002612.LAB	2/9/2023	10:10:49	5.57	3.04	0.06		
T4_002613.LAB	2/9/2023	10:11:48	5.55	2.90	0.06		
T4_002614.LAB	2/9/2023	10:12:48	5.58	2.83	0.06		
T4_002615.LAB	2/9/2023	10:13:48	5.55	2.74	0.06		
T4_002616.LAB	2/9/2023	10:14:48	5.56	2.69	0.06		
T4_002617.LAB	2/9/2023	10:15:48	5.58	2.66	0.06		
T4_002618.LAB	2/9/2023	10:16:48	5.57	2.64	0.06		
T4_002619.LAB	2/9/2023	10:17:48	5.50	2.60	0.06		
T4_002620.LAB	2/9/2023	10:18:48	5.52	2.64	0.06		
T4_002621.LAB	2/9/2023	10:19:48	5.53	2.65	0.06		
T4_002622.LAB	2/9/2023	10:20:48	5.54	2.65	0.06		
T4_002623.LAB	2/9/2023	10:21:48	5.54	2.62	0.06		
T4_002624.LAB	2/9/2023	10:22:48	5.52	2.56	0.06		
T4_002625.LAB	2/9/2023	10:23:48	5.49	2.50	0.06	2.48	0.06
T4_002626.LAB	2/9/2023	10:24:48	5.50	2.47	0.06		
T4_002627.LAB	2/9/2023	10:25:48	5.54	2.47	0.06	2.47	0.06
T4_002628.LAB	2/9/2023	10:26:48	5.50	2.46	0.06		

Spectrum		Time	H2O (%v)	HF (ppmv wet)	SF6 (ppmv wet)
T4_HF_SPK_002629.LAB	2/9/2023	10:27:52	5.14	3.69	0.37
T4_HF_SPK_002630.LAB	2/9/2023	10:28:00	5.14	4.01	0.38
T4_HF_SPK_002631.LAB	2/9/2023	10:28:07	5.15	4.32	0.37
T4_HF_SPK_002632.LAB	2/9/2023	10:28:15	5.15	4.62	0.37
T4_HF_SPK_002633.LAB	2/9/2023	10:28:22	5.17	4.93	0.38
T4_HF_SPK_002634.LAB	2/9/2023	10:28:30	5.11	5.20	0.37
T4_HF_SPK_002635.LAB	2/9/2023	10:28:37	5.16	5.41	0.37
T4_HF_SPK_002636.LAB	2/9/2023	10:28:45	5.17	5.63	0.37
T4_HF_SPK_002637.LAB	2/9/2023	10:28:52	5.15	5.85	0.37
T4_HF_SPK_002638.LAB	2/9/2023	10:29:00	5.13	6.00	0.38
T4_HF_SPK_002639.LAB	2/9/2023	10:29:07	5.14	6.16	0.38
T4_HF_SPK_002640.LAB	2/9/2023	10:29:15	5.18	6.29	0.38
T4_HF_SPK_002641.LAB	2/9/2023	10:29:22	5.17	6.43	0.38
T4_HF_SPK_002642.LAB	2/9/2023	10:29:30	5.16	6.55	0.39
T4_HF_SPK_002643.LAB	2/9/2023	10:29:37	5.15	6.62	0.37
T4_HF_SPK_002644.LAB	2/9/2023	10:29:45	5.13	6.80	0.37
T4_HF_SPK_002645.LAB	2/9/2023	10:29:53	5.12	6.80	0.38
T4_HF_SPK_002646.LAB	2/9/2023	10:30:00	5.16	6.90	0.37
T4_HF_SPK_002647.LAB	2/9/2023	10:30:07	5.12	7.06	0.38
T4_HF_SPK_002648.LAB	2/9/2023	10:30:15	5.16	7.10	0.38
T4_HF_SPK_002649.LAB	2/9/2023	10:30:22	5.11	7.19	0.38
T4_HF_SPK_002650.LAB	2/9/2023	10:30:30	5.14	7.26	0.39
T4_HF_SPK_002651.LAB	2/9/2023	10:30:37	5.16	7.33	0.38
T4_HF_SPK_002652.LAB	2/9/2023	10:30:45	5.12	7.38	0.38
T4_HF_SPK_002653.LAB	2/9/2023	10:30:52	5.18	7.38	0.38
T4_HF_SPK_002654.LAB	2/9/2023	10:31:00	5.13	7.46	0.38
T4_HF_SPK_002655.LAB	2/9/2023	10:31:07	5.17	7.50	0.39
T4_HF_SPK_002656.LAB	2/9/2023	10:31:15	5.16	7.59	0.38
T4_HF_SPK_002657.LAB	2/9/2023	10:31:22	5.18	7.60	0.38
T4_HF_SPK_002658.LAB	2/9/2023	10:31:30	5.15	7.68	0.38
T4_HF_SPK_002659.LAB	2/9/2023	10:31:37	5.19	7.74	0.38
T4_HF_SPK_002660.LAB	2/9/2023	10:31:45	5.14	7.69	0.38
T4_HF_SPK_002661.LAB	2/9/2023	10:31:52	5.16	7.80	0.39
T4_HF_SPK_002662.LAB	2/9/2023	10:32:00	5.17	7.88	0.37
T4_HF_SPK_002663.LAB	2/9/2023	10:32:07	5.15	7.82	0.38
T4_HF_SPK_002664.LAB	2/9/2023	10:32:15	5.15	7.87	0.39
T4_HF_SPK_002665.LAB	2/9/2023	10:32:22	5.14	7.93	0.38
T4_HF_SPK_002666.LAB	2/9/2023	10:32:30	5.16	7.96	0.38
T4_HF_SPK_002667.LAB	2/9/2023	10:32:37	5.15	7.99	0.38
T4_HF_SPK_002668.LAB	2/9/2023	10:32:45	5.16	7.99	0.38
T4_HF_SPK_002669.LAB	2/9/2023	10:32:52	5.14	7.94	0.39
T4_HF_SPK_002670.LAB	2/9/2023	10:33:00	5.15	8.07	0.39
T4_HF_SPK_002671.LAB	2/9/2023	10:33:07	5.16	8.09	0.38
T4_HF_SPK_002672.LAB	2/9/2023	10:33:14	5.14	8.11	0.38
T4_HF_SPK_002673.LAB	2/9/2023	10:33:22	5.15	8.12	0.39
T4_HF_SPK_002674.LAB	2/9/2023	10:33:30	5.18	8.16	0.38
T4_HF_SPK_002675.LAB	2/9/2023	10:33:37	5.19	8.19	0.38
T4_HF_SPK_002676.LAB	2/9/2023	10:33:44	5.18	8.20	0.37
T4_HF_SPK_002677.LAB	2/9/2023	10:33:52	5.17	8.21	0.38
T4_HF_SPK_002678.LAB	2/9/2023	10:33:59	5.18	8.26	0.37
T4_HF_SPK_002679.LAB	2/9/2023	10:34:07	5.17	8.29	0.38
T4_HF_SPK_002680.LAB	2/9/2023	10:34:14	5.13	8.25	0.38
T4_HF_SPK_002681.LAB	2/9/2023	10:34:22	5.16	8.30	0.38
T4_HF_SPK_002682.LAB	2/9/2023	10:34:29	5.15	8.32	0.38
T4_HF_SPK_002683.LAB	2/9/2023	10:34:37	5.16	8.36	0.38
T4_HF_SPK_002684.LAB	2/9/2023	10:34:44	5.16	8.36	0.38
T4_HF_SPK_002685.LAB	2/9/2023	10:34:52	5.15	8.26	0.37
T4_HF_SPK_002686.LAB	2/9/2023	10:34:59	5.14	8.38	0.38
T4_HF_SPK_002687.LAB	2/9/2023	10:35:07	5.19	8.43	0.38
T4_HF_SPK_002688.LAB	2/9/2023	10:35:14	5.16	8.37	0.37
T4_HF_SPK_002689.LAB	2/9/2023	10:35:22	5.18	8.40	0.38

Spectrum		Time	H2O (%)	HF (ppmv wet)	SF6 (ppmv wet)		
T4_HF_SPK_002690.LAB	2/9/2023	10:35:29	5.18	8.43	0.38		
T4_HF_SPK_002691.LAB	2/9/2023	10:35:37	5.16	8.44	0.38		
T4_HF_SPK_002692.LAB	2/9/2023	10:35:44	5.15	8.42	0.38		
T4_HF_SPK_002693.LAB	2/9/2023	10:35:52	5.10	8.34	0.38		
T4_HF_SPK_002694.LAB	2/9/2023	10:35:59	5.16	8.43	0.37		
T4_HF_SPK_002695.LAB	2/9/2023	10:36:07	5.13	8.40	0.38		
T4_HF_SPK_002696.LAB	2/9/2023	10:36:14	5.14	8.44	0.37		
T4_HF_SPK_002697.LAB	2/9/2023	10:36:22	5.11	8.43	0.37		
T4_HF_SPK_002698.LAB	2/9/2023	10:36:30	5.15	8.41	0.38		
T4_HF_SPK_002699.LAB	2/9/2023	10:36:37	5.12	8.48	0.37		
T4_HF_SPK_002700.LAB	2/9/2023	10:36:44	5.15	8.39	0.38		
T4_HF_SPK_002701.LAB	2/9/2023	10:36:52	5.15	8.50	0.38		
T4_HF_SPK_002702.LAB	2/9/2023	10:36:59	5.16	8.49	0.38		
T4_HF_SPK_002703.LAB	2/9/2023	10:37:07	5.09	8.45	0.38		
T4_HF_SPK_002704.LAB	2/9/2023	10:37:14	5.14	8.46	0.37		
T4_HF_SPK_002705.LAB	2/9/2023	10:37:22	5.13	8.52	0.37		
T4_HF_SPK_002706.LAB	2/9/2023	10:37:29	5.16	8.62	0.38		
T4_HF_SPK_002707.LAB	2/9/2023	10:37:37	5.14	8.54	0.38		
T4_HF_SPK_002708.LAB	2/9/2023	10:37:44	5.18	8.67	0.37		
T4_HF_SPK_002709.LAB	2/9/2023	10:37:52	5.18	8.66	0.38		
T4_HF_SPK_002710.LAB	2/9/2023	10:37:59	5.12	8.56	0.38	8.61	0.38
T4_HF_SPK_002711.LAB	2/9/2023	10:38:07	5.15	8.67	0.37		
T4_HF_SPK_002712.LAB	2/9/2023	10:38:14	5.11	8.60	0.38	8.58	0.39
T4_HF_SPK_002713.LAB	2/9/2023	10:38:22	5.09	8.55	0.39		
T4_002714.LAB	2/9/2023	10:39:46	5.51	6.03	0.06		
T4_002715.LAB	2/9/2023	10:40:46	5.47	4.77	0.06		
T4_002716.LAB	2/9/2023	10:41:45	5.50	4.21	0.06		
T4_002717.LAB	2/9/2023	10:42:46	5.50	3.80	0.06		
T4_002718.LAB	2/9/2023	10:43:45	5.49	3.53	0.06		
T4_002719.LAB	2/9/2023	10:44:45	5.46	3.32	0.06		
T4_002720.LAB	2/9/2023	10:45:45	5.50	3.20	0.07		
T4_002721.LAB	2/9/2023	10:46:45	5.51	3.11	0.06		
T4_002722.LAB	2/9/2023	10:47:45	5.56	3.05	0.06		
T4_002723.LAB	2/9/2023	10:48:45	5.52	2.96	0.06		
T4_002724.LAB	2/9/2023	10:49:45	5.51	2.95	0.06		
T4_002725.LAB	2/9/2023	10:50:45	5.47	2.93	0.06		
T4_002726.LAB	2/9/2023	10:51:45	5.51	2.95	0.06		
T4_002727.LAB	2/9/2023	10:52:45	5.50	2.85	0.06		
T4_002728.LAB	2/9/2023	10:53:45	5.48	2.77	0.06		
T4_002729.LAB	2/9/2023	10:54:45	5.50	2.74	0.06		
T4_002730.LAB	2/9/2023	10:55:45	5.52	2.74	0.06		
T4_002731.LAB	2/9/2023	10:56:45	5.50	2.69	0.06		
T4_002732.LAB	2/9/2023	10:57:45	5.51	2.72	0.06		
T4_002733.LAB	2/9/2023	10:58:45	5.50	2.67	0.06		
T4_002734.LAB	2/9/2023	10:59:45	5.53	2.72	0.06		
T4_002735.LAB	2/9/2023	11:00:44	5.50	2.73	0.06		
T4_002736.LAB	2/9/2023	11:01:44	5.50	2.75	0.06		
T4_002737.LAB	2/9/2023	11:02:44	5.49	2.73	0.06	2.69	0.07
T4_002738.LAB	2/9/2023	11:03:44	5.47	2.65	0.07		
T4_002739.LAB	2/9/2023	11:04:44	5.53	2.66	0.07	2.64	0.06
T4_002740.LAB	2/9/2023	11:05:44	5.52	2.63	0.06		
T4_HF_SPK_002741.LAB	2/9/2023	11:06:25	5.26	2.55	0.29		
T4_HF_SPK_002742.LAB	2/9/2023	11:06:32	5.13	2.87	0.39		
T4_HF_SPK_002743.LAB	2/9/2023	11:06:40	5.15	3.29	0.39		
T4_HF_SPK_002744.LAB	2/9/2023	11:06:47	5.15	3.70	0.39		
T4_HF_SPK_002745.LAB	2/9/2023	11:06:55	5.16	4.17	0.39		
T4_HF_SPK_002746.LAB	2/9/2023	11:07:02	5.13	4.45	0.40		
T4_HF_SPK_002747.LAB	2/9/2023	11:07:10	5.13	4.83	0.39		
T4_HF_SPK_002748.LAB	2/9/2023	11:07:17	5.16	5.18	0.38		
T4_HF_SPK_002749.LAB	2/9/2023	11:07:25	5.16	5.49	0.40		
T4_HF_SPK_002750.LAB	2/9/2023	11:07:32	5.11	5.65	0.39		

Spectrum		Time	H2O (%)	HF (ppmv wet)	SF6 (ppmv wet)
T4_HF_SPK_002751.LAB	2/9/2023	11:07:40	5.16	5.91	0.39
T4_HF_SPK_002752.LAB	2/9/2023	11:07:47	5.16	6.05	0.39
T4_HF_SPK_002753.LAB	2/9/2023	11:07:55	5.17	6.25	0.39
T4_HF_SPK_002754.LAB	2/9/2023	11:08:03	5.11	6.43	0.39
T4_HF_SPK_002755.LAB	2/9/2023	11:08:10	5.15	6.52	0.39
T4_HF_SPK_002756.LAB	2/9/2023	11:08:18	5.14	6.71	0.39
T4_HF_SPK_002757.LAB	2/9/2023	11:08:25	5.12	6.83	0.39
T4_HF_SPK_002758.LAB	2/9/2023	11:08:32	5.12	6.97	0.39
T4_HF_SPK_002759.LAB	2/9/2023	11:08:40	5.16	7.04	0.40
T4_HF_SPK_002760.LAB	2/9/2023	11:08:47	5.12	7.22	0.39
T4_HF_SPK_002761.LAB	2/9/2023	11:08:55	5.16	7.31	0.40
T4_HF_SPK_002762.LAB	2/9/2023	11:09:02	5.09	7.33	0.39
T4_HF_SPK_002763.LAB	2/9/2023	11:09:10	5.12	7.44	0.39
T4_HF_SPK_002764.LAB	2/9/2023	11:09:17	5.15	7.58	0.39
T4_HF_SPK_002765.LAB	2/9/2023	11:09:25	5.15	7.70	0.39
T4_HF_SPK_002766.LAB	2/9/2023	11:09:32	5.15	7.68	0.40
T4_HF_SPK_002767.LAB	2/9/2023	11:09:40	5.15	7.77	0.39
T4_HF_SPK_002768.LAB	2/9/2023	11:09:47	5.15	7.76	0.39
T4_HF_SPK_002769.LAB	2/9/2023	11:09:55	5.14	7.92	0.39
T4_HF_SPK_002770.LAB	2/9/2023	11:10:02	5.12	7.95	0.40
T4_HF_SPK_002771.LAB	2/9/2023	11:10:10	5.18	8.03	0.40
T4_HF_SPK_002772.LAB	2/9/2023	11:10:17	5.13	8.16	0.40
T4_HF_SPK_002773.LAB	2/9/2023	11:10:25	5.17	8.13	0.40
T4_HF_SPK_002774.LAB	2/9/2023	11:10:32	5.17	8.15	0.39
T4_HF_SPK_002775.LAB	2/9/2023	11:10:40	5.10	8.16	0.40
T4_HF_SPK_002776.LAB	2/9/2023	11:10:47	5.18	8.30	0.40
T4_HF_SPK_002777.LAB	2/9/2023	11:10:55	5.15	8.33	0.40
T4_HF_SPK_002778.LAB	2/9/2023	11:11:02	5.14	8.31	0.39
T4_HF_SPK_002779.LAB	2/9/2023	11:11:10	5.11	8.31	0.40
T4_HF_SPK_002780.LAB	2/9/2023	11:11:17	5.17	8.45	0.40
T4_HF_SPK_002781.LAB	2/9/2023	11:11:25	5.13	8.41	0.39
T4_HF_SPK_002782.LAB	2/9/2023	11:11:32	5.16	8.46	0.40
T4_HF_SPK_002783.LAB	2/9/2023	11:11:40	5.14	8.48	0.40
T4_HF_SPK_002784.LAB	2/9/2023	11:11:47	5.10	8.45	0.39
T4_HF_SPK_002785.LAB	2/9/2023	11:11:55	5.15	8.50	0.40
T4_HF_SPK_002786.LAB	2/9/2023	11:12:02	5.10	8.52	0.40
T4_HF_SPK_002787.LAB	2/9/2023	11:12:10	5.17	8.51	0.41
T4_HF_SPK_002788.LAB	2/9/2023	11:12:17	5.13	8.65	0.39
T4_HF_SPK_002789.LAB	2/9/2023	11:12:25	5.13	8.67	0.40
T4_HF_SPK_002790.LAB	2/9/2023	11:12:32	5.14	8.60	0.40
T4_HF_SPK_002791.LAB	2/9/2023	11:12:40	5.10	8.62	0.40
T4_HF_SPK_002792.LAB	2/9/2023	11:12:47	5.18	8.67	0.40
T4_HF_SPK_002793.LAB	2/9/2023	11:12:55	5.11	8.70	0.39
T4_HF_SPK_002794.LAB	2/9/2023	11:13:02	5.16	8.69	0.40
T4_HF_SPK_002795.LAB	2/9/2023	11:13:09	5.17	8.83	0.40
T4_HF_SPK_002796.LAB	2/9/2023	11:13:17	5.11	8.78	0.40
T4_HF_SPK_002797.LAB	2/9/2023	11:13:24	5.12	8.67	0.40
T4_HF_SPK_002798.LAB	2/9/2023	11:13:32	5.16	8.78	0.40
T4_HF_SPK_002799.LAB	2/9/2023	11:13:40	5.11	8.80	0.40
T4_HF_SPK_002800.LAB	2/9/2023	11:13:47	5.13	8.85	0.41
T4_HF_SPK_002801.LAB	2/9/2023	11:13:54	5.13	8.86	0.39
T4_HF_SPK_002802.LAB	2/9/2023	11:14:02	5.15	8.83	0.40
T4_HF_SPK_002803.LAB	2/9/2023	11:14:09	5.11	8.90	0.40
T4_HF_SPK_002804.LAB	2/9/2023	11:14:17	5.14	8.86	0.40
T4_HF_SPK_002805.LAB	2/9/2023	11:14:24	5.14	8.95	0.41
T4_HF_SPK_002806.LAB	2/9/2023	11:14:32	5.16	8.89	0.40
T4_HF_SPK_002807.LAB	2/9/2023	11:14:39	5.18	8.93	0.41
T4_HF_SPK_002808.LAB	2/9/2023	11:14:47	5.13	9.05	0.40
T4_HF_SPK_002809.LAB	2/9/2023	11:14:54	5.18	8.98	0.41
T4_HF_SPK_002810.LAB	2/9/2023	11:15:02	5.12	8.92	0.41
T4_HF_SPK_002811.LAB	2/9/2023	11:15:09	5.15	8.95	0.40

Spectrum		Time	H2O (%)	HF (ppmv wet)	SF6 (ppmv wet)		
T4_HF_SPK_002812.LAB	2/9/2023	11:15:17	5.13	9.02	0.40		
T4_HF_SPK_002813.LAB	2/9/2023	11:15:24	5.15	9.04	0.39		
T4_HF_SPK_002814.LAB	2/9/2023	11:15:32	5.14	9.06	0.40		
T4_HF_SPK_002815.LAB	2/9/2023	11:15:40	5.17	9.10	0.41		
T4_HF_SPK_002816.LAB	2/9/2023	11:15:47	5.17	9.08	0.40		
T4_HF_SPK_002817.LAB	2/9/2023	11:15:54	5.18	9.07	0.39		
T4_HF_SPK_002818.LAB	2/9/2023	11:16:02	5.17	9.07	0.40		
T4_HF_SPK_002819.LAB	2/9/2023	11:16:09	5.16	9.04	0.40		
T4_HF_SPK_002820.LAB	2/9/2023	11:16:17	5.17	9.10	0.40		
T4_HF_SPK_002821.LAB	2/9/2023	11:16:24	5.15	9.02	0.40		
T4_HF_SPK_002822.LAB	2/9/2023	11:16:32	5.12	9.06	0.40		
T4_HF_SPK_002823.LAB	2/9/2023	11:16:39	5.17	9.10	0.40		
T4_HF_SPK_002824.LAB	2/9/2023	11:16:47	5.16	9.08	0.39		
T4_HF_SPK_002825.LAB	2/9/2023	11:16:54	5.15	9.07	0.39		
T4_HF_SPK_002826.LAB	2/9/2023	11:17:02	5.13	9.06	0.39		
T4_HF_SPK_002827.LAB	2/9/2023	11:17:09	5.12	9.14	0.40		
T4_HF_SPK_002828.LAB	2/9/2023	11:17:17	5.15	9.12	0.40		
T4_HF_SPK_002829.LAB	2/9/2023	11:17:24	5.15	9.16	0.39		
T4_HF_SPK_002830.LAB	2/9/2023	11:17:32	5.16	9.20	0.40	9.18	0.40
T4_HF_SPK_002831.LAB	2/9/2023	11:17:39	5.15	9.16	0.39		
T4_HF_SPK_002832.LAB	2/9/2023	11:17:47	5.11	9.10	0.39	9.11	0.40
T4_HF_SPK_002833.LAB	2/9/2023	11:17:54	5.14	9.13	0.40		
T4_002834.LAB	2/9/2023	11:19:22	5.54	6.15	0.06		
T4_002835.LAB	2/9/2023	11:20:22	5.50	4.88	0.06		
T4_002836.LAB	2/9/2023	11:21:21	5.53	4.41	0.06		
T4_002837.LAB	2/9/2023	11:22:21	5.52	4.04	0.06		
T4_002838.LAB	2/9/2023	11:23:21	5.50	3.70	0.06		
T4_002839.LAB	2/9/2023	11:24:21	5.47	3.50	0.06		
T4_002840.LAB	2/9/2023	11:25:21	5.46	3.33	0.06		
T4_002841.LAB	2/9/2023	11:26:21	5.48	3.20	0.06		
T4_002842.LAB	2/9/2023	11:27:21	5.49	3.10	0.06		
T4_002843.LAB	2/9/2023	11:28:21	5.48	3.02	0.06		
T4_002844.LAB	2/9/2023	11:29:21	5.50	2.98	0.06		
T4_002845.LAB	2/9/2023	11:30:21	5.45	2.95	0.07		
T4_002846.LAB	2/9/2023	11:31:21	5.45	2.91	0.06		
T4_002847.LAB	2/9/2023	11:32:21	5.47	2.88	0.06		
T4_002848.LAB	2/9/2023	11:33:21	5.50	2.82	0.07		
T4_002849.LAB	2/9/2023	11:34:21	5.47	2.75	0.07		
T4_002850.LAB	2/9/2023	11:35:21	5.50	2.72	0.05		
T4_002851.LAB	2/9/2023	11:36:20	5.48	2.55	0.04		
T4_002852.LAB	2/9/2023	11:37:20	5.52	2.45	0.04		
T4_002853.LAB	2/9/2023	11:38:20	5.52	2.38	0.04		
T4_002854.LAB	2/9/2023	11:39:20	5.56	2.35	0.04	2.34	0.04
T4_002855.LAB	2/9/2023	11:40:20	5.53	2.34	0.04		

99.9 ppm HCl/5.00 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)
T4_HCL_DIR_000668.LAB	2/7/2023	7:59:05	-0.01	95.74	4.98
T4_HCL_DIR_000669.LAB	2/7/2023	7:59:12	0.01	97.66	4.97
T4_HCL_DIR_000670.LAB	2/7/2023	7:59:20	0.01	97.71	4.97
T4_HCL_DIR_000671.LAB	2/7/2023	7:59:27	0.00	97.63	4.99
T4_HCL_DIR_000672.LAB	2/7/2023	7:59:35	0.01	97.84	4.98
T4_HCL_DIR_000673.LAB	2/7/2023	7:59:42	0.00	96.11	4.99
T4_HCL_DIR_000674.LAB	2/7/2023	7:59:50	-0.01	96.13	4.97
T4_HCL_DIR_000675.LAB	2/7/2023	7:59:57	0.00	95.98	4.99

99.9 ppm HCl/5.00 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)
T4_HCL_DIR_001486.LAB	2/8/2023	7:33:31	0.00	101.76	5.00
T4_HCL_DIR_001487.LAB	2/8/2023	7:33:38	0.00	101.86	4.99
T4_HCL_DIR_001488.LAB	2/8/2023	7:33:46	0.00	99.41	5.00
T4_HCL_DIR_001489.LAB	2/8/2023	7:33:53	0.00	99.46	5.00
T4_HCL_DIR_001490.LAB	2/8/2023	7:34:01	0.00	101.72	5.00
T4_HCL_DIR_001491.LAB	2/8/2023	7:34:08	-0.01	99.81	5.01
T4_HCL_DIR_001492.LAB	2/8/2023	7:34:16	0.00	99.60	5.00
T4_HCL_DIR_001493.LAB	2/8/2023	7:34:23	0.00	101.85	5.01

99.9 ppm HCl/5.00 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)
T5_HCL_DIR_002912.LAB	2/14/2023	7:37:09	0.00	99.18	4.98
T5_HCL_DIR_002913.LAB	2/14/2023	7:37:16	0.01	101.33	4.99
T5_HCL_DIR_002914.LAB	2/14/2023	7:37:24	0.00	101.35	5.00
T5_HCL_DIR_002915.LAB	2/14/2023	7:37:31	0.00	101.25	4.99
T5_HCL_DIR_002916.LAB	2/14/2023	7:37:39	0.00	101.70	4.98
T5_HCL_DIR_002917.LAB	2/14/2023	7:37:46	0.01	101.39	4.99
T5_HCL_DIR_002918.LAB	2/14/2023	7:37:54	0.00	101.86	4.99
T5_HCL_DIR_002919.LAB	2/14/2023	7:38:01	0.00	99.76	4.97

99.9 ppm HCl/5.00 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)
T5_HCL_DIR_003579.LAB	2/15/2023	7:30:56	0.00	104.49	4.99
T5_HCL_DIR_003580.LAB	2/15/2023	7:31:04	0.00	104.57	5.00
T5_HCL_DIR_003581.LAB	2/15/2023	7:31:11	0.00	102.33	4.97
T5_HCL_DIR_003582.LAB	2/15/2023	7:31:18	0.00	104.42	4.97
T5_HCL_DIR_003583.LAB	2/15/2023	7:31:26	0.00	104.70	4.98
T5_HCL_DIR_003584.LAB	2/15/2023	7:31:33	-0.01	102.75	4.98
T5_HCL_DIR_003585.LAB	2/15/2023	7:31:41	-0.01	102.68	4.98
T5_HCL_DIR_003586.LAB	2/15/2023	7:31:48	0.01	104.71	4.96
Average of All Directs				100.59	4.99

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)
T4_000774.LAB	2/7/2023	8:35:51	5.62	0.95	0.00
T4_000775.LAB	2/7/2023	8:36:51	5.61	0.92	0.00
T4_000776.LAB	2/7/2023	8:37:51	5.63	0.86	0.00
T4_000777.LAB	2/7/2023	8:38:51	5.61	0.90	0.00
T4_HCL_SPK_000778.LAB	2/7/2023	8:39:54	5.62	0.81	0.00
T4_HCL_SPK_000779.LAB	2/7/2023	8:40:01	5.27	0.74	0.29
T4_HCL_SPK_000780.LAB	2/7/2023	8:40:09	4.78	0.69	0.77
T4_HCL_SPK_000781.LAB	2/7/2023	8:40:16	5.06	0.83	0.54
T4_HCL_SPK_000782.LAB	2/7/2023	8:40:23	5.05	1.75	0.53
T4_HCL_SPK_000783.LAB	2/7/2023	8:40:31	5.03	3.44	0.54
T4_HCL_SPK_000784.LAB	2/7/2023	8:40:38	5.03	4.64	0.54

0.894 0.000

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)		
T4_HCL_SPK_000785.LAB	2/7/2023	8:40:46	5.02	5.61	0.53		
T4_HCL_SPK_000786.LAB	2/7/2023	8:40:53	5.04	6.34	0.53		
T4_HCL_SPK_000787.LAB	2/7/2023	8:41:01	5.08	6.99	0.54		
T4_HCL_SPK_000788.LAB	2/7/2023	8:41:08	5.18	7.15	0.47		
T4_HCL_SPK_000789.LAB	2/7/2023	8:41:16	5.13	6.70	0.43		
T4_HCL_SPK_000790.LAB	2/7/2023	8:41:23	5.18	6.55	0.43		
T4_HCL_SPK_000791.LAB	2/7/2023	8:41:31	5.14	6.73	0.41		
T4_HCL_SPK_000792.LAB	2/7/2023	8:41:38	5.14	6.80	0.42		
T4_HCL_SPK_000793.LAB	2/7/2023	8:41:46	5.15	6.92	0.43		
T4_HCL_SPK_000794.LAB	2/7/2023	8:41:53	5.16	7.06	0.41		
T4_HCL_SPK_000795.LAB	2/7/2023	8:42:01	5.10	7.03	0.42		
T4_HCL_SPK_000796.LAB	2/7/2023	8:42:08	5.13	7.21	0.41		
T4_HCL_SPK_000797.LAB	2/7/2023	8:42:16	5.11	7.19	0.42		
T4_HCL_SPK_000798.LAB	2/7/2023	8:42:24	5.14	7.24	0.42		
T4_HCL_SPK_000799.LAB	2/7/2023	8:42:31	5.17	7.48	0.41		
T4_HCL_SPK_000800.LAB	2/7/2023	8:42:38	5.15	7.52	0.42		
T4_HCL_SPK_000801.LAB	2/7/2023	8:42:46	5.17	7.57	0.42		
T4_HCL_SPK_000802.LAB	2/7/2023	8:42:54	5.15	7.64	0.41		
T4_HCL_SPK_000803.LAB	2/7/2023	8:43:01	5.14	7.69	0.43		
T4_HCL_SPK_000804.LAB	2/7/2023	8:43:08	5.13	7.60	0.42		
T4_HCL_SPK_000805.LAB	2/7/2023	8:43:16	5.16	7.67	0.43		
T4_HCL_SPK_000806.LAB	2/7/2023	8:43:23	5.12	7.78	0.42		
T4_HCL_SPK_000807.LAB	2/7/2023	8:43:31	5.17	7.75	0.42		
T4_HCL_SPK_000808.LAB	2/7/2023	8:43:38	5.12	7.81	0.41		
T4_HCL_SPK_000809.LAB	2/7/2023	8:43:46	5.14	7.92	0.42		
T4_HCL_SPK_000810.LAB	2/7/2023	8:43:53	5.15	7.96	0.42		
T4_HCL_SPK_000811.LAB	2/7/2023	8:44:01	5.13	7.94	0.42		
T4_HCL_SPK_000812.LAB	2/7/2023	8:44:08	5.17	7.97	0.42		
T4_HCL_SPK_000813.LAB	2/7/2023	8:44:16	5.13	8.07	0.42		
T4_HCL_SPK_000814.LAB	2/7/2023	8:44:23	5.18	8.11	0.43		
T4_HCL_SPK_000815.LAB	2/7/2023	8:44:31	5.14	8.14	0.43		
T4_HCL_SPK_000816.LAB	2/7/2023	8:44:38	5.18	8.12	0.42		
T4_HCL_SPK_000817.LAB	2/7/2023	8:44:46	5.17	8.16	0.42		
T4_HCL_SPK_000818.LAB	2/7/2023	8:44:53	5.14	8.14	0.42		
T4_HCL_SPK_000819.LAB	2/7/2023	8:45:01	5.16	8.06	0.42		
T4_HCL_SPK_000820.LAB	2/7/2023	8:45:08	5.15	8.23	0.42		
T4_HCL_SPK_000821.LAB	2/7/2023	8:45:16	5.16	8.10	0.42		
T4_HCL_SPK_000822.LAB	2/7/2023	8:45:23	5.17	8.17	0.43		
T4_HCL_SPK_000823.LAB	2/7/2023	8:45:31	5.14	8.24	0.42		
T4_HCL_SPK_000824.LAB	2/7/2023	8:45:38	5.14	8.24	0.43		
T4_HCL_SPK_000825.LAB	2/7/2023	8:45:46	5.15	8.22	0.42		
T4_HCL_SPK_000826.LAB	2/7/2023	8:45:53	5.17	8.16	0.42		
T4_HCL_SPK_000827.LAB	2/7/2023	8:46:01	5.16	8.13	0.42		
T4_HCL_SPK_000828.LAB	2/7/2023	8:46:08	5.14	8.25	0.43		
T4_HCL_SPK_000829.LAB	2/7/2023	8:46:16	5.16	8.16	0.41		
T4_HCL_SPK_000830.LAB	2/7/2023	8:46:23	5.14	8.18	0.42	8.195	0.419
T4_HCL_SPK_000831.LAB	2/7/2023	8:46:31	5.17	8.19	0.42		
T4_HCL_SPK_000832.LAB	2/7/2023	8:46:38	5.13	8.30	0.40		
T4_HCL_SPK_000833.LAB	2/7/2023	8:46:46	5.17	8.20	0.41		
T4_HCL_SPK_000834.LAB	2/7/2023	8:46:53	5.16	8.39	0.42		
T4_HCL_SPK_000835.LAB	2/7/2023	8:47:01	5.15	8.16	0.42		
T4_HCL_SPK_000836.LAB	2/7/2023	8:47:08	5.12	8.19	0.41		
T4_HCL_SPK_000837.LAB	2/7/2023	8:47:16	5.15	8.25	0.42		
T4_HCL_SPK_000838.LAB	2/7/2023	8:47:23	5.19	8.32	0.42	8.255	0.416
T4_000839.LAB	2/7/2023	8:49:41	5.63	1.72	0.00		
T4_000840.LAB	2/7/2023	8:50:41	5.62	1.42	0.00		
T4_000841.LAB	2/7/2023	8:51:41	5.63	1.27	0.00	1.469	0.003
T4_001538.LAB	2/8/2023	7:55:49	5.58	0.44	0.00		
T4_001539.LAB	2/8/2023	7:56:49	5.62	0.44	0.00		

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)		
T4_001540.LAB	2/8/2023	7:57:50	5.65	0.41	0.00	0.429	0.000
T4_HCL_SPK_001564.LAB	2/8/2023	8:02:45	5.66	0.35	0.00		
T4_HCL_SPK_001565.LAB	2/8/2023	8:02:53	5.23	0.22	0.30		
T4_HCL_SPK_001566.LAB	2/8/2023	8:03:00	4.62	0.36	0.82		
T4_HCL_SPK_001567.LAB	2/8/2023	8:03:08	5.18	0.29	0.43		
T4_HCL_SPK_001568.LAB	2/8/2023	8:03:15	5.14	1.73	0.42		
T4_HCL_SPK_001569.LAB	2/8/2023	8:03:23	5.18	3.18	0.42		
T4_HCL_SPK_001570.LAB	2/8/2023	8:03:30	5.19	4.04	0.43		
T4_HCL_SPK_001571.LAB	2/8/2023	8:03:38	5.17	4.55	0.43		
T4_HCL_SPK_001572.LAB	2/8/2023	8:03:45	5.15	4.97	0.42		
T4_HCL_SPK_001573.LAB	2/8/2023	8:03:53	5.18	5.35	0.41		
T4_HCL_SPK_001574.LAB	2/8/2023	8:04:00	5.11	5.78	0.42		
T4_HCL_SPK_001575.LAB	2/8/2023	8:04:08	5.18	6.10	0.43		
T4_HCL_SPK_001576.LAB	2/8/2023	8:04:15	5.17	6.38	0.42		
T4_HCL_SPK_001577.LAB	2/8/2023	8:04:23	5.17	6.54	0.41		
T4_HCL_SPK_001578.LAB	2/8/2023	8:04:30	5.16	6.66	0.42		
T4_HCL_SPK_001579.LAB	2/8/2023	8:04:38	5.18	6.70	0.42		
T4_HCL_SPK_001580.LAB	2/8/2023	8:04:45	5.16	6.92	0.42		
T4_HCL_SPK_001581.LAB	2/8/2023	8:04:53	5.19	7.10	0.42		
T4_HCL_SPK_001582.LAB	2/8/2023	8:05:00	5.13	7.10	0.42		
T4_HCL_SPK_001583.LAB	2/8/2023	8:05:08	5.16	7.10	0.41		
T4_HCL_SPK_001584.LAB	2/8/2023	8:05:15	5.15	7.17	0.42		
T4_HCL_SPK_001585.LAB	2/8/2023	8:05:23	5.14	7.25	0.42		
T4_HCL_SPK_001586.LAB	2/8/2023	8:05:30	5.15	7.28	0.42		
T4_HCL_SPK_001587.LAB	2/8/2023	8:05:38	5.16	7.46	0.42		
T4_HCL_SPK_001588.LAB	2/8/2023	8:05:45	5.14	7.49	0.42		
T4_HCL_SPK_001589.LAB	2/8/2023	8:05:53	5.16	7.54	0.41		
T4_HCL_SPK_001590.LAB	2/8/2023	8:06:00	5.15	7.58	0.41		
T4_HCL_SPK_001591.LAB	2/8/2023	8:06:08	5.17	7.55	0.42		
T4_HCL_SPK_001592.LAB	2/8/2023	8:06:15	5.14	7.66	0.42		
T4_HCL_SPK_001593.LAB	2/8/2023	8:06:23	5.15	7.53	0.42		
T4_HCL_SPK_001594.LAB	2/8/2023	8:06:30	5.14	7.71	0.41		
T4_HCL_SPK_001595.LAB	2/8/2023	8:06:38	5.14	7.63	0.43		
T4_HCL_SPK_001596.LAB	2/8/2023	8:06:45	5.14	7.56	0.41		
T4_HCL_SPK_001597.LAB	2/8/2023	8:06:53	5.15	7.85	0.42		
T4_HCL_SPK_001598.LAB	2/8/2023	8:07:00	5.15	7.84	0.42		
T4_HCL_SPK_001599.LAB	2/8/2023	8:07:08	5.17	7.88	0.42		
T4_HCL_SPK_001600.LAB	2/8/2023	8:07:15	5.17	7.94	0.42		
T4_HCL_SPK_001601.LAB	2/8/2023	8:07:23	5.15	7.89	0.42		
T4_HCL_SPK_001602.LAB	2/8/2023	8:07:30	5.15	7.79	0.42		
T4_HCL_SPK_001603.LAB	2/8/2023	8:07:38	5.14	7.89	0.42		
T4_HCL_SPK_001604.LAB	2/8/2023	8:07:45	5.16	8.07	0.41		
T4_HCL_SPK_001605.LAB	2/8/2023	8:07:52	5.17	7.99	0.41		
T4_HCL_SPK_001606.LAB	2/8/2023	8:08:00	5.17	8.14	0.41		
T4_HCL_SPK_001607.LAB	2/8/2023	8:08:08	5.19	8.01	0.41		
T4_HCL_SPK_001608.LAB	2/8/2023	8:08:15	5.16	8.03	0.42	8.086	0.418
T4_HCL_SPK_001609.LAB	2/8/2023	8:08:22	5.14	8.15	0.42		
T4_HCL_SPK_001610.LAB	2/8/2023	8:08:30	5.16	8.08	0.42		
T4_HCL_SPK_001611.LAB	2/8/2023	8:08:38	5.17	8.07	0.41		
T4_HCL_SPK_001612.LAB	2/8/2023	8:08:45	5.15	8.14	0.41		
T4_HCL_SPK_001613.LAB	2/8/2023	8:08:53	5.18	8.17	0.42		
T4_HCL_SPK_001614.LAB	2/8/2023	8:09:00	5.18	8.15	0.42	8.245	0.421
T4_HCL_SPK_001615.LAB	2/8/2023	8:09:07	5.15	8.22	0.42		
T4_HCL_SPK_001616.LAB	2/8/2023	8:09:15	5.15	8.37	0.43		
T4_001617.LAB	2/8/2023	8:10:58	5.64	1.34	0.00		
T4_001618.LAB	2/8/2023	8:11:58	5.65	0.97	0.00	0.809	0.000
T4_001619.LAB	2/8/2023	8:12:58	5.65	0.77	0.00		
T4_001620.LAB	2/8/2023	8:13:58	5.64	0.68	0.00		
T5_003015.LAB	2/14/2023	8:07:01	6.01	0.43	0.00		
T5_003016.LAB	2/14/2023	8:08:01	6.02	0.41	0.00		
T5_003017.LAB	2/14/2023	8:09:01	6.02	0.47	0.00		

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)		
T5_003018.LAB	2/14/2023	8:10:01	6.04	0.45	0.00		
T5_003019.LAB	2/14/2023	8:11:01	6.03	0.48	0.00		
T5_003020.LAB	2/14/2023	8:12:01	6.02	0.42	0.00		
T5_003021.LAB	2/14/2023	8:13:01	6.02	0.42	0.00		
T5_003022.LAB	2/14/2023	8:14:01	6.03	0.40	0.00	0.414	-0.001
T5_HCL_SPK_003023.LAB	2/14/2023	8:14:32	6.04	0.43	0.00		
T5_HCL_SPK_003024.LAB	2/14/2023	8:14:40	5.55	0.41	0.34		
T5_HCL_SPK_003025.LAB	2/14/2023	8:14:47	5.03	0.32	0.76		
T5_HCL_SPK_003026.LAB	2/14/2023	8:14:55	5.56	0.33	0.40		
T5_HCL_SPK_003027.LAB	2/14/2023	8:15:02	5.54	1.59	0.40		
T5_HCL_SPK_003028.LAB	2/14/2023	8:15:10	5.55	2.91	0.39		
T5_HCL_SPK_003029.LAB	2/14/2023	8:15:17	5.54	3.54	0.39		
T5_HCL_SPK_003030.LAB	2/14/2023	8:15:25	5.57	4.17	0.39		
T5_HCL_SPK_003031.LAB	2/14/2023	8:15:32	5.58	4.62	0.39		
T5_HCL_SPK_003032.LAB	2/14/2023	8:15:40	5.53	4.99	0.38		
T5_HCL_SPK_003033.LAB	2/14/2023	8:15:47	5.58	5.35	0.40		
T5_HCL_SPK_003034.LAB	2/14/2023	8:15:54	5.54	5.65	0.39		
T5_HCL_SPK_003035.LAB	2/14/2023	8:16:02	5.55	5.84	0.39		
T5_HCL_SPK_003036.LAB	2/14/2023	8:16:09	5.57	6.17	0.39		
T5_HCL_SPK_003037.LAB	2/14/2023	8:16:17	5.54	6.20	0.38		
T5_HCL_SPK_003038.LAB	2/14/2023	8:16:25	5.55	6.45	0.38		
T5_HCL_SPK_003039.LAB	2/14/2023	8:16:32	5.57	6.61	0.39		
T5_HCL_SPK_003040.LAB	2/14/2023	8:16:40	5.54	6.59	0.38		
T5_HCL_SPK_003041.LAB	2/14/2023	8:16:47	5.55	6.69	0.39		
T5_HCL_SPK_003042.LAB	2/14/2023	8:16:54	5.56	6.66	0.39		
T5_HCL_SPK_003043.LAB	2/14/2023	8:17:02	5.55	6.89	0.39		
T5_HCL_SPK_003044.LAB	2/14/2023	8:17:09	5.55	6.91	0.38		
T5_HCL_SPK_003045.LAB	2/14/2023	8:17:17	5.61	7.10	0.39		
T5_HCL_SPK_003046.LAB	2/14/2023	8:17:24	5.58	7.16	0.38		
T5_HCL_SPK_003047.LAB	2/14/2023	8:17:32	5.56	7.17	0.39		
T5_HCL_SPK_003048.LAB	2/14/2023	8:17:39	5.57	7.05	0.39		
T5_HCL_SPK_003049.LAB	2/14/2023	8:17:47	5.55	7.18	0.39		
T5_HCL_SPK_003050.LAB	2/14/2023	8:17:54	5.55	7.28	0.39		
T5_HCL_SPK_003051.LAB	2/14/2023	8:18:02	5.56	7.22	0.39		
T5_HCL_SPK_003052.LAB	2/14/2023	8:18:10	5.55	7.29	0.38		
T5_HCL_SPK_003053.LAB	2/14/2023	8:18:17	5.58	7.42	0.38		
T5_HCL_SPK_003054.LAB	2/14/2023	8:18:24	5.55	7.39	0.38		
T5_HCL_SPK_003055.LAB	2/14/2023	8:18:32	5.54	7.32	0.39		
T5_HCL_SPK_003056.LAB	2/14/2023	8:18:39	5.57	7.45	0.39		
T5_HCL_SPK_003057.LAB	2/14/2023	8:18:47	5.57	7.48	0.39		
T5_HCL_SPK_003058.LAB	2/14/2023	8:18:54	5.57	7.49	0.39		
T5_HCL_SPK_003059.LAB	2/14/2023	8:19:02	5.55	7.55	0.38		
T5_HCL_SPK_003060.LAB	2/14/2023	8:19:09	5.57	7.61	0.39		
T5_HCL_SPK_003061.LAB	2/14/2023	8:19:17	5.55	7.53	0.39		
T5_HCL_SPK_003062.LAB	2/14/2023	8:19:24	5.57	7.74	0.39	7.624	0.388
T5_HCL_SPK_003063.LAB	2/14/2023	8:19:32	5.56	7.60	0.39		
T5_HCL_SPK_003064.LAB	2/14/2023	8:19:39	5.56	7.69	0.39		
T5_HCL_SPK_003065.LAB	2/14/2023	8:19:47	5.56	7.76	0.40		
T5_HCL_SPK_003066.LAB	2/14/2023	8:19:54	5.53	7.74	0.40		
T5_HCL_SPK_003067.LAB	2/14/2023	8:20:02	5.54	7.79	0.40		
T5_HCL_SPK_003068.LAB	2/14/2023	8:20:09	5.54	7.76	0.39		
T5_HCL_SPK_003069.LAB	2/14/2023	8:20:17	5.55	7.78	0.39		
T5_HCL_SPK_003070.LAB	2/14/2023	8:20:24	5.53	7.83	0.40		
T5_HCL_SPK_003071.LAB	2/14/2023	8:20:32	5.57	7.87	0.39		
T5_HCL_SPK_003072.LAB	2/14/2023	8:20:40	5.55	7.80	0.39	7.832	0.393
T5_003073.LAB	2/14/2023	8:22:11	6.03	1.38	0.00		
T5_003074.LAB	2/14/2023	8:23:11	6.04	0.92	0.00		
T5_003075.LAB	2/14/2023	8:24:11	6.04	0.75	0.00		
T5_003076.LAB	2/14/2023	8:25:11	6.04	0.63	0.00		
T5_003077.LAB	2/14/2023	8:26:11	6.05	0.56	0.00		
T5_003078.LAB	2/14/2023	8:27:11	6.05	0.53	0.00	0.575	0.001

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)		
T5_003638.LAB	2/15/2023	7:53:24	5.46	0.41	0.00	0.411	0.000
T5_003639.LAB	2/15/2023	7:54:24	5.46	0.42	0.00		
T5_003640.LAB	2/15/2023	7:55:24	5.46	0.40	0.00		
T5_HCL_SPK_003667.LAB	2/15/2023	7:59:37	5.40	0.33	0.07		
T5_HCL_SPK_003668.LAB	2/15/2023	7:59:45	5.01	0.28	0.42		
T5_HCL_SPK_003669.LAB	2/15/2023	7:59:52	4.80	0.21	0.59		
T5_HCL_SPK_003670.LAB	2/15/2023	8:00:00	5.09	0.67	0.39		
T5_HCL_SPK_003671.LAB	2/15/2023	8:00:07	5.07	3.47	0.38		
T5_HCL_SPK_003672.LAB	2/15/2023	8:00:14	5.06	4.64	0.40		
T5_HCL_SPK_003673.LAB	2/15/2023	8:00:22	5.07	5.18	0.39		
T5_HCL_SPK_003674.LAB	2/15/2023	8:00:30	5.06	5.50	0.39		
T5_HCL_SPK_003675.LAB	2/15/2023	8:00:37	5.06	5.79	0.38		
T5_HCL_SPK_003676.LAB	2/15/2023	8:00:44	5.07	6.28	0.40		
T5_HCL_SPK_003677.LAB	2/15/2023	8:00:52	5.07	6.44	0.39		
T5_HCL_SPK_003678.LAB	2/15/2023	8:00:59	5.08	6.63	0.39		
T5_HCL_SPK_003679.LAB	2/15/2023	8:01:07	5.05	6.80	0.39		
T5_HCL_SPK_003680.LAB	2/15/2023	8:01:15	5.09	6.91	0.39		
T5_HCL_SPK_003681.LAB	2/15/2023	8:01:22	5.08	6.96	0.39		
T5_HCL_SPK_003682.LAB	2/15/2023	8:01:29	5.04	7.11	0.38		
T5_HCL_SPK_003683.LAB	2/15/2023	8:01:37	5.09	7.10	0.39		
T5_HCL_SPK_003684.LAB	2/15/2023	8:01:45	5.07	7.17	0.38		
T5_HCL_SPK_003685.LAB	2/15/2023	8:01:52	5.06	7.16	0.39		
T5_HCL_SPK_003686.LAB	2/15/2023	8:02:00	5.07	7.37	0.39		
T5_HCL_SPK_003687.LAB	2/15/2023	8:02:07	5.09	7.37	0.39		
T5_HCL_SPK_003688.LAB	2/15/2023	8:02:15	5.11	7.39	0.39		
T5_HCL_SPK_003689.LAB	2/15/2023	8:02:22	5.11	7.38	0.39		
T5_HCL_SPK_003690.LAB	2/15/2023	8:02:29	5.07	7.41	0.38		
T5_HCL_SPK_003691.LAB	2/15/2023	8:02:37	5.06	7.45	0.39		
T5_HCL_SPK_003692.LAB	2/15/2023	8:02:45	5.08	7.48	0.38		
T5_HCL_SPK_003693.LAB	2/15/2023	8:02:52	5.06	7.60	0.39		
T5_HCL_SPK_003694.LAB	2/15/2023	8:02:59	5.08	7.56	0.39		
T5_HCL_SPK_003695.LAB	2/15/2023	8:03:07	5.07	7.39	0.38		
T5_HCL_SPK_003696.LAB	2/15/2023	8:03:14	5.07	7.60	0.38		
T5_HCL_SPK_003697.LAB	2/15/2023	8:03:22	5.05	7.51	0.39		
T5_HCL_SPK_003698.LAB	2/15/2023	8:03:29	5.10	7.56	0.39		
T5_HCL_SPK_003699.LAB	2/15/2023	8:03:37	5.10	7.59	0.38		
T5_HCL_SPK_003700.LAB	2/15/2023	8:03:44	5.11	7.64	0.38		
T5_HCL_SPK_003701.LAB	2/15/2023	8:03:52	5.07	7.62	0.38		
T5_HCL_SPK_003702.LAB	2/15/2023	8:03:59	5.09	7.56	0.38		
T5_HCL_SPK_003703.LAB	2/15/2023	8:04:07	5.12	7.68	0.39		
T5_HCL_SPK_003704.LAB	2/15/2023	8:04:14	5.11	7.67	0.39		
T5_HCL_SPK_003705.LAB	2/15/2023	8:04:22	5.08	7.71	0.39		
T5_HCL_SPK_003706.LAB	2/15/2023	8:04:29	5.09	7.65	0.39		
T5_HCL_SPK_003707.LAB	2/15/2023	8:04:37	5.08	7.68	0.37		
T5_HCL_SPK_003708.LAB	2/15/2023	8:04:44	5.06	7.65	0.38		
T5_HCL_SPK_003709.LAB	2/15/2023	8:04:52	5.12	7.71	0.38		
T5_HCL_SPK_003710.LAB	2/15/2023	8:04:59	5.11	7.78	0.38		
T5_HCL_SPK_003711.LAB	2/15/2023	8:05:07	5.09	7.66	0.37		
T5_HCL_SPK_003712.LAB	2/15/2023	8:05:14	5.12	7.75	0.38		
T5_HCL_SPK_003713.LAB	2/15/2023	8:05:22	5.07	7.67	0.38		
T5_HCL_SPK_003714.LAB	2/15/2023	8:05:29	5.08	7.77	0.38		
T5_HCL_SPK_003715.LAB	2/15/2023	8:05:37	5.11	7.70	0.39	7.640	0.374
T5_HCL_SPK_003716.LAB	2/15/2023	8:05:44	5.12	7.65	0.37		
T5_HCL_SPK_003717.LAB	2/15/2023	8:05:52	5.12	7.57	0.36		
T5_HCL_SPK_003718.LAB	2/15/2023	8:05:59	5.10	7.69	0.37		
T5_HCL_SPK_003719.LAB	2/15/2023	8:06:07	5.09	7.73	0.38		
T5_HCL_SPK_003720.LAB	2/15/2023	8:06:14	5.08	7.65	0.37		
T5_HCL_SPK_003721.LAB	2/15/2023	8:06:22	5.13	7.68	0.38		
T5_HCL_SPK_003722.LAB	2/15/2023	8:06:29	5.12	7.85	0.39		
T5_HCL_SPK_003723.LAB	2/15/2023	8:06:37	5.09	7.74	0.37		

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)		
T5_HCL_SPK_003724.LAB	2/15/2023	8:06:44	5.08	7.69	0.37		
T5_HCL_SPK_003725.LAB	2/15/2023	8:06:52	5.10	7.75	0.37		
T5_HCL_SPK_003726.LAB	2/15/2023	8:06:59	5.10	7.57	0.38		
T5_HCL_SPK_003727.LAB	2/15/2023	8:07:07	5.11	7.74	0.37		
T5_HCL_SPK_003728.LAB	2/15/2023	8:07:14	5.07	7.68	0.37	7.665	0.373
T5_003729.LAB	2/15/2023	8:08:45	5.50	1.18	0.00		
T5_003730.LAB	2/15/2023	8:09:46	5.48	0.73	0.00		
T5_003731.LAB	2/15/2023	8:10:45	5.49	0.57	0.00		
T5_003732.LAB	2/15/2023	8:11:45	5.48	0.53	0.00	0.608	0.001

9.9 ppm HCl/5.05 ppm SF6 Direct Purge

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)
9.9_HCL_DIR_0440.LAB	3/5/2020	6:44:31	0.00	8.21	4.87
9.9_HCL_DIR_0441.LAB	3/5/2020	6:44:46	0.00	8.36	4.88
9.9_HCL_DIR_0442.LAB	3/5/2020	6:45:01	0.01	8.48	4.88
9.9_HCL_DIR_0443.LAB	3/5/2020	6:45:16	0.00	8.52	4.88
9.9_HCL_DIR_0444.LAB	3/5/2020	6:45:31	0.00	8.48	4.87
9.9_HCL_DIR_0445.LAB	3/5/2020	6:45:46	0.00	8.74	4.87
9.9_HCL_DIR_0446.LAB	3/5/2020	6:46:01	0.00	8.83	4.87
9.9_HCL_DIR_0447.LAB	3/5/2020	6:46:16	0.00	8.86	4.87
9.9_HCL_DIR_0448.LAB	3/5/2020	6:48:21	0.00	9.04	4.86
9.9_HCL_DIR_0449.LAB	3/5/2020	6:48:36	0.00	9.02	4.86
9.9_HCL_DIR_0450.LAB	3/5/2020	6:48:51	0.00	9.15	4.87
9.9_HCL_DIR_0451.LAB	3/5/2020	6:49:06	0.00	8.96	4.87
9.9_HCL_DIR_0452.LAB	3/5/2020	6:49:22	0.00	9.07	4.86
9.9_HCL_DIR_0453.LAB	3/5/2020	6:49:37	0.00	9.21	4.87
9.9_HCL_DIR_0454.LAB	3/5/2020	6:49:52	0.00	9.19	4.87
9.9_HCL_DIR_0455.LAB	3/5/2020	6:50:07	0.00	9.35	4.86
9.9_HCL_DIR_0456.LAB	3/5/2020	6:50:22	0.00	9.18	4.87
9.9_HCL_DIR_0457.LAB	3/5/2020	6:50:37	0.00	9.07	4.86
9.9_HCL_DIR_0458.LAB	3/5/2020	6:50:52	0.00	9.29	4.87
9.9_HCL_DIR_0459.LAB	3/5/2020	6:51:07	0.00	9.10	4.86
9.9_HCL_DIR_0460.LAB	3/5/2020	6:51:22	0.00	9.27	4.87
9.9_HCL_DIR_0461.LAB	3/5/2020	6:51:37	0.00	9.36	4.87
9.9_HCL_DIR_0462.LAB	3/5/2020	6:51:52	0.00	9.31	4.86
9.9_HCL_DIR_0463.LAB	3/5/2020	6:52:07	0.00	9.29	4.87
9.9_HCL_DIR_0464.LAB	3/5/2020	6:52:22	0.00	9.21	4.86
Average Direct				9.24	4.87

SCB_STK_0528.LAB	3/5/2020	7:11:51	12.89	0.25	-0.01
SCB_STK_0529.LAB	3/5/2020	7:12:21	12.89	0.25	-0.01
SCB_STK_0530.LAB	3/5/2020	7:12:51	12.90	0.24	-0.01
SCB_STK_0531.LAB	3/5/2020	7:13:21	12.88	0.18	-0.01
SCB_STK_0532.LAB	3/5/2020	7:13:51	12.96	0.28	-0.01
SCB_STK_0533.LAB	3/5/2020	7:14:21	12.89	0.22	-0.01
SCB_STK_0534.LAB	3/5/2020	7:14:51	12.91	0.25	-0.01
SCB_STK_0535.LAB	3/5/2020	7:15:21	12.86	0.26	-0.01
SCB_STK_SPK_0536.LAB	3/5/2020	7:16:04	12.09	0.22	0.12
SCB_STK_SPK_0537.LAB	3/5/2020	7:16:19	11.74	0.21	0.48
SCB_STK_SPK_0538.LAB	3/5/2020	7:16:34	11.70	0.16	0.48
SCB_STK_SPK_0539.LAB	3/5/2020	7:16:49	11.69	0.36	0.47
SCB_STK_SPK_0540.LAB	3/5/2020	7:17:04	11.72	0.38	0.46
SCB_STK_SPK_0541.LAB	3/5/2020	7:17:19	11.71	0.54	0.46
SCB_STK_SPK_0542.LAB	3/5/2020	7:17:34	11.64	0.61	0.45
SCB_STK_SPK_0543.LAB	3/5/2020	7:17:49	11.67	0.69	0.45
SCB_STK_SPK_0544.LAB	3/5/2020	7:18:04	11.69	0.80	0.45
SCB_STK_SPK_0545.LAB	3/5/2020	7:18:19	11.64	0.86	0.45
SCB_STK_SPK_0546.LAB	3/5/2020	7:18:34	11.66	0.79	0.45
SCB_STK_SPK_0547.LAB	3/5/2020	7:18:49	11.66	0.77	0.45
SCB_STK_SPK_0548.LAB	3/5/2020	7:19:04	11.68	0.78	0.45
SCB_STK_SPK_0549.LAB	3/5/2020	7:19:19	11.61	0.86	0.45
SCB_STK_SPK_0550.LAB	3/5/2020	7:19:34	11.67	0.91	0.45
SCB_STK_SPK_0551.LAB	3/5/2020	7:19:49	11.62	0.86	0.45
SCB_STK_SPK_0552.LAB	3/5/2020	7:20:04	11.51	0.91	0.48
SCB_STK_SPK_0553.LAB	3/5/2020	7:20:19	11.53	0.99	0.51
SCB_STK_SPK_0554.LAB	3/5/2020	7:20:34	11.51	1.03	0.52
SCB_STK_SPK_0555.LAB	3/5/2020	7:20:49	11.50	1.08	0.51
SCB_STK_SPK_0556.LAB	3/5/2020	7:21:04	11.51	0.97	0.51
SCB_STK_SPK_0557.LAB	3/5/2020	7:21:19	11.53	0.93	0.51
SCB_STK_SPK_0558.LAB	3/5/2020	7:21:34	11.56	0.96	0.48
SCB_STK_SPK_0559.LAB	3/5/2020	7:21:49	11.58	0.99	0.48
SCB_STK_SPK_0560.LAB	3/5/2020	7:22:04	11.60	0.91	0.48

0.242 -0.010

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)		
SCB_STK_SPK_0561.LAB	3/5/2020	7:22:19	11.57	1.05	0.48	0.985	0.477
SCB_STK_SPK_0562.LAB	3/5/2020	7:22:34	11.56	0.97	0.47		
SCB_STK_SPK_0563.LAB	3/5/2020	7:22:49	11.58	0.97	0.47		
SCB_STK_SPK_0564.LAB	3/5/2020	7:23:04	11.64	0.99	0.48		
SCB_STK_SPK_0565.LAB	3/5/2020	7:23:19	11.60	0.97	0.47		
SCB_STK_SPK_0566.LAB	3/5/2020	7:23:34	11.60	0.99	0.47		
SCB_STK_SPK_0567.LAB	3/5/2020	7:23:49	11.66	1.03	0.47	1.043	0.472
SCB_STK_SPK_0568.LAB	3/5/2020	7:24:04	11.61	1.02	0.47		
SCB_STK_SPK_0569.LAB	3/5/2020	7:24:19	11.64	1.07	0.47		
SCB_STK_SPK_0570.LAB	3/5/2020	7:24:34	11.64	0.87	0.47		
SCB_STK_0571.LAB	3/5/2020	7:25:19	12.99	0.68	-0.01		
SCB_STK_0572.LAB	3/5/2020	7:25:34	13.04	0.47	-0.01		
SCB_STK_0573.LAB	3/5/2020	7:25:49	12.85	0.53	-0.01	0.252	-0.011
SCB_STK_0574.LAB	3/5/2020	7:26:04	13.00	0.44	-0.01		
SCB_STK_0575.LAB	3/5/2020	7:26:19	12.94	0.40	-0.01		
SCB_STK_0576.LAB	3/5/2020	7:26:34	12.96	0.39	-0.01		
SCB_STK_0577.LAB	3/5/2020	7:26:49	12.99	0.37	-0.01		
SCB_STK_0578.LAB	3/5/2020	7:27:04	13.01	0.29	-0.01		
SCB_STK_0579.LAB	3/5/2020	7:27:20	12.96	0.26	-0.01	0.072	-0.010
SCB_STK_0580.LAB	3/5/2020	7:27:34	12.97	0.22	-0.01		
SCB_STK_0581.LAB	3/5/2020	7:27:50	13.02	0.24	-0.01		
SCB_STK_0582.LAB	3/5/2020	7:28:05	13.01	0.29	-0.01		
SCB_STK_R1_0641.LAB	3/5/2020	8:27:38	13.05	0.09	-0.01		
SCB_STK_R1_0642.LAB	3/5/2020	8:28:38	13.05	0.06	-0.01	0.072	-0.010
SCB_STK_R1_0643.LAB	3/5/2020	8:29:38	12.99	0.06	-0.01		
SCB_STK_SPK_0644.LAB	3/5/2020	8:30:26	11.80	0.05	0.51		
SCB_STK_SPK_0645.LAB	3/5/2020	8:30:41	11.62	0.17	0.52		
SCB_STK_SPK_0646.LAB	3/5/2020	8:30:56	11.66	0.12	0.54		
SCB_STK_SPK_0647.LAB	3/5/2020	8:31:11	12.10	0.07	0.38		
SCB_STK_SPK_0648.LAB	3/5/2020	8:31:26	12.10	0.17	0.38	0.072	-0.010
SCB_STK_SPK_0649.LAB	3/5/2020	8:31:41	12.01	0.16	0.39		
SCB_STK_SPK_0650.LAB	3/5/2020	8:31:56	12.04	0.22	0.38		
SCB_STK_SPK_0651.LAB	3/5/2020	8:32:11	11.92	0.24	0.41		
SCB_STK_SPK_0652.LAB	3/5/2020	8:32:26	11.94	0.25	0.42		
SCB_STK_SPK_0653.LAB	3/5/2020	8:32:41	11.90	0.28	0.41		
SCB_STK_SPK_0654.LAB	3/5/2020	8:32:56	11.86	0.38	0.41	0.072	-0.010
SCB_STK_SPK_0655.LAB	3/5/2020	8:33:11	11.91	0.40	0.41		
SCB_STK_SPK_0656.LAB	3/5/2020	8:33:26	11.85	0.47	0.41		
SCB_STK_SPK_0657.LAB	3/5/2020	8:33:41	11.91	0.40	0.42		
SCB_STK_SPK_0658.LAB	3/5/2020	8:33:56	11.92	0.48	0.41		
SCB_STK_SPK_0659.LAB	3/5/2020	8:34:11	11.90	0.42	0.42		
SCB_STK_SPK_0660.LAB	3/5/2020	8:34:26	11.89	0.35	0.43	0.072	-0.010
SCB_STK_SPK_0661.LAB	3/5/2020	8:34:41	11.84	0.47	0.44		
SCB_STK_SPK_0662.LAB	3/5/2020	8:34:56	11.76	0.51	0.46		
SCB_STK_SPK_0663.LAB	3/5/2020	8:35:11	11.78	0.48	0.46		
SCB_STK_SPK_0664.LAB	3/5/2020	8:35:26	11.75	0.43	0.46		
SCB_STK_SPK_0665.LAB	3/5/2020	8:35:41	11.83	0.49	0.46		
SCB_STK_SPK_0666.LAB	3/5/2020	8:35:56	11.84	0.68	0.46	0.072	-0.010
SCB_STK_SPK_0667.LAB	3/5/2020	8:36:11	11.89	0.53	0.46		
SCB_STK_SPK_0668.LAB	3/5/2020	8:36:26	11.88	0.51	0.46		
SCB_STK_SPK_0669.LAB	3/5/2020	8:36:41	11.80	0.54	0.46		
SCB_STK_SPK_0670.LAB	3/5/2020	8:36:56	11.84	0.54	0.46		
SCB_STK_SPK_0671.LAB	3/5/2020	8:37:11	11.75	0.55	0.45		
SCB_STK_SPK_0672.LAB	3/5/2020	8:37:26	11.79	0.53	0.45	0.072	-0.010
SCB_STK_SPK_0673.LAB	3/5/2020	8:37:41	11.83	0.65	0.46		
SCB_STK_SPK_0674.LAB	3/5/2020	8:37:56	11.73	0.57	0.45		
SCB_STK_SPK_0675.LAB	3/5/2020	8:38:11	11.72	0.60	0.46		
SCB_STK_SPK_0676.LAB	3/5/2020	8:38:26	11.73	0.50	0.46		
SCB_STK_SPK_0677.LAB	3/5/2020	8:38:41	11.72	0.59	0.46		
SCB_STK_SPK_0678.LAB	3/5/2020	8:38:56	11.74	0.64	0.46		

Spectrum	Date	Time	H2O (%v)	HCl (ppmv wet)	SF6 (ppmv wet)		
SCB_STK_SPK_0679.LAB	3/5/2020	8:39:11	11.68	0.64	0.46		
SCB_STK_SPK_0680.LAB	3/5/2020	8:39:26	11.70	0.68	0.46		
SCB_STK_SPK_0681.LAB	3/5/2020	8:39:41	11.64	0.66	0.46		
SCB_STK_SPK_0682.LAB	3/5/2020	8:39:56	11.64	0.81	0.47		
SCB_STK_SPK_0683.LAB	3/5/2020	8:40:11	11.67	0.85	0.46		
SCB_STK_SPK_0684.LAB	3/5/2020	8:40:26	11.65	0.75	0.46		
SCB_STK_SPK_0685.LAB	3/5/2020	8:40:41	11.68	0.80	0.46		
SCB_STK_SPK_0686.LAB	3/5/2020	8:40:56	11.70	0.81	0.47		
SCB_STK_SPK_0687.LAB	3/5/2020	8:41:11	11.68	0.90	0.47		
SCB_STK_SPK_0688.LAB	3/5/2020	8:41:26	11.59	0.77	0.46		
SCB_STK_SPK_0689.LAB	3/5/2020	8:41:41	11.61	0.87	0.47		
SCB_STK_SPK_0690.LAB	3/5/2020	8:41:56	11.64	1.01	0.48	0.880	0.469
SCB_STK_SPK_0691.LAB	3/5/2020	8:42:11	11.62	0.95	0.47		
SCB_STK_SPK_0692.LAB	3/5/2020	8:42:26	11.66	0.98	0.47		
SCB_STK_SPK_0693.LAB	3/5/2020	8:42:41	11.54	0.88	0.47		
SCB_STK_SPK_0694.LAB	3/5/2020	8:42:56	11.63	0.93	0.47		
SCB_STK_SPK_0695.LAB	3/5/2020	8:43:11	11.63	0.92	0.48		
SCB_STK_SPK_0696.LAB	3/5/2020	8:43:26	11.57	0.92	0.48	0.926	0.476
SCB_STK_0697.LAB	3/5/2020	8:44:05	12.93	0.55	-0.01		
SCB_STK_0698.LAB	3/5/2020	8:44:20	12.87	0.41	-0.01		
SCB_STK_0699.LAB	3/5/2020	8:44:35	12.81	0.33	-0.01		
SCB_STK_0700.LAB	3/5/2020	8:44:51	12.88	0.36	-0.01		
SCB_STK_0701.LAB	3/5/2020	8:45:05	12.87	0.24	-0.01		
SCB_STK_0702.LAB	3/5/2020	8:45:21	12.86	0.29	-0.01		
SCB_STK_0703.LAB	3/5/2020	8:45:35	12.90	0.25	-0.01		
SCB_STK_0704.LAB	3/5/2020	8:45:50	12.82	0.21	-0.01		
SCB_STK_0705.LAB	3/5/2020	8:46:05	12.82	0.14	-0.01		
SCB_STK_0706.LAB	3/5/2020	8:46:21	12.87	0.18	-0.01		
SCB_STK_0707.LAB	3/5/2020	8:46:35	12.84	0.12	-0.01	0.146	-0.008

Appendix A.6


Fuel Analysis Report

CLIENT: **Montrose**
 CLIENT PROJ NO: **DTE Sunshine**
 LABORATORY NO: **23-147**
 SAMPLING DATE: **02/10/23**
 RECEIVING DATE: **02/10/23**
 ANALYSIS DATE: **02/10/23**
 REPORT DATE: **02/15/23**

Laboratory Analysis Report

Analysis Methods: ASTM 1945-03 ; HHV Calculations: ASTM 3588-98

Analyte, Units	Sample ID	Sunshine LFG Inlet Eng 4
	Sampling Date	02/10/23
	Lab ID	04123-17
	Units	Mole %
Methane, %		45.24
Ethane, %		<0.01
Ethylene, %		<0.01
Propane, %		<0.01
Propylene, %		<0.01
i-Butane, %		<0.01
n-Butane, %		<0.01
1-Butene, %		<0.01
i-Butylene, %		<0.01
trans-2-Butene, %		<0.01
cis-2-Butene, %		<0.01
i-Pentane, %		<0.01
n-Pentane, %		<0.01
2,2-Dimethyl Butane, %		<0.01
2,3-Dimethyl Butane, %		<0.01
2-Methyl Pentane, %		<0.01
3-Methyl Pentane, %		<0.01
n-Hexane, %		<0.01
C6+, %		<0.01
CO ₂ , %		34.62
CO, %		<0.01
O ₂ , %		2.69
N ₂ , %		17.41
H ₂ , %		<0.01
H ₂ S, %		<0.01
NH ₃ , %		<0.01
Average Molecular Weight		28.265
Total Wt.% Adjusted Sp. Gravity		0.9759
Compressibility Factor (14.696 Psi, 60 F)		0.9978
NET BTU/Cub. Ft		413
GROSS BTU/Cub. Ft		459
CHONS		%
Carbon		34.04
Hydrogen		6.47
Oxygen		42.23
Nitrogen		17.26
Sulfur		<0.01
Dry F Factor (60 F, 1 Atm):		9476
SDCF/MMBTU, ASTM 3588		


 Dr. Andrew Kitto
 President



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CLIENT Montrose
CLIENT PROJ NO: DTE Sunshine
LABORATORY NO: 23-147
SAMPLING DATE: 02/10/23
RECEIVING DATE: 02/10/23
ANALYSIS DATE: 02/10/23
REPORT DATE: 02/15/23

Laboratory Results

Analysis Method	EPA 3C					
Detection Limits	0.10%					
		CH4	CO2	CO	O2	N2
Sample ID	Lab ID No.	%	%	%	%	%
Sunshine LFG Inlet Eng 4	04123-17	45.24	34.62	<0.01	2.7	17.4

A handwritten signature in black ink, appearing to read "Dr. Andrew Kitto".

Dr. Andrew Kitto
President



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CLIENT Montrose
CLIENT PROJ NO: DTE Sunshine
LABORATORY NO: 23-147
SAMPLING DATE: 02/10/23
RECEIVING DATE: 02/10/23
ANALYSIS DATE: 02/10/23
REPORT DATE: 02/15/23

Standard Verification

EPA 3C - Fixed Gases

Lab ID	Analyte	Theoretical Value Mole %	Tested Value Mole %	% Recovery*
SCOTT STD	CO2	15.00	15.30	102%
SCOTT STD	O2	4.00	3.98	100%
SCOTT STD	N2	69.50	69.86	101%
SCOTT STD	CH4	4.50	4.52	100%
SCOTT STD	CO	7.00	6.93	99%

* Must be $\pm 10\%$

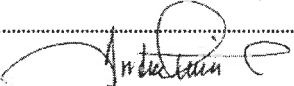
Dr. Andrew Kitto
President

CLIENT: **Montrose**
CLIENT PROJ NO: **DTE Sunshine**
LABORATORY NO: **23-171**
SAMPLING DATE: **02/16/23**
RECEIVING DATE: **02/16/23**
ANALYSIS DATE: **02/17/23**
REPORT DATE: **02/20/23**

Laboratory Analysis Report

Analysis Methods: ASTM 1945-03 ; HHV Calculations: ASTM 3588-98

Analyte, Units	Sample ID	Sunshine LFG Inlet Eng 5
	Sampling Date	02/16/23
	Lab ID	04723-8
	Units	Mole %
Methane, %		44.50
Ethane, %		<0.01
Ethylene, %		<0.01
Propane, %		<0.01
Propylene, %		<0.01
i-Butane, %		<0.01
n-Butane, %		<0.01
1-Butene, %		<0.01
i-Butylene, %		<0.01
trans-2-Butene, %		<0.01
cis-2-Butene, %		<0.01
i-Pentane, %		<0.01
n-Pentane, %		<0.01
2,2-Dimethyl Butane, %		<0.01
2,3-Dimethyl Butane, %		<0.01
2-Methyl Pentane, %		<0.01
3-Methyl Pentane, %		<0.01
n-Hexane, %		<0.01
C6+, %		<0.01
CO ₂ , %		36.06
CO, %		<0.01
O ₂ , %		3.28
N ₂ , %		16.17
H ₂ , %		<0.01
H ₂ S, %		<0.01
NH ₃ , %		<0.01
Average Molecular Weight		28.585
Total Wt.% Adjusted Sp. Gravity		0.9869
Compressibility Factor (14.696 Psi, 60 F)		0.9977
NET BTU/Cub. Ft		405
GROSS BTU/Cub. Ft		449
CHONS		%
Carbon		33.85
Hydrogen		6.28
Oxygen		44.03
Nitrogen		15.85
Sulfur		<0.01
Dry F Factor (60 F, 1 Atm):		9444
SDCF/MMBTU, ASTM 3588		


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CLIENT Montrose
CLIENT PROJ NO: DTE Sunshine
LABORATORY NO: 23-171
SAMPLING DATE: 02/16/23
RECEIVING DATE: 02/16/23
ANALYSIS DATE: 02/17/23
REPORT DATE: 02/20/23

Laboratory Results

Analysis Method	EPA 3C					
Detection Limits	0.10%					
		CH4	CO2	CO	O2	N2
Sample ID	Lab ID No.	%	%	%	%	%
Sunshine LFG Inlet Eng 5	04723-8	44.50	36.06	<0.01	3.3	16.2

A handwritten signature in black ink, appearing to read "Andrew Kitto", is positioned above a horizontal line.

Dr. Andrew Kitto
President



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CLIENT **Montrose**
CLIENT PROJ NO: **DTE Sunshine**
LABORATORY NO: **23-171**
SAMPLING DATE: **02/16/23**
RECEIVING DATE: **02/16/23**
ANALYSIS DATE: **02/17/23**
REPORT DATE: **02/20/23**

Standard Verification

EPA 3C - Fixed Gases

Lab ID	Analyte	Theoretical Value Mole %	Tested Value Mole %	% Recovery*
SCOTT STD	CO2	15.00	15.30	102%
SCOTT STD	O2	4.00	3.98	100%
SCOTT STD	N2	69.50	69.86	101%
SCOTT STD	CH4	4.50	4.52	100%
SCOTT STD	CO	7.00	6.93	99%

* Must be $\pm 10\%$

A handwritten signature in black ink, appearing to read "Dr. Andrew Kitto", is written over a horizontal line.

Dr. Andrew Kitto
President

Appendix A.7

Quality Assurance Data

SPAN GAS RECORD AND SCAQMD CALIBRATION ERROR/LINEARITY

CLIENT/LOCATION: Sunshine Gas CT 4

DATE: 2/7/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder #	Value	Exp. Date	Vendor ID	% of Range
ZERO	Low	CC241060	0.0			
O ₂	Mid	CC106542	10.13	5/19/30	F22022	50.7%
O ₂	High	CC258464	19.31	4/5/30	F22022	96.6%
CO ₂	Mid	CC106542	4.92	5/19/30	F22022	49.2%
CO ₂	High	CC258464	9.66	4/5/30	F22022	96.6%
CO	Mid	CC205667	4.680	6/2/30	F22022	46.8%
CO	High	CC181175	9.650	5/6/30	F22022	96.5%

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.03	-0.02	-0.10		--
Error (% of scale)	-0.1%	-0.2%	-1.0%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.29	9.64	9.64		--
Error (% of scale)	-0.1%	-0.3%	-0.1%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.12	4.90	4.66		--
Error (% of scale)	0.0%	-0.2%	-0.2%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.01	-0.02	-0.04		--
Error (% of scale)	-0.1%	-0.2%	-0.4%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.33	9.71	9.57		--
Error (% of scale)	0.1%	0.5%	-0.9%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.14	4.98	4.64		--
Error (% of scale)	0.1%	0.6%	-0.4%		PASS

SPAN GAS RECORD AND EPA CALIBRATION ERROR

CLIENT/LOCATION: Sunshine Gas CT 4

DATE: 2/7/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder Number	Value	Exp. Date	Vendor ID	% of Cal Span
ZERO	Low	CC241060	0			
O ₂	Mid	CC106542	10.13	5/19/30	F22022	52.5%
O ₂	High	CC258464	19.31	4/5/30	F22022	
CO ₂	Mid	CC106542	4.92	5/19/30	F22022	50.9%
CO ₂	High	CC258464	9.66	4/5/30	F22022	
CO	Mid	CC205667	4.68	6/2/30	F22022	48.5%
CO	High	CC181175	9.65	5/6/30	F22022	

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Calibration Span	19.31	9.66	4.68		
Zero Gas Value	0.0	0.0	0.0		
Analyzer Reads	-0.03	-0.02	-0.10		
Difference (% or ppm)	0.0	0.0	-0.1		
Error (% of Cal. Span)	-0.1%	-0.2%	-2.1%		
Status ⁽¹⁾	PASS	PASS	PASS		
High Gas Value	19.31	9.66	9.650		
Analyzer Reads	19.29	9.64	9.64		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	-0.1%	-0.3%	-0.3%		
Status ⁽¹⁾	PASS	PASS	PASS		
Mid Gas Value	10.13	4.92	4.68		
Analyzer Reads	10.12	4.90	4.66		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	0.0%	-0.2%	-0.3%		
Status ⁽¹⁾	PASS	PASS	PASS		

1) Calibration Error must be within +/- 2.0% of the Calibration Span; alternatively the results are acceptable if the difference is less than or equal to 0.5 ppm.

SPAN GAS RECORD AND SCAQMD CALIBRATION ERROR/LINEARITY

CLIENT/LOCATION: Sunshine Gas CT 4

DATE: 2/8/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder #	Value	Exp. Date	Vendor ID	% of Range
ZERO	Low	CC241060	0.0			
O ₂	Mid	CC106542	10.13	5/19/30	F22022	50.7%
O ₂	High	CC258464	19.31	4/5/30	F22022	96.6%
CO ₂	Mid	CC106542	4.92	5/19/30	F22022	49.2%
CO ₂	High	CC258464	9.66	4/5/30	F22022	96.6%
CO	Mid	CC205667	4.680	6/2/30	F22022	46.8%
CO	High	CC181175	9.650	5/6/30	F22022	96.5%

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.01	-0.02	-0.02		--
Error (% of scale)	-0.1%	-0.2%	-0.2%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.28	9.63	9.66		--
Error (% of scale)	-0.1%	-0.3%	0.1%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.22	4.90	4.72		--
Error (% of scale)	0.4%	-0.2%	0.4%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.01	-0.02	-0.08		--
Error (% of scale)	0.0%	-0.2%	-0.8%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.28	9.62	9.58		--
Error (% of scale)	-0.1%	-0.4%	-0.7%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.13	4.89	4.65		--
Error (% of scale)	0.0%	-0.3%	-0.3%		PASS

SPAN GAS RECORD AND EPA CALIBRATION ERROR

CLIENT/LOCATION: Sunshine Gas CT 4

DATE: 2/8/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder Number	Value	Exp. Date	Vendor ID	% of Cal Span
ZERO	Low	CC241060	0			
O₂	Mid	CC106542	10.13	5/19/30	F22022	52.5%
O₂	High	CC258464	19.31	4/5/30	F22022	
CO₂	Mid	CC106542	4.92	5/19/30	F22022	50.9%
CO₂	High	CC258464	9.66	4/5/30	F22022	
CO	Mid	CC205667	4.68	6/2/30	F22022	48.5%
CO	High	CC181175	9.65	5/6/30	F22022	

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Calibration Span	19.31	9.66	4.68		
Zero Gas Value	0.0	0.0	0.0		
Analyzer Reads	-0.01	-0.02	-0.02		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	-0.1%	-0.2%	-0.5%		
Status⁽¹⁾	PASS	PASS	PASS		
High Gas Value	19.31	9.66	9.650		
Analyzer Reads	19.28	9.63	9.66		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	-0.1%	-0.3%	0.3%		
Status⁽¹⁾	PASS	PASS	PASS		
Mid Gas Value	10.13	4.92	4.68		
Analyzer Reads	10.22	4.90	4.72		
Difference (% or ppm)	0.1	0.0	0.0		
Error (% of Cal. Span)	0.5%	-0.2%	0.7%		
Status⁽¹⁾	PASS	PASS	PASS		

1) Calibration Error must be within +/- 2.0% of the Calibration Span; alternatively the results are acceptable if the difference is less than or equal to 0.5 ppm.

SPAN GAS RECORD AND SCAQMD CALIBRATION ERROR/LINEARITY

CLIENT/LOCATION: Sunshine Gas CT 4

DATE: 2/9/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder #	Value	Exp. Date	Vendor ID	% of Range
ZERO	Low	CC241060	0.0			
O ₂	Mid	CC106542	10.13	5/19/30	F22022	50.7%
O ₂	High	CC258464	19.31	4/5/30	F22022	96.6%
CO ₂	Mid	CC106542	4.92	5/19/30	F22022	49.2%
CO ₂	High	CC258464	9.66	4/5/30	F22022	96.6%
CO	Mid	CC205667	4.680	6/2/30	F22022	46.8%
CO	High	CC181175	9.650	5/6/30	F22022	96.5%

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	0.00	-0.07	-0.08		--
Error (% of scale)	0.0%	-0.7%	-0.8%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.31	9.69	9.62		--
Error (% of scale)	0.0%	0.3%	-0.3%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.13	4.93	4.63		--
Error (% of scale)	0.0%	0.1%	-0.5%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.04	-0.01	-0.04		--
Error (% of scale)	-0.2%	-0.1%	-0.4%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.30	9.63	9.64		--
Error (% of scale)	0.0%	-0.3%	-0.1%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.10	4.92	4.70		--
Error (% of scale)	-0.2%	0.0%	0.2%		PASS

SPAN GAS RECORD AND EPA CALIBRATION ERROR

CLIENT/LOCATION: Sunshine Gas CT 4

DATE: 2/9/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder Number	Value	Exp. Date	Vendor ID	% of Cal Span
ZERO	Low	CC241060	0			
O ₂	Mid	CC106542	10.13	5/19/30	F22022	52.5%
O ₂	High	CC258464	19.31	4/5/30	F22022	
CO ₂	Mid	CC106542	4.92	5/19/30	F22022	50.9%
CO ₂	High	CC258464	9.66	4/5/30	F22022	
CO	Mid	CC205667	4.68	6/2/30	F22022	48.5%
CO	High	CC181175	9.65	5/6/30	F22022	

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Calibration Span	19.31	9.66	4.68		
Zero Gas Value	0.0	0.0	0.0		
Analyzer Reads	0.00	-0.07	-0.08		
Difference (% or ppm)	0.0	-0.1	-0.1		
Error (% of Cal. Span)	0.0%	-0.7%	-1.8%		
Status ⁽¹⁾	PASS	PASS	PASS		
High Gas Value	19.31	9.66	9.650		
Analyzer Reads	19.31	9.69	9.62		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	0.0%	0.3%	-0.7%		
Status ⁽¹⁾	PASS	PASS	PASS		
Mid Gas Value	10.13	4.92	4.68		
Analyzer Reads	10.13	4.93	4.63		
Difference (% or ppm)	0.0	0.0	-0.1		
Error (% of Cal. Span)	0.0%	0.1%	-1.2%		
Status ⁽¹⁾	PASS	PASS	PASS		

1) Calibration Error must be within +/- 2.0% of the Calibration Span; alternatively the results are acceptable if the difference is less than or equal to 0.5 ppm.

SPAN GAS RECORD AND SCAQMD CALIBRATION ERROR/LINEARITY

CLIENT/LOCATION: Sunshine Gas CT 4

DATE: 2/10/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder #	Value	Exp. Date	Vendor ID	% of Range
ZERO	Low	CC241060	0.0			
O₂	Mid	CC106542	10.13	5/19/30	F22022	50.7%
O₂	High	CC258464	19.31	4/5/30	F22022	96.6%
CO₂	Mid	CC106542	4.92	5/19/30	F22022	49.2%
CO₂	High	CC258464	9.66	4/5/30	F22022	96.6%
CO	Mid	CC205667	4.680	6/2/30	F22022	46.8%
CO	High	CC181175	9.650	5/6/30	F22022	96.5%

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.03	-0.04	-0.07		--
Error (% of scale)	-0.2%	-0.4%	-0.7%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.29	9.63	9.67		--
Error (% of scale)	-0.1%	-0.3%	0.1%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.11	4.91	4.62		--
Error (% of scale)	-0.1%	-0.1%	-0.6%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.01	-0.07	0.00		--
Error (% of scale)	0.0%	-0.7%	0.0%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.32	9.66	9.64		--
Error (% of scale)	0.1%	0.0%	-0.1%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.15	5.00	4.68		--
Error (% of scale)	0.1%	0.8%	0.0%		PASS

SPAN GAS RECORD AND EPA CALIBRATION ERROR

CLIENT/LOCATION: Sunshine Gas CT 4

DATE: 2/10/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder Number	Value	Exp. Date	Vendor ID	% of Cal Span
ZERO	Low	CC241060	0			
O₂	Mid	CC106542	10.13	5/19/30	F22022	52.5%
O₂	High	CC258464	19.31	4/5/30	F22022	
CO₂	Mid	CC106542	4.92	5/19/30	F22022	50.9%
CO₂	High	CC258464	9.66	4/5/30	F22022	
CO	Mid	CC205667	4.68	6/2/30	F22022	48.5%
CO	High	CC181175	9.65	5/6/30	F22022	

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Calibration Span	19.31	9.66	4.68		
Zero Gas Value	0.0	0.0	0.0		
Analyzer Reads	-0.03	-0.04	-0.07		
Difference (% or ppm)	0.0	0.0	-0.1		
Error (% of Cal. Span)	-0.2%	-0.4%	-1.4%		
Status⁽¹⁾	PASS	PASS	PASS		
High Gas Value	19.31	9.66	9.650		
Analyzer Reads	19.29	9.63	9.67		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	-0.1%	-0.3%	0.3%		
Status⁽¹⁾	PASS	PASS	PASS		
Mid Gas Value	10.13	4.92	4.68		
Analyzer Reads	10.11	4.91	4.62		
Difference (% or ppm)	0.0	0.0	-0.1		
Error (% of Cal. Span)	-0.1%	-0.1%	-1.2%		
Status⁽¹⁾	PASS	PASS	PASS		

1) Calibration Error must be within +/- 2.0% of the Calibration Span; alternatively the results are acceptable if the difference is less than or equal to 0.5 ppm.

SPAN GAS RECORD AND SCAQMD CALIBRATION ERROR/LINEARITY

CLIENT/LOCATION: Sunshine Gas CT 5

DATE: 2/14/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder #	Value	Exp. Date	Vendor ID	% of Range
ZERO	Low	CC241060	0.0			
O ₂	Mid	CC106542	10.13	5/19/30	F22022	50.7%
O ₂	High	CC258464	19.31	4/5/30	F22022	96.6%
CO ₂	Mid	CC106542	4.92	5/19/30	F22022	49.2%
CO ₂	High	CC258464	9.66	4/5/30	F22022	96.6%
CO	Mid	CC205667	4.680	6/2/30	F22022	46.8%
CO	High	CC181175	9.650	5/6/30	F22022	96.5%

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.03	-0.03	0.04		--
Error (% of scale)	-0.1%	-0.3%	0.4%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.28	9.63	9.65		--
Error (% of scale)	-0.1%	-0.3%	0.0%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.08	4.90	4.63		--
Error (% of scale)	-0.3%	-0.2%	-0.5%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.04	-0.01	0.01		--
Error (% of scale)	-0.2%	-0.1%	0.1%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.27	9.66	9.65		--
Error (% of scale)	-0.2%	0.0%	0.0%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.11	4.90	4.61		--
Error (% of scale)	-0.1%	-0.2%	-0.7%		PASS

SPAN GAS RECORD AND EPA CALIBRATION ERROR

CLIENT/LOCATION: Sunshine Gas CT 5

DATE: 2/14/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder Number	Value	Exp. Date	Vendor ID	% of Cal Span
ZERO	Low	CC241060	0			
O ₂	Mid	CC106542	10.13	5/19/30	F22022	52.5%
O ₂	High	CC258464	19.31	4/5/30	F22022	
CO ₂	Mid	CC106542	4.92	5/19/30	F22022	50.9%
CO ₂	High	CC258464	9.66	4/5/30	F22022	
CO	Mid	CC205667	4.68	6/2/30	F22022	48.5%
CO	High	CC181175	9.65	5/6/30	F22022	

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Calibration Span	19.31	9.66	4.68		
Zero Gas Value	0.0	0.0	0.0		
Analyzer Reads	-0.03	-0.03	0.04		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	-0.1%	-0.3%	0.9%		
Status ⁽¹⁾	PASS	PASS	PASS		
High Gas Value	19.31	9.66	9.650		
Analyzer Reads	19.28	9.63	9.65		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	-0.2%	-0.3%	0.0%		
Status ⁽¹⁾	PASS	PASS	PASS		
Mid Gas Value	10.13	4.92	4.68		
Analyzer Reads	10.08	4.90	4.63		
Difference (% or ppm)	-0.1	0.0	-0.1		
Error (% of Cal. Span)	-0.3%	-0.2%	-1.1%		
Status ⁽¹⁾	PASS	PASS	PASS		

1) Calibration Error must be within +/- 2.0% of the Calibration Span; alternatively the results are acceptable if the difference is less than or equal to 0.5 ppm.

SPAN GAS RECORD AND SCAQMD CALIBRATION ERROR/LINEARITY

CLIENT/LOCATION: Sunshine Gas CT 5

DATE: 2/15/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder #	Value	Exp. Date	Vendor ID	% of Range
ZERO	Low	CC241060	0.0			
O₂	Mid	CC106542	10.13	5/19/30	F22022	50.7%
O₂	High	CC258464	19.31	4/5/30	F22022	96.6%
CO₂	Mid	CC106542	4.92	5/19/30	F22022	49.2%
CO₂	High	CC258464	9.66	4/5/30	F22022	96.6%
CO	Mid	CC205667	4.680	6/2/30	F22022	46.8%
CO	High	CC181175	9.650	5/6/30	F22022	96.5%

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.03	-0.04	-0.06		--
Error (% of scale)	-0.1%	-0.4%	-0.6%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.28	9.62	9.62		--
Error (% of scale)	-0.1%	-0.4%	-0.3%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.10	4.97	4.66		--
Error (% of scale)	-0.1%	0.5%	-0.2%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.03	0.07	-0.01		--
Error (% of scale)	-0.1%	0.7%	-0.1%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.28	9.65	9.66		--
Error (% of scale)	-0.1%	-0.1%	0.0%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.10	4.98	4.58		--
Error (% of scale)	-0.2%	0.6%	-1.0%		PASS

SPAN GAS RECORD AND EPA CALIBRATION ERROR

CLIENT/LOCATION: Sunshine Gas CT 5

DATE: 2/15/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder Number	Value	Exp. Date	Vendor ID	% of Cal Span
ZERO	Low	CC241060	0			
O₂	Mid	CC106542	10.13	5/19/30	F22022	52.5%
O₂	High	CC258464	19.31	4/5/30	F22022	
CO₂	Mid	CC106542	4.92	5/19/30	F22022	50.9%
CO₂	High	CC258464	9.66	4/5/30	F22022	
CO	Mid	CC205667	4.68	6/2/30	F22022	48.5%
CO	High	CC181175	9.65	5/6/30	F22022	

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Calibration Span	19.31	9.66	4.68		
Zero Gas Value	0.0	0.0	0.0		
Analyzer Reads	-0.03	-0.04	-0.06		
Difference (% or ppm)	0.0	0.0	-0.1		
Error (% of Cal. Span)	-0.1%	-0.4%	-1.3%		
Status⁽¹⁾	PASS	PASS	PASS		
High Gas Value	19.31	9.66	9.650		
Analyzer Reads	19.28	9.62	9.62		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	-0.1%	-0.5%	-0.6%		
Status⁽¹⁾	PASS	PASS	PASS		
Mid Gas Value	10.13	4.92	4.68		
Analyzer Reads	10.10	4.97	4.66		
Difference (% or ppm)	0.0	0.1	0.0		
Error (% of Cal. Span)	-0.1%	0.5%	-0.5%		
Status⁽¹⁾	PASS	PASS	PASS		

1) Calibration Error must be within +/- 2.0% of the Calibration Span; alternatively the results are acceptable if the difference is less than or equal to 0.5 ppm.

SPAN GAS RECORD AND SCAQMD CALIBRATION ERROR/LINEARITY

CLIENT/LOCATION: Sunshine Gas CT 5

DATE: 2/16/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder #	Value	Exp. Date	Vendor ID	% of Range
ZERO	Low	CC241060	0.0			
O₂	Mid	CC106542	10.13	5/19/30	F22022	50.7%
O₂	High	CC258464	19.31	4/5/30	F22022	96.6%
CO₂	Mid	CC106542	4.92	5/19/30	F22022	49.2%
CO₂	High	CC258464	9.66	4/5/30	F22022	96.6%
CO	Mid	CC205667	4.680	6/2/30	F22022	46.8%
CO	High	CC181175	9.650	5/6/30	F22022	96.5%

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.03	-0.04	-0.03		--
Error (% of scale)	-0.2%	-0.4%	-0.3%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.29	9.63	9.60		--
Error (% of scale)	-0.1%	-0.3%	-0.5%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.10	4.91	4.61		--
Error (% of scale)	-0.1%	-0.1%	-0.7%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.04	-0.04	0.07		--
Error (% of scale)	-0.2%	-0.4%	0.7%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.28	9.64	9.62		--
Error (% of scale)	-0.1%	-0.2%	-0.3%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.11	4.90	4.69		--
Error (% of scale)	-0.1%	-0.3%	0.1%		PASS

SPAN GAS RECORD AND EPA CALIBRATION ERROR

CLIENT/LOCATION: Sunshine Gas CT 5

DATE: 2/16/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder Number	Value	Exp. Date	Vendor ID	% of Cal Span
ZERO	Low	CC241060	0			
O₂	Mid	CC106542	10.13	5/19/30	F22022	52.5%
O₂	High	CC258464	19.31	4/5/30	F22022	
CO₂	Mid	CC106542	4.92	5/19/30	F22022	50.9%
CO₂	High	CC258464	9.66	4/5/30	F22022	
CO	Mid	CC205667	4.68	6/2/30	F22022	48.5%
CO	High	CC181175	9.65	5/6/30	F22022	

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Calibration Span	19.31	9.66	4.68		
Zero Gas Value	0.0	0.0	0.0		
Analyzer Reads	-0.03	-0.04	-0.03		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	-0.2%	-0.4%	-0.7%		
Status⁽¹⁾	PASS	PASS	PASS		
High Gas Value	19.31	9.66	9.650		
Analyzer Reads	19.29	9.63	9.60		
Difference (% or ppm)	0.0	0.0	-0.1		
Error (% of Cal. Span)	-0.1%	-0.3%	-1.1%		
Status⁽¹⁾	PASS	PASS	PASS		
Mid Gas Value	10.13	4.92	4.68		
Analyzer Reads	10.10	4.91	4.61		
Difference (% or ppm)	0.0	0.0	-0.1		
Error (% of Cal. Span)	-0.1%	-0.1%	-1.5%		
Status⁽¹⁾	PASS	PASS	PASS		

1) Calibration Error must be within +/- 2.0% of the Calibration Span; alternatively the results are acceptable if the difference is less than or equal to 0.5 ppm.

SPAN GAS RECORD AND SCAQMD CALIBRATION ERROR/LINEARITY

CLIENT/LOCATION: Sunshine Gas CT 5

DATE: 2/17/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder #	Value	Exp. Date	Vendor ID	% of Range
ZERO	Low	CC241060	0.0			
O₂	Mid	CC106542	10.13	5/19/30	F22022	50.7%
O₂	High	CC258464	19.31	4/5/30	F22022	96.6%
CO₂	Mid	CC106542	4.92	5/19/30	F22022	49.2%
CO₂	High	CC258464	9.66	4/5/30	F22022	96.6%
CO	Mid	CC205667	4.680	6/2/30	F22022	46.8%
CO	High	CC181175	9.650	5/6/30	F22022	96.5%

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.03	-0.02	-0.03		--
Error (% of scale)	-0.2%	-0.2%	-0.3%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.28	9.63	9.60		--
Error (% of scale)	-0.2%	-0.3%	-0.5%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.10	4.91	4.59		--
Error (% of scale)	-0.1%	-0.1%	-0.9%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				STATUS
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Zero Gas Value	0.0	0.0	0.0		--
Analyzer Reads	-0.03	-0.02	-0.03		--
Error (% of scale)	-0.2%	-0.2%	-0.3%		PASS
High Gas Value	19.31	9.66	9.65		--
Analyzer Reads	19.28	9.63	9.65		--
Error (% of scale)	-0.2%	-0.3%	0.0%		PASS
Mid Gas Value	10.13	4.92	4.68		--
Analyzer Reads	10.10	4.90	4.63		--
Error (% of scale)	-0.2%	-0.2%	-0.5%		PASS

SPAN GAS RECORD AND EPA CALIBRATION ERROR

CLIENT/LOCATION: Sunshine Gas CT 5

DATE: 2/17/23

TRUCK/CEM I.D.: Trailer 2

BY: PSJ

	Gas	Cylinder Number	Value	Exp. Date	Vendor ID	% of Cal Span
ZERO	Low	CC241060	0			
O ₂	Mid	CC106542	10.13	5/19/30	F22022	52.5%
O ₂	High	CC258464	19.31	4/5/30	F22022	
CO ₂	Mid	CC106542	4.92	5/19/30	F22022	50.9%
CO ₂	High	CC258464	9.66	4/5/30	F22022	
CO	Mid	CC205667	4.68	6/2/30	F22022	48.5%
CO	High	CC181175	9.65	5/6/30	F22022	

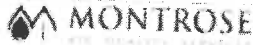
PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER				
	O ₂	CO ₂	CO		
Analyzer Range	20	10	10		
Calibration Span	19.31	9.66	4.68		
Zero Gas Value	0.0	0.0	0.0		
Analyzer Reads	-0.03	-0.02	-0.03		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	-0.2%	-0.2%	-0.7%		
Status ⁽¹⁾	PASS	PASS	PASS		
High Gas Value	19.31	9.66	9.650		
Analyzer Reads	19.28	9.63	9.60		
Difference (% or ppm)	0.0	0.0	0.0		
Error (% of Cal. Span)	-0.2%	-0.3%	-1.0%		
Status ⁽¹⁾	PASS	PASS	PASS		
Mid Gas Value	10.13	4.92	4.68		
Analyzer Reads	10.10	4.91	4.59		
Difference (% or ppm)	0.0	0.0	-0.1		
Error (% of Cal. Span)	-0.1%	-0.1%	-1.9%		
Status ⁽¹⁾	PASS	PASS	PASS		

1) Calibration Error must be within +/- 2.0% of the Calibration Span; alternatively the results are acceptable if the difference is less than or equal to 0.5 ppm.



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Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, CA 92705

Linde Order Number: 72116641
Customer PO Number: 80120587



Linde Gas & Equipment Inc.
5700 S. Alameda Street
Los Angeles, CA 90058
Tel: 323-585-2154
Fax: 714-542-6689

Certificate Issuance Date: 7/12/2022

Certification Date: 7/12/2022
Lot Number: N70086217204
Part Number: NI 5.5CE-AS
DocNumber: 559820

CERTIFICATE OF ANALYSIS

Nitrogen, 5.5 Continuous Emission Monitoring Zero

Analytes	Specification	Analytical Results	Analytical Reference	Analytical Uncertainty
N₂ Nitrogen	≥ 99.9995 %	≥ 99.9995 %	5	N/A
Carbon Dioxide	≤ 1 ppm	≤ 0.5 ppm	3	± 10%
Carbon Monoxide	≤ 0.5 ppm	≤ 0.5 ppm	3	± 15%
Total Hydrocarbons	≤ 0.1 ppm	≤ 0.1 ppm	6	± 15%
Oxides of Nitrogen	≤ 0.1 ppm	≤ 0.1 ppm	7	± 15%
Oxygen	≤ 0.5 ppm	≤ 0.5 ppm	2	± 15%
Sulfur Dioxide	≤ 0.1 ppm	≤ 0.1 ppm	1	± 15%
Water	≤ 2 ppm	≤ 1.0 ppm	4	± 10%

Cylinder Style: AS
Cylinder Pressure @ 70 F: 2000 psig
Cylinder Volume: 142 ft³
Valve Outlet Connection: CGA 580

Fill Date: 6/21/2022
Analysis Date: 7/5/2022

Filling Method: Pressure/Temperature

Cylinder Number(s): CC79327, CC243496, CC320298, CC39253, DT0025644, CC241060,
DT0036679, CC165749, SA3614, CC332474, CC323960CC113610,
DT0040987CC78171, CC198351, DT0028851, CC265793, DT0025628

Analyzed Cylinder Number(s): CC79327

Analyst: Analisa Real

Approved Signer: Ying Yu

Key to Analytical Techniques:

Reference	Analytical Instrument - Analytical Principle
1	Ametek 921CE S/N AW-921-S321 - UV Spectrometry
2	Delta F DF-550 Nanotrace - Electrolytic Cell/Electrochemical
3	Horiba Instruments Inc. GA-360E - NDIR
4	Meeco Aquavolt PLUS - Specific Water Analyzer
5	N/A - By Difference of Typical Impurities
6	Rosemount/Beckman 400A - FID Total Hydrocarbon Analyzer
7	Thermo Electron 42i-LS S/N 1030645077 - Chemiluminescence

This analysis of the product described herein was prepared by Linde Gas & Equipment Inc. using instruments whose calibration is certified using Linde Gas & Equipment Inc. Reference Materials which are traceable to the International System of Units (SI) through either weights traceable to the National Institute of Standards and Technology (NIST) or Measurement Canada, or through NIST Standard Reference Materials or equivalent where available.

Note: All expressions for concentration (e.g. % or ppm) are for gas phase, by mole unless otherwise noted. Analytical uncertainty is expressed as a Relative % unless otherwise noted.

IMPORTANT

The information contained herein has been prepared at your request by personnel within Linde Gas & Equipment Inc. While we believe the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall liability of Linde Gas & Equipment Inc. arising out of the use of the information contained herein exceed the fee established for providing such information.



DocNumber: 475059



Linde Gas & Equipment Inc.
5700 S. Alameda Street
Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22022

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

MONTRISI AIR QUALITY SERVICES
1831 L ST ANDREWS PLACE
SANTA ANA CA 92705

Certificate Issuance Date: 05/23/2022

Linde Order Number: 68405833

Part Number: EV NICDOXE78-AS

Customer PO Number: LUIS OLIVARES

Fill Date: 05/10/2022

Lot Number: 70086213002

Cylinder Style & Outlet: AS

CGA 590

Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

Expiration Date:	05/19/2030	NIST Traceable
Cylinder Number:	CC106542	Expanded Uncertainty
4.92 %	Carbon dioxide	± 0.02 %
10.13 %	Oxygen	± 0.05 %
Balance	Nitrogen	

ProSpec EZ Cert



Certification Information:

Certification Date: 05/19/2022

Term: 96 Months

Expiration Date: 05/19/2030

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure Q1. Uncertainty above is expressed as absolute expanded uncertainty at a level of confidence of approximately 95% with a coverage factor $k = 2$. Do Not Use this Standard if Pressure is less than 100 PSIG.

CO2 responses have been corrected for Oxygen IR Broadening effect. O2 responses have been corrected for CO2 interference.

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: Carbon dioxide

Requested Concentration: 5 %
Certified Concentration: 4.92 %
Instrument Used: Horiba VIA-S10 S/N 20C194WK
Analytical Method: NDIR
Last Multipoint Calibration: 04/21/2022

First Analysis Data:	Date	05/19/2022
Z: 0 R: 6.99 C: 4.92 Conc: 4.92		
R: 6.99 Z: 0 C: 4.92 Conc: 4.92		
Z: 0 C: 4.92 R: 6.99 Conc: 4.92		
UOM: %	Mean Test Assay:	4.92 %

Reference Standard: Type / Cylinder #: GMS / CC258638

Concentration / Uncertainty: 6.99 % ± 0.02 %

Expiration Date: 05/24/2027

Traceable to: SRM # / Sample # / Cylinder #: SRM 1674b / 7-H-07 / FF10631

SRM Concentration / Uncertainty: 6.944 % ± 0.013 %

SRM Expiration Date: 06/17/2019

Second Analysis Data:	Date	
Z: 0 R: 0 C: 0 Conc: 0		
R: 0 Z: 0 C: 0 Conc: 0		
Z: 0 C: 0 R: 0 Conc: 0		
UOM: %	Mean Test Assay:	%

2. Component: Oxygen

Requested Concentration: 10 %
Certified Concentration: 10.13 %
Instrument Used: Siemens Oxymat 6E S/N 7MB20211AA000CA1
Analytical Method: Paramagnetic
Last Multipoint Calibration: 05/09/2022

First Analysis Data:	Date	05/19/2022
Z: 0 R: 9.875 C: 10.14 Conc: 10.14		
R: 9.875 Z: 0 C: 10.12 Conc: 10.12		
Z: 0 C: 10.12 R: 9.869 Conc: 10.12		
UOM: %	Mean Test Assay:	10.13 %

Reference Standard: Type / Cylinder #: NTRM / DT0010262

Concentration / Uncertainty: 9.875 % ± 0.040 %

Expiration Date: 11/18/2022

Traceable to: SRM # / Sample # / Cylinder #: NTRM / 170701 / DT0010262

SRM Concentration / Uncertainty: 9.875 % ± 0.040 %

SRM Expiration Date: 11/18/2022

Second Analysis Data:	Date	
Z: 0 R: 0 C: 0 Conc: 0		
R: 0 Z: 0 C: 0 Conc: 0		
Z: 0 C: 0 R: 0 Conc: 0		
UOM: %	Mean Test Assay:	%

Analyzed By

Courtney Zielke

Certified By

Ying Yu

O₂% 10.13
CO₂% 4.92
CC106542
EXP 5-19-30
F22022

AS 6-3-22

Information contained herein has been prepared at your request by qualified experts within Linde Gas & Equipment Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Linde Gas & Equipment Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.



Linde Gas & Equipment Inc.
Los Angeles, CA 90058

DocNumber: 451723



Linde Gas & Equipment Inc.
5700 S. Alameda Street
Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22022

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Cu:



Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, CA 92705

Certificate Issuance Date: 04/05/2022

Linde Order Number: 59924698

Part Number: NI CD9.503E-AS

Customer PO Number: LUIS OLIVARES

Fill Date: 04/01/2022

Lot Number: 70086209103

Cylinder Style & Outlet: AS

CGA 590

Cylinder Pressure and Volume: 2000 psig 140 R3

Certified Concentration

Expiration Date:	04/05/2030	NIST Traceable
Cylinder Number:	CC258464	Expanded Uncertainty
9.66 %	Carbon dioxide	± 0.05 %
19.31 %	Oxygen	± 0.03 %
Balance	Nitrogen	

ProSpec EZ Cert



Certification Information:

Certification Date: 04/05/2022

Term: 96 Months

Expiration Date: 04/05/2030

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Uncertainty above is expressed as absolute expanded uncertainty at a level of confidence of approximately 95% with a coverage factor k = 2. Do Not Use this Standard if Pressure is less than 100 PSIG.

CO2 responses have been corrected for Oxygen IR Broadening effect. O2 responses have been corrected for CO2 interference.

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: Carbon dioxide

Requested Concentration: 9.5 %
Certified Concentration: 9.66 %
Instrument Used: Horiba VIA-510 S/N 20C194WK
Analytical Method: NDIR
Last Multipoint Calibration: 03/21/2022

First Analysis Data:		Date	
Z:	0	R:	14.26
R:	14.26	Z:	0
Z:	0	C:	9.66
C:	9.66	R:	14.27
Z:	0	C:	9.67
C:	9.67	R:	14.27
UOM:	%	Mean Test Assay:	9.66 %

Reference Standard: Type / Cylinder #: GMIS / CC176580

Concentration / Uncertainty: 14.26 % ± 0.03 %

Expiration Date: 01/21/2030

Traceable to: SRM # / Sample # / Cylinder #: NTRM / N/A / CC726055

SRM Concentration / Uncertainty: 19.34 % ± 0.03 %

SRM Expiration Date: 01/12/2027

Second Analysis Data:		Date	
Z:	0	R:	0
R:	0	Z:	0
Z:	0	C:	0
C:	0	R:	0
Z:	0	C:	0
C:	0	R:	0
UOM:	%	Mean Test Assay:	%

2. Component: Oxygen

Requested Concentration: 19 %
Certified Concentration: 19.31 %
Instrument Used: Siemens Oxymat 6E S/N 7M320211AA000CA1
Analytical Method: Paramagnetic
Last Multipoint Calibration: 03/11/2022

First Analysis Data:		Date	
Z:	0	R:	20.9
R:	20.9	Z:	0
Z:	0	C:	19.31
C:	19.31	R:	20.91
Z:	0	C:	19.32
C:	19.32	R:	20.91
UOM:	%	Mean Test Assay:	19.31 %

Reference Standard: Type / Cylinder #: GMIS / ND29287

Concentration / Uncertainty: 20.90 % ± 0.02 %

Expiration Date: 09/01/2028

Traceable to: SRM # / Sample # / Cylinder #: SRM 2659A / 71-E-19 / FF22331

SRM Concentration / Uncertainty: 20.863 % ± 0.021 %

SRM Expiration Date: 08/23/2021

Second Analysis Data:		Date	
Z:	0	R:	0
R:	0	Z:	0
Z:	0	C:	0
C:	0	R:	0
Z:	0	C:	0
C:	0	R:	0
UOM:	%	Mean Test Assay:	%

Analyzed By

Jose Vasquez

Certified By

Amalia Real

O₂ 19.31
CO₂ 9.66
CC258464
Exp 4-5-30
F22022

AS4-22-22

Information contained herein has been prepared at your request by qualified experts within Linde Gas & Equipment Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty, representation or liability for the accuracy or completeness of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Linde Gas & Equipment Inc. arising out of the use of the information contained herein exceed the fee established for providing such information.



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DocNumber: 476135



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5700 S. Alameda Street
Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22022

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

MONTROSE AIR QUALITY SERVICES
1631 E ST ANDREWS PLACE
SANTA ANA CA92705

Certificate Issuance Date: 06/03/2022

Linde Order Number: 69438296

Part Number: NI CO4.7ME-AS

Customer PO Number: LUIS OLIVARES

Fill Date: 05/09/2022

Lot Number: 70086212908

Cylinder Style & Outlet: AS

CGA 350

Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

Expiration Date:	06/02/2030	NIST Traceable
Cylinder Number:	CC205667	Expanded Uncertainty
4.68 ppm	Carbon monoxide	± 0.08 ppm
Balance	Nitrogen	

ProSpec EZ Cert



Certification Information:

Certification Date: 06/02/2022

Term: 96 Months

Expiration Date: 06/02/2030

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Uncertainty above is expressed as absolute expanded uncertainty at a level of confidence of approximately 95% with a coverage factor $k = 2$. Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data:

(R=Reference Standard, Z=Zerc Gas, C=Gas Candidate)

1. Component:

Carbon monoxide

Requested Concentration: 4.7 ppm
Certified Concentration: 4.68 ppm
Instrument Used: Horiba VIA-510 S/N 43627990042
Analytical Method: NDIR
Last Multipoint Calibration: 05/27/2022

Reference Standard:

Type / Cylinder #: GMIS / CC707397

Concentration / Uncertainty: 9.897 ppm ±0.048 ppm

Expiration Date: 09/05/2026

Traceable to: SRM # / Sample # / Cylinder #: SRM 1677c / 5-J-42 / CAL015337

SRM Concentration / Uncertainty: 9.825 PPM / ±0.047 PPM

SRM Expiration Date: 06/24/2024

First Analysis Data:				Date	06/02/2022
Z:	1.1	R:	99.8	C:	47.8
				Conc:	4.62
R:	99.1	Z:	2.4	C:	48.4
				Conc:	4.71
Z:	1.5	C:	48.5	R:	101
				Conc:	4.72
UOM:	mV	Mean Test Assay:			
		4.68 ppm			

Second Analysis Data:				Date	
Z:	0	R:	0	C:	0
				Conc:	0
R:	0	Z:	0	C:	0
				Conc:	0
Z:	0	C:	0	R:	0
				Conc:	0
UOM:	mV	Mean Test Assay:			
		ppm			

Analyzed By

Courtney Zielke

Certified By

Nelson Ma

CO 4.68
CC205667
EXP 6-2-30
F22022

AS 6-15-22

Information contained herein has been prepared at your request by qualified experts within Linde Gas & Equipment Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Linde Gas & Equipment Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.



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5700 S. Alameda Street
Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22022

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

MONTROSE AIR QUALITY SERVICES
1631 E ST ANDREWS PLACE
SANTA ANA CA 92706

Certificate Issuance Date: 05/06/2022

Linde Order Number: 71995830

Part Number: NI CO9.5ME-AS

Customer PO Number: 79988098

Fill Date: 04/15/2022

Lot Number: 70086210505

Cylinder Style & Outlet: AS

CGA 350

Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

Expiration Date:	05/06/2030	NIST Traceable
Cylinder Number:	CC181175	Expanded Uncertainty
9.65 ppm	Carbon monoxide	± 0.07 ppm
Balance	Nitrogen	

ProSpec EZ Cert



Certification Information:

Certification Date: 05/06/2022

Term: 96 Months

Expiration Date: 05/06/2030

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Uncertainty above is expressed as absolute expanded uncertainty at a level of confidence of approximately 95% with a coverage factor k = 2. Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: Carbon monoxide

Requested Concentration: 9.5 ppm
Certified Concentration: 9.65 ppm
Instrument Used: Horiba VIA-510 S/N 43627990042
Analytical Method: NDIR
Last Multipoint Calibration: 04/26/2022

Reference Standard:

Type / Cylinder #: GMIS / CC707397

Concentration / Uncertainty: 9.897 ppm ±0.048 ppm

Expiration Date: 09/05/2026

Traceable to: SRM # / Sample # / Cylinder #: SRM 1677c / 5-J-42 / CAL015337

SRM Concentration / Uncertainty: 9.825 PPM / ±0.047 PPM

SRM Expiration Date: 06/24/2024

First Analysis Data:		Date	
Z: 8	R: 104.1	C: 101	Conc: 9.63
R: 103.2	Z: 6.2	C: 101.2	Conc: 9.65
Z: 5.9	C: 101.4	R: 103.5	Conc: 9.67
UOM: ppm		Mean Test Assay: 9.65 ppm	

Second Analysis Data:		Date	
Z: 0	R: 0	C: 0	Conc: 0
R: 0	Z: 0	C: 0	Conc: 0
Z: 0	C: 0	R: 0	Conc: 0
UOM: ppm		Mean Test Assay: ppm	

Analyzed By

Courtney Zialla

Certified By

Jose Vasquez

CO 9.65
CC 181175
EXP 5-6-30
F22022

Information contained herein has been prepared at your request by qualified experts within Linde Gas & Equipment Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Linde Gas & Equipment Inc. arising out of the use of the information contained herein exceed the fee established for providing such information.

SEMI-ANNUAL DRY GAS METER/ORIFICE CALIBRATION

Orifice Method - Triplicate Runs/Four Calibration Points
English Meter Box Units, English K' Factor
Filename: M:\Santa Ana\Equipment\Test Equipment\Calibrations\Dry Gas Meters\42-WCS Semi Annual Cal 9-23-2022.xls\WCS
File Modified From: APEX 522 Series Meter box Calibration
Revised: 4/8/2005

Model #: 522-D Source Sampler
ID #: 42-WCS
Date: 9/23/2022
Bar. Pressure: 29.84 (in. Hg)
Performed By: L Olivares
Reviewed By: M Chowsaniphon

CRITICAL ORIFICE READINGS									
DRY GAS METER READINGS					ORIFICE				
dH (in H ₂ O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Initial Temp. Inlet (deg F)	Final Temp. Outlet (deg F)	Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)
0.14	26.00	50.000	55.585	5.585	74.0	74.0	14742-33	0.1635	19.0
0.14	26.00	55.585	61.160	5.575	74.0	74.0	14742-33	0.1635	19.0
0.14	26.00	61.160	66.740	5.580	74.0	75.0	14742-33	0.1635	19.0
0.63	12.00	33.000	38.520	5.520	74.0	74.0	PK-48	0.3491	18.0
0.63	12.00	38.520	44.050	5.530	74.0	75.0	PK-48	0.3491	18.0
0.63	12.00	44.050	49.580	5.530	75.0	76.0	PK-48	0.3491	18.0
1.90	7.00	16.000	21.325	5.325	73.0	74.0	PK-63	0.5729	17.0
1.90	7.00	21.325	26.655	5.330	74.0	75.0	PK-63	0.5729	17.0
1.90	7.00	26.655	31.985	5.330	75.0	76.0	PK-63	0.5729	17.0
3.40	5.00	10.000	5.245	5.245	71.0	72.0	PK-73	0.7978	16.0
3.40	5.00	5.245	10.485	5.240	72.0	75.0	PK-73	0.7978	16.0
3.40	5.00	10.485	15.720	5.235	75.0	75.0	PK-73	0.7978	16.0
1.90	7.00	16.000	21.325	5.325	73.0	74.0	PK-63	0.5729	17.0
1.90	7.00	21.325	26.655	5.330	74.0	75.0	PK-63	0.5729	17.0
1.90	7.00	26.655	31.985	5.330	75.0	76.0	PK-63	0.5729	17.0
3.40	5.00	10.000	5.245	5.245	71.0	72.0	PK-73	0.7978	16.0
3.40	5.00	5.245	10.485	5.240	72.0	75.0	PK-73	0.7978	16.0
3.40	5.00	10.485	15.720	5.235	75.0	75.0	PK-73	0.7978	16.0
1.90	7.00	16.000	21.325	5.325	73.0	74.0	PK-63	0.5729	17.0
1.90	7.00	21.325	26.655	5.330	74.0	75.0	PK-63	0.5729	17.0
1.90	7.00	26.655	31.985	5.330	75.0	76.0	PK-63	0.5729	17.0
3.40	5.00	10.000	5.245	5.245	71.0	72.0	PK-73	0.7978	16.0
3.40	5.00	5.245	10.485	5.240	72.0	75.0	PK-73	0.7978	16.0
3.40	5.00	10.485	15.720	5.235	75.0	75.0	PK-73	0.7978	16.0

DRY GAS METER				ORIFICE		DRY GAS METER		ORIFICE		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION FACTOR		CALIBRATION 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SIGNED: Signature on File

Date: 9/23/2022

Note: Control box not equipped with meter inlet temperature reading.

Orifice Method - Triplicate Runs/Four Calibration Points
English Meter Box Units, English K Factor
Filename:
File Modified From: APEX 522 Series Meter box Calibration
Revised: 4/8/2005

Model #: C-5000 (SN 2578)
ID #: 45-WCS
Date: 12/6/2022
Bar. Pressure: 29.90 (in. Hg)
Performed By: L.Olivares
Reviewed By: M.Chowsaniphon

DRY GAS METER READINGS										CRITICAL ORIFICE READINGS				
dH (in H ₂ O)	Time Final (min)	Volume		Volume Total (cu ft)	Initial Temps.		Final Temps.		Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Ambient Temperature		
		Initial (cu ft)	Final (cu ft)		Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Final (deg F)				Average (deg F)		
0.14	26.00	396.200	401.655	5.455	69.0	69.0	69.0	14742-33	0.1635	17.0	63.0	66.0	64.5	
0.14	26.00	401.655	407.110	5.455	69.0	69.0	70.0	14742-33	0.1635	17.0	66.0	67.0	66.5	
0.14	26.00	407.110	412.565	5.455	70.0	70.0	71.0	14742-33	0.1635	17.0	67.0	67.0	67.0	
0.65	12.00	376.400	381.780	5.380	67.0	67.0	68.0	PK-48	0.3491	17.0	64.0	63.0	63.5	
0.65	12.00	381.780	387.155	5.375	68.0	68.0	68.0	PK-48	0.3491	17.0	63.0	66.0	64.5	
0.65	12.00	387.155	392.540	5.385	68.0	68.0	68.0	PK-48	0.3491	17.0	66.0	64.0	65.0	
1.80	7.00	360.100	365.250	5.150	67.0	67.0	67.0	PK-63	0.5729	16.0	65.0	64.0	64.5	
1.80	7.00	365.250	370.400	5.150	67.0	67.0	67.0	PK-63	0.5729	16.0	64.0	65.0	64.5	
1.80	7.00	370.400	375.550	5.150	67.0	67.0	67.0	PK-63	0.5729	16.0	65.0	65.0	65.0	
3.60	5.00	343.300	348.410	5.110	67.0	67.0	67.0	PK-73	0.7978	15.0	65.0	63.0	64.0	
3.60	5.00	348.410	353.525	5.115	67.0	67.0	67.0	PK-73	0.7978	15.0	63.0	63.0	63.0	
3.60	5.00	353.525	358.625	5.100	67.0	67.0	67.0	PK-73	0.7978	15.0	63.0	64.0	63.5	

DRY GAS METER									
ORIFICE					DRY GAS METER				
VOLUME CORRECTED Vm(std) (cu ft)	VOLUME CORRECTED Vm(std) (liters)	VOLUME CORRECTED Vr(std) (cu ft)	VOLUME CORRECTED Vr(std) (liters)	VOLUME NOMINAL Vcr (cu ft)	CALIBRATION FACTOR		ORIFICE		
					Y Value (number)	dH@ Value (in H ₂ O)	Individual Run	Individual Orifice	Orifice Average
5.388	152.6	5.474	155.0	5.434	1.016	1.757	Pass	Ymax - Ymin < 0.0107?	0.98 < Y/Yd < 1.02?
5.378	152.3	5.469	154.9	5.439	1.017	1.759	Pass		
5.388	152.6	5.467	154.8	5.441	1.015	1.761	Pass		
					Average	1.759	Pass	Pass	Pass
5.177	146.6	5.236	148.3	5.207	1.011	1.812	Pass		
5.177	146.6	5.236	148.3	5.207	1.011	1.812	Pass		
5.177	146.6	5.233	146.2	5.209	1.011	1.814	Pass		
					Average	1.813	Pass	Pass	Pass
5.160	146.1	5.210	147.6	5.176	1.010	1.867	Pass		
5.165	146.3	5.215	147.7	5.171	1.010	1.863	Pass		
5.149	145.8	5.213	147.6	5.174	1.012	1.865	Pass		
					Average	1.865	Pass	Pass	Pass
					Average Yd:	1.014	dH@:	1.791	
							Q @ dH = 1:	0.560	

SIGNED: Signature on File

Date:

12/6/2022

Note: Control box not equipped with meter inlet temperature reading.

Alternative Method 5 Post-Test Calibration (ALT-009)

Client name	DTE Sunshine							
Source Name	CT4							
Date	2/7/2023	2/8/2023	2/8/2023	2/9/2023	2/9/2023	2/10/2023	2/10/2023	
Y (dry gas meter calibration value), dimensionless	0.992	0.992	0.992	0.992	0.992	0.992	0.992	0.992
Y _{qa} (dry gas meter calibration check value), dimensionless	0.988	0.986	1.002	0.981	0.998	1.008	1.028	0.999
Reference temperature, °F	68.0	68.0	68.0	68.0	68.0	68.0	68.0	68.0
• (total run time), min	240.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00
V _m (meter box volume), acf	199.991	198.273	196.276	201.295	199.297	194.565	192.868	197.51
T _m (average dry gas meter temperature), °F	84.5	76.6	91.5	84.8	91.5	74.4	86.3	84.2
P _b (barometric pressure), in. Hg	28.36	28.34	28.34	28.32	28.32	28.26	28.26	28.31
0.0319 = (29.92/(460+Tref))*(0.75*0.75), in. Hg/°R * cfm2	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319
• ΔH _{avg} (average orifice meter differential), in. H ₂ O	2.013	2.000	1.967	2.004	2.008	2.013	2.013	2.002
• H@ (orifice meter calibration coefficient), in. H ₂ O	1.786	1.786	1.786	1.786	1.786	1.786	1.786	1.786
M _d (dry molecular weight of stack gas), lb/lb-mole	29.35	29.36	29.36	29.34	29.33	29.36	29.37	29.35
29 (dry molecular weight of air), lb/lb-mole	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00
13.6 (specific gravity of mercury)	13.60	13.60	13.60	13.60	13.60	13.60	13.60	13.60
							<u>Criteria</u>	<u>Result</u>
Calibration check, % difference:							< 5	0.7

Alternative Method 29 Post-Test Calibration (ALT-009)

Client name								DTE Sunshine
Source Name								CT4
Date	2/7/2023	2/8/2023	2/8/2023	2/9/2023	2/9/2023	2/10/2023	2/10/2023	
Y (dry gas meter calibration value), dimensionless	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.014
Y _{qa} (dry gas meter calibration check value), dimensionless	1.028	1.026	1.015	1.010	1.029	1.062	1.060	1.033
Reference temperature, °F	68.0	68.0	68.0	68.0	68.0	68.0	68.0	68.0
• (total run time), min	240.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00
V _m (meter box volume), acf	189.103	189.463	193.355	193.079	191.724	183.187	184.559	189.21
T _m (average dry gas meter temperature), °F	80.4	76.9	90.8	82.4	90.0	77.3	86.6	83.5
P _b (barometric pressure), in. Hg	28.36	28.34	28.34	28.32	28.32	28.26	28.26	28.31
0.0319 = (29.92/(460+T _{ref}))*(0.75*0.75), in. Hg/°R * cfm2	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319
• ΔH _{avg} (average orifice meter differential), in. H ₂ O	1.967	1.979	1.967	1.971	1.988	1.975	1.967	1.973
• H@ (orifice meter calibration coefficient), in. H ₂ O	1.791	1.791	1.791	1.791	1.791	1.791	1.791	1.791
M _a (dry molecular weight of stack gas), lb/lb-mole	29.35	29.36	29.36	29.34	29.33	29.36	29.37	29.35
29 (dry molecular weight of air), lb/lb-mole	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00
13.6 (specific gravity of mercury)	13.60	13.60	13.60	13.60	13.60	13.60	13.60	13.60
							<u>Criteria</u>	<u>Result</u>
Calibration check, % difference:							< 5	1.9

Alternative Method 5 Post-Test Calibration (ALT-009)

Client name	DTE Sunshine						
Source Name	CT5						
Date	2/14/2023	2/14/2023	2/15/2023	2/15/2023	2/16/2023	2/16/2023	2/17/2023
Y (dry gas meter calibration value), dimensionless	0.992	0.992	0.992	0.992	0.992	0.992	0.992
Y _{qa} (dry gas meter calibration check value), dimensionless	1.029	1.016	1.004	1.013	1.011	1.016	1.014
Reference temperature, °F	68.0	68.0	68.0	68.0	68.0	68.0	68.0
• (total run time), min	240.00	240.00	240.00	240.00	240.00	240.00	240.00
V _m (meter box volume), acf	189.534	192.261	190.825	191.308	189.553	190.937	191.228
T _m (average dry gas meter temperature), °F	68.6	76.1	57.9	72.7	61.7	76.0	68.3
P _b (barometric pressure), in. Hg	27.98	27.98	28.15	28.15	28.33	28.33	28.14
0.0319 = (29.92/(460+Tref))*(0.75*0.75), in. Hg/°R * cfm2	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319
• ΔH _{avg} (average orifice meter differential), in. H ₂ O	1.992	1.971	1.971	1.963	1.971	1.967	1.954
• H _@ (orifice meter calibration coefficient), in. H ₂ O	1.786	1.786	1.786	1.786	1.786	1.786	1.786
M _a (dry molecular weight of stack gas), lb/lb-mole	29.33	29.32	29.32	29.31	29.32	29.31	29.33
29 (dry molecular weight of air), lb/lb-mole	29.00	29.00	29.00	29.00	29.00	29.00	29.00
13.6 (specific gravity of mercury)	13.60	13.60	13.60	13.60	13.60	13.60	13.60
						<u>Criteria</u>	<u>Result</u>
Calibration check, % difference:						< 5	2.2

Alternative Method 29 Post-Test Calibration (ALT-009)

Client name	DTE Sunshine							
Source Name	CT5							
Date	2/14/2023	2/14/2023	2/15/2023	2/15/2023	2/16/2023	2/16/2023	2/17/2023	
Y (dry gas meter calibration value), dimensionless	1.014	1.014	1.014	1.014	1.014	1.014	1.014	1.014
Y _{qa} (dry gas meter calibration check value), dimensionless	1.059	1.081	1.057	1.064	1.045	1.069	1.059	1.062
Reference temperature, °F	68.0	68.0	68.0	68.0	68.0	68.0	68.0	68.0
• (total run time), min	240.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00
V _m (meter box volume), acf	182.643	181.832	183.055	183.156	183.107	182.271	183.135	182.74
T _m (average dry gas meter temperature), °F	63.2	73.4	58.8	70.5	60.8	76.8	70.7	67.7
P _b (barometric pressure), in. Hg	27.98	27.98	28.15	28.15	28.33	28.33	28.14	28.15
0.0319 = (29.92/(460+T _{ref}))*(0.75*0.75), in. Hg/°R * cfm2	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319	0.0319
• ΔH _{avg} (average orifice meter differential), in. H ₂ O	1.983	2.008	2.013	1.996	1.975	1.988	1.979	1.992
• H@ (orifice meter calibration coefficient), in. H ₂ O	1.791	1.791	1.791	1.791	1.791	1.791	1.791	1.791
M _d (dry molecular weight of stack gas), lb/lb-mole	29.33	29.32	29.32	29.31	29.32	29.31	29.33	29.32
29 (dry molecular weight of air), lb/lb-mole	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00
13.6 (specific gravity of mercury)	13.60	13.60	13.60	13.60	13.60	13.60	13.60	13.60
							<u>Criteria</u>	<u>Result</u>
Calibration check, % difference:							< 5	4.7



DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: 42-WCS
 Readout Description: Control Box
 Date: 1/3/2023
 Performed By: LO, RMo, DA

Calibrated Thermocouple ID: TC-CAL
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D. TC-CAL	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	42-WCS	363	363	364	363	361	361	361	361	2.3	0.3%	Pass
T2 (Boiling H ₂ O)	42-WCS	213	213	212	213	212	212	212	212	0.7	0.1%	Pass
T1 (Ice/Water)	42-WCS	35	34	34	34	32	32	32	32	2.3	0.5%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)

Thermocouple Source Readings

T/C Source S/N		T/C - Readout °F				T/C Source °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T4 (~650 F)	129103	651	651	651	651	650	650	650	650	1.0	0.1%	Pass
T3 (~370 F)	129103	363	363	363	363	370	370	370	370	7.0	0.8%	Pass
T2 (~212 F)	129103	213	213	213	213	212	212	212	212	1.0	0.1%	Pass
T1 (~32 F)	129103	34	34	34	34	32	32	32	32	2.0	0.4%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)



DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: 45-WCS
 Readout Description: Control box
 Date: 1/3/2023
 Performed By: LO, RMo, DA

Calibrated Thermocouple ID: TC-CAL
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D. TC-CAL	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	45-WCS	362	362	362	362	361	361	361	361	1.0	0.1%	Pass
T2 (Boiling H ₂ O)	45-WCS	217	217	217	217	212	212	212	212	5.0	0.7%	Pass
T1 (Ice/Water)	45-WCS	38	38	38	38	32	32	32	32	6.0	1.2%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)

Thermocouple Source Readings

T/C Source S/N	T/C - Readout °F				T/C Source °F				Difference		
	Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T4 (~650 F)	129103	655	655	655	655	650	650	650	5.0	0.5%	Pass
T3 (~370 F)	129103	373	373	373	373	370	370	370	3.0	0.4%	Pass
T2 (~212 F)	129103	215	215	215	215	212	212	212	3.0	0.4%	Pass
T1 (~32 F)	129103	34	34	34	34	32	32	32	2.0	0.4%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)



THERMOCOUPLE CALIBRATION

Thermocouple ID: 6
 Date: 1/4/2023
 Performed By: LO, RMo, DA

Calibrated Digital Temperature Readout ID: PTC-80
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D. 6	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	PTC-80	360	363	366	363	365	365	365	365	2.0	0.2%	Pass
T2 (Boiling H ₂ O)	PTC-80	207	210	211	209	212	212	212	212	2.7	0.4%	Pass
T1 (Ice/Water)	PTC-80	37	37	37	37	32	32	32	32	5.0	1.0%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)



THERMOCOUPLE CALIBRATION

Thermocouple ID: 7
 Date: 1/4/2023
 Performed By: LO, RMo, DA

Calibrated Digital Temperature Readout ID: PTC-80
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D. 7	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	PTC-80	362	361	361	361	365	365	365	365	3.7	0.4%	Pass
T2 (Boiling H ₂ O)	PTC-80	214	214	214	214	212	212	212	212	2.0	0.3%	Pass
T1 (Ice/Water)	PTC-80	34	34	34	34	32	32	32	32	2.0	0.4%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)



THERMOCOUPLE CALIBRATION

Thermocouple ID: 170
 Date: 1/5/2023
 Performed By: LO, RMo, DA

Calibrated Digital Temperature Readout ID: PTC-80
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D.	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
170												
T3 (OIL)	PTC-80	366	366	366	366	365	365	365	365	1.0	0.1%	Pass
T2 (Boiling H ₂ O)	PTC-80	212	212	211	212	212	212	212	212	0.3	0.0%	Pass
T1 (Ice/Water)	PTC-80	36	35	35	35	32	32	32	32	3.3	0.7%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)



THERMOCOUPLE CALIBRATION

Thermocouple ID: 172
 Date: 1/5/2023
 Performed By: LO, RMo, DA

Calibrated Digital Temperature Readout ID: PTC-80
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D.	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
172												
T3 (OIL)	PTC-80	364	365	366	365	365	365	365	365	0.0	0.0%	Pass
T2 (Boiling H ₂ O)	PTC-80	210	211	211	211	212	212	212	212	1.3	0.2%	Pass
T1 (Ice/Water)	PTC-80	35	35	34	35	32	32	32	32	2.7	0.5%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)



THERMOCOUPLE CALIBRATION

Thermocouple ID: 75
 Date: 1/4/2023
 Performed By: LO, RMo, DA

Calibrated Digital Temperature Readout ID: PTC-80
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D.	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	PTC-80	366	368	368	367	365	365	365	365	2.3	0.3%	Pass
T2 (Boiling H ₂ O)	PTC-80	216	216	216	216	212	212	212	212	4.0	0.6%	Pass
T1 (Ice/Water)	PTC-80	35	33	32	33	32	32	32	32	1.3	0.3%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)



THERMOCOUPLE CALIBRATION

Thermocouple ID: 6
 Date: 3/23/2023
 Performed By: LO

Calibrated Digital Temperature Readout ID: PTC-80
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D.	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	PTC-80	356	356	356	356	360	360	360	360	4.0	0.5%	Pass
T2 (Boiling H ₂ O)	PTC-80	210	210	209	210	212	212	212	212	2.3	0.3%	Pass
T1 (Ice/Water)	PTC-80	31	31	31	31	32	32	32	32	1.0	0.2%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)

2) Pass if all Differences are less than 1.5% (°R)



THERMOCOUPLE CALIBRATION

Thermocouple ID: 7
 Date: 3/23/2023
 Performed By: LO

Calibrated Digital Temperature Readout ID: PTC-80
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D.	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	PTC-80	357	357	357	357	360	360	360	360	3.0	0.4%	Pass
T2 (Boiling H ₂ O)	PTC-80	211	211	210	211	212	212	212	212	1.3	0.2%	Pass
T1 (Ice/Water)	PTC-80	31	31	31	31	32	32	32	32	1.0	0.2%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)

2) Pass if all Differences are less than 1.5% (°R)



THERMOCOUPLE CALIBRATION

Thermocouple ID: 75
 Date: 3/23/2023
 Performed By: LO

Calibrated Digital Temperature Readout ID: PTC-80
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D.	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
75												
T3 (OIL)	PTC-80	357	357	358	357	360	360	360	360	2.7	0.3%	Pass
T2 (Boiling H ₂ O)	PTC-80	209	209	210	209	212	212	212	212	2.7	0.4%	Pass
T1 (Ice/Water)	PTC-80	32	32	32	32	32	32	32	32	0.0	0.0%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)

2) Pass if all Differences are less than 1.5% (°R)



THERMOCOUPLE CALIBRATION

Thermocouple ID: 170
 Date: 3/23/2023
 Performed By: LO

Calibrated Digital Temperature Readout ID: PTC-80
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D. 170	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	PTC-80	362	362	362	362	360	360	360	360	2.0	0.2%	Pass
T2 (Boiling H ₂ O)	PTC-80	213	213	213	213	212	212	212	212	1.0	0.1%	Pass
T1 (Ice/Water)	PTC-80	33	33	32	33	32	32	32	32	0.7	0.1%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)

2) Pass if all Differences are less than 1.5% (°R)



THERMOCOUPLE CALIBRATION

Thermocouple ID: 172
 Date: 3/23/2023
 Performed By: LO

Calibrated Digital Temperature Readout ID: PTC-80
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D.	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
172												
T3 (OIL)	PTC-80	364	364	364	364	360	360	360	360	4.0	0.5%	Pass
T2 (Boiling H ₂ O)	PTC-80	214	214	214	214	212	212	212	212	2.0	0.3%	Pass
T1 (Ice/Water)	PTC-80	34	33	33	33	32	32	32	32	1.3	0.3%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)

2) Pass if all Differences are less than 1.5% (°R)



DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: 42-WCS
 Readout Description: Control Box
 Date: 3/23/2023
 Performed By: LO

Calibrated Thermocouple ID: 7
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D.	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	42-WCS	358	358	358	358	360	360	360	360	2.0	0.2%	Pass
T2 (Boiling H ₂ O)	42-WCS	210	211	211	211	212	212	212	212	1.3	0.2%	Pass
T1 (Ice/Water)	42-WCS	32	32	32	32	32	32	32	32	0.0	0.0%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)

2) Pass if all Differences are less than 1.5% (°R)

Thermocouple Source Readings

T/C Source S/N	T/C - Readout °F				T/C Source °F				Difference		
	Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T4 (~650 F)	129103	649	649	649	650	650	650	650	1.0	0.1%	Pass
T3 (~370 F)	129103	368	369	369	370	370	370	370	1.3	0.2%	Pass
T2 (~212 F)	129103	212	212	212	212	212	212	212	0.0	0.0%	Pass
T1 (~32 F)	129103	32	32	32	32	32	32	32	0.0	0.0%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)

2) Pass if all Differences are less than 1.5% (°R)



DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: 45-WCS
 Readout Description: Control Box
 Date: 3/23/2023
 Performed By: LO

Calibrated Thermocouple ID: 7
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 242196
 T3 Reference Thermometer ID: 805002770

T/C I.D.	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	45-WCS	360	360	360	360	360	360	360	360	0.0	0.0%	Pass
T2 (Boiling H ₂ O)	45-WCS	211	211	211	211	212	212	212	212	1.0	0.1%	Pass
T1 (Ice/Water)	45-WCS	32	32	31	32	32	32	32	32	0.3	0.1%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)

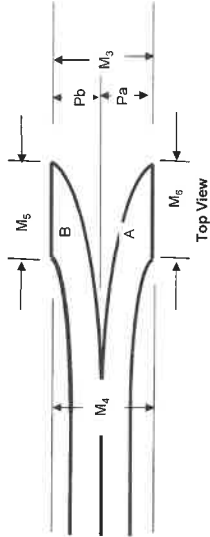
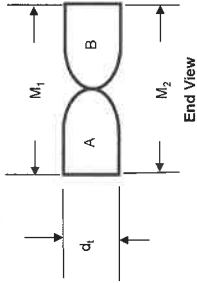
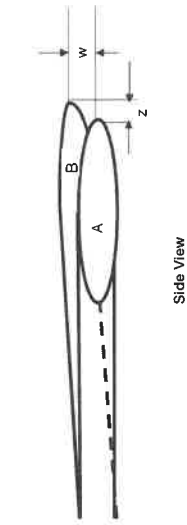
Thermocouple Source Readings

T/C Source S/N	T/C - Readout °F				T/C Source °F				Difference		
	Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T4 (~650 F)	129103	648	648	648	650	650	650	650	2.0	0.2%	Pass
T3 (~370 F)	129103	367	367	367	370	370	370	370	3.0	0.4%	Pass
T2 (~212 F)	129103	210	210	210	212	212	212	212	2.0	0.3%	Pass
T1 (~32 F)	129103	31	31	31	32	32	32	32	1.0	0.2%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)

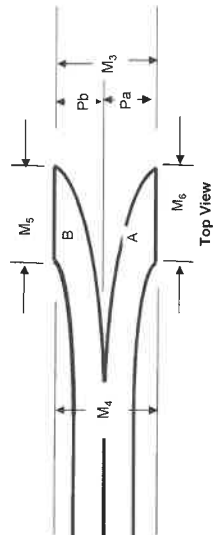
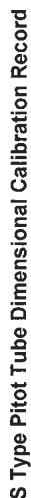


S Type Pitot Tube Dimensional Calibration Record



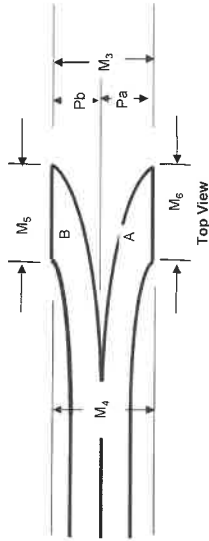
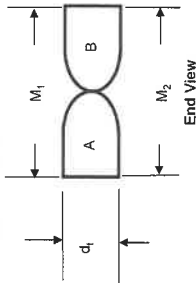
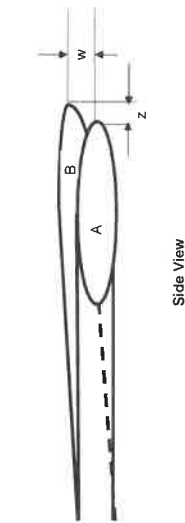
Acceptability Criteria			z < 1/8"	w < 1/32"	Yes	3/16" < Dt < 3/8"	n/a	n/a	n/a	n/a	n/a	n/a	10 degrees	5 degrees	1.05 Dt < P < 1.5 Dt	Status
Pitot ID	Date	Calibrated By	Side View, Impact openings properly aligned, z < 1/8"	Side View, Impact openings properly aligned, w < 1/32"	Pa = Pb	Tubing Diameter, dt	M1	M2	M3	M4	M5	M6	Average Face Opening Plane Angle, offset from perpendicular to transverse axis	Average Face Opening Plane Frontal Angle from parallel to Longitudinal Axis	Ratio of P/Dt	
075	1/3/23	N.G.	Y	Y	Y	0.375	0.933	0.933	0.945	0.937	0.411	0.400	0.0	0.6	1.2	Pass

Notes: Reference "A Type-S Pitot Tube Calibration Study", Robert F. Volaro, October 15, 1975
If tube is not visibly deformed it is assumed that Pa = Pb = .5 x avg. of M1 & M2, and that average face opening plane angles represent individual angles to tube axis



Notes:
Reference "A Type-S Pitot Tube Calibration Study", Robert F. Vollaro, October 15, 1975
If tube is not visibly deformed it is assumed that $P_a = P_b = .5$ x avg. of M1 & M2, and that average face opening plane angles represent individual angles to tube axis

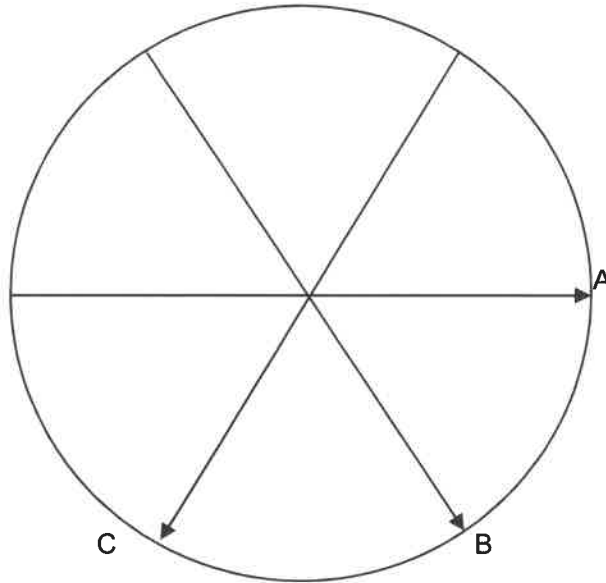
S Type Pitot Tube Dimensional Calibration Record



Acceptability Criteria		z < 1/8"	w < 1/32"	Yes	"3/16" < Dt < 3/8"	n/a	n/a	n/a	n/a	n/a	n/a	n/a	10 degrees	5 degrees	1.05 Dt < P < 1.5 Dt	Status
Pitot ID	Date	Calibrated By	Side View, Impact openings Properly aligned, z < 1/8"	Side View, Impact openings Properly aligned, w < 1/32"	Pa = Pb	Tubing Diameter, dt	M1	M2	M3	M4	M5	M6	Average Face Opening Plane Angle, offset from perpendicular to transverse axis	Average Face Opening Plane Frontal Angle from parallel to Longitudinal Axis	Ratio of P/Dt	Status
170	1/3/23	N.G.	Y	Y	Y	0.370	0.880	0.881	0.880	0.888	0.419	0.409	-0.1	-0.6	1.2	Pass
172	1/3/23	N.G.	Y	Y	Y	0.375	0.816	0.809	0.812	0.806	0.434	0.426	0.5	0.4	1.1	Pass

Notes: Reference "A Type-S Pitot Tube Calibration Study", Robert F. Vollaro, October 15, 1975
If tube is not visibly deformed it is assumed that Pa = Pb = .5 x avg. of M1 & M2, and that average face opening plane angles represent individual angles to tube axis

FACILITY: SUNSHINE
 SOURCE TESTED: TURBINE COVER 4 to 5
 CALIBRATED BY: BO
 DATE: 2/6/23

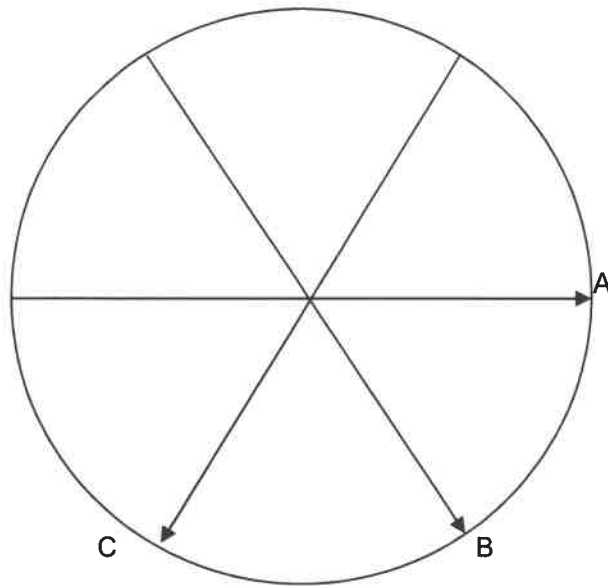


NOZZLE ID	READING (INCHES)			AVG DIA.
	A	B	C	
NG-15	0.254	0.254	0.254	0.254

Calibrated by:

Measuring Device Used : Mitutoyo Digital Calipers
 Serial Number : 0247955
 Model Number : CD-6" CS
 Resolution : 0.01mm or 0.0005"/0.01mm
 Accuracy : $\pm 0.02\text{mm}$ or $\pm 0.001"/\pm 0.02\text{mm}$

FACILITY: SUNSHINE
SOURCE TESTED: TURBINE/COG on 4k5
CALIBRATED BY: SAJ
DATE: 2/6/23

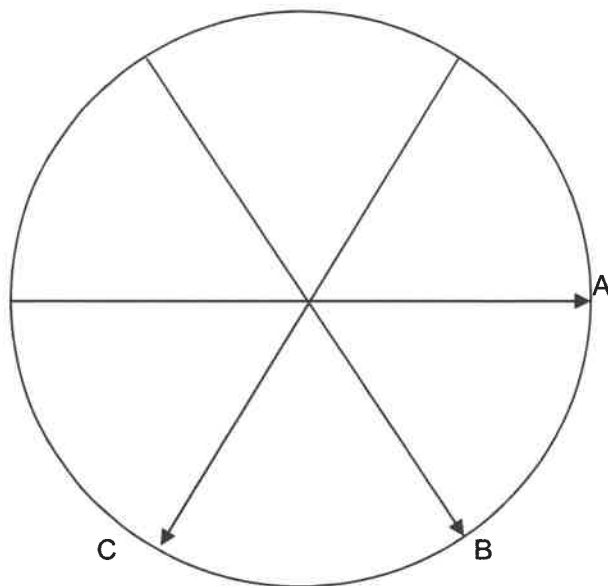


NOZZLE ID	READING (INCHES)			AVG DIA.
	A	B	C	
296	0.254	0.255	0.254	0.254

Calibrated by:

Measuring Device Used : Mitutoyo Digital Calipers
Serial Number : 0247955
Model Number : CD-6" CS
Resolution : 0.01mm or 0.0005"/0.01mm
Accuracy : $\pm 0.02\text{mm}$ or $\pm 0.001"/\pm 0.02\text{mm}$

FACILITY: SUNSHINE
 SOURCE TESTED: TURBINE/CAGE 4#5
 CALIBRATED BY: [Signature]
 DATE: 2/6/22



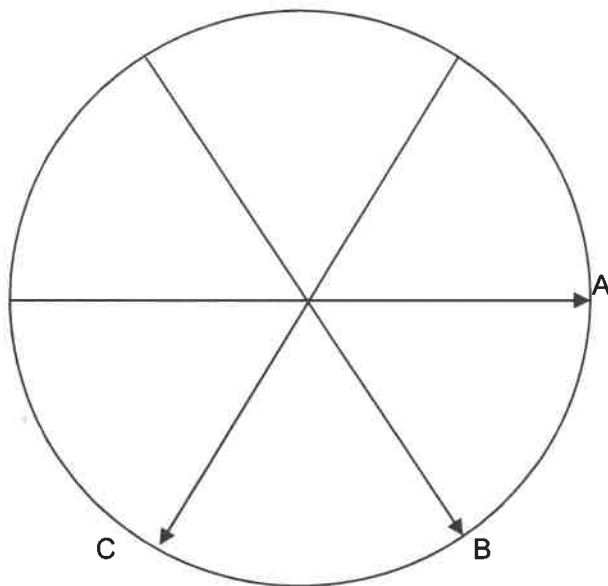
NOZZLE ID	READING (INCHES)			AVG DIA.
	A	B	C	
N42.2	0.258	0.257	0.257	0.257

Calibrated by:

[Signature]

Measuring Device Used : Mitutoyo Digital Calipers
 Serial Number : 0247955
 Model Number : CD-6" CS
 Resolution : 0.01mm or 0.0005"/0.01mm
 Accuracy : $\pm 0.02\text{mm}$ or $\pm 0.001"/\pm 0.02\text{mm}$

FACILITY: SUNSHINE
 SOURCE TESTED: TURBINE / COLOM 4 E5
 CALIBRATED BY: [Signature]
 DATE: 2/6/23



NOZZLE ID	READING (INCHES)			AVG DIA.
	A	B	C	
266	0.257	0.257	0.257	0.257

Calibrated by:

[Signature]

Measuring Device Used : Mitutoyo Digital Calipers
 Serial Number : 0247955
 Model Number : CD-6" CS
 Resolution : 0.01mm or 0.0005"/0.01mm
 Accuracy : $\pm 0.02\text{mm}$ or $\pm 0.001"/\pm 0.02\text{mm}$

APPENDIX B PLANT DATA

Appendix B.1

CT-4 Data

CeDAR 1-Minute Data

Sunshine Gas Producers, LLC

Data for 2/7/2023 8:00 AM thru 2/7/2023 6:00 PM

Timestamp	(TG-741) Landfill Gas Flow scf/hr	(TG-741) Heat Input mmBtu/hr	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	1-Min	1-Min
2/7 8:00	104338.0	47 90	4.2	1199.8
2/7 8:01	105141.0	48 23	4.2	1200.0
2/7 8:02	103899.0	47 65	4.2	1200.0
2/7 8:03	104771.0	48 05	4.2	1200.0
2/7 8:04	106331.0	48 79	4.2	1200.2
2/7 8:05	105420.0	48 36	4.2	1200.0
2/7 8:06	105163.0	48 26	4.2	1199.8
2/7 8:07	107116.0	49 16	4.2	1199.8
2/7 8:08	105750.0	48 53	4.2	1200.0
2/7 8:09	105054.0	48 21	4.2	1200.2
2/7 8:10	103899.0	47 71	4.2	1200.2
2/7 8:11	107030.0	49 23	4.2	1200.0
2/7 8:12	104601.0	48 12	4.2	1199.8
2/7 8:13	105332.0	48 42	4.2	1200.0
2/7 8:14	105054.0	48 21	4.2	1200.0
2/7 8:15	103763.0	47 62	4.2	1200.0
2/7 8:16	105705.0	48 54	4.2	1200.3
2/7 8:17	103628.0	47 67	4.2	1200.0
2/7 8:18	103893.0	47 79	4.2	1200.2
2/7 8:19	103278.0	47 51	4.2	1199.8
2/7 8:20	104625.0	48 11	4.2	1199.8
2/7 8:21	105395.0	48 34	4.2	1199.8
2/7 8:22	104058.0	47 73	4.2	1199.7
2/7 8:23	103690.0	47 56	4.2	1200.2
2/7 8:24	104748.0	48 07	4.2	1200.2
2/7 8:25	103324.0	47 41	4.2	1200.2
2/7 8:26	103857.0	47 66	4.2	1200.0
2/7 8:27	105607.0	48 32	4.2	1199.8
2/7 8:28	105191.0	48 10	4.2	1199.8
2/7 8:29	105320.0	48 13	4.2	1200.0
2/7 8:30	105654.0	48 37	4.2	1199.8
2/7 8:31	105412.0	48 26	4.2	1199.8
2/7 8:32	106026.0	48 54	4.2	1199.8
2/7 8:33	104610.0	47 89	4.2	1199.8
2/7 8:34	103401.0	47 25	4.2	1200.0
2/7 8:35	104984.0	47 98	4.2	1200.0
2/7 8:36	105221.0	48 20	4.2	1200.0
2/7 8:37	104839.0	48 11	4.2	1200.0
2/7 8:38	103374.0	47 52	4.2	1200.3
2/7 8:39	103532.0	47 62	4.2	1200.2
2/7 8:40	104200.0	47 93	4.2	1200.0
2/7 8:41	104455.0	48 05	4.2	1200.0
2/7 8:42	104905.0	48 26	4.2	1199.8
2/7 8:43	104406.0	48 03	4.2	1199.8
2/7 8:44	102909.0	47 34	4.2	1200.0

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/7 8:45	104582.0		48.09		4.2		1200.0	
2/7 8:46	104259.0		47.96		4.2		1200.0	
2/7 8:47	103847.0		47.77		4.2		1200.2	
2/7 8:48	104681.0		48.13		4.2		1200.0	
2/7 8:49	104404.0		47.91		4.2		1200.0	
2/7 8:50	103910.0		47.68		4.2		1200.0	
2/7 8:51	102602.0		47.10		4.2		1199.8	
2/7 8:52	102731.0		47.17		4.2		1199.7	
2/7 8:53	105686.0		48.42		4.2		1200.0	
2/7 8:54	104075.0		47.65		4.2		1200.0	
2/7 8:55	105171.0		48.18		4.2		1200.0	
2/7 8:56	104945.0		48.16		4.2		1200.2	
2/7 8:57	104485.0		47.93		4.2		1199.8	
2/7 8:58	103987.0		47.61		4.2		1200.2	
2/7 8:59	104301.0		47.86		4.2		1200.0	
2/7 9:00	104856.0		48.04		4.2		1199.7	
2/7 9:01	104476.0		47.78		4.2		1199.8	
2/7 9:02	104375.0		47.67		4.2		1200.3	
2/7 9:03	102777.0		46.94		4.2		1200.2	
2/7 9:04	104675.0		47.87		4.2		1200.2	
2/7 9:05	106145.0		48.60		4.2		1200.0	
2/7 9:06	104662.0		47.91		4.2		1199.8	
2/7 9:07	104374.0		47.78		4.2		1199.8	
2/7 9:08	103985.0		47.38		4.2		1199.2	
2/7 9:09	103242.0		46.67		4.2		1200.7	
2/7 9:10	103636.0		47.22		4.2		1200.2	
2/7 9:11	105428.0		48.10		4.2		1200.2	
2/7 9:12	105074.0		47.99		4.2		1200.0	
2/7 9:13	103554.0		47.29		4.2		1200.2	
2/7 9:14	103496.0		47.27		4.2		1199.7	
2/7 9:15	104027.0		47.49		4.2		1199.7	
2/7 9:16	104603.0		47.72		4.2		1200.0	
2/7 9:17	103493.0		47.26		4.2		1200.0	
2/7 9:18	104000.0		47.44		4.2		1200.0	
2/7 9:19	105336.0		47.99		4.2		1200.0	
2/7 9:20	105114.0		47.81		4.2		1200.2	
2/7 9:21	104651.0		47.56		4.2		1199.8	
2/7 9:22	104123.0		47.32		4.2		1200.0	
2/7 9:23	103476.0		47.03		4.2		1200.0	
2/7 9:24	104951.0		47.79		4.2		1200.0	
2/7 9:25	104222.0		47.48		4.2		1200.3	
2/7 9:26	103601.0		47.20		4.2		1200.0	
2/7 9:27	106218.0		48.46		4.2		1199.8	
2/7 9:28	104898.0		47.79		4.2		1200.2	
2/7 9:29	104315.0		47.53		4.2		1200.0	
2/7 9:30	105539.0		48.06		4.2		1200.2	
2/7 9:31	104958.0		47.70		4.2		1199.5	
2/7 9:32	105547.0		47.80		4.2		1199.8	
2/7 9:33	104251.0		47.02		4.2		1199.8	

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/7 9:34	104561.0	47.01	4.2	1199.7
2/7 9:35	104527.0	47.09	4.2	1200.2
2/7 9:36	104663.0	47.32	4.2	1200.0
2/7 9:37	104295.0	47.19	4.2	1199.8
2/7 9:38	104666.0	47.24	4.2	1199.8
2/7 9:39	105418.0	47.44	4.2	1200.0
2/7 9:40	107866.0	48.42	4.2	1200.0
2/7 9:41	106300.0	47.72	4.2	1200.3
2/7 9:42	108417.0	48.83	4.2	1198.8
2/7 9:43	106916.0	47.35	4.2	1199.8
2/7 9:44	106449.0	46.97	4.2	1201.0
2/7 9:45	104114.0	46.83	4.2	1200.7
2/7 9:46	107450.0	48.12	4.2	1198.5
2/7 9:47	108892.0	47.72	4.2	1200.5
2/7 9:48	107915.0	47.44	4.2	1199.7
2/7 9:49	107319.0	47.84	4.2	1201.2
2/7 9:50	104191.0	46.98	4.2	1200.0
2/7 9:51	107625.0	48.27	4.2	1199.7
2/7 9:52	105917.0	47.34	4.2	1200.0
2/7 9:53	105339.0	47.08	4.2	1200.2
2/7 9:54	103696.0	46.72	4.2	1201.0
2/7 9:55	104349.0	47.47	4.2	1200.2
2/7 9:56	105664.0	48.17	4.2	1199.7
2/7 9:57	104297.0	47.45	4.2	1199.8
2/7 9:58	103546.0	46.99	4.2	1200.2
2/7 9:59	104105.0	47.10	4.2	1199.3
2/7 10:00	106014.0	47.64	4.2	1199.7
2/7 10:01	105637.0	47.35	4.2	1200.7
2/7 10:02	102815.0	46.65	4.2	1200.7
2/7 10:03	103872.0	47.32	4.2	1199.8
2/7 10:04	103850.0	47.26	4.2	1200.0
2/7 10:05	105064.0	47.72	4.2	1199.5
2/7 10:06	104790.0	47.41	4.2	1199.7
2/7 10:07	104438.0	47.25	4.2	1200.0
2/7 10:08	106364.0	48.22	4.2	1200.5
2/7 10:09	102714.0	46.77	4.2	1200.0
2/7 10:10	103144.0	47.01	4.2	1200.2
2/7 10:11	104244.0	47.61	4.2	1198.7
2/7 10:12	104711.0	47.10	4.2	1200.7
2/7 10:13	103832.0	47.00	4.2	1200.8
2/7 10:14	102719.0	46.88	4.2	1200.0
2/7 10:15	103564.0	47.30	4.2	1199.7
2/7 10:16	103049.0	46.95	4.2	1199.7
2/7 10:17	104094.0	47.28	4.2	1200.2
2/7 10:18	105537.0	48.05	4.2	1200.0
2/7 10:19	103409.0	47.13	4.2	1200.5
2/7 10:20	101673.0	46.43	4.2	1199.8
2/7 10:21	103552.0	47.20	4.2	1199.7
2/7 10:22	104189.0	47.30	4.2	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	1-Min	1-Min
2/7 10:23	103734.0	47.21	4.2	1200.7
2/7 10:24	104496.0	47.67	4.2	1200.0
2/7 10:25	104046.0	47.52	4.2	1199.8
2/7 10:26	102253.0	46.70	4.2	1200.2
2/7 10:27	103279.0	47.17	4.2	1199.7
2/7 10:28	104394.0	47.58	4.2	1200.0
2/7 10:29	104177.0	47.33	4.2	1199.2
2/7 10:30	106506.0	48.10	4.2	1200.5
2/7 10:31	104283.0	47.13	4.2	1200.2
2/7 10:32	101786.0	46.13	4.2	1200.0
2/7 10:33	102677.0	46.56	4.2	1200.2
2/7 10:34	104379.0	47.31	4.2	1200.3
2/7 10:35	104772.0	47.48	4.2	1200.2
2/7 10:36	101688.0	46.11	4.2	1200.5
2/7 10:37	101887.0	46.35	4.2	1200.2
2/7 10:38	102510.0	46.70	4.2	1200.0
2/7 10:39	103352.0	47.09	4.2	1200.0
2/7 10:40	104771.0	47.73	4.2	1200.0
2/7 10:41	103220.0	47.03	4.2	1199.8
2/7 10:42	103610.0	47.13	4.2	1200.2
2/7 10:43	101481.0	46.23	4.2	1199.7
2/7 10:44	102936.0	46.96	4.2	1200.0
2/7 10:45	100899.0	45.08	4.2	1199.8
2/7 10:46	103233.0	47.09	4.2	1200.2
2/7 10:47	104955.0	47.94	4.2	1199.7
2/7 10:48	103273.0	46.94	4.2	1200.0
2/7 10:49	104835.0	47.67	4.2	1200.3
2/7 10:50	105670.0	48.14	4.2	1200.0
2/7 10:51	102467.0	46.72	4.2	1200.0
2/7 10:52	104267.0	47.57	4.2	1199.5
2/7 10:53	103641.0	47.17	4.2	1200.3
2/7 10:54	102167.0	46.64	4.2	1200.0
2/7 10:55	103342.0	47.23	4.2	1200.2
2/7 10:56	103907.0	47.59	4.2	1199.8
2/7 10:57	102899.0	47.11	4.2	1200.0
2/7 10:58	101886.0	46.61	4.2	1199.8
2/7 10:59	103772.0	47.39	4.2	1200.2
2/7 11:00	103921.0	47.54	4.2	1200.0
2/7 11:01	103324.0	47.30	4.2	1200.0
2/7 11:02	103760.0	47.50	4.2	1200.2
2/7 11:03	101793.0	46.62	4.2	1199.7
2/7 11:04	105043.0	48.09	4.2	1200.3
2/7 11:05	103123.0	47.21	4.2	1200.2
2/7 11:06	102476.0	46.94	4.2	1199.8
2/7 11:07	104310.0	47.75	4.2	1200.0
2/7 11:08	103609.0	47.45	4.2	1200.2
2/7 11:09	99523.0	45.64	4.2	1200.0
2/7 11:10	102697.0	47.07	4.2	1200.0
2/7 11:11	103728.0	47.54	4.2	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/7 11:12	104177.0	47.69	4.2	1200.3
2/7 11:13	103218.0	47.31	4.2	1200.0
2/7 11:14	101910.0	46.77	4.2	1200.0
2/7 11:15	100967.0	46.34	4.2	1199.7
2/7 11:16	103052.0	47.29	4.2	1200.0
2/7 11:17	103368.0	47.44	4.2	1200.0
2/7 11:18	101725.0	46.66	4.2	1200.0
2/7 11:19	102194.0	46.87	4.2	1199.8
2/7 11:20	105316.0	48.33	4.2	1200.0
2/7 11:21	103833.0	47.63	4.2	1200.2
2/7 11:22	101863.0	46.77	4.2	1200.0
2/7 11:23	103583.0	47.53	4.2	1200.0
2/7 11:24	102952.0	47.24	4.2	1200.0
2/7 11:25	101651.0	46.65	4.2	1200.3
2/7 11:26	102637.0	47.12	4.2	1200.3
2/7 11:27	103445.0	47.47	4.2	1198.2
2/7 11:28	105075.0	47.38	4.2	1199.0
2/7 11:29	108341.0	47.67	4.2	1200.0
2/7 11:30	108133.0	47.06	4.2	1199.3
2/7 11:31	107944.0	47.50	4.2	1202.8
2/7 11:32	102878.0	46.63	4.2	1200.8
2/7 11:33	104262.0	47.41	4.1	1197.5
2/7 11:34	106369.0	47.23	4.2	1202.7
2/7 11:35	102566.0	46.64	4.2	1199.8
2/7 11:36	105489.0	48.04	4.2	1200.8
2/7 11:37	102894.0	47.24	4.2	1199.2
2/7 11:38	104240.0	47.59	4.2	1200.2
2/7 11:39	102480.0	47.01	4.2	1199.8
2/7 11:40	103511.0	47.36	4.2	1200.3
2/7 11:41	102507.0	47.02	4.2	1200.5
2/7 11:42	101007.0	46.52	4.2	1200.2
2/7 11:43	101696.0	46.89	4.2	1200.2
2/7 11:44	103909.0	47.89	4.2	1199.8
2/7 11:45	100137.0	46.06	4.2	1200.0
2/7 11:46	103370.0	47.55	4.2	1200.5
2/7 11:47	102455.0	47.16	4.2	1200.2
2/7 11:48	101309.0	46.71	4.2	1200.0
2/7 11:49	101345.0	46.78	4.2	1200.0
2/7 11:50	101078.0	46.68	4.2	1200.0
2/7 11:51	101491.0	46.80	4.2	1200.0
2/7 11:52	101023.0	46.58	4.2	1199.8
2/7 11:53	100647.0	46.41	4.2	1199.8
2/7 11:54	101995.0	47.03	4.2	1200.2
2/7 11:55	102737.0	47.37	4.2	1200.0
2/7 11:56	101627.0	46.86	4.2	1199.7
2/7 11:57	101270.0	46.70	4.2	1200.2
2/7 11:58	102940.0	47.47	4.2	1200.2
2/7 11:59	101891.0	46.98	4.2	1200.2
2/7 12:00	103767.0	47.87	4.2	1200.3

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/7 12:01	101436.0		46.91		4.2		1199.8	
2/7 12:02	101959.0		47.13		4.2		1200.0	
2/7 12:03	100440.0		46.42		4.2		1200.2	
2/7 12:04	100178.0		46.30		4.2		1200.0	
2/7 12:05	100840.0		46.61		4.2		1199.8	
2/7 12:06	100340.0		46.32		4.2		1199.8	
2/7 12:07	101730.0		47.02		4.2		1200.0	
2/7 12:08	101933.0		47.11		4.2		1200.0	
2/7 12:09	102387.0		47.32		4.2		1200.3	
2/7 12:10	100241.0		46.40		4.2		1200.0	
2/7 12:11	99675.0		46.14		4.2		1200.0	
2/7 12:12	102770.0		47.50		4.1		1199.8	
2/7 12:13	103397.0		47.79		4.1		1200.2	
2/7 12:14	99475.0		45.98		4.1		1200.0	
2/7 12:15	99669.0		46.09		4.1		1200.2	
2/7 12:16	100756.0		46.62		4.1		1199.8	
2/7 12:17	100283.0		46.42		4.1		1200.2	
2/7 12:18	100023.0		46.34		4.2		1200.0	
2/7 12:19	100586.0		46.55		4.2		1199.8	
2/7 12:20	100296.0		46.39		4.2		1200.0	
2/7 12:21	100872.0		46.73		4.2		1199.7	
2/7 12:22	102993.0		47.68		4.2		1200.2	
2/7 12:23	101728.0		47.16		4.2		1200.0	
2/7 12:24	100663.0		46.64		4.2		1199.8	
2/7 12:25	100240.0		46.47		4.2		1200.2	
2/7 12:26	100171.0		46.48		4.2		1199.8	
2/7 12:27	103282.0		47.90		4.2		1199.8	
2/7 12:28	100122.0		46.39		4.2		1200.0	
2/7 12:29	101740.0		47.14		4.1		1200.0	
2/7 12:30	100375.0		46.40		4.2		1200.2	
2/7 12:31	101012.0		46.77		4.1		1199.7	
2/7 12:32	102820.0		47.43		4.1		1200.0	
2/7 12:33	100621.0		46.42		4.2		1200.3	
2/7 12:34	102027.0		47.24		4.1		1200.5	
2/7 12:35	101223.0		46.90		4.1		1199.8	
2/7 12:36	100864.0		46.73		4.2		1200.0	
2/7 12:37	100697.0		46.65		4.2		1200.0	
2/7 12:38	102038.0		47.31		4.2		1200.0	
2/7 12:39	100870.0		46.83		4.2		1200.0	
2/7 12:40	100468.0		46.65		4.2		1200.0	
2/7 12:41	100961.0		46.81		4.2		1199.7	
2/7 12:42	102354.0		47.42		4.2		1199.8	
2/7 12:43	103820.0		47.87		4.2		1199.8	
2/7 12:44	101348.0		46.64		4.1		1200.0	
2/7 12:45	101111.0		46.49		4.1		1200.2	
2/7 12:46	102465.0		47.12		4.1		1199.7	
2/7 12:47	101771.0		46.70		4.1		1199.8	
2/7 12:48	101327.0		46.53		4.2		1200.2	
2/7 12:49	101774.0		46.78		4.2		1199.8	

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas Flow scf/hr 1-Min	Landfill Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Input mmBtu/hr 1-Min	Megawatts 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min
2/7 12:50	102275.0	102275.0	47.03	47.03	4.2	4.2	1199.8	1199.8
2/7 12:51	100798.0	100798.0	46.35	46.35	4.2	4.2	1199.8	1199.8
2/7 12:52	102373.0	102373.0	47.01	47.01	4.2	4.2	1200.0	1200.0
2/7 12:53	101592.0	101592.0	46.73	46.73	4.2	4.2	1200.7	1200.7
2/7 12:54	103447.0	103447.0	47.81	47.81	4.1	4.1	1199.8	1199.8
2/7 12:55	101306.0	101306.0	46.73	46.73	4.1	4.1	1199.8	1199.8
2/7 12:56	102247.0	102247.0	47.07	47.07	4.2	4.2	1200.2	1200.2
2/7 12:57	102539.0	102539.0	47.22	47.22	4.2	4.2	1200.0	1200.0
2/7 12:58	102737.0	102737.0	47.40	47.40	4.2	4.2	1200.0	1200.0
2/7 12:59	100388.0	100388.0	46.42	46.42	4.2	4.2	1200.2	1200.2
2/7 13:00	102898.0	102898.0	47.63	47.63	4.2	4.2	1200.0	1200.0
2/7 13:01	100704.0	100704.0	46.62	46.62	4.2	4.2	1200.0	1200.0
2/7 13:02	101280.0	101280.0	47.02	47.02	4.2	4.2	1200.0	1200.0
2/7 13:03	100849.0	100849.0	46.82	46.82	4.2	4.2	1200.2	1200.2
2/7 13:04	100482.0	100482.0	46.65	46.65	4.1	4.1	1200.0	1200.0
2/7 13:05	100345.0	100345.0	46.65	46.65	4.1	4.1	1199.7	1199.7
2/7 13:06	100239.0	100239.0	46.54	46.54	4.2	4.2	1199.8	1199.8
2/7 13:07	100333.0	100333.0	46.56	46.56	4.2	4.2	1200.0	1200.0
2/7 13:08	100863.0	100863.0	46.81	46.81	4.2	4.2	1200.3	1200.3
2/7 13:09	102626.0	102626.0	47.65	47.65	4.2	4.2	1200.0	1200.0
2/7 13:10	103567.0	103567.0	48.09	48.09	4.2	4.2	1200.2	1200.2
2/7 13:11	101337.0	101337.0	47.05	47.05	4.1	4.1	1200.2	1200.2
2/7 13:12	100304.0	100304.0	46.57	46.57	4.1	4.1	1199.8	1199.8
2/7 13:13	101634.0	101634.0	47.22	47.22	4.2	4.2	1200.0	1200.0
2/7 13:14	101090.0	101090.0	46.97	46.97	4.1	4.1	1200.0	1200.0
2/7 13:15	101661.0	101661.0	47.23	47.23	4.2	4.2	1199.7	1199.7
2/7 13:16	101813.0	101813.0	47.27	47.27	4.2	4.2	1200.0	1200.0
2/7 13:17	101571.0	101571.0	47.16	47.16	4.1	4.1	1200.0	1200.0
2/7 13:18	100605.0	100605.0	46.69	46.69	4.1	4.1	1199.7	1199.7
2/7 13:19	100334.0	100334.0	46.58	46.58	4.2	4.2	1199.8	1199.8
2/7 13:20	101333.0	101333.0	47.09	47.09	4.2	4.2	1199.8	1199.8
2/7 13:21	100902.0	100902.0	46.96	46.96	4.2	4.2	1200.0	1200.0
2/7 13:22	100433.0	100433.0	46.74	46.74	4.2	4.2	1200.0	1200.0
2/7 13:23	101871.0	101871.0	47.39	47.39	4.1	4.1	1200.2	1200.2
2/7 13:24	100217.0	100217.0	46.64	46.64	4.1	4.1	1199.7	1199.7
2/7 13:25	100685.0	100685.0	46.86	46.86	4.2	4.2	1200.3	1200.3
2/7 13:26	100805.0	100805.0	46.90	46.90	4.2	4.2	1200.5	1200.5
2/7 13:27	100080.0	100080.0	46.58	46.58	4.2	4.2	1199.8	1199.8
2/7 13:28	99949.0	99949.0	46.49	46.49	4.1	4.1	1200.0	1200.0
2/7 13:29	100620.0	100620.0	46.83	46.83	4.2	4.2	1200.0	1200.0
2/7 13:30	102513.0	102513.0	47.71	47.71	4.2	4.2	1200.0	1200.0
2/7 13:31	102003.0	102003.0	47.45	47.45	4.2	4.2	1200.0	1200.0
2/7 13:32	101815.0	101815.0	47.28	47.28	4.2	4.2	1199.8	1199.8
2/7 13:33	100695.0	100695.0	46.76	46.76	4.2	4.2	1199.8	1199.8
2/7 13:34	100990.0	100990.0	46.89	46.89	4.2	4.2	1199.7	1199.7
2/7 13:35	101419.0	101419.0	47.09	47.09	4.2	4.2	1199.8	1199.8
2/7 13:36	103179.0	103179.0	47.77	47.77	4.2	4.2	1200.2	1200.2
2/7 13:37	101965.0	101965.0	47.21	47.21	4.2	4.2	1200.2	1200.2
2/7 13:38	101183.0	101183.0	46.85	46.85	4.2	4.2	1200.0	1200.0

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/7 13:39	101954.0		47.14	4.1	4.1	4.1	1200.2	
2/7 13:40	102777.0		47.54	4.2	4.2	4.2	1199.8	
2/7 13:41	102047.0		47.19	4.2	4.2	4.2	1200.3	
2/7 13:42	102112.0		47.28	4.2	4.2	4.2	1199.7	
2/7 13:43	101807.0		47.06	4.2	4.2	4.2	1199.8	
2/7 13:44	101201.0		46.77	4.2	4.2	4.2	1199.7	
2/7 13:45	103307.0		47.75	4.2	4.2	4.2	1200.2	
2/7 13:46	100009.0		46.29	4.2	4.2	4.2	1200.3	
2/7 13:47	102448.0		47.47	4.2	4.2	4.2	1200.3	
2/7 13:48	101366.0		46.96	4.1	4.1	4.1	1200.3	
2/7 13:49	101093.0		46.84	4.1	4.1	4.1	1199.8	
2/7 13:50	101488.0		47.07	4.2	4.2	4.2	1200.0	
2/7 13:51	100992.0		46.79	4.1	4.1	4.1	1200.0	
2/7 13:52	101301.0		46.93	4.2	4.2	4.2	1199.7	
2/7 13:53	100393.0		46.48	4.1	4.1	4.1	1200.2	
2/7 13:54	100302.0		46.43	4.1	4.1	4.1	1200.0	
2/7 13:55	100674.0		46.60	4.1	4.1	4.1	1200.0	
2/7 13:56	101131.0		46.79	4.2	4.2	4.2	1199.8	
2/7 13:57	100656.0		46.61	4.2	4.2	4.2	1199.8	
2/7 13:58	101676.0		47.17	4.2	4.2	4.2	1200.3	
2/7 13:59	102077.0		47.23	4.2	4.2	4.2	1199.7	
2/7 14:00	100940.0		46.65	4.2	4.2	4.2	1200.0	
2/7 14:01	99658.0		46.08	4.2	4.2	4.2	1200.2	
2/7 14:02	101573.0		47.06	4.2	4.2	4.2	1199.8	
2/7 14:03	100711.0		46.57	4.2	4.2	4.2	1200.2	
2/7 14:04	101049.0		46.82	4.2	4.2	4.2	1200.2	
2/7 14:05	104967.0		48.25	4.2	4.2	4.2	1198.7	
2/7 14:06	102836.0		46.82	4.2	4.2	4.2	1201.3	
2/7 14:07	101702.0		46.85	4.2	4.2	4.2	1200.2	
2/7 14:08	100288.0		46.24	4.2	4.2	4.2	1200.3	
2/7 14:09	101653.0		46.95	4.1	4.1	4.1	1199.7	
2/7 14:10	101353.0		46.73	4.2	4.2	4.2	1200.0	
2/7 14:11	100829.0		46.47	4.1	4.1	4.1	1199.8	
2/7 14:12	100084.0		46.06	4.2	4.2	4.2	1200.2	
2/7 14:13	103388.0		47.67	4.2	4.2	4.2	1200.2	
2/7 14:14	102221.0		47.13	4.2	4.2	4.2	1200.5	
2/7 14:15	102195.0		47.14	4.2	4.2	4.2	1199.7	
2/7 14:16	101002.0		46.59	4.2	4.2	4.2	1199.8	
2/7 14:17	100677.0		46.42	4.2	4.2	4.2	1200.0	
2/7 14:18	102305.0		47.18	4.2	4.2	4.2	1200.3	
2/7 14:19	100331.0		46.34	4.2	4.2	4.2	1200.0	
2/7 14:20	100761.0		46.53	4.2	4.2	4.2	1200.0	
2/7 14:21	101961.0		46.93	4.2	4.2	4.2	1199.2	
2/7 14:22	106233.0		47.82	4.2	4.2	4.2	1200.5	
2/7 14:23	103213.0		46.22	4.2	4.2	4.2	1201.7	
2/7 14:24	100241.0		46.33	4.2	4.2	4.2	1201.2	
2/7 14:25	101044.0		46.97	4.2	4.2	4.2	1200.0	
2/7 14:26	100257.0		46.74	4.2	4.2	4.2	1199.7	
2/7 14:27	100809.0		46.84	4.2	4.2	4.2	1199.0	

(TG-741)		(TG-741) Landfill Gas Flow scf/hr	(TG-741) Heat Input mmBtu/hr	(TG-741) Megawatts	(TG-741) Exhaust Temp °F	(TG-741) T7
Timestamp	1-Min	1-Min	1-Min	1-Min	1-Min	1-Min
2/7 14:28	102102.0	47.10	4.2	1200.3	1200.2	1200.2
2/7 14:29	100559.0	46.59	4.2	1200.2	1200.2	1200.2
2/7 14:30	100507.0	46.57	4.2	1200.2	1200.2	1200.2
2/7 14:31	101459.0	47.01	4.2	1199.8	1199.8	1199.8
2/7 14:32	100536.0	46.54	4.2	1200.0	1200.0	1200.0
2/7 14:33	100678.0	46.60	4.2	1200.0	1200.0	1200.0
2/7 14:34	101104.0	46.84	4.2	1200.0	1200.0	1200.0
2/7 14:35	101368.0	46.96	4.2	1200.2	1200.2	1200.2
2/7 14:36	101556.0	47.10	4.2	1199.8	1199.8	1199.8
2/7 14:37	102880.0	47.68	4.2	1199.8	1199.8	1199.8
2/7 14:38	103790.0	47.99	4.2	1200.0	1200.0	1200.0
2/7 14:39	103358.0	47.68	4.1	1198.2	1198.2	1198.2
2/7 14:40	103422.0	46.63	4.2	1200.7	1200.7	1200.7
2/7 14:41	100452.0	45.99	4.2	1201.8	1201.8	1201.8
2/7 14:42	100782.0	46.76	4.2	1200.0	1200.0	1200.0
2/7 14:43	102377.0	47.54	4.2	1199.3	1199.3	1199.3
2/7 14:44	100177.0	46.35	4.2	1199.3	1199.3	1199.3
2/7 14:45	101043.0	46.59	4.2	1200.3	1200.3	1200.3
2/7 14:46	101170.0	46.81	4.2	1199.8	1199.8	1199.8
2/7 14:47	102203.0	47.24	4.2	1200.2	1200.2	1200.2
2/7 14:48	102053.0	47.28	4.2	1200.0	1200.0	1200.0
2/7 14:49	101680.0	47.14	4.1	1200.2	1200.2	1200.2
2/7 14:50	102300.0	47.36	4.2	1200.0	1200.0	1200.0
2/7 14:51	101106.0	46.84	4.2	1200.0	1200.0	1200.0
2/7 14:52	101588.0	47.07	4.2	1200.0	1200.0	1200.0
2/7 14:53	102759.0	47.66	4.2	1199.8	1199.8	1199.8
2/7 14:54	102130.0	47.35	4.2	1199.5	1199.5	1199.5
2/7 14:55	103048.0	47.42	4.2	1198.8	1198.8	1198.8
2/7 14:56	103828.0	47.37	4.2	1201.2	1201.2	1201.2
2/7 14:57	102410.0	47.33	4.2	1201.0	1201.0	1201.0
2/7 14:58	102507.0	47.66	4.2	1200.2	1200.2	1200.2
2/7 14:59	102072.0	47.48	4.2	1199.7	1199.7	1199.7
2/7 15:00	102246.0	47.42	4.2	1199.3	1199.3	1199.3
2/7 15:01	100450.0	46.34	4.2	1200.5	1200.5	1200.5
2/7 15:02	101391.0	46.94	4.2	1200.0	1200.0	1200.0
2/7 15:03	101755.0	47.17	4.2	1200.2	1200.2	1200.2
2/7 15:04	101776.0	47.24	4.2	1200.0	1200.0	1200.0
2/7 15:05	100440.0	46.60	4.2	1199.7	1199.7	1199.7
2/7 15:06	101229.0	46.98	4.2	1200.0	1200.0	1200.0
2/7 15:07	101610.0	47.15	4.2	1199.8	1199.8	1199.8
2/7 15:08	102599.0	47.56	4.2	1199.8	1199.8	1199.8
2/7 15:09	100139.0	46.39	4.2	1200.3	1200.3	1200.3
2/7 15:10	101757.0	47.25	4.2	1199.3	1199.3	1199.3
2/7 15:11	103521.0	47.39	4.2	1199.8	1199.8	1199.8
2/7 15:12	102201.0	46.93	4.2	1200.3	1200.3	1200.3
2/7 15:13	101294.0	46.74	4.2	1200.2	1200.2	1200.2
2/7 15:14	102540.0	47.17	4.2	1199.5	1199.5	1199.5
2/7 15:15	100213.0	46.17	4.2	1200.5	1200.5	1200.5
2/7 15:16	102410.0	47.36	4.2	1199.7	1199.7	1199.7
Run 1 Average	101924.9	47.0	4.2	1200.0	1200.0	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr	(TG-741) Heat Input mmBtu/hr	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	4.2	1200.2
2/7 15:17	104457.0	48.17	4.2	1200.2
2/7 15:18	100333.0	46.39	4.2	1200.2
2/7 15:19	103803.0	48.06	4.2	1200.2
2/7 15:20	99931.0	46.27	4.2	1200.2
2/7 15:21	101791.0	47.13	4.1	1200.2
2/7 15:22	102156.0	47.33	4.2	1200.0
2/7 15:23	103751.0	48.07	4.1	1200.2
2/7 15:24	102988.0	47.63	4.2	1200.0
2/7 15:25	100948.0	46.68	4.2	1200.2
2/7 15:26	101154.0	46.82	4.2	1200.2
2/7 15:27	101793.0	47.16	4.2	1200.2
2/7 15:28	101276.0	47.02	4.2	1200.0
2/7 15:29	102338.0	47.49	4.2	1200.0
2/7 15:30	102332.0	47.44	4.2	1199.7
2/7 15:31	103294.0	47.81	4.2	1200.0
2/7 15:32	102469.0	47.39	4.2	1200.0
2/7 15:33	101561.0	46.96	4.2	1200.2
2/7 15:34	100390.0	46.48	4.2	1199.8
2/7 15:35	102503.0	47.09	4.2	1199.8
2/7 15:36	101065.0	46.51	4.2	1200.5
2/7 15:37	101104.0	46.73	4.1	1200.0
2/7 15:38	101270.0	46.92	4.1	1200.0
2/7 15:39	99704.0	46.19	4.2	1199.8
2/7 15:40	100857.0	46.73	4.2	1200.0
2/7 15:41	101896.0	47.21	4.2	1199.8
2/7 15:42	100267.0	46.43	4.2	1200.0
2/7 15:43	101101.0	46.73	4.1	1200.0
2/7 15:44	101641.0	47.05	4.1	1200.2
2/7 15:45	101337.0	46.91	4.1	1200.5
2/7 15:46	101120.0	46.95	4.1	1200.0
2/7 15:47	100575.0	46.70	4.1	1200.0
2/7 15:48	100889.0	46.82	4.1	1199.5
2/7 15:49	100836.0	46.68	4.1	1199.5
2/7 15:50	102193.0	47.31	4.2	1200.3
2/7 15:51	100528.0	46.58	4.2	1199.7
2/7 15:52	101825.0	47.28	4.2	1200.2
2/7 15:53	99253.0	46.11	4.2	1199.8
2/7 15:54	101249.0	47.04	4.2	1199.8
2/7 15:55	102659.0	47.67	4.2	1200.0
2/7 15:56	100201.0	46.42	4.2	1200.0
2/7 15:57	101195.0	46.89	4.2	1200.0
2/7 15:58	102118.0	47.31	4.2	1200.2
2/7 15:59	100975.0	46.80	4.2	1200.0
2/7 16:00	101213.0	46.99	4.2	1200.2
2/7 16:01	102306.0	47.50	4.2	1199.7
2/7 16:02	102145.0	47.35	4.2	1200.0
2/7 16:03	102310.0	47.40	4.2	1200.0
2/7 16:04	102098.0	47.30	4.2	1199.8
2/7 16:05	102983.0	47.76	4.2	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/7 16:06	102609.0	47.64	4.2	1199.8
2/7 16:07	101691.0	47.19	4.2	1200.2
2/7 16:08	100974.0	46.88	4.2	1199.7
2/7 16:09	101284.0	47.00	4.2	1200.2
2/7 16:10	102596.0	47.64	4.2	1200.0
2/7 16:11	101235.0	46.90	4.2	1200.5
2/7 16:12	103164.0	47.87	4.2	1200.0
2/7 16:13	101843.0	47.28	4.2	1200.2
2/7 16:14	102223.0	47.46	4.2	1200.2
2/7 16:15	102046.0	47.42	4.1	1200.0
2/7 16:16	100099.0	46.51	4.1	1199.8
2/7 16:17	99640.0	46.30	4.2	1199.5
2/7 16:18	101582.0	47.20	4.2	1200.0
2/7 16:19	99796.0	46.42	4.2	1199.5
2/7 16:20	100375.0	46.61	4.2	1200.2
2/7 16:21	100496.0	46.69	4.2	1200.0
2/7 16:22	98985.0	45.96	4.2	1200.0
2/7 16:23	101261.0	47.08	4.2	1199.8
2/7 16:24	100979.0	46.89	4.2	1200.0
2/7 16:25	99963.0	46.34	4.2	1199.8
2/7 16:26	100629.0	46.62	4.2	1199.8
2/7 16:27	99832.0	46.27	4.2	1200.2
2/7 16:28	102607.0	47.64	4.2	1199.8
2/7 16:29	100715.0	46.80	4.2	1199.8
2/7 16:30	102243.0	47.51	4.2	1200.0
2/7 16:31	100429.0	46.63	4.2	1200.0
2/7 16:32	99036.0	45.96	4.2	1200.0
2/7 16:33	101191.0	46.98	4.2	1199.7
2/7 16:34	102462.0	47.47	4.2	1199.8
2/7 16:35	100510.0	46.57	4.2	1200.2
2/7 16:36	101390.0	46.97	4.2	1199.8
2/7 16:37	101917.0	47.22	4.2	1199.8
2/7 16:38	102498.0	47.49	4.2	1200.0
2/7 16:39	103051.0	47.74	4.2	1200.0
2/7 16:40	102035.0	47.33	4.2	1200.5
2/7 16:41	99523.0	46.21	4.2	1199.8
2/7 16:42	102193.0	47.43	4.2	1199.8
2/7 16:43	100742.0	46.74	4.2	1200.2
2/7 16:44	99796.0	46.34	4.2	1199.7
2/7 16:45	102034.0	47.30	4.2	1199.7
2/7 16:46	100748.0	46.68	4.2	1200.0
2/7 16:47	104000.0	48.12	4.2	1200.2
2/7 16:48	101633.0	47.09	4.2	1199.7
2/7 16:49	101091.0	46.86	4.2	1200.3
2/7 16:50	102107.0	47.39	4.2	1200.2
2/7 16:51	100790.0	46.80	4.2	1200.2
2/7 16:52	101644.0	47.17	4.2	1199.7
2/7 16:53	101713.0	47.12	4.2	1199.8
2/7 16:54	101908.0	47.18	4.2	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/7 16:55	101943.0	47.12	4.2	1200.2
2/7 16:56	100956.0	46.71	4.2	1200.2
2/7 16:57	103244.0	47.83	4.2	1200.3
2/7 16:58	102537.0	47.53	4.2	1199.5
2/7 16:59	101983.0	47.27	4.2	1199.5
2/7 17:00	101187.0	46.90	4.2	1200.0
2/7 17:01	103101.0	47.88	4.2	1199.8
2/7 17:02	102305.0	47.29	4.2	1200.0
2/7 17:03	102664.0	47.47	4.2	1200.0
2/7 17:04	101840.0	47.07	4.2	1199.8
2/7 17:05	101941.0	47.23	4.2	1200.5
2/7 17:06	102369.0	47.43	4.2	1199.8
2/7 17:07	101633.0	47.09	4.2	1200.0
2/7 17:08	102553.0	47.51	4.2	1199.3
2/7 17:09	103769.0	48.05	4.2	1200.0
2/7 17:10	101110.0	46.80	4.2	1200.0
2/7 17:11	102448.0	47.35	4.2	1199.8
2/7 17:12	102436.0	47.35	4.2	1200.0
2/7 17:13	102841.0	47.55	4.2	1200.3
2/7 17:14	101279.0	46.84	4.2	1200.0
2/7 17:15	101293.0	46.89	4.2	1200.0
2/7 17:16	104264.0	48.26	4.2	1199.8
2/7 17:17	101994.0	47.17	4.2	1200.2
2/7 17:18	101655.0	46.99	4.2	1200.0
2/7 17:19	101348.0	46.84	4.2	1200.0
2/7 17:20	101960.0	47.13	4.2	1199.8
2/7 17:21	101074.0	46.67	4.2	1199.8
2/7 17:22	100717.0	46.44	4.2	1200.3
2/7 17:23	101139.0	46.72	4.2	1200.2
2/7 17:24	102913.0	47.57	4.2	1200.2
2/7 17:25	100070.0	46.25	4.2	1200.0
2/7 17:26	102512.0	47.34	4.2	1200.3
2/7 17:27	102844.0	47.53	4.2	1199.7
2/7 17:28	101766.0	47.04	4.2	1200.2
2/7 17:29	102430.0	47.34	4.2	1200.0
2/7 17:30	101768.0	47.04	4.2	1200.0
2/7 17:31	101423.0	46.85	4.2	1200.0
2/7 17:32	101801.0	47.05	4.2	1199.8
2/7 17:33	102873.0	47.55	4.2	1199.8
2/7 17:34	101510.0	46.81	4.2	1199.7
2/7 17:35	103335.0	47.57	4.2	1200.2
2/7 17:36	102876.0	47.42	4.2	1199.8
2/7 17:37	102128.0	47.07	4.2	1200.0
2/7 17:38	102632.0	47.39	4.2	1200.2
2/7 17:39	103350.0	47.74	4.2	1200.2
2/7 17:40	102832.0	47.50	4.2	1200.0
2/7 17:41	102985.0	47.57	4.2	1200.2
2/7 17:42	100897.0	46.55	4.2	1200.0
2/7 17:43	103044.0	47.49	4.2	1200.0

Timestamp	(TG-741)	(TG-741) Heat	(TG-741)	(TG-741) T7
	Landfill Gas Flow scf/hr 1- Min	Input mmBtu/hr 1- Min	Megawatts 1-Min	Exhaust Temp °F 1-Min
2/7 17:44	102729.0	47.37	4.2	1200.0
2/7 17:45	103626.0	47.70	4.2	1200.2
2/7 17:46	101241.0	46.57	4.2	1200.3
2/7 17:47	100723.0	46.38	4.2	1200.2
2/7 17:48	103638.0	47.73	4.2	1199.8
2/7 17:49	103060.0	47.52	4.2	1200.0
2/7 17:50	100694.0	46.43	4.2	1199.8
2/7 17:51	102767.0	47.39	4.2	1200.2
2/7 17:52	101649.0	46.87	4.2	1200.0
2/7 17:53	100898.0	46.52	4.2	1200.3
2/7 17:54	102346.0	47.19	4.2	1200.2
2/7 17:55	101048.0	46.59	4.2	1200.0
2/7 17:56	103661.0	47.70	4.2	1199.8
2/7 17:57	102555.0	47.20	4.2	1200.0
2/7 17:58	102620.0	47.21	4.2	1200.0
2/7 17:59	101839.0	46.92	4.2	1200.0
2/7 18:00	102387.0	47.19	4.2	1200.2
Average (all)	102590.5	47.19	4.2	1200.0
Total (all)	--	--	--	--
Minimum (all)	98985.0	45.64	4.1	1197.5
Maximum (all)	108892.0	49.23	4.2	1202.8
Average (valid values only) Total	102590.5	47.19	4.2	1200.0
(valid values only)	--	--	--	--
Count (valid values only)	601	601	601	601

CeDAR 1-Minute Data
 Sunshine Gas Producers, LLC
 Data for 2/8/2023 6:00 AM thru 2/8/2023 7:00 PM

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/8 6:00	104195.0	47.82	4.2	1199.8
2/8 6:01	103059.0	47.29	4.2	1200.0
2/8 6:02	104084.0	47.88	4.2	1200.0
2/8 6:03	104517.0	48.08	4.2	1200.2
2/8 6:04	103508.0	47.61	4.2	1199.7
2/8 6:05	104013.0	47.78	4.2	1200.2
2/8 6:06	104613.0	48.09	4.2	1200.0
2/8 6:07	103100.0	47.33	4.2	1199.8
2/8 6:08	102756.0	47.16	4.2	1200.0
2/8 6:09	104065.0	47.78	4.2	1200.0
2/8 6:10	103553.0	47.52	4.2	1200.2
2/8 6:11	104905.0	48.26	4.2	1200.2
2/8 6:12	104532.0	48.08	4.2	1200.0
2/8 6:13	102576.0	47.26	4.2	1199.8
2/8 6:14	102974.0	47.39	4.2	1199.8
2/8 6:15	103513.0	47.59	4.2	1199.8
2/8 6:16	104246.0	47.93	4.2	1199.7
2/8 6:17	102815.0	47.18	4.2	1200.0
2/8 6:18	105610.0	48.52	4.2	1199.8
2/8 6:19	103910.0	47.71	4.2	1200.2
2/8 6:20	102457.0	47.04	4.2	1200.2
2/8 6:21	103748.0	47.61	4.2	1200.0
2/8 6:22	102079.0	46.84	4.2	1200.0
2/8 6:23	103125.0	47.44	4.2	1200.0
2/8 6:24	105578.0	48.54	4.2	1200.2
2/8 6:25	103194.0	47.47	4.2	1200.0
2/8 6:26	103240.0	47.41	4.2	1200.2
2/8 6:27	102623.0	47.12	4.2	1199.8
2/8 6:28	103514.0	47.50	4.2	1199.8
2/8 6:29	102994.0	47.23	4.2	1200.0
2/8 6:30	103270.0	47.39	4.2	1200.0
2/8 6:31	103634.0	47.59	4.2	1199.8
2/8 6:32	103492.0	47.61	4.2	1200.2
2/8 6:33	101431.0	46.75	4.2	1200.0
2/8 6:34	104403.0	48.08	4.2	1200.0
2/8 6:35	104362.0	48.08	4.2	1200.0
2/8 6:36	103698.0	47.70	4.2	1199.7
2/8 6:37	103807.0	47.67	4.2	1200.0
2/8 6:38	104458.0	47.87	4.2	1200.0
2/8 6:39	104347.0	47.85	4.2	1200.2
2/8 6:40	105671.0	48.54	4.2	1200.0
2/8 6:41	102322.0	47.05	4.2	1200.2
2/8 6:42	104209.0	47.94	4.2	1199.8
2/8 6:43	103496.0	47.61	4.2	1199.7
2/8 6:44	101880.0	46.77	4.2	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/8 6:45	104746.0	48.04	4.2	1200.0
2/8 6:46	104987.0	48.10	4.2	1200.2
2/8 6:47	105030.0	48.10	4.2	1200.3
2/8 6:48	104160.0	47.78	4.2	1200.0
2/8 6:49	103705.0	47.59	4.2	1198.8
2/8 6:50	103578.0	47.62	4.2	1198.8
2/8 6:51	105104.0	48.23	4.2	1200.0
2/8 6:52	104531.0	47.99	4.2	1200.0
2/8 6:53	103829.0	47.65	4.2	1200.0
2/8 6:54	103589.0	47.54	4.2	1200.0
2/8 6:55	104693.0	48.04	4.2	1200.0
2/8 6:56	105698.0	48.41	4.2	1199.7
2/8 6:57	105561.0	48.33	4.2	1199.7
2/8 6:58	102431.0	46.97	4.2	1199.8
2/8 6:59	104735.0	47.97	4.2	1200.0
2/8 7:00	103786.0	47.63	4.2	1200.0
2/8 7:01	105138.0	48.25	4.2	1199.8
2/8 7:02	103944.0	47.70	4.2	1199.8
2/8 7:03	104217.0	47.80	4.2	1199.8
2/8 7:04	104346.0	47.79	4.2	1199.8
2/8 7:05	104296.0	47.73	4.2	1199.8
2/8 7:06	103478.0	47.34	4.2	1200.0
2/8 7:07	104705.0	47.90	4.2	1200.2
2/8 7:08	103302.0	47.20	4.2	1199.8
2/8 7:09	105251.0	48.15	4.2	1200.2
2/8 7:10	105243.0	48.20	4.2	1200.0
2/8 7:11	106001.0	48.61	4.2	1200.2
2/8 7:12	103056.0	47.29	4.2	1200.0
2/8 7:13	103826.0	47.65	4.2	1199.7
2/8 7:14	103965.0	47.69	4.2	1200.2
2/8 7:15	103895.0	47.57	4.2	1198.8
2/8 7:16	106757.0	48.87	4.2	1200.0
2/8 7:17	104535.0	47.86	4.2	1199.7
2/8 7:18	105027.0	48.08	4.2	1200.0
2/8 7:19	105048.0	48.09	4.2	1200.2
2/8 7:20	105298.0	48.29	4.2	1200.2
2/8 7:21	106048.0	48.75	4.2	1200.2
2/8 7:22	104158.0	47.91	4.2	1200.3
2/8 7:23	104376.0	48.01	4.2	1200.0
2/8 7:24	105694.0	48.55	4.2	1200.0
2/8 7:25	102462.0	47.04	4.2	1200.0
2/8 7:26	104385.0	47.90	4.2	1200.2
2/8 7:27	104401.0	47.91	4.2	1200.0
2/8 7:28	105096.0	48.23	4.2	1199.8
2/8 7:29	103894.0	47.58	4.2	1200.0
2/8 7:30	105074.0	48.27	4.2	1200.0
2/8 7:31	105141.0	48.36	4.2	1199.8
2/8 7:32	101824.0	46.84	4.2	1200.2
2/8 7:33	103990.0	47.84	4.2	1199.7

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas		Input mmBtu/hr		Megawatts		Exhaust Temp	
	Flow scf/hr	1-Min	1-Min	1-Min	4.2	4.2	°F	1-Min
2/8 7:34	103626.0		47.59		4.2		1200.0	
2/8 7:35	102593.0		47.19		4.2		1199.8	
2/8 7:36	104048.0		47.77		4.2		1199.7	
2/8 7:37	105230.0		48.29		4.2		1199.8	
2/8 7:38	104217.0		47.83		4.2		1200.2	
2/8 7:39	103816.0		47.67		4.2		1200.0	
2/8 7:40	104425.0		48.01		4.2		1200.0	
2/8 7:41	103669.0		47.66		4.2		1200.0	
2/8 7:42	102433.0		47.04		4.2		1200.0	
2/8 7:43	103551.0		47.57		4.2		1200.0	
2/8 7:44	104701.0		48.07		4.2		1199.8	
2/8 7:45	105220.0		48.26		4.2		1199.7	
2/8 7:46	104613.0		48.01		4.2		1200.0	
2/8 7:47	102934.0		47.23		4.2		1200.0	
2/8 7:48	106321.0		48.77		4.2		1199.8	
2/8 7:49	104933.0		48.07		4.2		1200.3	
2/8 7:50	104323.0		47.87		4.2		1200.3	
2/8 7:51	103843.0		47.65		4.2		1200.0	
2/8 7:52	104355.0		47.80		4.2		1200.3	
2/8 7:53	103743.0		47.69		4.2		1200.0	
2/8 7:54	105433.0		48.40		4.2		1200.2	
2/8 7:55	104194.0		47.84		4.2		1199.8	
2/8 7:56	105810.0		48.67		4.2		1200.3	
2/8 7:57	103647.0		47.59		4.2		1199.8	
2/8 7:58	106231.0		48.75		4.2		1200.0	
2/8 7:59	103804.0		47.63		4.2		1200.0	
2/8 8:00	103077.0		47.30		4.2		1200.0	
2/8 8:01	102782.0		47.15		4.2		1200.0	
2/8 8:02	104149.0		47.73		4.2		1200.2	
2/8 8:03	105004.0		48.18		4.2		1200.0	
2/8 8:04	104121.0		47.78		4.2		1200.2	
2/8 8:05	103171.0		47.34		4.2		1200.0	
2/8 8:06	105250.0		48.30		4.2		1200.2	
2/8 8:07	103745.0		47.59		4.2		1200.0	
2/8 8:08	104723.0		47.96		4.2		1200.3	
2/8 8:09	102052.0		46.83		4.2		1200.2	
2/8 8:10	102968.0		47.25		4.2		1199.7	
2/8 8:11	103625.0		47.56		4.2		1200.2	
2/8 8:12	105497.0		48.41		4.2		1200.0	
2/8 8:13	104532.0		47.97		4.2		1200.0	
2/8 8:14	104712.0		48.03		4.2		1199.7	
2/8 8:15	103255.0		47.37		4.2		1200.2	
2/8 8:16	103135.0		47.33		4.2		1200.0	
2/8 8:17	105650.0		48.50		4.2		1200.0	
2/8 8:18	102589.0		47.16		4.2		1200.0	
2/8 8:19	104143.0		47.90		4.2		1200.2	
2/8 8:20	103155.0		47.45		4.2		1200.0	
2/8 8:21	101967.0		46.91		4.2		1200.0	
2/8 8:22	103675.0		47.69		4.2		1200.2	

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/8 8:23	104152.0	47.85	4.2	1200.0
2/8 8:24	105920.0	48.61	4.2	1199.8
2/8 8:25	104912.0	48.14	4.2	1200.0
2/8 8:26	104038.0	47.86	4.2	1200.0
2/8 8:27	103029.0	47.41	4.2	1200.0
2/8 8:28	102946.0	47.36	4.2	1200.2
2/8 8:29	103204.0	47.47	4.2	1200.0
2/8 8:30	102247.0	47.04	4.2	1200.0
2/8 8:31	104067.0	47.87	4.2	1200.0
2/8 8:32	104598.0	48.11	4.2	1200.0
2/8 8:33	103867.0	47.72	4.2	1199.8
2/8 8:34	103532.0	47.59	4.2	1199.8
2/8 8:35	103818.0	47.85	4.2	1200.0
2/8 8:36	102638.0	47.31	4.2	1199.8
2/8 8:37	104398.0	47.99	4.2	1200.0
2/8 8:38	103831.0	47.65	4.2	1200.0
2/8 8:39	103218.0	47.37	4.2	1200.0
2/8 8:40	103920.0	47.69	4.2	1200.2
2/8 8:41	103322.0	47.50	4.2	1200.0
2/8 8:42	104331.0	47.99	4.2	1200.0
2/8 8:43	102124.0	46.98	4.2	1200.2
2/8 8:44	103717.0	47.73	4.2	1199.8
2/8 8:45	104302.0	47.96	4.2	1200.0
2/8 8:46	101683.0	46.68	4.2	1200.0
2/8 8:47	102741.0	47.15	4.2	1200.0
2/8 8:48	103626.0	47.58	4.2	1200.0
2/8 8:49	102853.0	47.25	4.2	1200.0
2/8 8:50	104733.0	48.21	4.2	1200.2
2/8 8:51	101322.0	46.70	4.2	1200.0
2/8 8:52	103751.0	47.82	4.2	1200.0
2/8 8:53	104846.0	48.28	4.2	1199.7
2/8 8:54	102553.0	47.17	4.2	1199.7
2/8 8:55	104447.0	48.05	4.2	1200.0
2/8 8:56	103403.0	47.54	4.2	1200.2
2/8 8:57	103539.0	47.63	4.2	1200.3
2/8 8:58	103648.0	47.68	4.2	1200.0
2/8 8:59	102395.0	47.10	4.2	1200.0
2/8 9:00	103819.0	47.73	4.2	1200.0
2/8 9:01	102813.0	47.29	4.2	1200.0
2/8 9:02	101665.0	46.77	4.2	1199.8
2/8 9:03	103419.0	47.55	4.2	1200.0
2/8 9:04	102233.0	47.03	4.2	1200.2
2/8 9:05	103096.0	47.43	4.2	1200.2
2/8 9:06	102996.0	47.35	4.2	1200.0
2/8 9:07	103516.0	47.54	4.2	1200.0
2/8 9:08	102349.0	46.97	4.2	1200.0
2/8 9:09	104247.0	47.84	4.2	1199.8
2/8 9:10	104225.0	47.75	4.2	1200.2
2/8 9:11	102246.0	46.94	4.2	1200.0

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp	°F 1-Min	
2/8 9:12	102740.0		47.23		4.2		1200.2	
2/8 9:13	103513.0		47.61		4.2		1199.8	
2/8 9:14	104775.0		48.20		4.2		1200.0	
2/8 9:15	101557.0		46.63		4.2		1199.8	
2/8 9:16	104119.0		47.78		4.2		1200.0	
2/8 9:17	103585.0		47.54		4.2		1200.0	
2/8 9:18	103273.0		47.37		4.2		1200.0	
2/8 9:19	104317.0		47.81		4.2		1199.8	
2/8 9:20	104397.0		47.88		4.2		1200.2	
2/8 9:21	100906.0		46.29		4.2		1200.2	
2/8 9:22	100941.0		46.32		4.2		1199.8	
2/8 9:23	102567.0		47.05		4.2		1200.0	
2/8 9:24	102763.0		47.09		4.2		1200.0	
2/8 9:25	103188.0		47.24		4.2		1199.8	
2/8 9:26	102771.0		47.05		4.2		1200.0	
2/8 9:27	103741.0		47.49		4.2		1200.0	
2/8 9:28	103202.0		47.36		4.2		1200.0	
2/8 9:29	101943.0		46.78		4.2		1200.0	
2/8 9:30	104224.0		47.83		4.2		1200.0	
2/8 9:31	103951.0		47.68		4.2		1199.7	
2/8 9:32	105383.0		48.24		4.2		1200.2	
2/8 9:33	104824.0		47.89		4.2		1200.0	
2/8 9:34	105141.0		48.02		4.2		1200.0	
2/8 9:35	103993.0		47.58		4.2		1200.2	
2/8 9:36	103450.0		47.44		4.2		1200.0	
2/8 9:37	102028.0		46.82		4.2		1200.0	
2/8 9:38	103771.0		47.53		4.2		1200.2	
2/8 9:39	103531.0		47.40		4.2		1200.3	
2/8 9:40	101055.0		46.27		4.2		1200.0	
2/8 9:41	102914.0		47.09		4.2		1200.0	
2/8 9:42	102104.0		46.66		4.1		1200.0	
2/8 9:43	102782.0		46.94		4.1		1200.0	
2/8 9:44	102538.0		46.83		4.1		1200.2	
2/8 9:45	101414.0		46.45		4.1		1200.2	
2/8 9:46	102748.0		47.06		4.1		1200.0	
2/8 9:47	100722.0		46.19		4.1		1199.8	
2/8 9:48	103645.0		47.45		4.1		1199.8	
2/8 9:49	104070.0		47.64		4.2		1200.0	
2/8 9:50	103224.0		47.25		4.1		1200.0	
2/8 9:51	101476.0		46.46		4.1		1200.2	
2/8 9:52	103488.0		47.40		4.2		1200.0	
2/8 9:53	103800.0		47.55		4.1		1199.7	
2/8 9:54	103044.0		47.09		4.2		1200.0	
2/8 9:55	103341.0		47.23		4.2		1200.0	
2/8 9:56	103123.0		47.19		4.2		1200.0	
2/8 9:57	102692.0		46.98		4.2		1199.7	
2/8 9:58	102686.0		46.88		4.2		1199.8	
2/8 9:59	103407.0		47.23		4.2		1199.7	
2/8 10:00	102372.0		46.59		4.2		1200.3	

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/8 10:01	103400.0	47.17	4.2	1200.3
2/8 10:02	103331.0	47.33	4.2	1200.2
2/8 10:03	103899.0	47.66	4.2	1199.8
2/8 10:04	100204.0	45.95	4.2	1200.3
2/8 10:05	103539.0	47.48	4.2	1199.8
2/8 10:06	101604.0	46.51	4.2	1200.0
2/8 10:07	102055.0	46.74	4.2	1200.2
2/8 10:08	103387.0	47.45	4.2	1200.2
2/8 10:09	103319.0	47.44	4.2	1200.0
2/8 10:10	102558.0	47.16	4.2	1200.2
2/8 10:11	101421.0	46.52	4.2	1200.0
2/8 10:12	100554.0	46.14	4.1	1200.0
2/8 10:13	102311.0	46.98	4.2	1199.8
2/8 10:14	102938.0	47.33	4.2	1200.0
2/8 10:15	101387.0	46.51	4.2	1199.7
2/8 10:16	103125.0	47.24	4.2	1200.2
2/8 10:17	104125.0	47.76	4.2	1200.2
2/8 10:18	102191.0	46.86	4.2	1200.0
2/8 10:19	100095.0	46.02	4.2	1199.8
2/8 10:20	101459.0	46.67	4.2	1200.2
2/8 10:21	103276.0	47.45	4.2	1200.0
2/8 10:22	100986.0	46.37	4.2	1200.0
2/8 10:23	103562.0	47.52	4.2	1199.7
2/8 10:24	102374.0	47.03	4.2	1200.0
2/8 10:25	102487.0	47.11	4.2	1199.8
2/8 10:26	101820.0	46.75	4.2	1200.0
2/8 10:27	103224.0	47.46	4.2	1199.5
2/8 10:28	103145.0	47.30	4.2	1199.2
2/8 10:29	102023.0	46.57	4.2	1200.2
2/8 10:30	100996.0	46.05	4.2	1200.2
2/8 10:31	102109.0	46.66	4.2	1200.2
2/8 10:32	102568.0	46.96	4.2	1200.0
2/8 10:33	103700.0	47.47	4.2	1200.0
2/8 10:34	102248.0	46.81	4.2	1199.7
2/8 10:35	104391.0	47.74	4.2	1199.8
2/8 10:36	104193.0	47.55	4.2	1199.7
2/8 10:37	104966.0	47.85	4.2	1200.3
2/8 10:38	102710.0	46.89	4.2	1200.0
2/8 10:39	102498.0	46.89	4.2	1200.3
2/8 10:40	103439.0	47.32	4.2	1200.2
2/8 10:41	102850.0	47.05	4.2	1200.3
2/8 10:42	104022.0	47.71	4.2	1199.8
2/8 10:43	102859.0	47.20	4.2	1200.2
2/8 10:44	103590.0	47.62	4.2	1200.0
2/8 10:45	101242.0	46.49	4.2	1199.8
2/8 10:46	103321.0	47.41	4.2	1199.8
2/8 10:47	103786.0	47.61	4.2	1199.8
2/8 10:48	101132.0	46.39	4.2	1200.0
2/8 10:49	102211.0	46.92	4.2	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/8 10:50	102225.0	46.91	4.2	1200.3
2/8 10:51	102448.0	47.13	4.2	1200.2
2/8 10:52	100598.0	46.30	4.2	1200.2
2/8 10:53	101864.0	46.91	4.2	1199.8
2/8 10:54	102192.0	47.01	4.1	1200.0
2/8 10:55	102571.0	47.18	4.1	1200.0
2/8 10:56	102196.0	47.01	4.1	1200.2
2/8 10:57	101236.0	46.57	4.1	1200.2
2/8 10:58	101807.0	46.83	4.1	1200.0
2/8 10:59	101499.0	46.69	4.1	1200.0
2/8 11:00	102028.0	47.03	4.2	1200.0
2/8 11:01	102445.0	47.15	4.2	1200.2
2/8 11:02	101505.0	46.75	4.2	1200.3
2/8 11:03	100419.0	46.38	4.2	1200.2
2/8 11:04	99861.0	46.19	4.1	1199.8
2/8 11:05	102741.0	47.46	4.2	1200.0
2/8 11:06	102704.0	47.38	4.2	1199.8
2/8 11:07	103421.0	47.72	4.2	1200.0
2/8 11:08	100763.0	46.46	4.1	1200.5
2/8 11:09	101644.0	46.89	4.1	1200.3
2/8 11:10	103790.0	47.97	4.1	1200.0
2/8 11:11	101878.0	47.06	4.1	1200.0
2/8 11:12	100792.0	46.67	4.1	1200.0
2/8 11:13	100833.0	46.67	4.1	1200.0
2/8 11:14	100489.0	46.53	4.1	1200.0
2/8 11:15	102347.0	47.42	4.1	1200.0
2/8 11:16	102546.0	47.48	4.1	1199.8
2/8 11:17	104080.0	48.11	4.2	1199.7
2/8 11:18	100629.0	46.45	4.2	1199.8
2/8 11:19	100704.0	46.45	4.2	1200.0
2/8 11:20	101261.0	46.76	4.2	1200.0
2/8 11:21	100561.0	46.48	4.2	1200.3
2/8 11:22	102626.0	47.44	4.2	1199.5
2/8 11:23	103515.0	47.82	4.2	1200.2
2/8 11:24	99555.0	46.02	4.2	1200.0
2/8 11:25	99513.0	46.01	4.2	1200.5
2/8 11:26	102637.0	47.51	4.1	1200.0
2/8 11:27	101809.0	47.14	4.1	1200.5
2/8 11:28	99886.0	46.24	4.1	1199.7
2/8 11:29	103189.0	47.73	4.1	1200.2
2/8 11:30	101284.0	46.83	4.2	1199.7
2/8 11:31	99392.0	45.94	4.2	1200.2
2/8 11:32	101809.0	47.06	4.2	1200.0
2/8 11:33	100883.0	46.74	4.1	1200.3
2/8 11:34	100614.0	46.61	4.1	1200.0
2/8 11:35	99752.0	46.21	4.1	1199.8
2/8 11:36	101523.0	47.03	4.1	1199.8
2/8 11:37	99950.0	46.32	4.1	1200.2
2/8 11:38	99674.0	46.18	4.1	1199.8

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/8 11:39	100836.0	46.72	4.1	1199.8
2/8 11:40	101715.0	47.05	4.1	1199.7
2/8 11:41	101884.0	47.12	4.2	1200.2
2/8 11:42	101112.0	46.84	4.2	1200.0
2/8 11:43	100815.0	46.71	4.2	1200.2
2/8 11:44	101758.0	47.18	4.2	1200.0
2/8 11:45	100254.0	46.48	4.2	1199.8
2/8 11:46	99595.0	46.14	4.1	1200.0
2/8 11:47	100319.0	46.40	4.1	1200.0
2/8 11:48	100309.0	46.44	4.1	1199.8
2/8 11:49	101447.0	47.00	4.1	1200.3
2/8 11:50	102333.0	47.43	4.1	1200.8
2/8 11:51	100789.0	46.86	4.1	1200.0
2/8 11:52	101568.0	47.27	4.1	1199.7
2/8 11:53	101165.0	47.00	4.1	1199.5
2/8 11:54	101836.0	47.28	4.1	1200.0
2/8 11:55	99519.0	46.19	4.1	1199.8
2/8 11:56	102572.0	47.54	4.1	1199.8
2/8 11:57	101239.0	46.99	4.1	1200.2
2/8 11:58	100078.0	46.47	4.1	1199.8
2/8 11:59	103371.0	47.97	4.1	1200.0
2/8 12:00	100443.0	46.63	4.1	1200.0
2/8 12:01	101371.0	47.07	4.1	1199.8
2/8 12:02	101829.0	47.28	4.1	1200.0
2/8 12:03	101014.0	46.99	4.1	1199.8
2/8 12:04	100484.0	46.69	4.1	1200.3
2/8 12:05	101030.0	47.02	4.1	1200.5
2/8 12:06	99897.0	46.49	4.1	1200.0
2/8 12:07	98584.0	45.88	4.1	1200.0
2/8 12:08	100358.0	46.71	4.1	1200.0
2/8 12:09	101131.0	47.07	4.1	1199.8
2/8 12:10	100469.0	46.78	4.1	1199.8
2/8 12:11	102079.0	47.53	4.1	1199.8
2/8 12:12	102116.0	47.50	4.1	1200.0
2/8 12:13	101968.0	47.48	4.1	1200.2
2/8 12:14	101342.0	47.28	4.1	1200.0
2/8 12:15	102477.0	47.78	4.1	1199.5
2/8 12:16	100527.0	46.79	4.1	1200.2
2/8 12:17	102202.0	47.56	4.1	1200.3
2/8 12:18	99649.0	46.38	4.1	1199.8
2/8 12:19	101961.0	47.37	4.1	1200.3
2/8 12:20	100300.0	46.72	4.1	1200.3
2/8 12:21	101150.0	47.12	4.1	1199.8
2/8 12:22	100520.0	46.82	4.1	1200.2
2/8 12:23	100534.0	46.83	4.1	1199.8
2/8 12:24	101238.0	47.12	4.1	1200.0
2/8 12:25	100103.0	46.59	4.1	1200.0
2/8 12:26	100668.0	46.85	4.1	1200.0
2/8 12:27	101220.0	47.17	4.1	1200.0
Average	102464.1	47.2	4.2	1200.0

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas Flow scf/hr 1-Min	Exhaust Temp °F 1-Min	Input mmtBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min
2/8 12:28	101114.0	47.10	48.51	4.1	1199.8	1199.8	1199.8	1199.8
2/8 12:29	99942.0	48.51	48.51	4.1	1199.7	1199.7	1199.7	1199.7
2/8 12:30	100884.0	48.88	48.88	4.1	1199.8	1199.8	1199.8	1199.8
2/8 12:31	98442.0	48.23	48.23	4.1	1200.8	1200.8	1200.8	1200.8
2/8 12:32	101638.0	47.36	47.36	4.1	1199.8	1199.8	1199.8	1199.8
2/8 12:33	100378.0	48.83	48.83	4.1	1199.8	1199.8	1199.8	1199.8
2/8 12:34	98621.0	48.40	48.40	4.1	1199.7	1199.7	1199.7	1199.7
2/8 12:35	99731.0	46.41	46.41	4.1	1200.0	1200.0	1200.0	1200.0
2/8 12:36	100682.0	48.86	48.86	4.1	1200.3	1200.3	1200.3	1200.3
2/8 12:37	100120.0	48.60	48.60	4.1	1200.3	1200.3	1200.3	1200.3
2/8 12:38	101201.0	47.19	47.19	4.1	1200.2	1200.2	1200.2	1200.2
2/8 12:39	101239.0	47.23	47.23	4.1	1200.3	1200.3	1200.3	1200.3
2/8 12:40	99790.0	48.55	48.55	4.1	1200.0	1200.0	1200.0	1200.0
2/8 12:41	100232.0	48.76	48.76	4.1	1200.0	1200.0	1200.0	1200.0
2/8 12:42	100279.0	46.78	46.78	4.1	1199.8	1199.8	1199.8	1199.8
2/8 12:43	101859.0	47.52	47.52	4.1	1199.8	1199.8	1199.8	1199.8
2/8 12:44	99548.0	46.44	46.44	4.1	1200.0	1200.0	1200.0	1200.0
2/8 12:45	99108.0	46.23	46.23	4.1	1199.8	1199.8	1199.8	1199.8
2/8 12:46	102405.0	47.77	47.77	4.1	1200.0	1200.0	1200.0	1200.0
2/8 12:47	100296.0	46.79	46.79	4.1	1200.0	1200.0	1200.0	1200.0
2/8 12:48	100575.0	46.92	46.92	4.1	1199.8	1199.8	1199.8	1199.8
2/8 12:49	99753.0	48.55	48.55	4.1	1200.0	1200.0	1200.0	1200.0
2/8 12:50	99949.0	46.63	46.63	4.1	1199.8	1199.8	1199.8	1199.8
2/8 12:51	100848.0	47.11	47.11	4.1	1198.0	1198.0	1198.0	1198.0
2/8 12:52	105541.0	48.05	48.05	4.2	1199.0	1199.0	1199.0	1199.0
2/8 12:53	100213.0	45.53	45.53	4.2	1202.5	1202.5	1202.5	1202.5
2/8 12:54	99962.0	46.54	46.54	4.1	1200.5	1200.5	1200.5	1200.5
2/8 12:55	101349.0	47.31	47.31	4.1	1199.7	1199.7	1199.7	1199.7
2/8 12:56	98263.0	46.30	46.30	4.1	1199.8	1199.8	1199.8	1199.8
2/8 12:57	100098.0	46.67	46.67	4.1	1200.0	1200.0	1200.0	1200.0
2/8 12:58	99438.0	46.28	46.28	4.1	1200.2	1200.2	1200.2	1200.2
2/8 12:59	100299.0	46.74	46.74	4.1	1200.3	1200.3	1200.3	1200.3
2/8 13:00	99143.0	46.25	46.25	4.1	1200.0	1200.0	1200.0	1200.0
2/8 13:01	99038.0	46.23	46.23	4.1	1200.2	1200.2	1200.2	1200.2
2/8 13:02	100617.0	47.00	47.00	4.1	1200.3	1200.3	1200.3	1200.3
2/8 13:03	98904.0	46.14	46.14	4.1	1199.8	1199.8	1199.8	1199.8
2/8 13:04	98010.0	45.72	45.72	4.1	1199.8	1199.8	1199.8	1199.8
2/8 13:05	100381.0	46.83	46.83	4.1	1200.2	1200.2	1200.2	1200.2
2/8 13:06	99086.0	46.30	46.30	4.1	1200.0	1200.0	1200.0	1200.0
2/8 13:07	98325.0	46.43	46.43	4.1	1199.8	1199.8	1199.8	1199.8
2/8 13:08	100228.0	46.87	46.87	4.1	1200.0	1200.0	1200.0	1200.0
2/8 13:09	99218.0	46.35	46.35	4.1	1199.5	1199.5	1199.5	1199.5
2/8 13:10	99638.0	46.48	46.48	4.1	1200.0	1200.0	1200.0	1200.0
2/8 13:11	100181.0	46.73	46.73	4.1	1199.8	1199.8	1199.8	1199.8
2/8 13:12	100131.0	46.64	46.64	4.1	1200.2	1200.2	1200.2	1200.2
2/8 13:13	99590.0	46.39	46.39	4.1	1200.5	1200.5	1200.5	1200.5
2/8 13:14	100162.0	46.61	46.61	4.1	1196.8	1196.8	1196.8	1196.8
2/8 13:15	105722.0	47.50	47.50	4.1	1201.0	1201.0	1201.0	1201.0
2/8 13:16	100557.0	45.82	45.82	4.1	1200.2	1200.2	1200.2	1200.2

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	1-Min	1-Min
2/8 13:17	10314.0	47.02	4.1	1200.2
2/8 13:18	101505.0	46.23	4.1	1200.0
2/8 13:19	102020.0	46.46	4.1	1200.0
2/8 13:20	104229.0	47.47	4.1	1199.8
2/8 13:21	102155.0	46.54	4.1	1200.2
2/8 13:22	101785.0	46.58	4.1	1201.0
2/8 13:23	101993.0	46.99	4.1	1199.7
2/8 13:24	103255.0	47.27	4.1	1199.7
2/8 13:25	102804.0	46.95	4.1	1200.0
2/8 13:26	102762.0	46.93	4.1	1200.0
2/8 13:27	102695.0	46.92	4.1	1201.0
2/8 13:28	101636.0	46.98	4.1	1201.2
2/8 13:29	101065.0	47.12	4.1	1199.8
2/8 13:30	100889.0	47.05	4.1	1199.3
2/8 13:31	100942.0	46.84	4.1	1199.7
2/8 13:32	100531.0	46.60	4.1	1200.2
2/8 13:33	101625.0	47.28	4.1	1200.3
2/8 13:34	100684.0	47.00	4.1	1200.2
2/8 13:35	100157.0	46.83	4.1	1200.2
2/8 13:36	100771.0	47.12	4.1	1199.8
2/8 13:37	100845.0	47.07	4.1	1200.0
2/8 13:38	100198.0	46.74	4.1	1200.0
2/8 13:39	101883.0	47.53	4.1	1200.5
2/8 13:40	99229.0	46.37	4.1	1200.5
2/8 13:41	99671.0	46.59	4.1	1200.0
2/8 13:42	100352.0	46.94	4.1	1199.8
2/8 13:43	100312.0	46.87	4.1	1200.0
2/8 13:44	100714.0	46.98	4.1	1199.5
2/8 13:45	99722.0	46.54	4.1	1200.0
2/8 13:46	99720.0	46.58	4.1	1200.0
2/8 13:47	99805.0	46.61	4.1	1199.8
2/8 13:48	98867.0	46.12	4.1	1200.0
2/8 13:49	99991.0	46.58	4.1	1200.2
2/8 13:50	100611.0	46.79	4.1	1199.8
2/8 13:51	101895.0	47.31	4.1	1200.7
2/8 13:52	100244.0	46.65	4.1	1200.5
2/8 13:53	99825.0	46.55	4.1	1200.0
2/8 13:54	99433.0	46.35	4.1	1200.0
2/8 13:55	99337.0	46.25	4.1	1199.8
2/8 13:56	99624.0	46.40	4.1	1200.0
2/8 13:57	98261.0	45.79	4.1	1200.2
2/8 13:58	99266.0	46.33	4.1	1199.3
2/8 13:59	100073.0	46.68	4.1	1200.0
2/8 14:00	100428.0	46.85	4.1	1200.2
2/8 14:01	97648.0	45.55	4.1	1199.8
2/8 14:02	101476.0	47.34	4.1	1199.8
2/8 14:03	100041.0	46.67	4.1	1199.8
2/8 14:04	101835.0	47.54	4.1	1200.0
2/8 14:05	102113.0	47.70	4.1	1199.8

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Landfill Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min
2/8 14:06	100919.0	47.08	4.1	1200.0	100919.0	47.08	4.1	1200.0
2/8 14:07	100579.0	46.94	4.1	1200.0	100579.0	46.94	4.1	1200.0
2/8 14:08	99981.0	46.64	4.1	1199.8	99981.0	46.64	4.1	1199.8
2/8 14:09	101030.0	47.13	4.1	1200.0	101030.0	47.13	4.1	1200.0
2/8 14:10	100542.0	46.90	4.1	1199.7	100542.0	46.90	4.1	1199.7
2/8 14:11	99964.0	46.61	4.1	1200.0	99964.0	46.61	4.1	1200.0
2/8 14:12	100533.0	46.88	4.1	1200.0	100533.0	46.88	4.1	1200.0
2/8 14:13	99806.0	46.47	4.1	1200.3	99806.0	46.47	4.1	1200.3
2/8 14:14	101131.0	47.07	4.1	1200.2	101131.0	47.07	4.1	1200.2
2/8 14:15	100506.0	46.73	4.1	1199.5	100506.0	46.73	4.1	1199.5
2/8 14:16	102184.0	47.37	4.1	1200.0	102184.0	47.37	4.1	1200.0
2/8 14:17	99681.0	46.28	4.1	1200.2	99681.0	46.28	4.1	1200.2
2/8 14:18	99524.0	46.21	4.1	1200.2	99524.0	46.21	4.1	1200.2
2/8 14:19	101276.0	47.02	4.1	1200.2	101276.0	47.02	4.1	1200.2
2/8 14:20	100438.0	46.60	4.1	1199.8	100438.0	46.60	4.1	1199.8
2/8 14:21	99816.0	46.33	4.1	1199.8	99816.0	46.33	4.1	1199.8
2/8 14:22	100509.0	46.67	4.1	1200.3	100509.0	46.67	4.1	1200.3
2/8 14:23	102085.0	47.41	4.1	1199.8	102085.0	47.41	4.1	1199.8
2/8 14:24	99899.0	46.00	4.1	1199.8	99899.0	46.00	4.1	1199.8
2/8 14:25	100623.0	46.76	4.1	1200.2	100623.0	46.76	4.1	1200.2
2/8 14:26	101222.0	47.00	4.1	1199.8	101222.0	47.00	4.1	1199.8
2/8 14:27	101824.0	47.24	4.1	1199.7	101824.0	47.24	4.1	1199.7
2/8 14:28	101610.0	47.11	4.1	1200.3	101610.0	47.11	4.1	1200.3
2/8 14:29	101494.0	47.04	4.1	1199.8	101494.0	47.04	4.1	1199.8
2/8 14:30	100841.0	46.79	4.1	1200.2	100841.0	46.79	4.1	1200.2
2/8 14:31	101441.0	47.10	4.1	1200.0	101441.0	47.10	4.1	1200.0
2/8 14:32	99904.0	46.46	4.1	1200.3	99904.0	46.46	4.1	1200.3
2/8 14:33	101682.0	47.32	4.1	1199.8	101682.0	47.32	4.1	1199.8
2/8 14:34	100357.0	46.80	4.1	1200.0	100357.0	46.80	4.1	1200.0
2/8 14:35	99774.0	46.47	4.1	1200.3	99774.0	46.47	4.1	1200.3
2/8 14:36	99446.0	46.39	4.1	1199.8	99446.0	46.39	4.1	1199.8
2/8 14:37	101252.0	47.21	4.1	1200.2	101252.0	47.21	4.1	1200.2
2/8 14:38	100284.0	46.75	4.1	1199.7	100284.0	46.75	4.1	1199.7
2/8 14:39	100804.0	46.99	4.1	1199.2	100804.0	46.99	4.1	1199.2
2/8 14:40	101458.0	47.15	4.1	1200.5	101458.0	47.15	4.1	1200.5
2/8 14:41	99174.0	46.26	4.1	1200.3	99174.0	46.26	4.1	1200.3
2/8 14:42	101296.0	47.26	4.1	1199.8	101296.0	47.26	4.1	1199.8
2/8 14:43	100274.0	46.75	4.1	1200.0	100274.0	46.75	4.1	1200.0
2/8 14:44	99420.0	46.38	4.1	1200.0	99420.0	46.38	4.1	1200.0
2/8 14:45	97981.0	45.68	4.1	1199.7	97981.0	45.68	4.1	1199.7
2/8 14:46	101043.0	46.84	4.1	1198.8	101043.0	46.84	4.1	1198.8
2/8 14:47	102119.0	47.17	4.1	1200.5	102119.0	47.17	4.1	1200.5
2/8 14:48	99785.0	46.36	4.1	1200.0	99785.0	46.36	4.1	1200.0
2/8 14:49	101894.0	47.31	4.1	1200.2	101894.0	47.31	4.1	1200.2
2/8 14:50	100355.0	46.60	4.1	1199.8	100355.0	46.60	4.1	1199.8
2/8 14:51	101168.0	46.97	4.1	1199.7	101168.0	46.97	4.1	1199.7
2/8 14:52	100696.0	46.76	4.1	1200.2	100696.0	46.76	4.1	1200.2
2/8 14:53	100236.0	46.58	4.1	1199.7	100236.0	46.58	4.1	1199.7
2/8 14:54	103090.0	47.81	4.1	1199.5	103090.0	47.81	4.1	1199.5

Timestamp	(TG-741)	(TG-741) Heat		(TG-741)	(TG-741) T7
	Landfill Gas Flow scf/hr	Input mmBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	
2/8 14:55	102437.0	47.24	4.1	1200.0	
2/8 14:56	101707.0	46.82	4.1	1199.8	
2/8 14:57	101784.0	46.93	4.1	1200.7	
2/8 14:58	100192.0	46.28	4.1	1200.2	
2/8 14:59	101523.0	46.97	4.1	1200.7	
2/8 15:00	100740.0	46.86	4.1	1200.0	
2/8 15:01	100193.0	46.65	4.1	1200.2	
2/8 15:02	101715.0	47.38	4.1	1199.8	
2/8 15:03	98768.0	45.97	4.1	1200.2	
2/8 15:04	99438.0	46.25	4.1	1199.8	
2/8 15:05	98927.0	46.02	4.1	1200.0	
2/8 15:06	99743.0	46.35	4.1	1200.0	
2/8 15:07	101816.0	47.31	4.1	1199.8	
2/8 15:08	99659.0	46.35	4.1	1199.7	
2/8 15:09	100481.0	46.65	4.1	1200.3	
2/8 15:10	100210.0	46.56	4.1	1200.2	
2/8 15:11	101365.0	47.07	4.1	1200.0	
2/8 15:12	99608.0	46.33	4.1	1200.0	
2/8 15:13	102049.0	47.42	4.1	1199.5	
2/8 15:14	99217.0	46.15	4.1	1199.8	
2/8 15:15	101116.0	47.04	4.1	1200.2	
2/8 15:16	99823.0	46.35	4.1	1199.7	
2/8 15:17	100842.0	46.82	4.1	1200.3	
2/8 15:18	103311.0	48.03	4.1	1199.8	
2/8 15:19	102009.0	47.46	4.1	1200.0	
2/8 15:20	98920.0	46.04	4.1	1200.0	
2/8 15:21	102011.0	47.48	4.1	1200.2	
2/8 15:22	102452.0	47.66	4.1	1200.3	
2/8 15:23	99939.0	46.60	4.1	1199.7	
2/8 15:24	102418.0	47.18	4.1	1196.8	
2/8 15:25	102568.0	46.14	4.2	1202.5	
2/8 15:26	99657.0	46.06	4.1	1201.5	
2/8 15:27	100485.0	46.83	4.1	1200.2	
2/8 15:28	99908.0	46.59	4.1	1199.5	
2/8 15:29	98876.0	46.02	4.1	1199.8	
2/8 15:30	100028.0	46.47	4.1	1199.8	
2/8 15:31	98776.0	45.86	4.1	1200.0	
2/8 15:32	100870.0	46.87	4.1	1200.2	
2/8 15:33	100223.0	46.70	4.1	1200.0	
2/8 15:34	100307.0	46.79	4.1	1200.0	
2/8 15:35	101054.0	47.11	4.1	1199.8	
2/8 15:36	98729.0	46.41	4.1	1199.8	
2/8 15:37	99922.0	46.50	4.1	1200.2	
2/8 15:38	99263.0	46.20	4.1	1200.0	
2/8 15:39	100370.0	46.73	4.1	1200.2	
2/8 15:40	99781.0	46.55	4.1	1200.2	
2/8 15:41	100122.0	46.71	4.1	1200.0	
2/8 15:42	100196.0	46.65	4.1	1198.8	
2/8 15:43	101074.0	47.04	4.1	1200.3	

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp	*F 1-Min	
2/8 15:44	100449.0	46.75	4.1	1199.8				
2/8 15:45	100944.0	46.98	4.1	1200.2				
2/8 15:46	100788.0	46.98	4.1	1199.7				
2/8 15:47	99088.0	46.20	4.1	1200.2				
2/8 15:48	100610.0	46.77	4.1	1199.2				
2/8 15:49	101643.0	47.01	4.1	1200.5				
2/8 15:50	101019.0	46.90	4.1	1200.2				
2/8 15:51	101245.0	47.05	4.1	1198.5				
2/8 15:52	103773.0	47.36	4.2	1199.2				
2/8 15:53	100377.0	45.87	4.1	1202.2				
2/8 15:54	99755.0	46.36	4.1	1200.3				
2/8 15:55	99249.0	46.25	4.1	1199.5				
2/8 15:56	101162.0	47.10	4.1	1199.3				
2/8 15:57	99416.0	46.11	4.1	1199.7				
2/8 15:58	101450.0	47.10	4.1	1200.0				
2/8 15:59	100058.0	46.46	4.1	1200.2				
2/8 16:00	100324.0	46.62	4.1	1200.2				
2/8 16:01	99956.0	46.56	4.1	1200.0				
2/8 16:02	101610.0	47.40	4.1	1200.0				
2/8 16:03	100758.0	46.97	4.1	1199.7				
2/8 16:04	101298.0	47.15	4.1	1200.0				
2/8 16:05	100361.0	46.71	4.1	1200.2				
2/8 16:06	100648.0	46.88	4.1	1200.7				
2/8 16:07	99102.0	46.10	4.1	1198.7				
2/8 16:08	102304.0	47.08	4.1	1198.3				
2/8 16:09	100519.0	46.07	4.2	1202.2				
2/8 16:10	100138.0	46.63	4.1	1201.2				
2/8 16:11	101799.0	47.57	4.1	1197.3				
2/8 16:12	103472.0	46.84	4.2	1200.2				
2/8 16:13	100542.0	45.92	4.1	1202.0				
2/8 16:14	98981.0	46.09	4.1	1200.5				
2/8 16:15	101691.0	47.52	4.1	1200.3				
2/8 16:16	101075.0	47.15	4.1	1199.5				
2/8 16:17	100540.0	46.88	4.1	1199.8				
2/8 16:18	99540.0	46.37	4.1	1200.0				
2/8 16:19	99389.0	46.32	4.1	1200.7				
2/8 16:20	99860.0	46.69	4.1	1200.0				
2/8 16:21	99396.0	46.46	4.1	1199.3				
2/8 16:22	101865.0	47.45	4.1	1199.8				
2/8 16:23	100847.0	46.87	4.1	1198.2				
2/8 16:24	110741.0	49.27	4.2	1196.2				
2/8 16:25	111585.0	46.59	4.2	1196.7				
2/8 16:26	113285.0	47.03	4.2	1203.2				
2/8 16:27	113018.0	47.10	4.2	1197.8				
2/8 16:28	113940.0	47.60	4.2	1198.7				
2/8 16:29	114191.0	47.55	4.2	1200.5				
2/8 16:30	116174.0	47.80	4.2	1201.2				
2/8 16:31	113964.0	46.70	4.2	1200.2				
2/8 16:32	115826.0	47.47	4.2	1199.8				

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	T7 Exhaust Temp °F 1-Min		
2/8 16:33	113961.0	46.70	4.2	1199.0				
2/8 16:34	113357.0	46.38	4.2	1200.0				
2/8 16:35	113660.0	46.46	4.2	1199.5				
2/8 16:36	114517.0	46.82	4.2	1199.8				
2/8 16:37	114265.0	46.87	4.2	1200.8				
2/8 16:38	113691.0	46.86	4.2	1200.0				
2/8 16:39	110848.0	45.91	4.2	1198.5				
2/8 16:40	110469.0	46.64	4.2	1201.0				
2/8 16:41	106416.0	46.02	4.2	1203.2				
2/8 16:42	101568.0	45.73	4.2	1203.2				
2/8 16:43	101939.0	47.00	4.1	1199.7				
2/8 16:44	101459.0	46.81	4.1	1199.3				
2/8 16:45	101330.0	46.74	4.1	1200.5				
2/8 16:46	98722.0	45.65	4.1	1200.3				
2/8 16:47	100727.0	46.77	4.1	1200.2				
2/8 16:48	100366.0	46.71	4.1	1199.8				
2/8 16:49	99964.0	46.52	4.1	1199.8				
2/8 16:50	101490.0	47.29	4.1	1199.8				
2/8 16:51	100282.0	46.75	4.1	1200.0				
2/8 16:52	98012.0	45.72	4.1	1199.7				
2/8 16:53	100510.0	46.89	4.1	1200.0				
2/8 16:54	100218.0	46.75	4.1	1200.0				
2/8 16:55	100414.0	46.84	4.1	1200.0				
2/8 16:56	98220.0	45.82	4.1	1200.0				
2/8 16:57	101083.0	47.15	4.2	1200.0				
2/8 16:58	98251.0	45.83	4.1	1190.7				
2/8 16:59	100999.0	47.12	4.2	1199.3				
2/8 17:00	100516.0	46.89	4.2	1200.3				
2/8 17:01	99583.0	46.34	4.2	1200.0				
2/8 17:02	100633.0	46.93	4.2	1200.7				
2/8 17:03	100161.0	46.70	4.2	1199.8				
2/8 17:04	101353.0	47.34	4.1	1199.5				
2/8 17:05	100399.0	46.82	4.2	1199.5				
2/8 17:06	100171.0	46.54	4.2	1200.0				
2/8 17:07	100398.0	46.65	4.2	1200.3				
2/8 17:08	101117.0	47.06	4.2	1199.5				
2/8 17:09	103698.0	47.64	4.2	1199.5				
2/8 17:10	100296.0	46.27	4.2	1201.2				
2/8 17:11	101810.0	47.46	4.2	1200.2				
2/8 17:12	100212.0	46.75	4.2	1199.8				
2/8 17:13	101462.0	47.24	4.2	1199.3				
2/8 17:14	101312.0	46.97	4.2	1200.5				
2/8 17:15	101321.0	47.08	4.2	1200.7				
2/8 17:16	101263.0	47.24	4.2	1200.5				
2/8 17:17	99076.0	46.33	4.2	1199.8				
2/8 17:18	102497.0	47.88	4.2	1199.7				
2/8 17:19	101171.0	47.15	4.2	1199.8				
2/8 17:20	101839.0	47.33	4.2	1199.8				
2/8 17:21	100759.0	46.87	4.2	1200.7				
Average	101541.9	46.8	4.1	1199.9				

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas Flow scf/hr 1-Min	Landfill Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Input mmBtu/hr 1-Min	Megawatts 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min
2/8 17:22	101060.0	101060.0	47.14	47.14	4.2	4.2	1199.8	1199.8
2/8 17:23	101533.0	101533.0	47.36	47.36	4.2	4.2	1200.0	1200.0
2/8 17:24	100096.0	100096.0	46.70	46.70	4.2	4.2	1199.7	1199.7
2/8 17:25	102980.0	102980.0	47.95	47.95	4.2	4.2	1199.8	1199.8
2/8 17:26	100444.0	100444.0	46.72	46.72	4.2	4.2	1200.2	1200.2
2/8 17:27	101493.0	101493.0	47.16	47.16	4.2	4.2	1200.2	1200.2
2/8 17:28	101355.0	101355.0	47.09	47.09	4.2	4.2	1200.2	1200.2
2/8 17:29	99114.0	99114.0	46.08	46.08	4.2	4.2	1200.2	1200.2
2/8 17:30	101398.0	101398.0	47.19	47.19	4.2	4.2	1200.0	1200.0
2/8 17:31	100937.0	100937.0	46.98	46.98	4.2	4.2	1199.8	1199.8
2/8 17:32	101493.0	101493.0	47.23	47.23	4.2	4.2	1200.0	1200.0
2/8 17:33	101555.0	101555.0	47.27	47.27	4.2	4.2	1199.5	1199.5
2/8 17:34	101224.0	101224.0	47.11	47.11	4.2	4.2	1200.3	1200.3
2/8 17:35	102296.0	102296.0	47.61	47.61	4.2	4.2	1200.0	1200.0
2/8 17:36	101133.0	101133.0	47.07	47.07	4.2	4.2	1199.8	1199.8
2/8 17:37	101585.0	101585.0	47.17	47.17	4.2	4.2	1199.7	1199.7
2/8 17:38	101081.0	101081.0	46.93	46.93	4.2	4.2	1200.0	1200.0
2/8 17:39	99365.0	99365.0	46.14	46.14	4.2	4.2	1199.8	1199.8
2/8 17:40	103181.0	103181.0	47.91	47.91	4.2	4.2	1200.2	1200.2
2/8 17:41	99791.0	99791.0	46.33	46.33	4.2	4.2	1199.8	1199.8
2/8 17:42	100529.0	100529.0	46.68	46.68	4.2	4.2	1200.2	1200.2
2/8 17:43	101996.0	101996.0	47.36	47.36	4.2	4.2	1199.8	1199.8
2/8 17:44	101828.0	101828.0	47.28	47.28	4.2	4.2	1200.0	1200.0
2/8 17:45	102243.0	102243.0	47.47	47.47	4.2	4.2	1200.0	1200.0
2/8 17:46	101636.0	101636.0	47.19	47.19	4.2	4.2	1200.2	1200.2
2/8 17:47	101196.0	101196.0	47.07	47.07	4.2	4.2	1199.8	1199.8
2/8 17:48	101197.0	101197.0	46.99	46.99	4.2	4.2	1200.2	1200.2
2/8 17:49	102112.0	102112.0	47.38	47.38	4.2	4.2	1200.0	1200.0
2/8 17:50	100850.0	100850.0	46.72	46.72	4.2	4.2	1199.8	1199.8
2/8 17:51	102018.0	102018.0	47.32	47.32	4.2	4.2	1199.8	1199.8
2/8 17:52	101548.0	101548.0	47.15	47.15	4.2	4.2	1200.0	1200.0
2/8 17:53	100147.0	100147.0	46.53	46.53	4.2	4.2	1200.2	1200.2
2/8 17:54	101929.0	101929.0	47.33	47.33	4.2	4.2	1199.8	1199.8
2/8 17:55	103463.0	103463.0	48.07	48.07	4.2	4.2	1200.0	1200.0
2/8 17:56	102286.0	102286.0	47.48	47.48	4.2	4.2	1200.2	1200.2
2/8 17:57	98548.0	98548.0	45.73	45.73	4.2	4.2	1199.3	1199.3
2/8 17:58	101128.0	101128.0	46.85	46.85	4.2	4.2	1200.2	1200.2
2/8 17:59	101325.0	101325.0	46.97	46.97	4.2	4.2	1200.0	1200.0
2/8 18:00	99792.0	99792.0	46.28	46.28	4.2	4.2	1200.2	1200.2
2/8 18:01	101396.0	101396.0	47.08	47.08	4.2	4.2	1200.2	1200.2
2/8 18:02	101744.0	101744.0	47.22	47.22	4.2	4.2	1199.8	1199.8
2/8 18:03	101201.0	101201.0	46.99	46.99	4.2	4.2	1199.7	1199.7
2/8 18:04	101754.0	101754.0	47.17	47.17	4.2	4.2	1200.0	1200.0
2/8 18:05	101604.0	101604.0	47.07	47.07	4.2	4.2	1199.8	1199.8
2/8 18:06	100501.0	100501.0	46.56	46.56	4.2	4.2	1199.7	1199.7
2/8 18:07	101699.0	101699.0	47.12	47.12	4.2	4.2	1200.0	1200.0
2/8 18:08	102324.0	102324.0	47.40	47.40	4.2	4.2	1200.0	1200.0
2/8 18:09	102681.0	102681.0	47.57	47.57	4.2	4.2	1200.0	1200.0
2/8 18:10	101394.0	101394.0	46.97	46.97	4.2	4.2	1200.0	1200.0

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Exhaust Temp °F 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Megawatts 1-Min
2/8 18:11	101334.0	46.95	4.2	4.2	1200.2	1199.8	4.2	4.2
2/8 18:12	101355.0	47.01	4.2	4.2	1199.7	1200.2	4.2	4.2
2/8 18:13	101957.0	47.21	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:14	101950.0	47.09	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:15	100581.0	46.43	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:16	102999.0	47.61	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:17	101635.0	46.98	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:18	102092.0	47.19	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:19	102361.0	47.20	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:20	101821.0	47.03	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:21	101487.0	46.82	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:22	101561.0	46.88	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:23	101414.0	46.83	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:24	101652.0	46.87	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:25	100640.0	46.44	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:26	100814.0	46.59	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:27	101619.0	46.97	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:28	102073.0	47.10	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:29	101254.0	46.69	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:30	102439.0	47.17	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:31	101238.0	46.57	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:32	101149.0	46.60	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:33	102462.0	47.18	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:34	101892.0	46.98	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:35	102305.0	47.20	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:36	102437.0	47.31	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:37	101666.0	46.88	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:38	102790.0	47.40	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:39	100881.0	46.52	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:40	100112.0	46.16	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:41	103478.0	47.69	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:42	100091.0	46.15	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:43	102199.0	47.12	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:44	100552.0	46.34	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:45	103669.0	47.87	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:46	102526.0	47.19	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:47	102411.0	47.22	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:48	102187.0	47.12	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:49	100275.0	46.18	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:50	102206.0	47.13	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:51	101619.0	46.88	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:52	101814.0	47.02	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:53	101996.0	47.06	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:54	102609.0	47.43	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:55	102233.0	47.14	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:56	103085.0	47.56	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:57	102447.0	47.24	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:58	102427.0	47.25	4.2	4.2	1200.0	1200.2	4.2	4.2
2/8 18:59	102090.0	46.98	4.2	4.2	1200.0	1200.2	4.2	4.2

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	2/8 19:00	100985.0	46.45	4.2
Average (all)	102194.1	47.09	4.2	1200.0
Total (all)	--	--	--	--
Minimum (all)	97648.0	45.53	4.1	1190.7
Maximum (all)	116174.0	49.27	4.2	1203.2
Average (valid values only)	102194.1	47.09	4.2	1200.0
Total (valid values only)	--	--	--	--
Count (valid values only)	781	781	781	781

Cedar 1-Minute Data

Sunshine Gas Producers, LLC

Data for 2/9/2023 6:00 AM thru 2/9/2023 7:00 PM

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/9 6:00	101278.0	46.42	4.2	1200.2
2/9 6:01	105057.0	48.21	4.2	1200.0
2/9 6:02	103513.0	47.50	4.2	1200.0
2/9 6:03	102432.0	47.01	4.2	1199.7
2/9 6:04	103617.0	47.52	4.2	1200.0
2/9 6:05	103327.0	47.30	4.2	1200.0
2/9 6:06	103804.0	47.61	4.2	1200.0
2/9 6:07	102593.0	47.06	4.2	1200.3
2/9 6:08	103497.0	47.43	4.2	1200.3
2/9 6:09	103355.0	47.40	4.2	1199.8
2/9 6:10	101568.0	46.53	4.2	1200.0
2/9 6:11	104950.0	48.05	4.2	1200.2
2/9 6:12	102971.0	47.14	4.2	1200.2
2/9 6:13	102654.0	46.99	4.2	1200.0
2/9 6:14	101104.0	46.28	4.2	1200.0
2/9 6:15	103258.0	47.27	4.2	1199.8
2/9 6:16	103981.0	47.60	4.2	1200.2
2/9 6:17	103235.0	47.29	4.2	1200.0
2/9 6:18	103957.0	47.64	4.2	1199.7
2/9 6:19	103294.0	47.37	4.2	1199.8
2/9 6:20	102150.0	46.78	4.2	1200.0
2/9 6:21	104467.0	47.81	4.2	1200.0
2/9 6:22	104739.0	47.86	4.2	1200.2
2/9 6:23	103084.0	47.11	4.2	1200.2
2/9 6:24	102587.0	46.97	4.2	1199.8
2/9 6:25	103291.0	47.32	4.2	1199.8
2/9 6:26	102360.0	46.97	4.2	1200.0
2/9 6:27	104139.0	47.79	4.2	1200.0
2/9 6:28	101213.0	46.41	4.2	1200.2
2/9 6:29	102977.0	47.14	4.2	1200.0
2/9 6:30	103729.0	47.49	4.2	1200.3
2/9 6:31	101876.0	46.66	4.2	1199.8
2/9 6:32	102636.0	46.96	4.2	1200.0
2/9 6:33	103909.0	47.57	4.2	1200.0
2/9 6:34	103847.0	47.54	4.2	1199.8
2/9 6:35	102485.0	46.92	4.2	1199.8
2/9 6:36	101806.0	46.63	4.2	1200.0
2/9 6:37	103421.0	47.37	4.2	1200.0
2/9 6:38	103389.0	47.35	4.2	1200.2
2/9 6:39	102521.0	46.91	4.2	1199.7
2/9 6:40	103877.0	47.47	4.2	1200.2
2/9 6:41	102469.0	46.83	4.2	1199.8
2/9 6:42	103405.0	47.32	4.2	1200.0
2/9 6:43	104064.0	47.52	4.2	1199.7
2/9 6:44	104752.0	47.84	4.2	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr	(TG-741) Heat Input mmBtu/hr	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	4.2	1200.0
2/9 6:45	103727.0	47.37	4.2	1200.0
2/9 6:46	103639.0	47.33	4.2	1200.0
2/9 6:47	102268.0	46.71	4.2	1200.2
2/9 6:48	102843.0	46.97	4.2	1199.5
2/9 6:49	102133.0	46.62	4.2	1200.0
2/9 6:50	102527.0	46.86	4.2	1200.2
2/9 6:51	101449.0	46.36	4.2	1200.0
2/9 6:52	103954.0	47.54	4.2	1200.0
2/9 6:53	103239.0	47.17	4.2	1200.0
2/9 6:54	103389.0	47.22	4.2	1200.0
2/9 6:55	104211.0	47.54	4.2	1200.2
2/9 6:56	103817.0	47.30	4.2	1200.0
2/9 6:57	102865.0	46.89	4.2	1200.5
2/9 6:58	103213.0	47.16	4.2	1200.2
2/9 6:59	102603.0	46.95	4.2	1199.8
2/9 7:00	103926.0	47.46	4.2	1200.0
2/9 7:01	104557.0	47.70	4.2	1199.7
2/9 7:02	103136.0	46.99	4.2	1200.2
2/9 7:03	102081.0	46.59	4.2	1200.2
2/9 7:04	104536.0	47.77	4.2	1200.0
2/9 7:05	102967.0	47.03	4.2	1200.2
2/9 7:06	103036.0	47.15	4.2	1199.8
2/9 7:07	103623.0	47.32	4.2	1200.0
2/9 7:08	102117.0	46.64	4.2	1200.2
2/9 7:09	103915.0	47.57	4.2	1200.2
2/9 7:10	101460.0	46.59	4.2	1200.2
2/9 7:11	102934.0	47.32	4.2	1199.3
2/9 7:12	105156.0	48.12	4.2	1199.5
2/9 7:13	105307.0	48.01	4.2	1199.8
2/9 7:14	106217.0	48.34	4.2	1200.0
2/9 7:15	103108.0	47.07	4.2	1200.5
2/9 7:16	102430.0	46.97	4.2	1200.3
2/9 7:17	102096.0	47.04	4.2	1199.8
2/9 7:18	103464.0	47.50	4.2	1200.2
2/9 7:19	101742.0	46.72	4.2	1200.0
2/9 7:20	103605.0	47.68	4.2	1202.0
2/9 7:21	101737.0	47.67	4.2	1201.2
2/9 7:22	99960.0	47.18	4.2	1200.2
2/9 7:23	99734.0	47.15	4.2	1199.3
2/9 7:24	99496.0	46.96	4.2	1199.7
2/9 7:25	102555.0	48.21	4.2	1199.3
2/9 7:26	100852.0	47.19	4.2	1199.7
2/9 7:27	102962.0	48.00	4.2	1199.3
2/9 7:28	102369.0	47.50	4.2	1199.5
2/9 7:29	102265.0	47.27	4.2	1199.8
2/9 7:30	102895.0	47.36	4.2	1199.8
2/9 7:31	104243.0	47.89	4.2	1200.0
2/9 7:32	105581.0	48.45	4.2	1200.2
2/9 7:33	103576.0	47.53	4.2	1200.0

Timestamp	(TG-741) Landfill Gas Flow mscf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/9 7:34	102739.0	47.15	4.2	1199.8
2/9 7:35	102392.0	46.95	4.2	1199.8
2/9 7:36	102349.0	46.88	4.2	1199.8
2/9 7:37	105121.0	48.12	4.2	1200.0
2/9 7:38	104394.0	47.82	4.2	1200.2
2/9 7:39	101638.0	46.66	4.2	1200.2
2/9 7:40	103463.0	47.71	4.2	1200.3
2/9 7:41	101114.0	46.80	4.2	1200.2
2/9 7:42	101469.0	47.06	4.2	1200.2
2/9 7:43	101776.0	47.26	4.2	1200.0
2/9 7:44	101369.0	47.13	4.2	1200.0
2/9 7:45	101012.0	47.03	4.2	1200.0
2/9 7:46	100944.0	47.07	4.2	1200.0
2/9 7:47	100949.0	47.00	4.2	1200.2
2/9 7:48	100519.0	46.89	4.2	1200.0
2/9 7:49	101297.0	47.35	4.2	1200.2
2/9 7:50	99986.0	46.79	4.2	1200.0
2/9 7:51	102000.0	47.70	4.2	1200.0
2/9 7:52	100727.0	47.10	4.2	1200.0
2/9 7:53	100666.0	47.13	4.2	1199.8
2/9 7:54	99631.0	46.59	4.2	1200.0
2/9 7:55	100707.0	47.09	4.2	1200.0
2/9 7:56	100730.0	47.16	4.2	1200.0
2/9 7:57	100315.0	46.94	4.2	1200.0
2/9 7:58	101684.0	47.61	4.2	1199.8
2/9 7:59	100233.0	46.89	4.2	1200.0
2/9 8:00	103103.0	48.23	4.2	1200.2
2/9 8:01	99943.0	46.75	4.2	1200.0
2/9 8:02	100321.0	46.91	4.2	1200.0
2/9 8:03	100440.0	47.00	4.2	1200.0
2/9 8:04	100666.0	47.16	4.2	1200.0
2/9 8:05	101266.0	47.37	4.2	1199.8
2/9 8:06	100490.0	47.07	4.2	1200.2
2/9 8:07	101126.0	47.29	4.2	1199.8
2/9 8:08	99979.0	46.75	4.2	1200.2
2/9 8:09	101875.0	47.64	4.2	1200.0
2/9 8:10	102192.0	47.78	4.2	1200.0
2/9 8:11	102026.0	47.71	4.2	1200.0
2/9 8:12	100074.0	46.79	4.2	1200.0
2/9 8:13	101290.0	47.36	4.2	1200.0
2/9 8:14	100906.0	47.19	4.2	1200.0
2/9 8:15	100874.0	47.17	4.2	1199.8
2/9 8:16	100283.0	46.89	4.2	1200.2
2/9 8:17	102397.0	47.96	4.2	1200.3
2/9 8:18	101162.0	47.30	4.2	1199.7
2/9 8:19	101573.0	47.51	4.2	1200.0
2/9 8:20	100475.0	47.00	4.2	1200.0
2/9 8:21	98492.0	46.08	4.2	1200.0
2/9 8:22	99603.0	46.68	4.2	1199.8

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	1-Min	1-Min
2/9 8:23	101557.0	47 60	4.2	1200.0
2/9 8:24	100986.0	47 33	4.2	1200.0
2/9 8:25	100197.0	46 94	4.2	1199.8
2/9 8:26	101009.0	47 34	4.2	1200.0
2/9 8:27	100531.0	47 12	4.2	1200.0
2/9 8:28	101300.0	47 40	4.2	1200.0
2/9 8:29	100402.0	46 95	4.2	1200.0
2/9 8:30	99869.0	46 78	4.2	1200.2
2/9 8:31	100199.0	46 94	4.2	1200.2
2/9 8:32	100821.0	47 17	4.2	1200.0
2/9 8:33	100736.0	47 13	4.2	1200.0
2/9 8:34	98716.0	46 22	4.2	1200.0
2/9 8:35	100076.0	46 89	4.2	1200.0
2/9 8:36	100484.0	47 09	4.2	1200.2
2/9 8:37	101231.0	47 47	4.2	1200.0
2/9 8:38	101344.0	47 42	4.2	1199.8
2/9 8:39	101977.0	47 63	4.2	1199.8
2/9 8:40	99601.0	46 54	4.2	1200.2
2/9 8:41	101563.0	47 46	4.2	1200.0
2/9 8:42	101575.0	47 50	4.2	1200.0
2/9 8:43	100252.0	46 90	4.2	1200.2
2/9 8:44	101038.0	47 33	4.2	1200.3
2/9 8:45	101530.0	47 67	4.2	1199.8
2/9 8:46	101527.0	47 57	4.2	1200.2
2/9 8:47	101105.0	47 39	4.2	1200.0
2/9 8:48	99424.0	46 58	4.2	1200.3
2/9 8:49	99696.0	46 73	4.2	1199.8
2/9 8:50	100993.0	47 33	4.2	1200.0
2/9 8:51	100365.0	47 04	4.2	1200.0
2/9 8:52	99825.0	46 77	4.1	1198.8
2/9 8:53	100726.0	46 85	4.2	1199.3
2/9 8:54	101352.0	46 96	4.2	1200.2
2/9 8:55	101548.0	47 15	4.2	1200.7
2/9 8:56	100601.0	46 96	4.2	1200.5
2/9 8:57	101475.0	47 53	4.2	1200.0
2/9 8:58	99082.0	46 30	4.1	1196.5
2/9 8:59	101570.0	47 09	4.2	1199.8
2/9 9:00	101555.0	46 96	4.2	1200.0
2/9 9:01	101570.0	47 03	4.2	1199.8
2/9 9:02	100781.0	46 74	4.2	1199.8
2/9 9:03	101603.0	47 15	4.2	1199.8
2/9 9:04	99628.0	46 26	4.2	1200.0
2/9 9:05	101218.0	47 19	4.2	1200.5
2/9 9:06	100170.0	46 84	4.2	1200.2
2/9 9:07	101131.0	47 29	4.2	1200.2
2/9 9:08	100644.0	47 15	4.2	1200.2
2/9 9:09	100246.0	46 97	4.2	1200.2
2/9 9:10	100960.0	47 32	4.1	1200.2
2/9 9:11	100335.0	47 05	4.2	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/9 9:12	100251.0	46.99	4.2	1199.8
2/9 9:13	100972.0	47.32	4.2	1200.2
2/9 9:14	100719.0	47.16	4.2	1199.8
2/9 9:15	101121.0	47.28	4.1	1199.5
2/9 9:16	101165.0	47.20	4.2	1199.8
2/9 9:17	101007.0	47.01	4.1	1198.8
2/9 9:18	102124.0	47.22	4.2	1199.5
2/9 9:19	102022.0	46.85	4.2	1199.8
2/9 9:20	102441.0	46.90	4.2	1199.8
2/9 9:21	102097.0	46.63	4.2	1200.2
2/9 9:22	101796.0	46.55	4.1	1198.3
2/9 9:23	107623.0	48.10	4.2	1199.8
2/9 9:24	109254.0	47.61	4.2	1199.3
2/9 9:25	105497.0	46.49	4.2	1199.5
2/9 9:26	104059.0	46.24	4.2	1200.7
2/9 9:27	104399.0	46.87	4.2	1201.3
2/9 9:28	104483.0	47.43	4.1	1199.2
2/9 9:29	103209.0	46.66	4.2	1200.3
2/9 9:30	103532.0	46.97	4.2	1200.2
2/9 9:31	102012.0	46.40	4.2	1200.3
2/9 9:32	104554.0	47.75	4.2	1200.2
2/9 9:33	103476.0	47.23	4.2	1199.8
2/9 9:34	103124.0	46.95	4.2	1200.2
2/9 9:35	103120.0	46.89	4.2	1199.7
2/9 9:36	104442.0	47.47	4.2	1200.2
2/9 9:37	103163.0	46.93	4.2	1200.3
2/9 9:38	103449.0	47.13	4.2	1200.2
2/9 9:39	103217.0	47.03	4.2	1199.8
2/9 9:40	103440.0	47.13	4.2	1200.0
2/9 9:41	103608.0	47.27	4.2	1199.8
2/9 9:42	101690.0	46.44	4.2	1200.2
2/9 9:43	103596.0	47.41	4.2	1200.3
2/9 9:44	102163.0	46.77	4.2	1200.2
2/9 9:45	100997.0	46.26	4.2	1200.0
2/9 9:46	104412.0	47.89	4.2	1200.0
2/9 9:47	102961.0	47.14	4.2	1200.0
2/9 9:48	101343.0	46.39	4.2	1200.0
2/9 9:49	103977.0	47.69	4.2	1200.5
2/9 9:50	103465.0	47.57	4.2	1199.8
2/9 9:51	101555.0	46.70	4.2	1200.2
2/9 9:52	102888.0	47.33	4.2	1200.2
2/9 9:53	102035.0	46.94	4.2	1199.8
2/9 9:54	100765.0	46.36	4.1	1200.0
2/9 9:55	101692.0	46.78	4.1	1200.2
2/9 9:56	102322.0	47.07	4.1	1200.3
2/9 9:57	102999.0	47.45	4.1	1200.2
2/9 9:58	101466.0	46.79	4.1	1200.3
2/9 9:59	103572.0	47.76	4.1	1199.7
2/9 10:00	102841.0	47.42	4.1	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/9 10:01	100647.0	46.37	4.1	1200.3
2/9 10:02	101911.0	46.99	4.1	1200.0
2/9 10:03	103377.0	47.67	4.1	1199.8
2/9 10:04	102882.0	47.35	4.1	1200.2
2/9 10:05	102857.0	47.32	4.2	1200.2
2/9 10:06	101321.0	46.70	4.1	1200.0
2/9 10:07	101914.0	46.99	4.1	1200.0
2/9 10:08	102588.0	47.35	4.1	1200.2
2/9 10:09	100783.0	46.47	4.1	1200.2
2/9 10:10	101910.0	46.99	4.1	1199.8
2/9 10:11	101598.0	46.88	4.1	1199.8
2/9 10:12	102322.0	47.12	4.1	1199.7
2/9 10:13	100781.0	46.41	4.1	1200.2
2/9 10:14	101675.0	46.80	4.1	1200.0
2/9 10:15	102088.0	46.96	4.1	1200.0
2/9 10:16	102725.0	47.33	4.1	1200.2
2/9 10:17	101201.0	46.66	4.1	1200.3
2/9 10:18	99748.0	45.90	4.1	1200.2
2/9 10:19	103610.0	47.66	4.1	1199.8
2/9 10:20	102459.0	47.13	4.1	1200.2
2/9 10:21	102322.0	47.05	4.1	1200.0
2/9 10:22	101104.0	46.45	4.1	1200.3
2/9 10:23	102891.0	47.40	4.1	1199.8
2/9 10:24	103096.0	47.48	4.1	1200.2
2/9 10:25	101122.0	46.57	4.1	1200.5
2/9 10:26	100593.0	46.38	4.1	1200.0
2/9 10:27	101877.0	47.05	4.1	1200.2
2/9 10:28	102444.0	47.32	4.1	1199.5
2/9 10:29	101239.0	46.70	4.1	1199.8
2/9 10:30	102618.0	47.37	4.1	1200.0
2/9 10:31	102136.0	47.12	4.1	1200.0
2/9 10:32	102026.0	47.16	4.1	1200.0
2/9 10:33	99842.0	46.15	4.1	1200.0
2/9 10:34	100459.0	46.43	4.1	1200.2
2/9 10:35	101148.0	46.72	4.1	1200.0
2/9 10:36	102374.0	47.27	4.1	1200.0
2/9 10:37	100635.0	46.41	4.1	1200.0
2/9 10:38	101035.0	46.64	4.1	1199.8
2/9 10:39	100143.0	46.17	4.1	1200.0
2/9 10:40	100887.0	46.52	4.1	1200.0
2/9 10:41	101789.0	46.94	4.1	1200.3
2/9 10:42	101763.0	46.92	4.1	1200.0
2/9 10:43	102510.0	47.27	4.1	1199.7
2/9 10:44	104293.0	47.99	4.1	1199.2
2/9 10:45	103465.0	47.28	4.1	1199.5
2/9 10:46	102299.0	46.67	4.1	1200.2
2/9 10:47	101002.0	46.19	4.1	1200.5
2/9 10:48	101416.0	46.63	4.1	1200.5
2/9 10:49	100122.0	46.22	4.1	1199.8

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/9 10:50	100419.0	46.41	4.1	1199.8
2/9 10:51	100733.0	46.56	4.1	1200.0
2/9 10:52	102543.0	47.39	4.1	1200.2
2/9 10:53	101699.0	47.01	4.1	1200.0
2/9 10:54	100431.0	46.42	4.1	1200.0
2/9 10:55	102314.0	47.31	4.1	1199.8
2/9 10:56	102178.0	47.28	4.1	1199.7
2/9 10:57	100417.0	46.41	4.1	1200.0
2/9 10:58	99521.0	45.96	4.1	1200.2
2/9 10:59	101221.0	46.78	4.1	1199.8
2/9 11:00	101753.0	47.06	4.1	1200.2
2/9 11:01	100747.0	46.68	4.1	1199.7
2/9 11:02	99883.0	46.27	4.1	1200.2
2/9 11:03	100143.0	46.39	4.1	1199.8
2/9 11:04	101930.0	47.14	4.1	1200.0
2/9 11:05	100612.0	46.52	4.1	1200.0
2/9 11:06	103129.0	47.70	4.1	1200.2
2/9 11:07	102225.0	47.33	4.1	1200.0
2/9 11:08	99000.0	45.87	4.1	1200.0
2/9 11:09	100631.0	46.56	4.1	1200.2
2/9 11:10	100201.0	46.33	4.1	1199.8
2/9 11:11	101899.0	47.10	4.1	1200.0
2/9 11:12	100925.0	46.68	4.1	1200.0
2/9 11:13	100796.0	46.64	4.1	1200.0
2/9 11:14	99600.0	46.14	4.1	1200.2
2/9 11:15	99428.0	46.07	4.1	1199.8
2/9 11:16	102069.0	47.29	4.1	1200.2
2/9 11:17	101185.0	46.84	4.1	1199.8
2/9 11:18	101543.0	46.93	4.1	1200.0
2/9 11:19	100286.0	46.40	4.1	1200.0
2/9 11:20	100474.0	46.52	4.1	1200.0
2/9 11:21	101600.0	46.99	4.1	1200.2
2/9 11:22	100388.0	46.42	4.1	1200.3
2/9 11:23	100911.0	46.64	4.1	1200.0
2/9 11:24	101500.0	46.91	4.1	1200.0
2/9 11:25	100880.0	46.53	4.1	1200.0
2/9 11:26	99747.0	46.15	4.1	1200.2
2/9 11:27	100377.0	46.45	4.1	1199.8
2/9 11:28	101229.0	46.81	4.1	1200.3
2/9 11:29	100085.0	46.37	4.1	1199.3
2/9 11:30	100549.0	46.55	4.1	1200.2
2/9 11:31	98884.0	45.81	4.1	1200.0
2/9 11:32	98937.0	45.84	4.1	1200.0
2/9 11:33	101576.0	47.06	4.1	1200.0
2/9 11:34	101101.0	46.80	4.1	1199.7
2/9 11:35	99912.0	46.21	4.1	1200.2
2/9 11:36	100952.0	46.74	4.1	1200.0
2/9 11:37	101056.0	46.84	4.1	1200.3
2/9 11:38	98670.0	45.78	4.1	1200.0

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas Flow scf/hr	1-Min	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp °F	1-Min
2/9 11:39	99735.0	46.31	46.31	4.1	4.1	1200.0	1199.8	1199.8
2/9 11:40	99706.0	46.27	46.27	4.1	4.1	1199.5	1200.0	1200.0
2/9 11:41	101505.0	47.06	47.06	4.1	4.1	1200.3	1200.2	1200.2
2/9 11:42	99941.0	46.30	46.30	4.1	4.1	1200.0	1200.0	1200.0
2/9 11:43	100640.0	46.63	46.63	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:44	101183.0	46.88	46.88	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:45	101615.0	47.15	47.15	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:46	101252.0	46.98	46.98	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:47	100437.0	46.58	46.58	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:48	101305.0	47.04	47.04	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:49	101988.0	47.25	47.25	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:50	100339.0	46.57	46.57	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:51	100031.0	46.47	46.47	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:52	102462.0	47.66	47.66	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:53	99999.0	46.49	46.49	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:54	99835.0	46.34	46.34	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:55	100860.0	46.70	46.70	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:56	99201.0	45.92	45.92	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:57	100641.0	46.63	46.63	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:58	100332.0	46.56	46.56	4.1	4.1	1200.2	1200.0	1200.0
2/9 11:59	100380.0	46.61	46.61	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:00	100599.0	46.71	46.71	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:01	101466.0	47.09	47.09	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:02	100362.0	46.52	46.52	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:03	100423.0	46.52	46.52	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:04	100367.0	46.50	46.50	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:05	99952.0	46.34	46.34	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:06	99549.0	46.22	46.22	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:07	100411.0	46.68	46.68	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:08	98760.0	45.85	45.85	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:09	100744.0	46.75	46.75	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:10	100437.0	46.63	46.63	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:11	99943.0	46.40	46.40	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:12	100630.0	46.81	46.81	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:13	99104.0	46.07	46.07	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:14	99914.0	46.39	46.39	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:15	100344.0	46.57	46.57	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:16	100334.0	46.51	46.51	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:17	101271.0	47.02	47.02	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:18	100507.0	46.67	46.67	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:19	100941.0	46.87	46.87	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:20	100417.0	46.66	46.66	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:21	101633.0	47.19	47.19	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:22	101526.0	47.06	47.06	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:23	101510.0	47.06	47.06	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:24	100660.0	46.74	46.74	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:25	100693.0	46.68	46.68	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:26	99930.0	46.35	46.35	4.1	4.1	1200.2	1200.0	1200.0
2/9 12:27	100765.0	46.71	46.71	4.1	4.1	1200.2	1200.0	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/9 12:28	102087.0	47.40	4.1	1200.2
2/9 12:29	100070.0	46.54	4.1	1200.2
2/9 12:30	99808.0	46.38	4.1	1199.8
2/9 12:31	99935.0	46.40	4.1	1200.0
2/9 12:32	100912.0	46.85	4.1	1199.7
2/9 12:33	100997.0	46.71	4.1	1200.0
2/9 12:34	99934.0	46.22	4.1	1200.0
2/9 12:35	101862.0	47.19	4.1	1200.3
2/9 12:36	98988.0	45.96	4.1	1199.7
2/9 12:37	101404.0	47.01	4.1	1199.8
2/9 12:38	102369.0	47.48	4.1	1199.8
2/9 12:39	99491.0	46.03	4.1	1200.2
2/9 12:40	101753.0	47.05	4.1	1199.8
2/9 12:41	101952.0	47.12	4.1	1200.2
2/9 12:42	101174.0	46.76	4.1	1199.8
2/9 12:43	100399.0	46.46	4.1	1200.0
2/9 12:44	99978.0	46.32	4.1	1199.8
2/9 12:45	104129.0	48.24	4.1	1200.0
2/9 12:46	99778.0	46.23	4.1	1199.8
2/9 12:47	101896.0	47.21	4.1	1200.2
2/9 12:48	102598.0	47.53	4.1	1199.8
2/9 12:49	101530.0	47.06	4.1	1200.2
2/9 12:50	100573.0	46.69	4.1	1200.2
2/9 12:51	99941.0	46.30	4.1	1200.3
2/9 12:52	100156.0	46.47	4.1	1199.8
2/9 12:53	100992.0	46.95	4.1	1200.0
2/9 12:54	99095.0	46.05	4.1	1199.7
2/9 12:55	101785.0	47.26	4.1	1200.2
2/9 12:56	102150.0	47.47	4.1	1200.2
2/9 12:57	99875.0	46.37	4.1	1200.0
2/9 12:58	101588.0	47.21	4.1	1200.2
2/9 12:59	101282.0	47.11	4.1	1200.3
2/9 13:00	101023.0	47.01	4.1	1199.8
2/9 13:01	99815.0	46.46	4.1	1200.2
2/9 13:02	101212.0	47.16	4.1	1200.2
2/9 13:03	99245.0	46.19	4.1	1200.0
2/9 13:04	101095.0	47.05	4.1	1200.2
2/9 13:05	100490.0	46.83	4.1	1199.7
2/9 13:06	101157.0	47.12	4.1	1200.0
2/9 13:07	101071.0	47.04	4.1	1200.0
2/9 13:08	101218.0	47.09	4.1	1199.8
2/9 13:09	99371.0	46.14	4.1	1200.0
2/9 13:10	100786.0	46.79	4.1	1199.8
2/9 13:11	101834.0	47.36	4.1	1200.2
2/9 13:12	100596.0	46.82	4.1	1199.8
2/9 13:13	101067.0	47.04	4.1	1199.8
2/9 13:14	100623.0	46.80	4.1	1200.2
2/9 13:15	99896.0	46.41	4.1	1200.0
2/9 13:16	101768.0	47.18	4.1	1199.8

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas Flow scf/hr	1-Min	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp °F	1-Min
2/9 13:17	99779.0	46.31	46.31	4.1	4.1	1200.2	1200.2	1200.2
2/9 13:18	100042.0	46.45	46.45	4.1	4.1	1200.3	1200.3	1200.3
2/9 13:19	99679.0	46.28	46.28	4.1	4.1	1200.2	1200.2	1200.2
2/9 13:20	99950.0	46.47	46.47	4.1	4.1	1200.2	1200.2	1200.2
2/9 13:21	100842.0	46.80	46.80	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:22	100493.0	46.64	46.64	4.1	4.1	1199.8	1199.8	1199.8
2/9 13:23	101830.0	47.28	47.28	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:24	101004.0	46.89	46.89	4.1	4.1	1200.2	1200.2	1200.2
2/9 13:25	100740.0	46.77	46.77	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:26	100578.0	46.76	46.76	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:27	101390.0	47.12	47.12	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:28	101225.0	47.03	47.03	4.1	4.1	1199.8	1199.8	1199.8
2/9 13:29	100242.0	46.65	46.65	4.1	4.1	1200.7	1200.7	1200.7
2/9 13:30	101796.0	47.36	47.36	4.1	4.1	1199.3	1199.3	1199.3
2/9 13:31	99831.0	46.44	46.44	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:32	100202.0	46.61	46.61	4.1	4.1	1200.2	1200.2	1200.2
2/9 13:33	99467.0	45.83	45.83	4.1	4.1	1199.8	1199.8	1199.8
2/9 13:34	101049.0	46.90	46.90	4.1	4.1	1199.7	1199.7	1199.7
2/9 13:35	101150.0	46.77	46.77	4.1	4.1	1199.3	1199.3	1199.3
2/9 13:36	101514.0	46.79	46.79	4.1	4.1	1200.2	1200.2	1200.2
2/9 13:37	102198.0	47.10	47.10	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:38	100657.0	46.37	46.37	4.1	4.1	1199.8	1199.8	1199.8
2/9 13:39	103763.0	47.76	47.76	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:40	101484.0	46.76	46.76	4.1	4.1	1199.7	1199.7	1199.7
2/9 13:41	102119.0	47.07	47.07	4.1	4.1	1199.8	1199.8	1199.8
2/9 13:42	103355.0	47.66	47.66	4.1	4.1	1199.8	1199.8	1199.8
2/9 13:43	101596.0	46.77	46.77	4.1	4.1	1199.8	1199.8	1199.8
2/9 13:44	102283.0	47.14	47.14	4.1	4.1	1200.2	1200.2	1200.2
2/9 13:45	100275.0	46.16	46.16	4.1	4.1	1200.2	1200.2	1200.2
2/9 13:46	101952.0	47.03	47.03	4.1	4.1	1200.2	1200.2	1200.2
2/9 13:47	101895.0	46.99	46.99	4.1	4.1	1199.8	1199.8	1199.8
2/9 13:48	100985.0	46.57	46.57	4.1	4.1	1199.8	1199.8	1199.8
2/9 13:49	103437.0	47.60	47.60	4.1	4.1	1200.2	1200.2	1200.2
2/9 13:50	99722.0	46.03	46.03	4.1	4.1	1200.3	1200.3	1200.3
2/9 13:51	100526.0	46.54	46.54	4.1	4.1	1200.3	1200.3	1200.3
2/9 13:52	100884.0	46.74	46.74	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:53	100222.0	46.46	46.46	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:54	101982.0	47.41	47.41	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:55	101093.0	46.97	46.97	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:56	100575.0	46.79	46.79	4.1	4.1	1200.0	1200.0	1200.0
2/9 13:57	103483.0	48.14	48.14	4.1	4.1	1200.2	1200.2	1200.2
2/9 13:58	100396.0	46.65	46.65	4.1	4.1	1199.8	1199.8	1199.8
2/9 13:59	101097.0	46.94	46.94	4.1	4.1	1199.7	1199.7	1199.7
2/9 14:00	100025.0	46.44	46.44	4.1	4.1	1200.2	1200.2	1200.2
2/9 14:01	100685.0	46.78	46.78	4.1	4.1	1200.3	1200.3	1200.3
2/9 14:02	101508.0	47.24	47.24	4.1	4.1	1199.7	1199.7	1199.7
2/9 14:03	100527.0	46.81	46.81	4.1	4.1	1200.2	1200.2	1200.2
2/9 14:04	100351.0	46.70	46.70	4.1	4.1	1199.7	1199.7	1199.7
2/9 14:05	100283.0	46.67	46.67	4.1	4.1	1199.7	1199.7	1199.7

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	1-Min	1-Min
2/9 14:06	100438.0	46.74	4.1	1199.8
2/9 14:07	99702.0	46.40	4.1	1199.7
2/9 14:08	101896.0	47.42	4.1	1200.2
2/9 14:09	101820.0	47.39	4.1	1200.0
2/9 14:10	100521.0	46.75	4.1	1200.0
2/9 14:11	100220.0	46.61	4.1	1200.3
2/9 14:12	99550.0	46.33	4.1	1200.0
2/9 14:13	99775.0	46.44	4.1	1200.2
2/9 14:14	100384.0	46.72	4.1	1199.5
2/9 14:15	100099.0	46.51	4.1	1200.2
2/9 14:16	101367.0	46.96	4.1	1200.0
2/9 14:17	102206.0	47.24	4.1	1199.5
2/9 14:18	101230.0	46.79	4.1	1200.5
2/9 14:19	101590.0	46.95	4.1	1199.8
2/9 14:20	100040.0	46.16	4.1	1200.2
2/9 14:21	100910.0	46.60	4.1	1199.8
2/9 14:22	99661.0	46.08	4.1	1200.2
2/9 14:23	100110.0	46.46	4.1	1200.2
2/9 14:24	99295.0	46.21	4.1	1200.0
2/9 14:25	99016.0	46.08	4.1	1199.8
2/9 14:26	100759.0	46.87	4.1	1200.0
2/9 14:27	99655.0	46.35	4.1	1199.7
2/9 14:28	101980.0	47.43	4.1	1200.0
2/9 14:29	101034.0	47.00	4.1	1200.0
2/9 14:30	100497.0	46.77	4.1	1199.8
2/9 14:31	100546.0	46.80	4.1	1200.0
2/9 14:32	101416.0	47.07	4.1	1199.7
2/9 14:33	100351.0	46.46	4.1	1199.8
2/9 14:34	101178.0	46.88	4.1	1200.3
2/9 14:35	99178.0	46.05	4.1	1200.5
2/9 14:36	98545.0	45.87	4.1	1200.2
2/9 14:37	99649.0	46.38	4.1	1200.0
2/9 14:38	100543.0	46.79	4.1	1199.7
2/9 14:39	100013.0	46.56	4.1	1199.8
2/9 14:40	98480.0	45.80	4.1	1199.8
2/9 14:41	101704.0	47.22	4.1	1200.3
2/9 14:42	99000.0	46.04	4.1	1200.2
2/9 14:43	100956.0	46.99	4.1	1200.0
2/9 14:44	101255.0	47.13	4.1	1200.2
2/9 14:45	100159.0	46.63	4.1	1199.8
2/9 14:46	101373.0	47.07	4.1	1200.0
2/9 14:47	100752.0	46.78	4.1	1199.7
2/9 14:48	102160.0	47.11	4.1	1199.3
2/9 14:49	99895.0	45.73	4.1	1200.2
2/9 14:50	100895.0	46.19	4.1	1200.2
2/9 14:51	101224.0	46.59	4.1	1201.3
2/9 14:52	102038.0	47.30	4.1	1199.8
2/9 14:53	99263.0	46.09	4.1	1199.7
2/9 14:54	100227.0	46.54	4.1	1200.0

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Timestamp	(TG-741) Landfill Gas Flow scf/hr	(TG-741) Heat Input mmBtu/hr	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min		
2/9 14:55	100834.0	46.82	4.1	1199.7
2/9 14:56	99351.0	46.11	4.1	1200.3
2/9 14:57	100321.0	46.69	4.1	1200.3
2/9 14:58	100121.0	46.58	4.1	1200.3
2/9 14:59	100404.0	46.73	4.1	1199.8
2/9 15:00	100463.0	46.70	4.1	1199.3
2/9 15:01	101323.0	47.08	4.1	1199.8
2/9 15:02	100579.0	46.70	4.1	1199.8
2/9 15:03	101001.0	46.99	4.1	1200.2
2/9 15:04	99037.0	46.07	4.1	1200.5
2/9 15:05	98872.0	46.01	4.1	1200.0
2/9 15:06	100314.0	46.68	4.1	1200.0
2/9 15:07	100537.0	46.79	4.1	1200.0
2/9 15:08	100343.0	46.70	4.1	1199.8
2/9 15:09	98863.0	45.98	4.1	1200.0
2/9 15:10	99685.0	46.35	4.1	1200.2
2/9 15:11	98582.0	45.77	4.1	1199.8
2/9 15:12	99721.0	46.30	4.1	1200.2
2/9 15:13	100504.0	46.69	4.1	1200.0
2/9 15:14	98322.0	45.69	4.1	1199.8
2/9 15:15	99910.0	46.34	4.1	1199.3
2/9 15:16	101013.0	46.61	4.1	1199.5
2/9 15:17	100847.0	46.42	4.1	1200.8
2/9 15:18	99728.0	46.22	4.1	1200.7
2/9 15:19	99268.0	46.18	4.1	1200.0
2/9 15:20	99656.0	46.38	4.1	1200.0
2/9 15:21	98006.0	45.63	4.1	1200.2
2/9 15:22	99432.0	46.29	4.1	1199.5
2/9 15:23	99103.0	46.09	4.1	1199.5
2/9 15:24	100556.0	46.73	4.1	1199.8
2/9 15:25	102068.0	47.48	4.1	1199.7
2/9 15:26	101036.0	47.00	4.1	1200.3
2/9 15:27	100747.0	46.89	4.1	1200.0
2/9 15:28	98884.0	46.02	4.1	1200.0
2/9 15:29	100176.0	46.59	4.1	1199.8
2/9 15:30	100343.0	46.59	4.1	1199.8
2/9 15:31	100979.0	46.89	4.1	1200.0
2/9 15:32	100478.0	46.71	4.1	1200.3
2/9 15:33	100850.0	46.96	4.1	1200.0
2/9 15:34	99954.0	46.56	4.1	1199.8
2/9 15:35	99273.0	46.20	4.1	1199.3
2/9 15:36	100367.0	46.71	4.1	1200.0
2/9 15:37	100560.0	46.80	4.1	1200.0
2/9 15:38	98788.0	45.98	4.1	1200.2
2/9 15:39	100438.0	46.74	4.1	1200.2
2/9 15:40	99847.0	46.45	4.1	1199.7
2/9 15:41	99626.0	46.19	4.1	1199.7
2/9 15:42	102082.0	47.26	4.1	1199.7
2/9 15:43	102244.0	47.33	4.1	1200.2

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	1-Min	1-Min
2/9 15:44	101386.0	47.08	4.1	1200.2
2/9 15:45	101491.0	47.09	4.1	1200.0
2/9 15:46	100090.0	46.40	4.1	1199.5
2/9 15:47	100943.0	46.50	4.1	1200.0
2/9 15:48	102431.0	47.19	4.1	1200.8
2/9 15:49	101364.0	47.06	4.1	1200.5
2/9 15:50	100350.0	46.70	4.1	1200.0
2/9 15:51	101257.0	47.13	4.1	1199.8
2/9 15:52	100746.0	46.89	4.1	1199.8
2/9 15:53	100005.0	46.51	4.1	1199.5
2/9 15:54	100932.0	46.89	4.1	1200.0
2/9 15:55	100416.0	46.63	4.1	1200.3
2/9 15:56	99667.0	46.37	4.1	1200.5
2/9 15:57	101377.0	47.18	4.1	1200.2
2/9 15:58	98691.0	45.93	4.1	1200.0
2/9 15:59	100996.0	47.01	4.1	1199.8
2/9 16:00	99937.0	46.43	4.1	1199.7
2/9 16:01	99568.0	46.32	4.1	1199.8
2/9 16:02	101453.0	47.21	4.1	1200.0
2/9 16:03	99708.0	46.38	4.1	1199.8
2/9 16:04	100652.0	46.73	4.1	1199.8
2/9 16:05	99748.0	46.18	4.1	1199.3
2/9 16:06	100993.0	46.70	4.1	1200.2
2/9 16:07	100595.0	46.55	4.1	1200.0
2/9 16:08	101043.0	46.75	4.1	1199.8
2/9 16:09	101193.0	46.77	4.1	1200.0
2/9 16:10	102557.0	47.40	4.1	1200.0
2/9 16:11	101044.0	46.70	4.1	1200.2
2/9 16:12	100378.0	46.37	4.1	1199.8
2/9 16:13	100409.0	46.41	4.1	1200.0
2/9 16:14	100464.0	46.43	4.1	1200.2
2/9 16:15	99851.0	46.15	4.1	1200.0
2/9 16:16	102330.0	47.30	4.1	1200.0
2/9 16:17	101791.0	47.07	4.1	1199.8
2/9 16:18	102102.0	47.15	4.1	1199.7
2/9 16:19	102553.0	47.36	4.1	1200.2
2/9 16:20	100565.0	46.53	4.1	1200.2
2/9 16:21	99979.0	46.23	4.1	1200.0
2/9 16:22	103924.0	48.06	4.1	1199.7
2/9 16:23	99891.0	46.17	4.1	1200.0
2/9 16:24	101553.0	46.94	4.1	1200.0
2/9 16:25	100880.0	46.66	4.1	1199.8
2/9 16:26	101229.0	46.76	4.1	1200.0
2/9 16:27	101240.0	46.68	4.1	1200.0
2/9 16:28	103027.0	47.54	4.1	1200.3
2/9 16:29	101514.0	46.92	4.1	1200.0
2/9 16:30	101531.0	46.95	4.1	1200.0
2/9 16:31	101010.0	46.76	4.1	1200.0
2/9 16:32	101082.0	46.75	4.1	1199.8

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/9 16:33	100622.0	46.51	4.1	1200.0
2/9 16:34	100251.0	46.28	4.1	1199.7
2/9 16:35	100792.0	46.47	4.1	1200.7
2/9 16:36	101075.0	46.72	4.1	1200.0
2/9 16:37	100823.0	46.60	4.1	1200.2
2/9 16:38	102344.0	47.30	4.1	1199.5
2/9 16:39	99926.0	46.19	4.1	1200.0
2/9 16:40	102326.0	47.30	4.1	1199.7
2/9 16:41	100468.0	46.35	4.1	1199.8
2/9 16:42	101139.0	46.64	4.1	1199.8
2/9 16:43	101727.0	46.91	4.1	1200.2
2/9 16:44	101675.0	46.88	4.1	1200.3
2/9 16:45	101469.0	46.86	4.1	1200.0
2/9 16:46	101940.0	47.12	4.1	1199.8
2/9 16:47	101356.0	46.76	4.1	1199.7
2/9 16:48	101823.0	46.95	4.1	1200.0
2/9 16:49	102571.0	47.30	4.1	1200.0
2/9 16:50	102222.0	47.13	4.1	1200.2
2/9 16:51	101464.0	46.80	4.1	1199.8
2/9 16:52	101264.0	46.61	4.1	1200.2
2/9 16:53	102274.0	47.14	4.1	1199.3
2/9 16:54	102562.0	47.32	4.1	1200.3
2/9 16:55	102851.0	47.65	4.1	1199.7
2/9 16:56	102170.0	47.22	4.2	1199.7
2/9 16:57	101603.0	46.99	4.2	1200.7
2/9 16:58	100149.0	46.48	4.1	1200.0
2/9 16:59	100243.0	46.54	4.1	1199.7
2/9 17:00	99667.0	46.26	4.1	1199.5
2/9 17:01	101110.0	46.76	4.2	1200.2
2/9 17:02	102159.0	47.25	4.2	1199.8
2/9 17:03	101786.0	47.08	4.2	1200.3
2/9 17:04	102149.0	47.33	4.2	1199.8
2/9 17:05	101511.0	46.92	4.2	1199.8
2/9 17:06	100470.0	46.46	4.2	1200.0
2/9 17:07	101116.0	46.77	4.2	1200.2
2/9 17:08	101247.0	46.91	4.2	1200.0
2/9 17:09	100614.0	46.71	4.2	1200.0
2/9 17:10	100529.0	46.50	4.2	1200.0
2/9 17:11	100919.0	46.65	4.2	1200.2
2/9 17:12	101396.0	46.87	4.2	1199.8
2/9 17:13	102190.0	47.23	4.2	1200.3
2/9 17:14	101060.0	46.71	4.1	1199.3
2/9 17:15	101634.0	46.75	4.2	1199.2
2/9 17:16	101121.0	46.34	4.2	1200.2
2/9 17:17	103093.0	47.44	4.2	1200.3
2/9 17:18	100236.0	46.35	4.2	1200.2
2/9 17:19	99964.0	46.25	4.1	1200.0
2/9 17:20	100910.0	46.75	4.2	1199.8
2/9 17:21	102880.0	47.57	4.2	1200.0

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/9 17:22	100436.0		46.42	4.2	4.2	1200.0	1200.0	
2/9 17:23	102686.0		47.48	4.2	4.2	1200.2	1200.2	
2/9 17:24	101245.0		46.85	4.2	4.2	1200.0	1200.0	
2/9 17:25	102790.0		47.62	4.2	4.2	1200.0	1200.0	
2/9 17:26	100661.0		46.61	4.2	4.2	1200.0	1200.0	
2/9 17:27	100738.0		46.58	4.2	4.2	1200.0	1200.0	
2/9 17:28	101788.0		47.05	4.2	4.2	1199.8	1199.8	
2/9 17:29	102539.0		47.36	4.2	4.2	1200.0	1200.0	
2/9 17:30	103627.0		47.86	4.2	4.2	1200.0	1200.0	
2/9 17:31	104803.0		48.41	4.2	4.2	1200.2	1200.2	
2/9 17:32	101200.0		46.77	4.2	4.2	1200.0	1200.0	
2/9 17:33	101748.0		47.08	4.2	4.2	1200.0	1200.0	
2/9 17:34	103226.0		47.74	4.2	4.2	1200.2	1200.2	
2/9 17:35	100292.0		46.37	4.2	4.2	1200.0	1200.0	
2/9 17:36	103635.0		47.93	4.2	4.2	1199.8	1199.8	
2/9 17:37	101802.0		47.05	4.2	4.2	1200.0	1200.0	
2/9 17:38	102335.0		47.21	4.2	4.2	1200.0	1200.0	
2/9 17:39	102974.0		47.53	4.2	4.2	1199.8	1199.8	
2/9 17:40	100581.0		46.40	4.2	4.2	1200.3	1200.3	
2/9 17:41	101519.0		46.97	4.2	4.2	1200.2	1200.2	
2/9 17:42	102086.0		47.19	4.2	4.2	1200.0	1200.0	
2/9 17:43	101714.0		47.04	4.2	4.2	1199.8	1199.8	
2/9 17:44	101386.0		46.86	4.2	4.2	1200.2	1200.2	
2/9 17:45	101487.0		46.88	4.2	4.2	1200.0	1200.0	
2/9 17:46	103035.0		47.63	4.2	4.2	1200.0	1200.0	
2/9 17:47	99903.0		46.13	4.2	4.2	1199.8	1199.8	
2/9 17:48	99566.0		45.80	4.2	4.2	1200.3	1200.3	
2/9 17:49	100653.0		46.41	4.2	4.2	1200.2	1200.2	
2/9 17:50	101255.0		46.80	4.2	4.2	1200.0	1200.0	
2/9 17:51	102132.0		47.17	4.2	4.2	1199.8	1199.8	
2/9 17:52	103786.0		47.91	4.2	4.2	1199.8	1199.8	
2/9 17:53	101504.0		46.85	4.2	4.2	1200.0	1200.0	
2/9 17:54	101581.0		46.95	4.2	4.2	1200.2	1200.2	
2/9 17:55	102276.0		47.36	4.2	4.2	1200.3	1200.3	
2/9 17:56	103316.0		47.87	4.2	4.2	1199.8	1199.8	
2/9 17:57	102196.0		47.26	4.2	4.2	1200.2	1200.2	
2/9 17:58	101294.0		46.82	4.2	4.2	1199.8	1199.8	
2/9 17:59	103568.0		47.78	4.2	4.2	1199.8	1199.8	
2/9 18:00	100354.0		46.29	4.2	4.2	1200.0	1200.0	
2/9 18:01	103289.0		47.63	4.2	4.2	1200.0	1200.0	
2/9 18:02	102171.0		47.11	4.2	4.2	1199.7	1199.7	
2/9 18:03	103162.0		47.57	4.2	4.2	1200.2	1200.2	
2/9 18:04	101889.0		47.06	4.2	4.2	1199.8	1199.8	
2/9 18:05	102550.0		47.40	4.2	4.2	1200.2	1200.2	
2/9 18:06	101592.0		46.95	4.2	4.2	1200.0	1200.0	
2/9 18:07	100969.0		46.56	4.2	4.2	1200.3	1200.3	
2/9 18:08	102028.0		47.16	4.2	4.2	1199.8	1199.8	
2/9 18:09	102636.0		47.38	4.2	4.2	1200.3	1200.3	
2/9 18:10	103281.0		47.64	4.2	4.2	1200.0	1200.0	

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/9 18:11	101385.0	46.77	4.2	1200.0
2/9 18:12	103717.0	47.86	4.2	1200.3
2/9 18:13	102556.0	47.32	4.2	1199.5
2/9 18:14	103614.0	47.81	4.2	1199.8
2/9 18:15	102170.0	47.11	4.2	1200.0
2/9 18:16	101208.0	46.70	4.2	1200.0
2/9 18:17	102503.0	47.22	4.2	1200.0
2/9 18:18	100523.0	46.27	4.2	1200.0
2/9 18:19	101285.0	46.70	4.2	1199.8
2/9 18:20	102296.0	47.11	4.2	1200.2
2/9 18:21	103768.0	47.85	4.2	1200.2
2/9 18:22	102135.0	47.10	4.2	1200.0
2/9 18:23	102656.0	47.34	4.2	1199.8
2/9 18:24	102301.0	47.17	4.2	1200.0
2/9 18:25	103375.0	47.63	4.2	1200.0
2/9 18:26	101275.0	46.59	4.2	1200.3
2/9 18:27	101723.0	46.79	4.2	1200.0
2/9 18:28	102982.0	47.42	4.2	1200.2
2/9 18:29	102336.0	47.15	4.2	1200.0
2/9 18:30	100591.0	46.36	4.2	1200.0
2/9 18:31	102421.0	47.23	4.2	1200.0
2/9 18:32	101458.0	46.78	4.2	1200.0
2/9 18:33	102527.0	47.24	4.2	1200.0
2/9 18:34	104514.0	48.11	4.2	1200.0
2/9 18:35	101833.0	46.84	4.2	1200.0
2/9 18:36	101885.0	46.89	4.2	1200.2
2/9 18:37	102715.0	47.28	4.2	1200.0
2/9 18:38	101455.0	46.76	4.2	1199.7
2/9 18:39	102299.0	47.11	4.2	1200.0
2/9 18:40	101650.0	46.76	4.2	1200.0
2/9 18:41	101880.0	46.86	4.2	1199.8
2/9 18:42	102655.0	47.22	4.2	1199.8
2/9 18:43	103700.0	47.70	4.2	1200.2
2/9 18:44	102264.0	47.13	4.2	1200.0
2/9 18:45	101917.0	47.00	4.2	1199.7
2/9 18:46	102033.0	47.01	4.2	1199.8
2/9 18:47	103363.0	47.55	4.2	1200.0
2/9 18:48	101323.0	46.61	4.2	1200.0
2/9 18:49	101210.0	46.54	4.2	1200.2
2/9 18:50	101746.0	46.81	4.2	1200.0
2/9 18:51	102751.0	47.27	4.2	1200.0
2/9 18:52	104485.0	48.09	4.2	1200.0
2/9 18:53	102847.0	47.31	4.2	1199.8
2/9 18:54	102857.0	47.32	4.2	1199.8
2/9 18:55	101324.0	46.61	4.2	1200.3
2/9 18:56	101625.0	46.78	4.2	1200.0
2/9 18:57	103343.0	47.61	4.2	1200.0
2/9 18:58	103241.0	47.49	4.2	1200.0
2/9 18:59	102837.0	47.31	4.2	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	101940.0	46.86	4.2	1200.0
Average (all)	101447.7	46.92	4.1	1200.0
Total (all)	--	--	--	--
Minimum (all)	98006.0	45.63	4.1	1198.3
Maximum (all)	109254.0	48.45	4.2	1202.0
Average (valid values only)	101447.7	46.92	4.1	1200.0
Total (valid values only)	--	--	--	--
Count (valid values only)	781	781	781	781

CeDAR 1-Minute Data

Sunshine Gas Producers, LLC

Data for 2/10/2023 6:00 AM thru 2/10/2023 7:00 PM

Timestamp	(TG-741) Landfill Gas Flow scf/hr	(TG-741) Heat Input mmBtu/hr	(TG-741) Megawatts	(TG-741) T7 Exhaust Temp °F	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	1-Min	1-Min	1-Min
2/10 6:00	102370.0	47 53	4.2	1200.0	1200.0
2/10 6:01	102298.0	47 50	4.2	1200.0	1200.0
2/10 6:02	104187.0	48 38	4.2	1200.2	1200.2
2/10 6:03	100569.0	46 69	4.2	1199.5	1199.5
2/10 6:04	103255.0	47 97	4.2	1199.8	1199.8
2/10 6:05	103452.0	48 11	4.2	1200.2	1200.2
2/10 6:06	101105.0	47 06	4.2	1200.0	1200.0
2/10 6:07	104217.0	48 50	4.2	1200.0	1200.0
2/10 6:08	103430.0	48 06	4.2	1200.0	1200.0
2/10 6:09	101361.0	47 06	4.2	1200.0	1200.0
2/10 6:10	100999.0	47 01	4.2	1200.2	1200.2
2/10 6:11	103633.0	48 21	4.2	1200.0	1200.0
2/10 6:12	103179.0	48 00	4.2	1199.8	1199.8
2/10 6:13	103905.0	48 31	4.2	1200.0	1200.0
2/10 6:14	102080.0	47 46	4.2	1199.8	1199.8
2/10 6:15	102474.0	47 61	4.2	1200.0	1200.0
2/10 6:16	103746.0	48 17	4.2	1200.0	1200.0
2/10 6:17	102503.0	47 59	4.2	1200.0	1200.0
2/10 6:18	102912.0	47 76	4.2	1199.5	1199.5
2/10 6:19	101202.0	46 99	4.2	1200.3	1200.3
2/10 6:20	102741.0	47 67	4.2	1200.0	1200.0
2/10 6:21	103298.0	47 96	4.2	1199.7	1199.7
2/10 6:22	102962.0	47 80	4.2	1199.8	1199.8
2/10 6:23	103744.0	48 17	4.2	1200.0	1200.0
2/10 6:24	103708.0	48 18	4.2	1200.0	1200.0
2/10 6:25	104212.0	48 38	4.2	1200.0	1200.0
2/10 6:26	103270.0	47 88	4.2	1200.0	1200.0
2/10 6:27	104315.0	48 33	4.2	1200.2	1200.2
2/10 6:28	101572.0	47 06	4.2	1200.2	1200.2
2/10 6:29	104055.0	48 21	4.2	1200.0	1200.0
2/10 6:30	103988.0	48 23	4.2	1200.2	1200.2
2/10 6:31	101739.0	47 24	4.2	1199.8	1199.8
2/10 6:32	104269.0	48 41	4.2	1200.0	1200.0
2/10 6:33	103268.0	47 98	4.2	1200.2	1200.2
2/10 6:34	102098.0	47 52	4.2	1200.0	1200.0
2/10 6:35	102937.0	47 91	4.2	1199.8	1199.8
2/10 6:36	100894.0	46 95	4.2	1200.0	1200.0
2/10 6:37	102229.0	47 53	4.2	1200.2	1200.2
2/10 6:38	103003.0	47 91	4.2	1199.8	1199.8
2/10 6:39	103065.0	47 89	4.2	1200.3	1200.3
2/10 6:40	104180.0	48 49	4.2	1200.3	1200.3
2/10 6:41	102258.0	47 54	4.2	1200.7	1200.7
2/10 6:42	102401.0	47 58	4.2	1199.7	1199.7
2/10 6:43	101660.0	47 20	4.2	1200.2	1200.2
2/10 6:44	100885.0	46 82	4.2	1200.0	1200.0

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/10 6:45	103549.0	48.03	47.73	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:46	102961.0	47.73	47.18	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:47	101609.0	47.18	47.76	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:48	103012.0	47.76	47.60	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:49	102508.0	47.60	47.40	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:50	102136.0	47.40	47.37	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:51	102214.0	47.37	47.32	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:52	102140.0	47.32	48.27	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:53	104148.0	48.27	47.99	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:54	103371.0	47.99	47.05	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:55	101498.0	47.05	48.50	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:56	104887.0	48.50	47.52	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:57	102571.0	47.52	48.20	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:58	103824.0	48.20	46.72	4.2	1200.2	1200.2	1200.2	1200.2
2/10 6:59	100627.0	46.72	47.38	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:00	102230.0	47.38	47.47	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:01	102471.0	47.47	47.83	4.1	1200.2	1200.2	1200.2	1200.2
2/10 7:02	103377.0	47.83	46.82	4.1	1200.2	1200.2	1200.2	1200.2
2/10 7:03	101148.0	46.82	46.99	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:04	101524.0	46.99	46.77	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:05	101175.0	46.77	47.37	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:06	102479.0	47.37	47.31	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:07	102359.0	47.31	47.41	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:08	102570.0	47.41	47.41	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:09	102473.0	47.41	46.87	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:10	101017.0	46.87	47.27	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:11	101746.0	47.27	48.39	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:12	104011.0	48.39	47.26	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:13	101546.0	47.26	48.43	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:14	104098.0	48.43	48.00	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:15	103296.0	48.00	47.11	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:16	101512.0	47.11	48.41	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:17	104813.0	48.41	47.56	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:18	102903.0	47.56	48.33	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:19	104410.0	48.33	47.41	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:20	102421.0	47.41	47.84	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:21	103319.0	47.84	48.02	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:22	103641.0	48.02	48.29	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:23	104183.0	48.29	47.55	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:24	102593.0	47.55	48.12	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:25	103748.0	48.12	48.07	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:26	103567.0	48.07	47.77	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:27	102894.0	47.77	48.21	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:28	103837.0	48.21	47.48	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:29	102262.0	47.48	47.77	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:30	103056.0	47.77	47.20	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:31	101828.0	47.20	47.18	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:32	101841.0	47.18	47.59	4.2	1200.2	1200.2	1200.2	1200.2
2/10 7:33	102727.0	47.59		4.2	1200.2	1200.2	1200.2	1200.2

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/10 7:34	103646.0	47.93	4.2	1200.3
2/10 7:35	103181.0	47.80	4.2	1199.8
2/10 7:36	102764.0	47.57	4.2	1200.2
2/10 7:37	101444.0	47.00	4.2	1200.0
2/10 7:38	103624.0	48.01	4.2	1200.0
2/10 7:39	103916.0	48.15	4.2	1199.8
2/10 7:40	103096.0	47.68	4.2	1199.8
2/10 7:41	102380.0	47.32	4.2	1199.8
2/10 7:42	104020.0	48.08	4.2	1200.0
2/10 7:43	104029.0	48.08	4.2	1200.2
2/10 7:44	105675.0	48.88	4.2	1200.0
2/10 7:45	103660.0	47.98	4.2	1200.0
2/10 7:46	101346.0	46.86	4.2	1200.0
2/10 7:47	104757.0	48.50	4.2	1200.2
2/10 7:48	101565.0	46.95	4.2	1200.3
2/10 7:49	102240.0	47.26	4.2	1200.0
2/10 7:50	103326.0	47.78	4.2	1200.2
2/10 7:51	103394.0	47.87	4.2	1199.8
2/10 7:52	102698.0	47.43	4.2	1200.2
2/10 7:53	103869.0	47.89	4.2	1199.7
2/10 7:54	103689.0	47.70	4.2	1200.0
2/10 7:55	103913.0	47.85	4.2	1200.2
2/10 7:56	103097.0	47.57	4.2	1200.5
2/10 7:57	102213.0	47.24	4.2	1200.3
2/10 7:58	104138.0	48.09	4.2	1199.7
2/10 7:59	102580.0	47.24	4.2	1199.7
2/10 8:00	102808.0	47.29	4.2	1200.3
2/10 8:01	103037.0	47.38	4.2	1200.0
2/10 8:02	103838.0	47.77	4.2	1200.0
2/10 8:03	103343.0	47.56	4.2	1200.0
2/10 8:04	104644.0	48.25	4.2	1200.0
2/10 8:05	103632.0	47.78	4.2	1200.0
2/10 8:06	104729.0	48.29	4.2	1200.2
2/10 8:07	103827.0	47.88	4.2	1200.0
2/10 8:08	103520.0	47.73	4.2	1200.0
2/10 8:09	103120.0	47.55	4.2	1199.8
2/10 8:10	103417.0	47.62	4.2	1200.2
2/10 8:11	102996.0	47.43	4.2	1200.0
2/10 8:12	104543.0	48.20	4.2	1200.0
2/10 8:13	104247.0	47.99	4.2	1200.2
2/10 8:14	104685.0	48.16	4.2	1200.0
2/10 8:15	103647.0	47.68	4.2	1200.5
2/10 8:16	102498.0	47.20	4.2	1200.2
2/10 8:17	102650.0	47.33	4.2	1200.2
2/10 8:18	103616.0	47.85	4.2	1199.8
2/10 8:19	103289.0	47.63	4.2	1200.0
2/10 8:20	101447.0	46.80	4.2	1199.8
2/10 8:21	103367.0	47.68	4.2	1200.0
2/10 8:22	102432.0	47.23	4.2	1200.2

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/10 8:23	102846.0	47.42	48.24	4.2	1200.2	1200.0		
2/10 8:24	104616.0	48.24	47.22	4.2	1199.3	1200.0		
2/10 8:25	102464.0	48.61	47.80	4.2	1200.0	1200.0		
2/10 8:26	105926.0	47.80	48.22	4.2	1200.2	1200.0		
2/10 8:27	104355.0	47.07	47.41	4.2	1200.0	1200.0		
2/10 8:28	105339.0	47.41	47.27	4.2	1199.8	1200.0		
2/10 8:29	102711.0	47.63	47.33	4.2	1200.0	1200.0		
2/10 8:30	103369.0	47.85	47.75	4.2	1200.2	1200.0		
2/10 8:31	102999.0	46.81	48.41	4.2	1200.3	1200.0		
2/10 8:32	103848.0	46.99	48.47	4.2	1200.2	1200.0		
2/10 8:33	103182.0	48.07	47.53	4.2	1200.0	1200.0		
2/10 8:34	104224.0	47.01	47.41	4.2	1200.0	1200.0		
2/10 8:35	103795.0	47.77	47.87	4.2	1199.8	1200.0		
2/10 8:36	101750.0	47.77	47.76	4.2	1200.0	1200.0		
2/10 8:37	105177.0	47.56	47.94	4.2	1200.0	1200.0		
2/10 8:38	101902.0	47.37	47.38	4.2	1199.7	1200.0		
2/10 8:39	105172.0	47.38	46.98	4.2	1200.2	1200.0		
2/10 8:40	104435.0	48.45	47.30	4.2	1199.7	1200.0		
2/10 8:41	103085.0	46.75	46.92	4.2	1200.3	1200.0		
2/10 8:42	101956.0	47.30	47.61	4.2	1200.0	1200.0		
2/10 8:43	102757.0	47.24	47.24	4.2	1200.0	1200.0		
2/10 8:44	103581.0	46.07	46.18	4.2	1199.8	1200.0		
2/10 8:45	103349.0	47.52	48.39	4.2	1200.2	1200.0		
2/10 8:46	103222.0	48.39	47.10	4.2	1200.0	1200.0		
2/10 8:47	102887.0	47.33	46.59	4.2	1199.8	1200.0		
2/10 8:48	103620.0	47.33	47.00	4.2	1200.2	1200.0		
2/10 8:49	102490.0	46.53	47.18	4.2	1200.0	1200.0		
2/10 8:50	102495.0	47.18		4.2				
2/10 8:51	101641.0			4.2				
2/10 8:52	104775.0			4.2				
2/10 8:53	101110.0			4.2				
2/10 8:54	101293.0			4.2				
2/10 8:55	101447.0			4.2				
2/10 8:56	102274.0			4.2				
2/10 8:57	99796.0			4.2				
2/10 8:58	103002.0			4.2				
2/10 8:59	102046.0			4.2				
2/10 9:00	102166.0			4.2				
2/10 9:01	99770.0			4.2				
2/10 9:02	102560.0			4.2				
2/10 9:03	104576.0			4.2				
2/10 9:04	102714.0			4.2				
2/10 9:05	102135.0			4.2				
2/10 9:06	101847.0			4.2				
2/10 9:07	100787.0			4.2				
2/10 9:08	102402.0			4.2				
2/10 9:09	101746.0			4.2				
2/10 9:10	100812.0			4.2				
2/10 9:11	102174.0			4.2				

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/10 9:12	100780.0		46.54		4.2		1200.0	
2/10 9:13	101779.0		47.04		4.2		1200.0	
2/10 9:14	100137.0		46.33		4.2		1200.2	
2/10 9:15	102480.0		47.48		4.2		1200.0	
2/10 9:16	103211.0		47.76		4.2		1200.0	
2/10 9:17	103043.0		47.65		4.2		1199.7	
2/10 9:18	102310.0		47.25		4.2		1199.7	
2/10 9:19	103624.0		47.86		4.2		1200.3	
2/10 9:20	101431.0		46.85		4.2		1200.7	
2/10 9:21	101546.0		46.97		4.2		1200.0	
2/10 9:22	101215.0		46.78		4.2		1200.0	
2/10 9:23	101769.0		47.04		4.2		1200.0	
2/10 9:24	104334.0		48.22		4.2		1200.0	
2/10 9:25	100716.0		46.55		4.2		1200.0	
2/10 9:26	102397.0		47.33		4.1		1200.0	
2/10 9:27	102322.0		47.18		4.2		1200.2	
2/10 9:28	103530.0		47.74		4.1		1200.0	
2/10 9:29	101402.0		46.76		4.2		1200.0	
2/10 9:30	103124.0		47.63		4.2		1200.2	
2/10 9:31	101746.0		47.03		4.2		1200.3	
2/10 9:32	102815.0		47.52		4.2		1200.0	
2/10 9:33	101776.0		47.04		4.1		1200.0	
2/10 9:34	102767.0		47.44		4.1		1200.0	
2/10 9:35	101634.0		46.86		4.1		1199.8	
2/10 9:36	100733.0		46.52		4.1		1200.0	
2/10 9:37	102471.0		47.38		4.1		1200.0	
2/10 9:38	101427.0		46.91		4.2		1200.0	
2/10 9:39	101378.0		46.86		4.2		1199.7	
2/10 9:40	102041.0		47.16		4.2		1200.3	
2/10 9:41	102833.0		47.41		4.2		1199.8	
2/10 9:42	102144.0		47.04		4.2		1200.0	
2/10 9:43	101186.0		46.64		4.2		1200.2	
2/10 9:44	100405.0		46.33		4.2		1200.5	
2/10 9:45	101333.0		46.83		4.1		1200.0	
2/10 9:46	100516.0		46.40		4.2		1199.8	
2/10 9:47	103286.0		47.63		4.1		1199.5	
2/10 9:48	103218.0		47.51		4.2		1199.7	
2/10 9:49	103004.0		47.38		4.1		1200.2	
2/10 9:50	101747.0		46.86		4.1		1200.2	
2/10 9:51	101922.0		47.08		4.1		1200.0	
2/10 9:52	100493.0		46.45		4.1		1200.0	
2/10 9:53	101871.0		47.08		4.1		1199.8	
2/10 9:54	102109.0		47.20		4.1		1199.8	
2/10 9:55	100745.0		46.49		4.1		1200.2	
2/10 9:56	102330.0		47.18		4.1		1200.2	
2/10 9:57	102028.0		47.05		4.1		1200.0	
2/10 9:58	100013.0		46.18		4.1		1199.8	
2/10 9:59	100774.0		46.47		4.1		1200.2	
2/10 10:00	101163.0		46.76		4.1		1200.2	

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Landfill Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min
2/10 10:01	102462.0	47.24	4.1	1199.8	102462.0	47.24	4.1	1199.8
2/10 10:02	102724.0	47.36	4.1	1199.8	102724.0	47.36	4.1	1199.8
2/10 10:03	101902.0	46.99	4.1	1200.2	101902.0	46.99	4.1	1200.2
2/10 10:04	102231.0	47.14	4.2	1199.8	102231.0	47.14	4.2	1199.8
2/10 10:05	101826.0	46.95	4.2	1200.0	101826.0	46.95	4.2	1200.0
2/10 10:06	102870.0	47.43	4.1	1200.2	102870.0	47.43	4.1	1200.2
2/10 10:07	101692.0	46.91	4.1	1200.0	101692.0	46.91	4.1	1200.0
2/10 10:08	102225.0	47.22	4.1	1200.2	102225.0	47.22	4.1	1200.2
2/10 10:09	101423.0	46.88	4.1	1199.7	101423.0	46.88	4.1	1199.7
2/10 10:10	103175.0	47.60	4.1	1199.8	103175.0	47.60	4.1	1199.8
2/10 10:11	101650.0	46.92	4.1	1200.0	101650.0	46.92	4.1	1200.0
2/10 10:12	101427.0	46.79	4.1	1200.3	101427.0	46.79	4.1	1200.3
2/10 10:13	101929.0	47.00	4.1	1200.0	101929.0	47.00	4.1	1200.0
2/10 10:14	103213.0	47.61	4.1	1200.0	103213.0	47.61	4.1	1200.0
2/10 10:15	100086.0	46.15	4.1	1200.0	100086.0	46.15	4.1	1200.0
2/10 10:16	102452.0	47.24	4.1	1200.2	102452.0	47.24	4.1	1200.2
2/10 10:17	102206.0	47.13	4.1	1200.3	102206.0	47.13	4.1	1200.3
2/10 10:18	101115.0	46.65	4.1	1199.8	101115.0	46.65	4.1	1199.8
2/10 10:19	102941.0	47.54	4.1	1200.2	102941.0	47.54	4.1	1200.2
2/10 10:20	102256.0	47.26	4.1	1199.7	102256.0	47.26	4.1	1199.7
2/10 10:21	99926.0	46.19	4.1	1200.0	99926.0	46.19	4.1	1200.0
2/10 10:22	101222.0	46.74	4.1	1199.7	101222.0	46.74	4.1	1199.7
2/10 10:23	101044.0	46.61	4.1	1200.0	101044.0	46.61	4.1	1200.0
2/10 10:24	101754.0	46.97	4.1	1200.2	101754.0	46.97	4.1	1200.2
2/10 10:25	101123.0	46.76	4.1	1200.7	101123.0	46.76	4.1	1200.7
2/10 10:26	101866.0	47.20	4.1	1200.3	101866.0	47.20	4.1	1200.3
2/10 10:27	102302.0	47.50	4.1	1199.2	102302.0	47.50	4.1	1199.2
2/10 10:28	101763.0	46.79	4.1	1199.0	101763.0	46.79	4.1	1199.0
2/10 10:29	102812.0	46.95	4.2	1199.8	102812.0	46.95	4.2	1199.8
2/10 10:30	104137.0	47.39	4.2	1200.7	104137.0	47.39	4.2	1200.7
2/10 10:31	102948.0	47.00	4.2	1200.3	102948.0	47.00	4.2	1200.3
2/10 10:32	102680.0	47.01	4.1	1200.2	102680.0	47.01	4.1	1200.2
2/10 10:33	103424.0	47.46	4.1	1200.2	103424.0	47.46	4.1	1200.2
2/10 10:34	100699.0	46.21	4.1	1199.8	100699.0	46.21	4.1	1199.8
2/10 10:35	103029.0	47.28	4.1	1200.0	103029.0	47.28	4.1	1200.0
2/10 10:36	102205.0	46.90	4.1	1200.7	102205.0	46.90	4.1	1200.7
2/10 10:37	101744.0	46.87	4.1	1200.5	101744.0	46.87	4.1	1200.5
2/10 10:38	101320.0	46.96	4.1	1200.7	101320.0	46.96	4.1	1200.7
2/10 10:39	100636.0	46.76	4.1	1199.7	100636.0	46.76	4.1	1199.7
2/10 10:40	101418.0	47.09	4.1	1199.7	101418.0	47.09	4.1	1199.7
2/10 10:41	100664.0	46.74	4.1	1200.2	100664.0	46.74	4.1	1200.2
2/10 10:42	101394.0	47.08	4.1	1200.2	101394.0	47.08	4.1	1200.2
2/10 10:43	102021.0	47.46	4.1	1200.5	102021.0	47.46	4.1	1200.5
2/10 10:44	100790.0	46.88	4.1	1200.0	100790.0	46.88	4.1	1200.0
2/10 10:45	101197.0	47.03	4.1	1200.0	101197.0	47.03	4.1	1200.0
2/10 10:46	99635.0	46.30	4.1	1200.0	99635.0	46.30	4.1	1200.0
2/10 10:47	99221.0	46.07	4.1	1199.7	99221.0	46.07	4.1	1199.7
2/10 10:48	101120.0	46.98	4.1	1200.0	101120.0	46.98	4.1	1200.0
2/10 10:49	100221.0	46.53	4.1	1200.0	100221.0	46.53	4.1	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/10 10:50	99871.0	46.37	4.1	1200.0
2/10 10:51	102348.0	47.56	4.1	1200.0
2/10 10:52	101742.0	47.32	4.1	1199.7
2/10 10:53	100811.0	46.81	4.1	1200.0
2/10 10:54	99921.0	46.47	4.1	1199.7
2/10 10:55	100557.0	46.78	4.1	1200.2
2/10 10:56	102726.0	47.83	4.1	1200.0
2/10 10:57	100210.0	46.64	4.1	1200.0
2/10 10:58	101159.0	47.08	4.1	1200.0
2/10 10:59	99290.0	46.23	4.1	1200.3
2/10 11:00	100930.0	47.01	4.1	1200.0
2/10 11:01	100272.0	46.78	4.1	1200.3
2/10 11:02	100377.0	46.83	4.1	1200.0
2/10 11:03	99857.0	46.58	4.1	1200.0
2/10 11:04	101132.0	47.16	4.1	1199.7
2/10 11:05	99617.0	46.36	4.1	1200.0
2/10 11:06	98488.0	45.84	4.1	1200.0
2/10 11:07	99384.0	46.25	4.1	1200.0
2/10 11:08	99891.0	46.51	4.1	1200.0
2/10 11:09	99516.0	46.41	4.1	1200.0
2/10 11:10	99214.0	46.25	4.1	1200.2
2/10 11:11	100219.0	46.75	4.1	1200.0
2/10 11:12	99200.0	46.28	4.1	1199.8
2/10 11:13	100060.0	46.68	4.1	1200.0
2/10 11:14	102059.0	47.61	4.1	1200.0
2/10 11:15	99787.0	46.48	4.1	1199.8
2/10 11:16	101208.0	47.16	4.1	1200.0
2/10 11:17	100423.0	46.85	4.1	1199.8
2/10 11:18	99972.0	46.70	4.1	1200.0
2/10 11:19	101138.0	47.29	4.1	1200.0
2/10 11:20	100240.0	46.84	4.1	1200.0
2/10 11:21	99746.0	46.61	4.1	1200.2
2/10 11:22	100881.0	47.08	4.1	1199.8
2/10 11:23	101727.0	47.52	4.1	1200.0
2/10 11:24	101260.0	47.41	4.1	1200.5
2/10 11:25	100911.0	47.30	4.1	1200.0
2/10 11:26	100640.0	47.15	4.1	1200.0
2/10 11:27	100117.0	46.88	4.1	1200.0
2/10 11:28	98581.0	46.10	4.1	1199.8
2/10 11:29	101376.0	47.41	4.1	1199.7
2/10 11:30	99702.0	46.62	4.1	1199.8
2/10 11:31	99689.0	46.63	4.1	1200.2
2/10 11:32	101207.0	47.33	4.1	1200.2
2/10 11:33	100600.0	47.04	4.1	1200.0
2/10 11:34	99611.0	46.58	4.1	1200.2
2/10 11:35	100814.0	47.12	4.1	1200.0
2/10 11:36	100490.0	46.97	4.1	1200.2
2/10 11:37	99490.0	46.52	4.1	1199.8
2/10 11:38	99598.0	46.65	4.1	1200.0

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/10 11:39	100619.0		47.08		4.1		1200.2	
2/10 11:40	100079.0		46.82		4.1		1200.0	
2/10 11:41	977748.0		45.82		4.1		1200.0	
2/10 11:42	99361.0		46.57		4.1		1200.0	
2/10 11:43	99904.0		46.82		4.1		1200.0	
2/10 11:44	99528.0		46.81		4.1		1200.0	
2/10 11:45	99501.0		46.61		4.1		1200.2	
2/10 11:46	99268.0		46.51		4.1		1200.0	
2/10 11:47	98159.0		46.01		4.1		1200.2	
2/10 11:48	98644.0		46.25		4.1		1200.0	
2/10 11:49	102120.0		47.86		4.1		1200.0	
2/10 11:50	100816.0		47.25		4.1		1200.0	
2/10 11:51	100403.0		47.06		4.1		1199.8	
2/10 11:52	100062.0		46.82		4.1		1200.3	
2/10 11:53	101769.0		47.70		4.1		1200.3	
2/10 11:54	99113.0		46.47		4.1		1200.2	
2/10 11:55	100057.0		47.01		4.1		1200.0	
2/10 11:56	100074.0		47.01		4.1		1200.2	
2/10 11:57	100275.0		47.11		4.1		1199.5	
2/10 11:58	100872.0		47.36		4.1		1200.2	
2/10 11:59	99950.0		46.82		4.1		1199.8	
2/10 12:00	99853.0		46.75		4.1		1200.5	
2/10 12:01	99894.0		46.87		4.1		1200.2	
2/10 12:02	99989.0		47.01		4.1		1200.2	
2/10 12:03	100134.0		47.13		4.1		1200.0	
2/10 12:04	100297.0		47.12		4.1		1199.8	
2/10 12:05	98735.0		46.36		4.1		1199.8	
2/10 12:06	99242.0		46.49		4.1		1199.8	
2/10 12:07	99702.0		46.68		4.1		1200.2	
2/10 12:08	99803.0		46.78		4.1		1200.3	
2/10 12:09	99402.0		46.66		4.1		1200.2	
2/10 12:10	100071.0		47.01		4.1		1199.8	
2/10 12:11	100625.0		47.28		4.1		1200.0	
2/10 12:12	98951.0		46.47		4.1		1199.8	
2/10 12:13	100663.0		47.18		4.1		1200.0	
2/10 12:14	98512.0		46.28		4.1		1200.0	
2/10 12:15	100354.0		47.14		4.1		1200.0	
2/10 12:16	99363.0		46.68		4.1		1200.0	
2/10 12:17	101053.0		47.45		4.1		1200.5	
2/10 12:18	100316.0		47.13		4.1		1199.7	
2/10 12:19	97803.0		45.95		4.1		1200.0	
2/10 12:20	100543.0		47.26		4.1		1200.2	
2/10 12:21	98931.0		46.53		4.1		1200.0	
2/10 12:22	99007.0		46.56		4.1		1200.0	
2/10 12:23	99159.0		46.62		4.1		1200.0	
2/10 12:24	100890.0		47.42		4.1		1199.8	
2/10 12:25	100954.0		47.43		4.1		1199.8	
2/10 12:26	100356.0		47.15		4.1		1200.0	
2/10 12:27	101495.0		47.68		4.1		1200.2	
Average Run 6	101773.4		47.1		4.1		1200.0	

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp	°F 1-Min	
2/10 12:28	99580.0		46.78		4.1		1200.2	
2/10 12:29	99259.0		46.72		4.1		1200.3	
2/10 12:30	100573.0		47.33		4.1		1200.0	
2/10 12:31	98928.0		46.57		4.1		1200.0	
2/10 12:32	100110.0		47.14		4.1		1200.2	
2/10 12:33	100239.0		47.20		4.1		1200.0	
2/10 12:34	100086.0		47.11		4.1		1199.7	
2/10 12:35	99613.0		46.91		4.1		1200.5	
2/10 12:36	98823.0		46.53		4.1		1200.0	
2/10 12:37	97762.0		46.12		4.1		1200.2	
2/10 12:38	100175.0		47.17		4.1		1199.8	
2/10 12:39	99405.0		46.84		4.1		1200.2	
2/10 12:40	100731.0		47.43		4.1		1199.7	
2/10 12:41	99786.0		46.96		4.1		1200.0	
2/10 12:42	98340.0		46.22		4.1		1200.0	
2/10 12:43	100016.0		47.01		4.1		1200.0	
2/10 12:44	99908.0		47.05		4.1		1200.3	
2/10 12:45	99221.0		46.72		4.1		1199.5	
2/10 12:46	99653.0		46.93		4.1		1200.2	
2/10 12:47	98463.0		46.34		4.1		1199.8	
2/10 12:48	99955.0		46.99		4.1		1200.2	
2/10 12:49	97700.0		46.01		4.1		1200.3	
2/10 12:50	98265.0		46.28		4.1		1200.0	
2/10 12:51	100576.0		47.34		4.1		1199.5	
2/10 12:52	97680.0		45.80		4.1		1200.2	
2/10 12:53	99214.0		46.86		4.1		1200.7	
2/10 12:54	100752.0		47.44		4.1		1199.8	
2/10 12:55	100075.0		47.13		4.1		1200.3	
2/10 12:56	100484.0		47.32		4.1		1200.0	
2/10 12:57	99080.0		46.68		4.1		1200.0	
2/10 12:58	98446.0		46.36		4.1		1200.0	
2/10 12:59	99293.0		46.76		4.1		1200.0	
2/10 13:00	99924.0		47.05		4.1		1200.0	
2/10 13:01	100245.0		47.21		4.1		1200.2	
2/10 13:02	97675.0		46.12		4.1		1200.0	
2/10 13:03	99702.0		46.98		4.1		1200.0	
2/10 13:04	98949.0		46.60		4.1		1200.0	
2/10 13:05	99109.0		46.76		4.1		1199.8	
2/10 13:06	98720.0		46.49		4.1		1200.0	
2/10 13:07	98398.0		46.36		4.1		1200.0	
2/10 13:08	99021.0		46.63		4.1		1200.0	
2/10 13:09	98458.0		46.47		4.1		1200.0	
2/10 13:10	99568.0		47.00		4.1		1200.0	
2/10 13:11	99442.0		46.94		4.1		1200.0	
2/10 13:12	99357.0		46.88		4.1		1200.0	
2/10 13:13	99570.0		46.86		4.1		1200.0	
2/10 13:14	97059.0		45.65		4.1		1200.2	
2/10 13:15	100405.0		47.33		4.1		1200.2	
2/10 13:16	100372.0		47.37		4.1		1200.0	

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/10 13:17	99872.0	47.14	4.1	1200.2	4.1	1200.2	4.1	1200.2
2/10 13:18	97354.0	45.95	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:19	99831.0	47.08	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:20	98567.0	46.53	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:21	100482.0	47.43	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:22	100204.0	47.32	4.1	1199.8	4.1	1199.8	4.1	1199.8
2/10 13:23	99706.0	47.06	4.1	1199.7	4.1	1199.7	4.1	1199.7
2/10 13:24	97765.0	46.15	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:25	98074.0	46.23	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:26	97523.0	46.03	4.1	1199.8	4.1	1199.8	4.1	1199.8
2/10 13:27	100970.0	47.66	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:28	98215.0	46.36	4.1	1200.2	4.1	1200.2	4.1	1200.2
2/10 13:29	98583.0	46.51	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:30	99812.0	47.09	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:31	99309.0	46.83	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:32	98385.0	46.44	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:33	98386.0	46.32	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:34	98415.0	46.43	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:35	99941.0	47.17	4.1	1199.8	4.1	1199.8	4.1	1199.8
2/10 13:36	97685.0	46.03	4.1	1199.8	4.1	1199.8	4.1	1199.8
2/10 13:37	99006.0	46.62	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:38	98493.0	46.45	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:39	98623.0	46.55	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:40	98387.0	46.44	4.1	1200.2	4.1	1200.2	4.1	1200.2
2/10 13:41	99412.0	46.92	4.1	1199.7	4.1	1199.7	4.1	1199.7
2/10 13:42	99369.0	46.68	4.1	1197.7	4.1	1197.7	4.1	1197.7
2/10 13:43	101074.0	46.63	4.1	1199.0	4.1	1199.0	4.1	1199.0
2/10 13:44	102154.0	46.88	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:45	102778.0	47.22	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:46	100489.0	46.17	4.1	1200.3	4.1	1200.3	4.1	1200.3
2/10 13:47	102882.0	47.26	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:48	99882.0	45.83	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:49	102115.0	47.00	4.1	1201.0	4.1	1201.0	4.1	1201.0
2/10 13:50	100981.0	46.95	4.1	1201.5	4.1	1201.5	4.1	1201.5
2/10 13:51	99309.0	46.66	4.1	1201.0	4.1	1201.0	4.1	1201.0
2/10 13:52	99229.0	46.73	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 13:53	99857.0	47.02	4.1	1199.8	4.1	1199.8	4.1	1199.8
2/10 13:54	99396.0	46.81	4.1	1199.8	4.1	1199.8	4.1	1199.8
2/10 13:55	99226.0	46.73	4.1	1200.3	4.1	1200.3	4.1	1200.3
2/10 13:56	99836.0	47.08	4.1	1200.5	4.1	1200.5	4.1	1200.5
2/10 13:57	99211.0	46.83	4.1	1200.3	4.1	1200.3	4.1	1200.3
2/10 13:58	99601.0	47.04	4.1	1199.8	4.1	1199.8	4.1	1199.8
2/10 13:59	97530.0	45.95	4.1	1199.3	4.1	1199.3	4.1	1199.3
2/10 14:00	100797.0	47.39	4.1	1199.3	4.1	1199.3	4.1	1199.3
2/10 14:01	100259.0	46.96	4.1	1200.8	4.1	1200.8	4.1	1200.8
2/10 14:02	99113.0	46.61	4.1	1200.2	4.1	1200.2	4.1	1200.2
2/10 14:03	100566.0	47.36	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 14:04	100019.0	47.13	4.1	1200.0	4.1	1200.0	4.1	1200.0
2/10 14:05	99256.0	46.74	4.1	1199.7	4.1	1199.7	4.1	1199.7

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min		
2/10 14:06	99508.0	46.86	4.1	1200.0				
2/10 14:07	98768.0	46.51	4.1	1200.2				
2/10 14:08	100017.0	47.17	4.1	1199.8				
2/10 14:09	97984.0	46.25	4.1	1200.0				
2/10 14:10	99154.0	46.80	4.1	1199.8				
2/10 14:11	99256.0	46.83	4.1	1199.8				
2/10 14:12	99376.0	46.80	4.1	1200.2				
2/10 14:13	98557.0	46.41	4.1	1199.8				
2/10 14:14	98413.0	46.36	4.1	1199.7				
2/10 14:15	98665.0	46.48	4.1	1199.7				
2/10 14:16	100190.0	47.29	4.1	1200.0				
2/10 14:17	100878.0	47.53	4.1	1200.2				
2/10 14:18	97706.0	46.08	4.1	1199.8				
2/10 14:19	99285.0	46.76	4.1	1200.2				
2/10 14:20	98340.0	46.31	4.1	1199.7				
2/10 14:21	98318.0	46.32	4.1	1199.8				
2/10 14:22	99057.0	46.68	4.1	1200.0				
2/10 14:23	99272.0	46.80	4.1	1200.0				
2/10 14:24	98656.0	46.53	4.1	1199.8				
2/10 14:25	99110.0	46.72	4.1	1200.2				
2/10 14:26	97376.0	45.90	4.1	1199.8				
2/10 14:27	97975.0	46.23	4.1	1200.3				
2/10 14:28	99838.0	47.03	4.1	1200.2				
2/10 14:29	99334.0	46.82	4.1	1199.7				
2/10 14:30	98234.0	46.28	4.1	1200.0				
2/10 14:31	98718.0	46.51	4.1	1199.8				
2/10 14:32	98465.0	46.40	4.1	1199.7				
2/10 14:33	98666.0	46.57	4.1	1200.2				
2/10 14:34	98953.0	46.70	4.1	1200.2				
2/10 14:35	99371.0	46.95	4.1	1200.2				
2/10 14:36	98944.0	46.73	4.1	1200.2				
2/10 14:37	99155.0	46.80	4.1	1200.3				
2/10 14:38	99677.0	47.05	4.1	1199.7				
2/10 14:39	99500.0	46.96	4.1	1200.0				
2/10 14:40	97735.0	46.09	4.1	1199.8				
2/10 14:41	100098.0	47.19	4.1	1200.3				
2/10 14:42	99592.0	46.99	4.1	1200.2				
2/10 14:43	99175.0	46.81	4.1	1199.8				
2/10 14:44	99142.0	46.79	4.1	1200.5				
2/10 14:45	99845.0	47.15	4.1	1200.0				
2/10 14:46	99157.0	46.83	4.1	1200.0				
2/10 14:47	98262.0	46.40	4.1	1200.0				
2/10 14:48	97313.0	45.93	4.1	1200.0				
2/10 14:49	98034.0	46.32	4.1	1200.2				
2/10 14:50	99720.0	47.09	4.1	1200.2				
2/10 14:51	98747.0	46.64	4.1	1200.0				
2/10 14:52	98128.0	46.37	4.1	1200.0				
2/10 14:53	99937.0	47.17	4.1	1200.2				
2/10 14:54	97161.0	45.86	4.1	1199.8				

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/10 14:55	97646.0		46.03	4.1	4.1	1199.3		
2/10 14:56	98287.0		46.20	4.1	4.1	1199.8		
2/10 14:57	99589.0		46.88	4.1	4.1	1200.7		
2/10 14:58	99417.0		46.91	4.1	4.1	1200.0		
2/10 14:59	97218.0		45.97	4.1	4.1	1200.0		
2/10 15:00	98756.0		46.72	4.1	4.1	1199.8		
2/10 15:01	98901.0		46.75	4.1	4.1	1199.5		
2/10 15:02	99282.0		46.86	4.1	4.1	1200.0		
2/10 15:03	99199.0		46.82	4.1	4.1	1199.7		
2/10 15:04	100059.0		47.23	4.1	4.1	1200.5		
2/10 15:05	100274.0		47.33	4.1	4.1	1200.0		
2/10 15:06	98525.0		46.51	4.1	4.1	1200.0		
2/10 15:07	100281.0		47.35	4.1	4.1	1200.2		
2/10 15:08	97207.0		45.96	4.1	4.1	1200.0		
2/10 15:09	100574.0		47.58	4.1	4.1	1200.0		
2/10 15:10	97403.0		46.02	4.1	4.1	1200.2		
2/10 15:11	98554.0		46.99	4.1	4.1	1199.8		
2/10 15:12	97406.0		46.06	4.1	4.1	1200.0		
2/10 15:13	98381.0		46.46	4.1	4.1	1200.2		
2/10 15:14	99582.0		47.11	4.1	4.1	1200.0		
2/10 15:15	98917.0		46.80	4.1	4.1	1200.0		
2/10 15:16	97542.0		46.06	4.1	4.1	1199.5		
2/10 15:17	97529.0		46.03	4.1	4.1	1200.2		
2/10 15:18	98698.0		46.62	4.1	4.1	1200.2		
2/10 15:19	97881.0		46.31	4.1	4.1	1200.0		
2/10 15:20	99309.0		46.98	4.1	4.1	1200.2		
2/10 15:21	99939.0		47.24	4.1	4.1	1200.0		
2/10 15:22	99078.0		46.82	4.1	4.1	1200.2		
2/10 15:23	99069.0		46.87	4.1	4.1	1200.2		
2/10 15:24	99671.0		47.04	4.1	4.1	1199.5		
2/10 15:25	98772.0		46.62	4.1	4.1	1199.7		
2/10 15:26	99396.0		46.92	4.1	4.1	1200.2		
2/10 15:27	98381.0		46.44	4.1	4.1	1199.8		
2/10 15:28	100081.0		47.18	4.1	4.1	1199.8		
2/10 15:29	99254.0		46.81	4.1	4.1	1200.5		
2/10 15:30	99241.0		46.84	4.1	4.1	1200.0		
2/10 15:31	99351.0		46.89	4.1	4.1	1200.0		
2/10 15:32	99456.0		47.05	4.1	4.1	1199.5		
2/10 15:33	98579.0		46.53	4.1	4.1	1200.2		
2/10 15:34	98762.0		46.61	4.1	4.1	1200.3		
2/10 15:35	98134.0		46.32	4.1	4.1	1200.2		
2/10 15:36	97860.0		46.27	4.1	4.1	1200.0		
2/10 15:37	98609.0		46.59	4.1	4.1	1200.0		
2/10 15:38	100087.0		47.26	4.1	4.1	1200.0		
2/10 15:39	99745.0		47.10	4.1	4.1	1199.2		
2/10 15:40	98282.0		46.39	4.1	4.1	1200.2		
2/10 15:41	98858.0		46.66	4.1	4.1	1200.2		
2/10 15:42	97871.0		46.24	4.1	4.1	1200.0		
2/10 15:43	99034.0		46.82	4.1	4.1	1199.8		

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/10 15:44	99987.0	47.23	46.81	4.1	4.1	1199.7	1200.3	1199.7
2/10 15:45	99116.0	46.81	46.70	4.1	4.1	1200.2	1200.2	1200.2
2/10 15:46	98872.0	47.53	46.92	4.1	4.1	1199.7	1199.8	1199.8
2/10 15:47	100791.0	47.09	47.45	4.1	4.1	1200.2	1200.2	1200.2
2/10 15:48	99634.0	47.25	47.45	4.1	4.1	1200.0	1200.0	1200.0
2/10 15:49	99961.0	46.57	46.55	4.1	4.1	1200.0	1200.0	1200.0
2/10 15:50	100368.0	46.55	46.55	4.1	4.1	1200.2	1200.2	1200.2
2/10 15:51	98561.0	46.46	46.46	4.1	4.1	1199.7	1199.7	1199.7
2/10 15:52	98545.0	46.95	46.95	4.1	4.1	1200.0	1200.0	1200.0
2/10 15:53	98431.0	46.55	46.55	4.1	4.1	1200.3	1200.3	1200.3
2/10 15:54	99315.0	46.96	46.96	4.1	4.1	1200.0	1200.0	1200.0
2/10 15:55	98629.0	45.61	45.61	4.1	4.1	1200.0	1200.0	1200.0
2/10 15:56	99607.0	47.10	47.10	4.1	4.1	1199.7	1199.7	1199.7
2/10 15:57	99440.0	46.31	46.31	4.1	4.1	1199.8	1199.8	1199.8
2/10 15:58	96626.0	46.51	46.51	4.1	4.1	1200.5	1200.5	1200.5
2/10 15:59	99748.0	46.31	46.31	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:00	98058.0	46.51	46.51	4.1	4.1	1199.7	1199.7	1199.7
2/10 16:01	98533.0	46.36	46.36	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:02	98233.0	46.42	46.42	4.1	4.1	1199.8	1199.8	1199.8
2/10 16:03	98354.0	46.85	46.85	4.1	4.1	1199.7	1199.7	1199.7
2/10 16:04	99254.0	45.26	45.26	4.1	4.1	1199.8	1199.8	1199.8
2/10 16:05	95939.0	46.05	46.05	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:06	97572.0	46.72	46.72	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:07	98988.0	47.05	47.05	4.1	4.1	1200.2	1200.2	1200.2
2/10 16:08	96691.0	47.09	47.09	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:09	99767.0	46.74	46.74	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:10	99020.0	46.61	46.61	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:11	98761.0	46.49	46.49	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:12	98490.0	46.35	46.35	4.1	4.1	1200.3	1200.3	1200.3
2/10 16:13	98368.0	46.21	46.21	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:14	98144.0	46.61	46.61	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:15	98801.0	47.20	47.20	4.1	4.1	1199.8	1199.8	1199.8
2/10 16:16	100006.0	47.13	47.13	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:17	99888.0	47.91	47.91	4.1	4.1	1201.0	1201.0	1201.0
2/10 16:18	101509.0	46.97	46.97	4.1	4.1	1200.5	1200.5	1200.5
2/10 16:19	99437.0	46.03	46.03	4.1	4.1	1200.2	1200.2	1200.2
2/10 16:20	97361.0	46.42	46.42	4.1	4.1	1199.8	1199.8	1199.8
2/10 16:21	98338.0	47.22	47.22	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:22	100079.0	47.08	47.08	4.1	4.1	1199.7	1199.7	1199.7
2/10 16:23	99840.0	47.49	47.49	4.1	4.1	1200.2	1200.2	1200.2
2/10 16:24	100616.0	46.49	46.49	4.1	4.1	1199.3	1199.3	1199.3
2/10 16:25	98499.0	46.75	46.75	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:26	99044.0	47.26	47.26	4.1	4.1	1200.0	1200.0	1200.0
2/10 16:27	100122.0	47.16	47.16	4.1	4.1	1199.7	1199.7	1199.7
2/10 16:28	100081.0	46.52	46.52	4.1	4.1	1200.2	1200.2	1200.2
2/10 16:29	100081.0	46.94	46.94	4.1	4.1	1200.2	1200.2	1200.2
2/10 16:30	98605.0	47.46	47.46	4.1	4.1	1200.2	1200.2	1200.2
2/10 16:31	99578.0	47.46	47.46	4.1	4.1	1200.2	1200.2	1200.2
2/10 16:32	100561.0	47.46	47.46	4.1	4.1	1200.2	1200.2	1200.2

Timestamp	(TG-741)		(TG-741) Heat		(TG-741)		(TG-741) T7	
	Landfill Gas	Flow scf/hr	Input	mmBtu/hr	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/10 16:33	99137.0	46.79	4.1	1200.2	4.1	1200.2	1199.8	1200.2
2/10 16:34	98072.0	46.29	4.1	1200.0	4.1	1200.0	1199.8	1200.2
2/10 16:35	100354.0	47.40	4.1	1199.8	4.1	1199.8	1200.2	1200.2
2/10 16:36	99130.0	46.79	4.1	1200.2	4.1	1200.2	1199.7	1199.8
2/10 16:37	98667.0	46.57	4.1	1200.0	4.1	1200.0	1200.3	1200.3
2/10 16:38	98945.0	46.70	4.1	1199.7	4.1	1199.7	1200.0	1200.0
2/10 16:39	97483.0	45.95	4.1	1199.8	4.1	1199.8	1200.0	1200.0
2/10 16:40	99155.0	46.78	4.1	1199.8	4.1	1199.8	1200.0	1200.0
2/10 16:41	100140.0	47.18	4.1	1199.8	4.1	1199.8	1200.0	1200.0
2/10 16:42	99116.0	46.68	4.1	1199.8	4.1	1199.8	1200.0	1200.0
2/10 16:43	99313.0	46.79	4.1	1199.8	4.1	1199.8	1200.0	1200.0
2/10 16:44	99326.0	46.79	4.1	1199.2	4.1	1199.2	1200.2	1200.2
2/10 16:45	98823.0	46.53	4.1	1200.2	4.1	1200.2	1200.3	1200.3
2/10 16:46	98628.0	46.44	4.1	1200.3	4.1	1200.3	1200.0	1200.0
2/10 16:47	99718.0	47.05	4.1	1200.0	4.1	1200.0	1199.8	1199.8
2/10 16:48	99101.0	46.67	4.1	1200.0	4.1	1200.0	1200.0	1200.0
2/10 16:49	97408.0	45.98	4.1	1199.8	4.1	1199.8	1200.0	1200.0
2/10 16:50	100263.0	47.32	4.1	1200.0	4.1	1200.0	1199.7	1199.7
2/10 16:51	98105.0	46.25	4.1	1199.7	4.1	1199.7	1200.3	1200.3
2/10 16:52	98918.0	46.67	4.1	1199.8	4.1	1199.8	1200.2	1200.2
2/10 16:53	99763.0	47.09	4.1	1200.3	4.1	1200.3	1200.0	1200.0
2/10 16:54	99417.0	46.96	4.1	1200.2	4.1	1200.2	1200.0	1200.0
2/10 16:55	97902.0	46.24	4.1	1200.0	4.1	1200.0	1199.2	1199.2
2/10 16:56	100065.0	47.21	4.1	1200.0	4.1	1200.0	1200.0	1200.0
2/10 16:57	99508.0	46.93	4.1	1199.2	4.1	1199.2	1200.3	1200.3
2/10 16:58	99060.0	46.65	4.1	1200.0	4.1	1200.0	1200.0	1200.0
2/10 16:59	99364.0	46.79	4.1	1200.0	4.1	1200.0	1200.0	1200.0
2/10 17:00	98800.0	46.52	4.1	1200.0	4.1	1200.0	1200.0	1200.0
2/10 17:01	99399.0	46.81	4.1	1200.3	4.1	1200.3	1200.0	1200.0
2/10 17:02	101341.0	47.72	4.1	1200.0	4.1	1200.0	1199.8	1199.8
2/10 17:03	99945.0	47.04	4.1	1199.8	4.1	1199.8	1199.7	1199.7
2/10 17:04	100647.0	47.40	4.1	1199.7	4.1	1199.7	1200.2	1200.2
2/10 17:05	100455.0	47.31	4.1	1199.7	4.1	1199.7	1200.0	1200.0
2/10 17:06	99707.0	46.95	4.1	1200.2	4.1	1200.2	1200.0	1200.0
2/10 17:07	97195.0	45.77	4.1	1200.0	4.1	1200.0	1199.7	1199.7
2/10 17:08	99475.0	46.87	4.1	1200.0	4.1	1200.0	1200.0	1200.0
2/10 17:09	100477.0	47.32	4.1	1199.7	4.1	1199.7	1200.2	1200.2
2/10 17:10	99908.0	47.05	4.1	1200.0	4.1	1200.0	1200.0	1200.0
2/10 17:11	98780.0	46.52	4.1	1199.7	4.1	1199.7	1200.3	1200.3
2/10 17:12	99799.0	46.92	4.1	1200.2	4.1	1200.2	1200.0	1200.0
2/10 17:13	99766.0	46.96	4.1	1200.0	4.1	1200.0	1200.2	1200.2
2/10 17:14	100669.0	47.39	4.1	1200.0	4.1	1200.0	1200.0	1200.0
2/10 17:15	100218.0	47.19	4.1	1200.2	4.1	1200.2	1200.3	1200.3
2/10 17:16	99900.0	47.06	4.1	1200.3	4.1	1200.3	1200.0	1200.0
2/10 17:17	99706.0	46.97	4.1	1200.0	4.1	1200.0	1200.3	1200.3
2/10 17:18	100155.0	47.17	4.1	1200.0	4.1	1200.0	1199.7	1199.7
2/10 17:19	97753.0	46.05	4.1	1200.3	4.1	1200.3	1200.0	1200.0
2/10 17:20	99799.0	47.00	4.1	1199.7	4.1	1199.7	1200.0	1200.0
2/10 17:21	98895.0	46.55	4.1	1199.8	4.1	1199.8	1200.0	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
2/10 17:22	99647.0	46.82	4.1	1199.8
2/10 17:23	99809.0	46.89	4.1	1199.8
2/10 17:24	99879.0	47.03	4.1	1200.0
2/10 17:25	99294.0	46.70	4.1	1199.8
2/10 17:26	101167.0	47.53	4.1	1199.7
2/10 17:27	99561.0	46.75	4.1	1200.0
2/10 17:28	99767.0	46.87	4.1	1200.2
2/10 17:29	101058.0	47.48	4.1	1200.2
2/10 17:30	100222.0	47.08	4.1	1200.0
2/10 17:31	99567.0	46.83	4.1	1200.2
2/10 17:32	99528.0	46.79	4.1	1200.0
2/10 17:33	100320.0	47.24	4.1	1200.0
2/10 17:34	100077.0	47.05	4.1	1200.0
2/10 17:35	98204.0	46.13	4.1	1199.5
2/10 17:36	100324.0	47.13	4.1	1200.5
2/10 17:37	101113.0	47.52	4.1	1199.7
2/10 17:38	100034.0	46.99	4.2	1200.0
2/10 17:39	100391.0	47.16	4.2	1200.2
2/10 17:40	98556.0	46.30	4.1	1199.8
2/10 17:41	101256.0	47.55	4.1	1199.8
2/10 17:42	100504.0	47.18	4.1	1199.8
2/10 17:43	99426.0	46.60	4.1	1199.8
2/10 17:44	100082.0	46.91	4.1	1200.0
2/10 17:45	99803.0	46.78	4.1	1200.2
2/10 17:46	99604.0	46.73	4.1	1200.5
2/10 17:47	98983.0	46.50	4.1	1199.7
2/10 17:48	100959.0	47.35	4.1	1200.2
2/10 17:49	100222.0	47.05	4.1	1200.0
2/10 17:50	99633.0	46.78	4.1	1199.5
2/10 17:51	100604.0	47.15	4.1	1200.0
2/10 17:52	99895.0	46.82	4.2	1199.7
2/10 17:53	99201.0	46.50	4.2	1200.0
2/10 17:54	100112.0	46.92	4.2	1200.2
2/10 17:55	101337.0	47.50	4.2	1199.7
2/10 17:56	99256.0	46.52	4.1	1200.0
2/10 17:57	101149.0	47.41	4.1	1200.0
2/10 17:58	100428.0	47.15	4.1	1200.3
2/10 17:59	99687.0	46.81	4.1	1199.8
2/10 18:00	99464.0	46.64	4.1	1199.5
2/10 18:01	100634.0	47.14	4.1	1199.7
2/10 18:02	100673.0	47.04	4.2	1199.7
2/10 18:03	100767.0	47.07	4.2	1200.0
2/10 18:04	101456.0	47.44	4.2	1200.0
2/10 18:05	100514.0	47.11	4.2	1200.7
2/10 18:06	100073.0	47.01	4.2	1200.0
2/10 18:07	100064.0	46.95	4.2	1199.7
2/10 18:08	101147.0	47.38	4.2	1200.0
2/10 18:09	99819.0	46.71	4.2	1200.0
2/10 18:10	100418.0	46.96	4.2	1200.0

Timestamp	(TG-741) Landfill Gas Flow scf/hr 1-Min	(TG-741) Heat Input mmBtu/hr 1-Min	(TG-741) Megawatts 1-Min	(TG-741) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	1-Min	1-Min
2/10 18:11	99793.0	46.69	4.2	1200.0
2/10 18:12	100444.0	47.03	4.2	1199.8
2/10 18:13	99995.0	46.82	4.2	1200.0
2/10 18:14	99499.0	46.62	4.2	1200.0
2/10 18:15	101134.0	47.31	4.2	1200.0
2/10 18:16	100099.0	46.81	4.2	1200.2
2/10 18:17	99560.0	46.55	4.2	1200.0
2/10 18:18	99689.0	46.67	4.2	1200.2
2/10 18:19	102426.0	47.98	4.1	1199.5
2/10 18:20	99572.0	46.58	4.1	1200.0
2/10 18:21	100584.0	47.09	4.1	1199.8
2/10 18:22	100541.0	47.01	4.2	1200.2
2/10 18:23	101095.0	47.27	4.2	1200.0
2/10 18:24	102041.0	47.71	4.2	1200.0
2/10 18:25	99352.0	46.46	4.2	1199.7
2/10 18:26	99615.0	46.60	4.1	1200.0
2/10 18:27	99581.0	46.56	4.1	1200.0
2/10 18:28	101401.0	47.41	4.2	1200.0
2/10 18:29	100016.0	46.77	4.1	1199.7
2/10 18:30	101922.0	47.66	4.2	1199.8
2/10 18:31	101204.0	47.32	4.2	1200.0
2/10 18:32	99927.0	46.71	4.2	1199.8
2/10 18:33	101688.0	47.52	4.2	1199.7
2/10 18:34	100268.0	46.86	4.2	1200.0
2/10 18:35	101354.0	47.36	4.2	1199.8
2/10 18:36	101334.0	47.27	4.2	1200.2
2/10 18:37	100115.0	46.71	4.2	1200.2
2/10 18:38	100292.0	46.79	4.2	1200.0
2/10 18:39	99916.0	46.72	4.2	1200.0
2/10 18:40	100435.0	46.97	4.2	1200.2
2/10 18:41	100498.0	46.97	4.2	1199.8
2/10 18:42	101458.0	47.42	4.2	1200.0
2/10 18:43	100676.0	47.08	4.2	1199.8
2/10 18:44	98935.0	46.26	4.2	1200.0
2/10 18:45	101070.0	47.21	4.2	1200.2
2/10 18:46	100864.0	47.05	4.2	1200.2
2/10 18:47	102116.0	47.64	4.2	1200.0
2/10 18:48	99553.0	46.44	4.2	1200.2
2/10 18:49	101037.0	47.14	4.2	1200.0
2/10 18:50	99294.0	46.43	4.2	1200.2
2/10 18:51	100700.0	47.09	4.2	1200.0
2/10 18:52	101155.0	47.30	4.2	1200.0
2/10 18:53	100396.0	46.98	4.2	1200.0
2/10 18:54	101638.0	47.53	4.2	1199.8
2/10 18:55	99284.0	46.40	4.2	1200.0
2/10 18:56	100431.0	46.91	4.2	1199.8
2/10 18:57	100662.0	46.96	4.2	1200.0
2/10 18:58	99954.0	46.63	4.2	1199.8
2/10 18:59	100325.0	46.80	4.2	1200.0

(TG-741)		(TG-741) Gas	(TG-741) Heat	(TG-741) T7
		Flow scf/hr	Input mmBtu/hr	Exhaust Temp
		1-Min	1-Min	°F 1-Min
Timestamp				
2/10 19:00		100331.0	46.82	1200.2
Average (all)		100700.8	47.04	1200.0
Total (all)		--	--	--
Minimum (all)		95939.0	45.26	1197.7
Maximum (all)		105926.0	48.88	1201.5
Average (valid values only)		100700.8	47.04	1200.0
Total (valid values only)		--	--	--
Count (valid values only)		781	781	781

Appendix B.2

CT-5 Data

CeDAR 1-Minute Data

Sunshine Gas Producers, LLC

Data for 2/14/2023 6:00 AM thru 2/14/2023 7:00 PM

Timestamp	(TG-751) Landfill Gas		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Flow scf/hr	1-Min	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	T7	1-Min
2/14 6:00	94959.0	44.43	3.8	1200.2				
2/14 6:01	95936.0	44.88	3.8	1200.0				
2/14 6:02	96550.0	45.17	3.8	1200.0				
2/14 6:03	96572.0	45.23	3.8	1200.0				
2/14 6:04	95467.0	44.67	3.8	1200.2				
2/14 6:05	95554.0	44.78	3.8	1199.8				
2/14 6:06	96191.0	45.06	3.8	1200.0				
2/14 6:07	95400.0	44.63	3.8	1200.0				
2/14 6:08	95354.0	44.67	3.8	1200.0				
2/14 6:09	95525.0	44.77	3.8	1200.0				
2/14 6:10	95513.0	44.77	3.8	1200.0				
2/14 6:11	95543.0	44.78	3.8	1200.0				
2/14 6:12	95076.0	44.56	3.8	1200.0				
2/14 6:13	95910.0	44.93	3.8	1200.0				
2/14 6:14	95791.0	44.88	3.8	1200.0				
2/14 6:15	95548.0	44.68	3.8	1200.0				
2/14 6:16	95521.0	44.68	3.8	1200.2				
2/14 6:17	97006.0	45.36	3.8	1200.0				
2/14 6:18	96085.0	44.93	3.8	1200.0				
2/14 6:19	95282.0	44.55	3.8	1200.0				
2/14 6:20	95797.0	44.80	3.8	1200.0				
2/14 6:21	96959.0	45.32	3.8	1200.2				
2/14 6:22	95903.0	44.84	3.8	1200.0				
2/14 6:23	95915.0	44.83	3.8	1200.0				
2/14 6:24	96497.0	45.12	3.8	1200.0				
2/14 6:25	95116.0	44.48	3.8	1200.0				
2/14 6:26	94833.0	44.37	3.8	1200.2				
2/14 6:27	96681.0	45.29	3.8	1200.0				
2/14 6:28	96015.0	44.90	3.8	1200.0				
2/14 6:29	96648.0	45.11	3.8	1200.0				
2/14 6:30	96370.0	44.96	3.8	1199.5				
2/14 6:31	96193.0	44.84	3.8	1200.0				
2/14 6:32	95621.0	44.61	3.8	1200.2				
2/14 6:33	96333.0	44.94	3.8	1200.0				
2/14 6:34	95934.0	44.75	3.8	1200.0				
2/14 6:35	96046.0	44.81	3.8	1200.0				
2/14 6:36	97095.0	45.33	3.8	1199.7				
2/14 6:37	96755.0	44.67	3.8	1199.8				
2/14 6:38	95829.0	44.60	3.8	1199.8				
2/14 6:39	95822.0	44.61	3.8	1199.8				
2/14 6:40	95923.0	44.64	3.8	1199.8				
2/14 6:41	96213.0	44.78	3.8	1199.8				
2/14 6:42	96307.0	44.90	3.8	1199.8				
2/14 6:43	95592.0	44.51	3.8	1200.3				
2/14 6:44	96157.0	44.86	3.8	1199.8				

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp	°F 1-Min	
2/14 6:45	95252.0	44.43	45.02	3.8	1200.3			
2/14 6:46	96504.0	44.79	44.13	3.8	1199.8			
2/14 6:47	96195.0	44.13	45.15	3.8	1200.0			
2/14 6:48	94631.0	44.91	44.96	3.8	1199.8			
2/14 6:49	97006.0	44.32	44.41	3.8	1200.0			
2/14 6:50	96489.0	44.32	44.41	3.8	1200.0			
2/14 6:51	96527.0	44.41	44.86	3.8	1200.0			
2/14 6:52	95222.0	44.72	44.74	3.8	1200.0			
2/14 6:53	95383.0	44.72	45.06	3.8	1199.8			
2/14 6:54	96305.0	44.87	44.68	3.8	1200.7			
2/14 6:55	96014.0	44.78	45.18	3.8	1199.7			
2/14 6:56	96133.0	45.17	45.17	3.8	1199.8			
2/14 6:57	96728.0	44.40	44.83	3.8	1200.2			
2/14 6:58	96184.0	44.40	44.51	3.8	1200.0			
2/14 6:59	95776.0	44.40	44.56	3.8	1200.2			
2/14 7:00	96177.0	44.40	44.58	3.8	1200.0			
2/14 7:01	97130.0	44.40	44.37	3.8	1200.2			
2/14 7:02	97145.0	44.40	44.46	3.8	1200.0			
2/14 7:03	95569.0	44.40	44.61	3.8	1200.0			
2/14 7:04	96330.0	44.42	44.64	3.8	1200.3			
2/14 7:05	95470.0	44.42	44.64	3.8	1200.0			
2/14 7:06	95866.0	44.42	44.38	3.8	1200.2			
2/14 7:07	96114.0	44.42	44.81	3.8	1200.0			
2/14 7:08	96059.0	44.42	44.81	3.8	1200.0			
2/14 7:09	95344.0	44.42	44.64	3.8	1199.8			
2/14 7:10	95646.0	44.42	44.39	3.8	1200.3			
2/14 7:11	95530.0	44.42	44.50	3.8	1200.0			
2/14 7:12	95864.0	44.42	44.46	3.8	1199.8			
2/14 7:13	95454.0	44.42	44.61	3.8	1200.0			
2/14 7:14	95920.0	44.42	44.64	3.8	1200.2			
2/14 7:15	95590.0	44.42	44.38	3.8	1200.0			
2/14 7:16	96292.0	44.42	44.81	3.8	1200.0			
2/14 7:17	96028.0	44.42	44.64	3.8	1200.0			
2/14 7:18	95380.0	44.42	44.39	3.8	1199.8			
2/14 7:19	96231.0	44.42	44.79	3.8	1200.0			
2/14 7:20	96844.0	44.42	45.07	3.8	1199.7			
2/14 7:21	95457.0	44.42	44.43	3.8	1199.8			
2/14 7:22	95399.0	44.42	44.40	3.8	1199.8			
2/14 7:23	95396.0	44.42	44.37	3.8	1200.0			
2/14 7:24	95386.0	44.42	44.39	3.8	1200.0			
2/14 7:25	96369.0	44.42	44.87	3.8	1200.0			
2/14 7:26	96073.0	44.42	44.82	3.8	1200.3			
2/14 7:27	95720.0	44.42	44.63	3.8	1200.0			
2/14 7:28	96124.0	44.42	44.81	3.8	1199.8			
2/14 7:29	95792.0	44.42	44.62	3.8	1200.0			
2/14 7:30	95569.0	44.42	44.58	3.8	1200.0			
2/14 7:31	96344.0	44.42	44.84	3.8	1200.0			
2/14 7:32	94477.0	44.42	44.01	3.8	1199.8			
2/14 7:33	96070.0	44.42	44.71	3.8	1200.3			

Timestamp	(TG-751) Landfill Gas		(TG-751) Heat		(TG-751) Exhaust Temp	
	Flow scf/hr	1-Min	Input mmBtu/hr	1-Min	Exhaust Temp *F 1-Min	T7 *F 1-Min
2/14 7:34	96312.0	44.82	44.82	3.8	1200.0	1200.0
2/14 7:35	95599.0	44.49	44.49	3.8	1200.0	1200.0
2/14 7:36	95544.0	44.46	44.46	3.8	1200.0	1200.0
2/14 7:37	95814.0	44.67	44.67	3.8	1199.8	1199.8
2/14 7:38	95861.0	44.69	44.69	3.8	1200.0	1200.0
2/14 7:39	96009.0	44.77	44.77	3.8	1200.0	1200.0
2/14 7:40	96224.0	44.89	44.89	3.8	1199.8	1199.8
2/14 7:41	96070.0	44.73	44.73	3.8	1200.0	1200.0
2/14 7:42	95994.0	44.76	44.76	3.8	1200.2	1200.2
2/14 7:43	95872.0	44.69	44.69	3.8	1200.0	1200.0
2/14 7:44	95976.0	44.69	44.69	3.8	1200.0	1200.0
2/14 7:45	95818.0	44.65	44.65	3.8	1199.8	1199.8
2/14 7:46	96820.0	45.06	45.06	3.8	1199.8	1199.8
2/14 7:47	96090.0	44.72	44.72	3.8	1200.0	1200.0
2/14 7:48	95027.0	44.23	44.23	3.8	1200.0	1200.0
2/14 7:49	95687.0	44.55	44.55	3.8	1200.2	1200.2
2/14 7:50	94577.0	44.06	44.06	3.8	1199.7	1199.7
2/14 7:51	95822.0	44.59	44.59	3.8	1200.0	1200.0
2/14 7:52	95850.0	44.61	44.61	3.8	1200.0	1200.0
2/14 7:53	95015.0	44.24	44.24	3.8	1200.0	1200.0
2/14 7:54	95193.0	44.30	44.30	3.8	1199.8	1199.8
2/14 7:55	96258.0	44.80	44.80	3.8	1200.0	1200.0
2/14 7:56	96638.0	44.98	44.98	3.8	1199.5	1199.5
2/14 7:57	96220.0	44.71	44.71	3.8	1200.0	1200.0
2/14 7:58	96046.0	44.60	44.60	3.8	1200.0	1200.0
2/14 7:59	96289.0	44.71	44.71	3.8	1200.0	1200.0
2/14 8:00	96767.0	44.99	44.99	3.8	1200.2	1200.2
2/14 8:01	95148.0	44.28	44.28	3.8	1200.0	1200.0
2/14 8:02	96196.0	44.70	44.70	3.8	1200.0	1200.0
2/14 8:03	95537.0	44.40	44.40	3.8	1199.8	1199.8
2/14 8:04	94830.0	44.13	44.13	3.8	1200.2	1200.2
2/14 8:05	94828.0	44.13	44.13	3.8	1200.2	1200.2
2/14 8:06	96808.0	45.06	45.06	3.8	1200.0	1200.0
2/14 8:07	95714.0	44.54	44.54	3.8	1200.2	1200.2
2/14 8:08	95943.0	44.65	44.65	3.8	1200.2	1200.2
2/14 8:09	96748.0	45.03	45.03	3.8	1200.0	1200.0
2/14 8:10	94674.0	44.08	44.08	3.8	1200.0	1200.0
2/14 8:11	95007.0	44.22	44.22	3.8	1199.8	1199.8
2/14 8:12	94863.0	44.17	44.17	3.8	1200.0	1200.0
2/14 8:13	95263.0	44.29	44.29	3.8	1200.2	1200.2
2/14 8:14	96465.0	44.85	44.85	3.8	1200.2	1200.2
2/14 8:15	95824.0	44.57	44.57	3.8	1200.0	1200.0
2/14 8:16	95778.0	44.58	44.58	3.8	1200.0	1200.0
2/14 8:17	95341.0	44.37	44.37	3.8	1200.0	1200.0
2/14 8:18	95779.0	44.58	44.58	3.8	1200.0	1200.0
2/14 8:19	96183.0	44.78	44.78	3.8	1200.0	1200.0
2/14 8:20	94928.0	44.18	44.18	3.8	1200.0	1200.0
2/14 8:21	95156.0	44.29	44.29	3.8	1200.0	1200.0
2/14 8:22	95796.0	44.60	44.60	3.8	1200.0	1200.0

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
2/14 8:23	95965.0	44.66	3.8	1200.0
2/14 8:24	96510.0	44.92	3.8	1200.0
2/14 8:25	96309.0	44.36	3.8	1200.0
2/14 8:26	94797.0	44.12	3.8	1200.0
2/14 8:27	96105.0	44.73	3.8	1200.0
2/14 8:28	95607.0	44.50	3.8	1200.0
2/14 8:29	95713.0	44.54	3.8	1200.0
2/14 8:30	95495.0	44.45	3.8	1200.0
2/14 8:31	95688.0	44.51	3.8	1200.0
2/14 8:32	94784.0	44.11	3.8	1200.2
2/14 8:33	95595.0	44.46	3.8	1199.8
2/14 8:34	95500.0	44.47	3.8	1199.7
2/14 8:35	95210.0	44.31	3.8	1199.8
2/14 8:36	95515.0	44.49	3.8	1200.2
2/14 8:37	95274.0	44.40	3.8	1199.7
2/14 8:38	94851.0	44.14	3.8	1200.0
2/14 8:39	96291.0	44.85	3.8	1200.0
2/14 8:40	95544.0	44.55	3.8	1199.8
2/14 8:41	95446.0	44.42	3.8	1200.0
2/14 8:42	95703.0	44.54	3.8	1200.0
2/14 8:43	95947.0	44.64	3.8	1200.2
2/14 8:44	94966.0	44.09	3.8	1199.8
2/14 8:45	95553.0	44.36	3.8	1199.8
2/14 8:46	95449.0	44.32	3.8	1200.3
2/14 8:47	95347.0	44.35	3.8	1200.0
2/14 8:48	95492.0	44.34	3.8	1200.0
2/14 8:49	95295.0	44.25	3.8	1200.2
2/14 8:50	95555.0	44.37	3.8	1200.0
2/14 8:51	94688.0	43.96	3.8	1199.8
2/14 8:52	95280.0	44.24	3.8	1200.2
2/14 8:53	96230.0	44.68	3.8	1200.0
2/14 8:54	95735.0	44.45	3.8	1200.0
2/14 8:55	96385.0	44.75	3.8	1199.8
2/14 8:56	95644.0	44.34	3.8	1200.0
2/14 8:57	95394.0	44.21	3.8	1200.3
2/14 8:58	95686.0	44.36	3.8	1200.3
2/14 8:59	95503.0	44.31	3.8	1200.0
2/14 9:00	94481.0	43.80	3.8	1199.8
2/14 9:01	95215.0	44.12	3.8	1200.0
2/14 9:02	94630.0	43.81	3.8	1200.0
2/14 9:03	95718.0	44.18	3.8	1200.5
2/14 9:04	95304.0	44.12	3.8	1200.0
2/14 9:05	95676.0	44.33	3.8	1200.0
2/14 9:06	95015.0	44.02	3.8	1200.0
2/14 9:07	95026.0	43.97	3.8	1199.5
2/14 9:08	94722.0	43.74	3.8	1199.8
2/14 9:09	95834.0	44.29	3.8	1200.2
2/14 9:10	95026.0	43.92	3.8	1200.2
2/14 9:11	95542.0	44.13	3.8	1200.0

Timestamp	(TG-751) Landfill Gas		(TG-751) Heat		(TG-751) Exhaust Temp	
	Flow scf/hr	1-Min	Input mmBtu/hr	1-Min	Megawatts 1-Min	*F 1-Min
2/14 9:12	94801.0	43.85	43.85	3.8	1200.7	1200.7
2/14 9:13	95484.0	44.28	44.28	3.8	1200.7	1200.7
2/14 9:14	95721.0	44.53	44.53	3.8	1200.0	1200.0
2/14 9:15	94835.0	44.14	44.14	3.8	1199.5	1199.5
2/14 9:16	95197.0	44.18	44.18	3.8	1199.7	1199.7
2/14 9:17	96369.0	44.68	44.68	3.8	1200.0	1200.0
2/14 9:18	95684.0	44.28	44.28	3.8	1200.2	1200.2
2/14 9:19	95959.0	44.40	44.40	3.8	1200.0	1200.0
2/14 9:20	95429.0	44.14	44.14	3.8	1200.2	1200.2
2/14 9:21	94525.0	43.89	43.89	3.8	1200.0	1200.0
2/14 9:22	95999.0	44.57	44.57	3.8	1199.7	1199.7
2/14 9:23	94778.0	44.04	44.04	3.8	1200.0	1200.0
2/14 9:24	95922.0	44.62	44.62	3.8	1199.8	1199.8
2/14 9:25	95172.0	44.19	44.19	3.8	1199.7	1199.7
2/14 9:26	96295.0	44.74	44.74	3.8	1199.8	1199.8
2/14 9:27	96555.0	44.83	44.83	3.8	1200.0	1200.0
2/14 9:28	96346.0	44.74	44.74	3.8	1199.7	1199.7
2/14 9:29	96210.0	44.67	44.67	3.8	1200.0	1200.0
2/14 9:30	95054.0	44.16	44.16	3.8	1200.5	1200.5
2/14 9:31	96005.0	44.62	44.62	3.8	1200.0	1200.0
2/14 9:32	94944.0	44.14	44.14	3.8	1200.3	1200.3
2/14 9:33	95946.0	44.58	44.58	3.8	1199.8	1199.8
2/14 9:34	95332.0	44.26	44.26	3.8	1199.8	1199.8
2/14 9:35	95289.0	44.21	44.21	3.8	1200.2	1200.2
2/14 9:36	95406.0	44.23	44.23	3.8	1199.5	1199.5
2/14 9:37	95404.0	44.11	44.11	3.8	1200.0	1200.0
2/14 9:38	95465.0	44.17	44.17	3.8	1200.5	1200.5
2/14 9:39	95219.0	44.18	44.18	3.8	1200.0	1200.0
2/14 9:40	94883.0	44.05	44.05	3.8	1199.7	1199.7
2/14 9:41	96088.0	44.47	44.47	3.8	1199.5	1199.5
2/14 9:42	95757.0	44.15	44.15	3.8	1200.2	1200.2
2/14 9:43	95672.0	44.19	44.19	3.8	1200.8	1200.8
2/14 9:44	95745.0	44.46	44.46	3.8	1199.7	1199.7
2/14 9:45	96464.0	44.72	44.72	3.8	1199.7	1199.7
2/14 9:46	95297.0	43.94	43.94	3.8	1199.7	1199.7
2/14 9:47	95078.0	43.87	43.87	3.8	1200.3	1200.3
2/14 9:48	95116.0	44.01	44.01	3.8	1200.3	1200.3
2/14 9:49	95557.0	44.27	44.27	3.8	1199.5	1199.5
2/14 9:50	95616.0	44.30	44.30	3.8	1199.7	1199.7
2/14 9:51	96119.0	44.45	44.45	3.8	1200.0	1200.0
2/14 9:52	95833.0	44.37	44.37	3.8	1199.8	1199.8
2/14 9:53	96105.0	44.56	44.56	3.8	1200.3	1200.3
2/14 9:54	95287.0	44.35	44.35	3.8	1199.8	1199.8
2/14 9:55	95635.0	44.31	44.31	3.8	1199.0	1199.0
2/14 9:56	96335.0	44.32	44.32	3.8	1200.0	1200.0
2/14 9:57	96933.0	44.48	44.48	3.8	1200.0	1200.0
2/14 9:58	96784.0	44.41	44.41	3.8	1200.0	1200.0
2/14 9:59	96400.0	44.32	44.32	3.8	1200.7	1200.7
2/14 10:00	95598.0	44.25	44.25	3.8	1200.8	1200.8

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp	°F 1-Min	
2/14 10:01	94952.0	44.11	3.8	1200.2				
2/14 10:02	95387.0	44.31	3.8	1199.5				
2/14 10:03	96689.0	44.89	3.8	1199.8				
2/14 10:04	95535.0	44.36	3.8	1199.8				
2/14 10:05	94970.0	44.12	3.8	1200.2				
2/14 10:06	95668.0	44.48	3.8	1199.7				
2/14 10:07	95363.0	44.30	3.8	1200.2				
2/14 10:08	94776.0	44.11	3.8	1200.2				
2/14 10:09	96875.0	45.09	3.8	1200.0				
2/14 10:10	95038.0	44.18	3.8	1200.5				
2/14 10:11	94365.0	43.92	3.7	1199.8				
2/14 10:12	95537.0	44.46	3.8	1200.0				
2/14 10:13	94451.0	43.99	3.8	1199.8				
2/14 10:14	95323.0	44.36	3.8	1200.0				
2/14 10:15	95130.0	44.29	3.8	1200.0				
2/14 10:16	95126.0	44.27	3.8	1199.8				
2/14 10:17	95209.0	44.26	3.8	1200.0				
2/14 10:18	95516.0	44.39	3.8	1200.0				
2/14 10:19	94920.0	44.11	3.8	1200.0				
2/14 10:20	95588.0	44.41	3.8	1200.2				
2/14 10:21	95113.0	44.26	3.8	1199.7				
2/14 10:22	95028.0	44.23	3.8	1200.2				
2/14 10:23	95012.0	44.22	3.8	1200.0				
2/14 10:24	96188.0	44.77	3.8	1199.8				
2/14 10:25	95567.0	44.40	3.8	1200.2				
2/14 10:26	95781.0	44.58	3.8	1200.2				
2/14 10:27	94638.0	44.05	3.8	1200.2				
2/14 10:28	95262.0	44.39	3.8	1199.8				
2/14 10:29	94628.0	44.04	3.8	1199.8				
2/14 10:30	94144.0	43.78	3.8	1200.0				
2/14 10:31	93856.0	43.66	3.7	1200.2				
2/14 10:32	94981.0	44.16	3.7	1200.0				
2/14 10:33	94484.0	43.87	3.7	1199.8				
2/14 10:34	94513.0	43.91	3.8	1200.0				
2/14 10:35	94426.0	43.93	3.8	1200.0				
2/14 10:36	95543.0	44.46	3.8	1200.0				
2/14 10:37	94584.0	44.04	3.8	1200.0				
2/14 10:38	94544.0	44.07	3.8	1200.0				
2/14 10:39	94195.0	43.94	3.8	1199.2				
2/14 10:40	94939.0	44.00	3.8	1200.2				
2/14 10:41	94292.0	43.90	3.8	1200.7				
2/14 10:42	93887.0	43.80	3.8	1200.0				
2/14 10:43	94604.0	44.05	3.7	1199.8				
2/14 10:44	94733.0	44.09	3.7	1200.0				
2/14 10:45	93537.0	43.57	3.7	1200.2				
2/14 10:46	95267.0	44.40	3.7	1199.7				
2/14 10:47	94992.0	44.31	3.7	1200.0				
2/14 10:48	94934.0	44.28	3.7	1200.0				
2/14 10:49	94177.0	43.99	3.7	1199.8				

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp	°F 1-Min	
2/14 10:50	93818.0	43.85	3.8	1200.0				
2/14 10:51	94583.0	44.12	3.8	1199.7				
2/14 10:52	95334.0	44.49	3.8	1200.2				
2/14 10:53	95598.0	44.63	3.8	1200.0				
2/14 10:54	93699.0	43.71	3.8	1199.7				
2/14 10:55	94621.0	44.16	3.8	1200.3				
2/14 10:56	95492.0	44.60	3.7	1199.7				
2/14 10:57	94156.0	43.93	3.7	1200.5				
2/14 10:58	94489.0	44.03	3.7	1199.7				
2/14 10:59	94635.0	44.06	3.7	1200.0				
2/14 11:00	95128.0	44.35	3.7	1200.0				
2/14 11:01	95070.0	44.26	3.7	1199.5				
2/14 11:02	95803.0	44.64	3.8	1200.0				
2/14 11:03	95148.0	44.37	3.8	1200.0				
2/14 11:04	94942.0	44.31	3.8	1200.2				
2/14 11:05	94961.0	44.40	3.8	1200.0				
2/14 11:06	94444.0	44.16	3.8	1199.7				
2/14 11:07	94687.0	44.25	3.8	1200.2				
2/14 11:08	93556.0	43.80	3.8	1200.0				
2/14 11:09	93557.0	43.75	3.8	1200.0				
2/14 11:10	95012.0	44.43	3.8	1200.0				
2/14 11:11	94943.0	44.41	3.7	1200.0				
2/14 11:12	93402.0	43.69	3.7	1200.2				
2/14 11:13	94145.0	44.04	3.7	1200.2				
2/14 11:14	94127.0	44.02	3.7	1200.0				
2/14 11:15	94022.0	43.96	3.7	1200.2				
2/14 11:16	94327.0	44.08	3.7	1200.0				
2/14 11:17	94294.0	44.07	3.7	1199.8				
2/14 11:18	93184.0	43.57	3.7	1200.3				
2/14 11:19	93148.0	43.61	3.7	1199.8				
2/14 11:20	94374.0	44.15	3.7	1200.2				
2/14 11:21	94221.0	44.16	3.7	1200.2				
2/14 11:22	94793.0	44.46	3.7	1200.0				
2/14 11:23	93999.0	44.09	3.7	1200.0				
2/14 11:24	94524.0	44.30	3.7	1199.8				
2/14 11:25	94396.0	44.25	3.7	1200.0				
2/14 11:26	95135.0	44.59	3.7	1200.2				
2/14 11:27	95210.0	44.64	3.7	1200.2				
2/14 11:28	93789.0	43.98	3.7	1200.2				
2/14 11:29	93954.0	44.03	3.7	1199.8				
2/14 11:30	94672.0	44.37	3.7	1199.8				
2/14 11:31	94114.0	44.08	3.7	1200.0				
2/14 11:32	93483.0	43.80	3.7	1200.0				
2/14 11:33	94325.0	44.13	3.7	1200.0				
2/14 11:34	94361.0	44.12	3.7	1200.0				
2/14 11:35	94898.0	44.46	3.7	1200.2				
2/14 11:36	94183.0	44.14	3.7	1200.0				
2/14 11:37	93566.0	43.93	3.7	1200.0				
2/14 11:38	93907.0	44.04	3.7	1200.2				

Timestamp	(TG-751) Landfill Gas Flow scf/hr		(TG-751) Heat Input mmBtu/hr		(TG-751) Megawatts 1-Min		(TG-751) T7 Exhaust Temp °F 1-Min	
	1-Min		1-Min					
2/14 11:39	94142.0		44.20		3.7		1199.8	
2/14 11:40	94116.0		44.13		3.7		1200.0	
2/14 11:41	93865.0		44.07		3.7		1200.0	
2/14 11:42	94084.0		44.10		3.7		1200.2	
2/14 11:43	93900.0		44.11		3.7		1200.2	
2/14 11:44	93441.0		43.90		3.7		1200.0	
2/14 11:45	94811.0		44.54		3.7		1200.0	
2/14 11:46	93658.0		43.97		3.7		1200.0	
2/14 11:47	92750.0		43.47		3.7		1200.0	
2/14 11:48	94643.0		44.34		3.7		1199.8	
2/14 11:49	93991.0		44.05		3.7		1200.0	
2/14 11:50	93867.0		44.02		3.7		1200.2	
2/14 11:51	94081.0		44.20		3.7		1200.0	
2/14 11:52	94076.0		44.23		3.7		1200.0	
2/14 11:53	94294.0		44.40		3.7		1200.0	
2/14 11:54	92984.0		43.78		3.7		1196.7	
2/14 11:55	93637.0		44.07		3.7		1199.7	
2/14 11:56	93586.0		43.95		3.7		1199.8	
2/14 11:57	94028.0		44.10		3.7		1200.2	
2/14 11:58	92781.0		43.59		3.7		1200.0	
2/14 11:59	94076.0		44.27		3.7		1200.2	
2/14 12:00	93792.0		44.08		3.7		1200.0	
2/14 12:01	93778.0		44.08		3.7		1199.8	
2/14 12:02	92873.0		43.63		3.7		1199.3	
2/14 12:03	94363.0		44.20		3.7		1200.0	
2/14 12:04	94937.0		44.50		3.7		1200.0	
2/14 12:05	94009.0		44.14		3.7		1199.8	
2/14 12:06	93330.0		43.85		3.7		1199.8	
2/14 12:07	93788.0		44.08		3.7		1200.3	
2/14 12:08	94219.0		44.39		3.7		1200.2	
2/14 12:09	93397.0		43.98		3.7		1199.8	
2/14 12:10	94016.0		44.34		3.7		1200.0	
2/14 12:11	92733.0		43.75		3.7		1200.0	
2/14 12:12	92880.0		43.82		3.7		1200.0	
2/14 12:13	93090.0		43.92		3.7		1200.0	
2/14 12:14	92791.0		43.80		3.7		1199.7	
2/14 12:15	94124.0		44.37		3.7		1200.0	
2/14 12:16	93312.0		44.04		3.7		1200.0	
2/14 12:17	93262.0		43.93		3.7		1200.0	
2/14 12:18	94135.0		44.40		3.7		1200.0	
2/14 12:19	92594.0		43.68		3.7		1200.0	
2/14 12:20	92070.0		43.46		3.7		1200.0	
2/14 12:21	93444.0		44.08		3.7		1199.3	
2/14 12:22	93768.0		44.08		3.7		1199.8	
2/14 12:23	93507.0		43.98		3.7		1200.0	
2/14 12:24	93624.0		44.06		3.7		1200.0	
2/14 12:25	93136.0		43.76		3.7		1200.3	
2/14 12:26	93508.0		43.93		3.7		1199.8	
2/14 12:27	93458.0		43.91		3.7		1199.8	
Average Run 1	95006.7		44.2		3.8		1200.0	

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
2/14 12:28	94765.0	44.57	3.7	1200.2
2/14 12:29	93678.0	44.11	3.7	1200.3
2/14 12:30	93071.0	43.89	3.7	1200.2
2/14 12:31	93568.0	44.17	3.7	1200.2
2/14 12:32	93280.0	44.10	3.7	1200.0
2/14 12:33	92902.0	43.90	3.7	1199.2
2/14 12:34	94396.0	44.14	3.7	1199.5
2/14 12:35	94885.0	44.20	3.7	1200.2
2/14 12:36	93927.0	43.82	3.7	1199.8
2/14 12:37	93471.0	43.60	3.7	1200.0
2/14 12:38	93888.0	43.90	3.7	1200.2
2/14 12:39	93746.0	43.94	3.7	1200.2
2/14 12:40	93554.0	43.83	3.7	1200.0
2/14 12:41	93409.0	43.80	3.7	1200.2
2/14 12:42	92931.0	43.63	3.7	1199.5
2/14 12:43	93744.0	43.83	3.7	1200.2
2/14 12:44	93962.0	44.02	3.7	1200.2
2/14 12:45	93269.0	43.73	3.7	1200.0
2/14 12:46	94796.0	44.43	3.7	1200.0
2/14 12:47	93663.0	43.90	3.7	1199.7
2/14 12:48	93986.0	44.08	3.7	1200.2
2/14 12:49	94287.0	44.30	3.7	1199.8
2/14 12:50	94503.0	44.40	3.7	1200.2
2/14 12:51	93785.0	43.98	3.7	1199.8
2/14 12:52	93594.0	43.95	3.7	1200.7
2/14 12:53	93716.0	44.16	3.7	1199.7
2/14 12:54	94127.0	44.33	3.7	1199.8
2/14 12:55	94338.0	44.34	3.7	1200.0
2/14 12:56	94089.0	44.29	3.7	1200.5
2/14 12:57	93288.0	44.02	3.7	1200.2
2/14 12:58	92658.0	43.84	3.7	1200.0
2/14 12:59	93490.0	44.17	3.7	1200.3
2/14 13:00	92667.0	43.77	3.7	1199.8
2/14 13:01	93032.0	43.91	3.7	1200.0
2/14 13:02	93134.0	44.02	3.7	1199.8
2/14 13:03	93397.0	44.05	3.7	1199.5
2/14 13:04	94052.0	44.35	3.7	1200.2
2/14 13:05	93181.0	43.98	3.7	1200.0
2/14 13:06	94154.0	44.34	3.7	1199.5
2/14 13:07	94021.0	44.25	3.7	1200.7
2/14 13:08	92781.0	43.86	3.7	1200.5
2/14 13:09	92570.0	43.72	3.7	1198.7
2/14 13:10	95245.0	44.45	3.7	1199.0
2/14 13:11	94479.0	44.09	3.7	1201.7
2/14 13:12	93642.0	44.22	3.7	1200.3
2/14 13:13	92987.0	43.99	3.7	1199.8
2/14 13:14	92332.0	43.70	3.7	1200.2
2/14 13:15	92987.0	44.07	3.7	1199.3
2/14 13:16	93719.0	44.03	3.7	1200.3

Timestamp	(TG-751) Landfill Gas Flow scf/hr		(TG-751) Heat Input mmBtu/hr		(TG-751) Megawatts 1-Min		(TG-751) T7 Exhaust Temp °F 1-Min	
	1-Min	1-Min	1-Min	1-Min	1-Min	1-Min	1-Min	1-Min
2/14 13:17	93617.0	44.13	44.13	3.7	3.7	1197.3	1197.3	
2/14 13:18	99671.0	45.34	45.34	3.7	3.7	1196.2	1196.2	
2/14 13:19	101180.0	44.92	44.92	3.8	3.8	1200.3	1200.3	
2/14 13:20	96803.0	43.54	43.54	3.8	3.8	1205.5	1205.5	
2/14 13:21	92875.0	43.58	43.58	3.7	3.7	1201.0	1201.0	
2/14 13:22	92270.0	43.55	43.55	3.7	3.7	1199.5	1199.5	
2/14 13:23	95013.0	44.65	44.65	3.7	3.7	1196.2	1196.2	
2/14 13:24	96599.0	44.38	44.38	3.8	3.8	1202.8	1202.8	
2/14 13:25	94132.0	44.22	44.22	3.7	3.7	1201.7	1201.7	
2/14 13:26	93374.0	44.24	44.24	3.7	3.7	1199.7	1199.7	
2/14 13:27	93292.0	44.24	44.24	3.7	3.7	1199.7	1199.7	
2/14 13:28	93943.0	44.39	44.39	3.7	3.7	1199.7	1199.7	
2/14 13:29	94001.0	44.28	44.28	3.7	3.7	1200.0	1200.0	
2/14 13:30	93576.0	44.09	44.09	3.7	3.7	1200.2	1200.2	
2/14 13:31	93463.0	44.09	44.09	3.7	3.7	1200.3	1200.3	
2/14 13:32	92902.0	43.85	43.85	3.7	3.7	1200.0	1200.0	
2/14 13:33	93667.0	44.23	44.23	3.7	3.7	1200.0	1200.0	
2/14 13:34	93322.0	44.09	44.09	3.7	3.7	1200.2	1200.2	
2/14 13:35	93617.0	44.26	44.26	3.7	3.7	1199.8	1199.8	
2/14 13:36	93777.0	44.37	44.37	3.7	3.7	1200.0	1200.0	
2/14 13:37	93518.0	44.26	44.26	3.7	3.7	1200.0	1200.0	
2/14 13:38	93097.0	44.12	44.12	3.7	3.7	1200.0	1200.0	
2/14 13:39	92654.0	43.83	43.83	3.7	3.7	1199.8	1199.8	
2/14 13:40	93165.0	44.08	44.08	3.7	3.7	1200.0	1200.0	
2/14 13:41	93360.0	44.17	44.17	3.7	3.7	1199.8	1199.8	
2/14 13:42	92959.0	43.98	43.98	3.7	3.7	1200.2	1200.2	
2/14 13:43	93555.0	44.23	44.23	3.7	3.7	1200.3	1200.3	
2/14 13:44	93297.0	44.14	44.14	3.7	3.7	1199.8	1199.8	
2/14 13:45	93840.0	44.27	44.27	3.7	3.7	1199.0	1199.0	
2/14 13:46	93643.0	43.86	43.86	3.7	3.7	1200.5	1200.5	
2/14 13:47	93266.0	43.95	43.95	3.7	3.7	1200.2	1200.2	
2/14 13:48	92942.0	43.81	43.81	3.7	3.7	1200.0	1200.0	
2/14 13:49	94100.0	44.33	44.33	3.7	3.7	1200.0	1200.0	
2/14 13:50	92323.0	43.49	43.49	3.7	3.7	1200.2	1200.2	
2/14 13:51	93214.0	43.94	43.94	3.7	3.7	1199.8	1199.8	
2/14 13:52	93253.0	44.01	44.01	3.7	3.7	1199.8	1199.8	
2/14 13:53	93183.0	43.96	43.96	3.7	3.7	1199.3	1199.3	
2/14 13:54	92966.0	43.49	43.49	3.7	3.7	1200.5	1200.5	
2/14 13:55	92930.0	43.74	43.74	3.7	3.7	1200.3	1200.3	
2/14 13:56	93575.0	44.22	44.22	3.7	3.7	1200.0	1200.0	
2/14 13:57	93436.0	44.18	44.18	3.7	3.7	1199.7	1199.7	
2/14 13:58	92708.0	43.78	43.78	3.7	3.7	1199.8	1199.8	
2/14 13:59	92820.0	43.79	43.79	3.7	3.7	1199.8	1199.8	
2/14 14:00	93784.0	44.21	44.21	3.7	3.7	1200.2	1200.2	
2/14 14:01	94029.0	44.38	44.38	3.7	3.7	1200.0	1200.0	
2/14 14:02	93951.0	44.34	44.34	3.7	3.7	1200.0	1200.0	
2/14 14:03	93267.0	44.02	44.02	3.7	3.7	1199.3	1199.3	
2/14 14:04	93506.0	44.05	44.05	3.7	3.7	1200.0	1200.0	
2/14 14:05	93392.0	44.06	44.06	3.7	3.7	1200.0	1200.0	

Timestamp	(TG-751)		(TG-751) Heat		(TG-751) T7	
	Landfill Gas Flow scf/hr	1-Min	Input mmBtu/hr	1-Min	Exhaust Temp °F 1-Min	1-Min
2/14 14:06	92976.0	43.89	43.89	3.7	1200.0	3.7
2/14 14:07	92797.0	43.80	43.80	3.7	1200.0	3.7
2/14 14:08	93409.0	44.14	44.14	3.7	1199.3	3.7
2/14 14:09	93809.0	44.09	44.09	3.7	1200.0	3.7
2/14 14:10	93022.0	43.70	43.70	3.7	1200.2	3.7
2/14 14:11	94276.0	44.32	44.32	3.7	1200.0	3.7
2/14 14:12	93613.0	44.05	44.05	3.7	1200.0	3.7
2/14 14:13	93485.0	44.01	44.01	3.7	1200.0	3.7
2/14 14:14	93395.0	43.98	43.98	3.7	1200.2	3.7
2/14 14:15	92885.0	43.83	43.83	3.7	1200.0	3.7
2/14 14:16	93899.0	44.22	44.22	3.7	1200.0	3.7
2/14 14:17	93613.0	44.08	44.08	3.7	1199.8	3.7
2/14 14:18	93415.0	43.99	43.99	3.7	1200.2	3.7
2/14 14:19	94449.0	44.56	44.56	3.7	1200.0	3.7
2/14 14:20	93678.0	44.16	44.16	3.7	1199.8	3.7
2/14 14:21	93719.0	44.11	44.11	3.7	1199.8	3.7
2/14 14:22	93014.0	43.80	43.80	3.7	1200.0	3.7
2/14 14:23	93088.0	43.84	43.84	3.7	1200.0	3.7
2/14 14:24	93309.0	43.91	43.91	3.7	1200.2	3.7
2/14 14:25	94167.0	44.29	44.29	3.7	1199.8	3.7
2/14 14:26	93063.0	43.72	43.72	3.7	1200.2	3.7
2/14 14:27	93318.0	43.79	43.79	3.7	1200.0	3.7
2/14 14:28	93725.0	43.93	43.93	3.7	1199.8	3.7
2/14 14:29	93858.0	43.99	43.99	3.7	1200.0	3.7
2/14 14:30	94316.0	44.21	44.21	3.7	1200.0	3.7
2/14 14:31	93369.0	43.76	43.76	3.7	1200.0	3.7
2/14 14:32	94840.0	44.45	44.45	3.7	1200.2	3.7
2/14 14:33	92475.0	43.35	43.35	3.7	1200.2	3.7
2/14 14:34	93898.0	44.06	44.06	3.7	1200.2	3.7
2/14 14:35	93738.0	43.95	43.95	3.7	1199.8	3.7
2/14 14:36	94888.0	44.43	44.43	3.7	1199.7	3.7
2/14 14:37	94168.0	44.03	44.03	3.7	1199.8	3.7
2/14 14:38	93955.0	43.94	43.94	3.7	1200.0	3.7
2/14 14:39	93611.0	43.74	43.74	3.7	1200.0	3.7
2/14 14:40	93858.0	43.89	43.89	3.7	1199.7	3.7
2/14 14:41	94566.0	44.22	44.22	3.7	1200.0	3.7
2/14 14:42	94183.0	44.07	44.07	3.7	1200.2	3.7
2/14 14:43	93475.0	43.79	43.79	3.7	1199.8	3.7
2/14 14:44	93976.0	43.96	43.96	3.7	1200.0	3.7
2/14 14:45	93923.0	43.92	43.92	3.7	1200.0	3.7
2/14 14:46	94283.0	44.09	44.09	3.7	1199.8	3.7
2/14 14:47	94082.0	43.97	43.97	3.7	1200.2	3.7
2/14 14:48	94821.0	44.26	44.26	3.7	1200.0	3.7
2/14 14:49	93007.0	43.39	43.39	3.7	1199.8	3.7
2/14 14:50	93481.0	43.63	43.63	3.7	1200.0	3.7
2/14 14:51	93994.0	43.85	43.85	3.7	1200.0	3.7
2/14 14:52	94118.0	43.91	43.91	3.7	1199.8	3.7
2/14 14:53	94482.0	44.07	44.07	3.7	1200.0	3.7
2/14 14:54	94428.0	44.05	44.05	3.7	1200.2	3.7

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
2/14 14:55	94917.0	44.28	3.7	1199.8
2/14 14:56	94849.0	44.30	3.7	1200.0
2/14 14:57	93457.0	43.70	3.8	1200.0
2/14 14:58	93614.0	43.77	3.7	1200.2
2/14 14:59	93398.0	43.70	3.7	1200.0
2/14 15:00	93209.0	43.59	3.7	1200.0
2/14 15:01	92821.0	43.42	3.7	1199.8
2/14 15:02	93839.0	43.86	3.7	1200.0
2/14 15:03	95069.0	44.37	3.7	1200.0
2/14 15:04	94413.0	44.04	3.7	1200.0
2/14 15:05	94471.0	44.07	3.7	1200.2
2/14 15:06	94338.0	44.03	3.7	1199.7
2/14 15:07	94596.0	44.13	3.8	1200.0
2/14 15:08	93730.0	43.66	3.8	1199.7
2/14 15:09	94968.0	44.28	3.8	1200.2
2/14 15:10	93986.0	43.85	3.8	1199.8
2/14 15:11	95273.0	44.41	3.8	1200.0
2/14 15:12	94513.0	44.02	3.8	1200.2
2/14 15:13	94847.0	44.28	3.7	1200.0
2/14 15:14	93946.0	43.83	3.7	1200.0
2/14 15:15	94427.0	44.03	3.7	1200.0
2/14 15:16	93290.0	43.52	3.7	1200.2
2/14 15:17	94719.0	44.19	3.7	1200.0
2/14 15:18	94038.0	43.87	3.7	1199.8
2/14 15:19	94189.0	43.91	3.7	1200.2
2/14 15:20	94334.0	44.00	3.7	1200.0
2/14 15:21	95004.0	44.30	3.7	1200.0
2/14 15:22	94763.0	44.12	3.7	1200.2
2/14 15:23	95189.0	44.34	3.7	1200.5
2/14 15:24	94765.0	44.19	3.7	1199.8
2/14 15:25	94863.0	44.15	3.7	1199.8
2/14 15:26	92939.0	43.29	3.7	1199.7
2/14 15:27	94868.0	44.15	3.8	1199.8
2/14 15:28	95707.0	44.54	3.7	1200.0
2/14 15:29	94918.0	44.16	3.7	1200.0
2/14 15:30	94766.0	44.12	3.7	1200.3
2/14 15:31	94525.0	44.07	3.7	1200.0
2/14 15:32	93415.0	43.60	3.7	1200.0
2/14 15:33	94116.0	43.91	3.7	1199.8
2/14 15:34	93836.0	43.78	3.7	1199.8
2/14 15:35	93619.0	43.67	3.7	1200.0
2/14 15:36	95041.0	44.25	3.7	1199.8
2/14 15:37	95118.0	44.27	3.7	1200.0
2/14 15:38	95111.0	44.28	3.7	1200.0
2/14 15:39	93766.0	43.72	3.7	1200.0
2/14 15:40	94273.0	43.98	3.7	1200.0
2/14 15:41	94441.0	44.08	3.7	1200.0
2/14 15:42	95973.0	44.79	3.7	1200.2
2/14 15:43	95913.0	44.71	3.7	1200.0

Timestamp	(TG-751) Landfill Gas Flow scf/hr	(TG-751) Heat Input mmBtu/hr	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	1-Min	1-Min
2/14 15:44	93562.0	43.62	3.7	1199.8
2/14 15:45	94975.0	44.20	3.7	1199.8
2/14 15:46	94404.0	44.02	3.7	1200.0
2/14 15:47	94112.0	43.86	3.7	1199.7
2/14 15:48	94904.0	44.22	3.7	1200.0
2/14 15:49	93454.0	43.51	3.7	1200.2
2/14 15:50	94656.0	44.16	3.7	1200.0
2/14 15:51	94563.0	44.09	3.7	1200.0
2/14 15:52	94447.0	44.06	3.7	1200.0
2/14 15:53	94660.0	44.16	3.7	1200.0
2/14 15:54	94605.0	44.11	3.7	1200.2
2/14 15:55	95181.0	44.33	3.7	1199.7
2/14 15:56	94955.0	44.19	3.7	1200.0
2/14 15:57	94413.0	43.94	3.7	1200.2
2/14 15:58	94539.0	44.00	3.7	1200.0
2/14 15:59	95651.0	44.52	3.7	1200.0
2/14 16:00	94264.0	43.93	3.7	1199.8
2/14 16:01	94584.0	44.10	3.7	1199.7
2/14 16:02	94372.0	43.96	3.7	1199.8
2/14 16:03	94427.0	43.95	3.7	1200.0
2/14 16:04	95090.0	44.29	3.7	1200.0
2/14 16:05	94410.0	44.02	3.7	1199.8
2/14 16:06	94563.0	44.09	3.7	1200.3
2/14 16:07	94203.0	43.97	3.7	1200.3
2/14 16:08	94712.0	44.20	3.7	1200.0
2/14 16:09	94168.0	43.99	3.7	1200.2
2/14 16:10	93420.0	43.64	3.7	1199.7
2/14 16:11	94839.0	44.27	3.7	1199.8
2/14 16:12	95142.0	44.38	3.7	1199.8
2/14 16:13	95480.0	44.47	3.7	1199.8
2/14 16:14	93969.0	43.79	3.7	1200.0
2/14 16:15	94737.0	44.09	3.7	1200.5
2/14 16:16	94467.0	44.07	3.7	1200.3
2/14 16:17	93317.0	43.55	3.7	1200.0
2/14 16:18	94557.0	44.11	3.7	1200.0
2/14 16:19	93197.0	43.53	3.7	1200.0
2/14 16:20	94612.0	44.14	3.7	1200.0
2/14 16:21	95649.0	44.62	3.7	1199.8
2/14 16:22	94551.0	44.08	3.7	1200.2
2/14 16:23	94395.0	44.06	3.7	1199.8
2/14 16:24	94406.0	44.10	3.7	1200.3
2/14 16:25	94336.0	44.03	3.7	1200.2
2/14 16:26	94289.0	44.06	3.7	1200.2
2/14 16:27	93735.0	43.83	3.7	1200.0
2/14 16:28	94670.0	44.24	3.7	1200.0
2/14 16:29	94435.0	44.08	3.7	1200.2
2/14 16:30	95143.0	44.40	3.7	1200.0
2/14 16:31	94281.0	43.98	3.7	1200.2
2/14 16:32	95571.0	44.58	3.7	1200.0
Average Run 2	94007.0	44.0	3.7	1200.0

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min	Exhaust Temp °F 1-Min	Input mmBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min
2/14 16:33	93480.0	43.66	44.13	3.7	1200.2	1200.0	1200.0	1200.0
2/14 16:34	94410.0	44.13	44.24	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:35	94617.0	44.24	44.20	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:36	94515.0	44.20	44.17	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:37	94517.0	44.17	43.90	3.7	1199.8	1199.8	1199.8	1199.8
2/14 16:38	93946.0	43.90	44.21	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:39	94714.0	44.21	43.97	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:40	94223.0	43.97	44.34	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:41	94867.0	44.34	43.69	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:42	93658.0	43.69	43.94	3.7	1199.8	1199.8	1199.8	1199.8
2/14 16:43	94021.0	43.94	44.17	3.7	1200.2	1200.2	1200.2	1200.2
2/14 16:44	94457.0	44.17	44.03	3.7	1199.7	1199.7	1199.7	1199.7
2/14 16:45	94161.0	44.03	44.52	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:46	95255.0	44.52	43.51	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:47	93050.0	43.51	44.74	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:48	95779.0	44.74	44.73	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:49	96659.0	44.73	44.16	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:50	94543.0	44.16	44.66	3.8	1200.0	1200.0	1200.0	1200.0
2/14 16:51	95732.0	44.66	44.32	3.8	1200.0	1200.0	1200.0	1200.0
2/14 16:52	95003.0	44.32	44.27	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:53	94725.0	44.27	44.18	3.7	1200.2	1200.2	1200.2	1200.2
2/14 16:54	94704.0	44.18	44.63	3.7	1200.0	1200.0	1200.0	1200.0
2/14 16:55	95489.0	44.63	44.65	3.8	1199.8	1199.8	1199.8	1199.8
2/14 16:56	95515.0	44.65	44.30	3.8	1200.2	1200.2	1200.2	1200.2
2/14 16:57	94779.0	44.30	44.35	3.8	1200.0	1200.0	1200.0	1200.0
2/14 16:58	94836.0	44.35	44.34	3.8	1200.0	1200.0	1200.0	1200.0
2/14 16:59	94831.0	44.34	44.28	3.8	1200.2	1200.2	1200.2	1200.2
2/14 17:01	94688.0	44.28	44.63	3.8	1200.0	1200.0	1200.0	1200.0
2/14 17:02	95449.0	44.63	43.99	3.8	1199.7	1199.7	1199.7	1199.7
2/14 17:03	94066.0	43.99	44.39	3.8	1199.8	1199.8	1199.8	1199.8
2/14 17:04	94988.0	44.39	44.71	3.8	1200.0	1200.0	1200.0	1200.0
2/14 17:05	95620.0	44.71	44.35	3.8	1200.2	1200.2	1200.2	1200.2
2/14 17:06	94835.0	44.35	44.45	3.8	1199.8	1199.8	1199.8	1199.8
2/14 17:07	95055.0	44.45	44.77	3.8	1199.5	1199.5	1199.5	1199.5
2/14 17:08	95793.0	44.77	44.14	3.8	1200.0	1200.0	1200.0	1200.0
2/14 17:09	94555.0	44.14	44.15	3.8	1200.0	1200.0	1200.0	1200.0
2/14 17:10	94531.0	44.15	44.49	3.8	1199.8	1199.8	1199.8	1199.8
2/14 17:11	95202.0	44.49	44.94	3.8	1200.0	1200.0	1200.0	1200.0
2/14 17:12	96168.0	44.94	44.52	3.8	1200.0	1200.0	1200.0	1200.0
2/14 17:13	95312.0	44.52	44.72	3.8	1199.8	1199.8	1199.8	1199.8
2/14 17:14	95643.0	44.72	44.71	3.8	1200.2	1200.2	1200.2	1200.2
2/14 17:15	95617.0	44.71	44.71	3.8	1200.0	1200.0	1200.0	1200.0
2/14 17:16	95617.0	44.71	44.58	3.8	1200.0	1200.0	1200.0	1200.0
2/14 17:17	95329.0	44.58	44.54	3.8	1200.0	1200.0	1200.0	1200.0
2/14 17:18	95254.0	44.54	44.51	3.8	1200.2	1200.2	1200.2	1200.2
2/14 17:19	95123.0	44.51	44.53	3.8	1199.5	1199.5	1199.5	1199.5
2/14 17:20	95176.0	44.53	44.76	3.8	1200.0	1200.0	1200.0	1200.0
2/14 17:21	95566.0	44.76						

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min	Landfill Gas Flow mmBtu/hr 1-Min	Input 1-Min	Output 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min
2/14 17:22	95761.0	44.81	44.81	3.8	3.8	1200.2	1200.2	
2/14 17:23	95931.0	44.86	44.86	3.8	3.8	1200.0	1200.0	
2/14 17:24	94933.0	44.39	44.39	3.8	3.8	1199.8	1199.8	
2/14 17:25	95142.0	44.49	44.49	3.8	3.8	1200.0	1200.0	
2/14 17:26	94812.0	44.35	44.35	3.8	3.8	1200.0	1200.0	
2/14 17:27	93958.0	43.94	43.94	3.8	3.8	1199.8	1199.8	
2/14 17:28	95102.0	44.47	44.47	3.8	3.8	1200.0	1200.0	
2/14 17:29	95405.0	44.72	44.72	3.8	3.8	1200.0	1200.0	
2/14 17:30	94406.0	44.25	44.25	3.8	3.8	1199.7	1199.7	
2/14 17:31	95324.0	44.60	44.60	3.8	3.8	1200.2	1200.2	
2/14 17:32	95409.0	44.72	44.72	3.8	3.8	1200.0	1200.0	
2/14 17:33	95463.0	44.64	44.64	3.8	3.8	1199.8	1199.8	
2/14 17:34	95292.0	44.56	44.56	3.8	3.8	1199.8	1199.8	
2/14 17:35	96646.0	45.19	45.19	3.8	3.8	1200.2	1200.2	
2/14 17:36	95938.0	44.86	44.86	3.8	3.8	1200.0	1200.0	
2/14 17:37	95725.0	44.74	44.74	3.8	3.8	1200.2	1200.2	
2/14 17:38	95851.0	44.82	44.82	3.8	3.8	1199.8	1199.8	
2/14 17:39	96072.0	44.92	44.92	3.8	3.8	1200.0	1200.0	
2/14 17:40	95112.0	44.47	44.47	3.8	3.8	1200.0	1200.0	
2/14 17:41	95306.0	44.52	44.52	3.8	3.8	1200.0	1200.0	
2/14 17:42	95867.0	44.81	44.81	3.8	3.8	1200.0	1200.0	
2/14 17:43	95541.0	44.66	44.66	3.8	3.8	1199.8	1199.8	
2/14 17:44	95751.0	44.69	44.69	3.8	3.8	1200.0	1200.0	
2/14 17:45	95474.0	44.59	44.59	3.8	3.8	1200.0	1200.0	
2/14 17:46	96135.0	44.85	44.85	3.8	3.8	1200.0	1200.0	
2/14 17:47	96030.0	44.88	44.88	3.8	3.8	1200.0	1200.0	
2/14 17:48	96091.0	44.93	44.93	3.8	3.8	1200.0	1200.0	
2/14 17:49	96445.0	45.10	45.10	3.8	3.8	1200.0	1200.0	
2/14 17:50	95616.0	44.68	44.68	3.8	3.8	1200.0	1200.0	
2/14 17:51	95610.0	44.63	44.63	3.8	3.8	1200.0	1200.0	
2/14 17:52	96304.0	44.94	44.94	3.8	3.8	1200.3	1200.3	
2/14 17:53	96108.0	44.92	44.92	3.8	3.8	1200.0	1200.0	
2/14 17:54	95781.0	44.79	44.79	3.8	3.8	1200.0	1200.0	
2/14 17:55	95385.0	44.60	44.60	3.8	3.8	1199.8	1199.8	
2/14 17:56	95371.0	44.65	44.65	3.8	3.8	1200.0	1200.0	
2/14 17:57	96039.0	44.94	44.94	3.8	3.8	1199.8	1199.8	
2/14 17:58	96092.0	44.93	44.93	3.8	3.8	1200.0	1200.0	
2/14 17:59	95751.0	44.77	44.77	3.8	3.8	1200.0	1200.0	
2/14 18:00	95356.0	44.59	44.59	3.8	3.8	1200.0	1200.0	
2/14 18:01	96039.0	44.83	44.83	3.8	3.8	1200.5	1200.5	
2/14 18:02	95891.0	44.87	44.87	3.8	3.8	1200.0	1200.0	
2/14 18:03	95204.0	44.52	44.52	3.8	3.8	1200.3	1200.3	
2/14 18:04	96002.0	45.00	45.00	3.8	3.8	1200.0	1200.0	
2/14 18:05	95763.0	44.90	44.90	3.8	3.8	1200.0	1200.0	
2/14 18:06	95857.0	44.93	44.93	3.8	3.8	1199.7	1199.7	
2/14 18:07	96098.0	45.04	45.04	3.8	3.8	1199.8	1199.8	
2/14 18:08	96383.0	45.14	45.14	3.8	3.8	1200.0	1200.0	
2/14 18:09	96822.0	45.36	45.36	3.8	3.8	1200.0	1200.0	
2/14 18:10	96449.0	45.19	45.19	3.8	3.8	1200.0	1200.0	

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/14 18:11	96108.0	45.05	3.8	1200.0
2/14 18:12	94972.0	44.51	3.8	1200.0
2/14 18:13	94719.0	44.47	3.8	1199.8
2/14 18:14	95757.0	44.99	3.8	1200.3
2/14 18:15	95875.0	45.04	3.8	1200.0
2/14 18:16	95710.0	44.96	3.8	1200.0
2/14 18:17	95852.0	45.03	3.8	1199.8
2/14 18:18	95835.0	44.90	3.8	1200.0
2/14 18:19	96356.0	45.14	3.8	1200.0
2/14 18:20	95912.0	44.95	3.8	1200.0
2/14 18:21	97230.0	45.57	3.8	1199.8
2/14 18:22	95987.0	44.88	3.8	1200.0
2/14 18:23	95544.0	44.69	3.8	1200.0
2/14 18:24	96279.0	45.11	3.8	1200.0
2/14 18:25	96905.0	45.40	3.8	1200.0
2/14 18:26	97117.0	45.52	3.8	1200.0
2/14 18:27	95617.0	44.82	3.8	1200.0
2/14 18:28	95126.0	44.66	3.8	1199.8
2/14 18:29	96258.0	45.14	3.8	1199.8
2/14 18:30	96473.0	45.22	3.8	1200.0
2/14 18:31	96818.0	45.38	3.8	1200.2
2/14 18:32	95904.0	44.95	3.8	1200.0
2/14 18:33	97040.0	45.43	3.8	1199.8
2/14 18:34	96509.0	45.13	3.8	1200.0
2/14 18:35	95678.0	44.74	3.8	1199.8
2/14 18:36	96268.0	45.00	3.8	1200.0
2/14 18:37	96104.0	44.94	3.8	1200.0
2/14 18:38	96393.0	45.07	3.8	1200.0
2/14 18:39	96408.0	45.06	3.8	1200.0
2/14 18:40	97017.0	45.34	3.8	1200.0
2/14 18:41	97434.0	45.54	3.8	1199.8
2/14 18:42	96422.0	45.04	3.8	1200.0
2/14 18:43	96099.0	44.94	3.8	1200.0
2/14 18:44	96686.0	45.21	3.8	1200.0
2/14 18:45	97160.0	45.43	3.8	1200.0
2/14 18:46	96106.0	44.94	3.8	1200.0
2/14 18:47	96174.0	44.97	3.8	1199.8
2/14 18:48	96329.0	45.04	3.8	1199.8
2/14 18:49	97319.0	45.43	3.8	1200.0
2/14 18:50	96997.0	45.33	3.8	1199.7
2/14 18:51	97553.0	45.53	3.8	1200.0
2/14 18:52	97158.0	45.33	3.8	1200.0
2/14 18:53	97677.0	45.63	3.8	1200.0
2/14 18:54	96516.0	45.11	3.8	1200.2
2/14 18:55	97143.0	45.40	3.8	1200.0
2/14 18:56	97221.0	45.38	3.8	1200.0
2/14 18:57	97387.0	45.54	3.8	1199.8
2/14 18:58	96842.0	45.18	3.8	1200.2
2/14 18:59	97100.0	45.27	3.8	1200.0

(TG-751)		(TG-751) Gas	(TG-751) Heat	(TG-751) T7
		Flow scf/hr	Input mmBtu/hr	Exhaust Temp
Timestamp	1-Min	1-Min	1-Min	°F 1-Min
2/14 19:00	96643.0	45.06	3.8	1200.2
Average (all)	94931.2	44.35	3.8	1200.0
Total (all)	--	--	--	--
Minimum (all)	92070.0	43.29	3.7	1196.2
Maximum (all)	101180.0	45.63	3.8	1205.5
Average (valid values only)	94931.2	44.35	3.8	1200.0
Total (valid values only)	--	--	--	--
Count (valid values only)	781	781	781	781

CeDAR 1-Minute Data Sunshine Gas Producers, LLC Data for 2/15/2023 6:00 AM thru 2/15/2023 7:00 PM

Timestamp	(TG-751) Landfill Gas Flow scf/hr	(TG-751) Heat Input mmBtu/hr	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min		
2/15 6:00	101878.0	46.51	3.9	1199.7
2/15 6:01	102266.0	46.59	3.9	1200.0
2/15 6:02	100971.0	46.00	3.9	1199.7
2/15 6:03	101516.0	46.20	3.9	1200.3
2/15 6:04	101673.0	46.30	3.9	1199.8
2/15 6:05	100583.0	45.82	3.9	1200.0
2/15 6:06	100890.0	45.99	3.9	1200.0
2/15 6:07	100934.0	46.00	3.9	1199.8
2/15 6:08	101609.0	46.41	3.9	1199.5
2/15 6:09	101267.0	46.16	3.9	1200.0
2/15 6:10	101811.0	46.38	3.9	1200.0
2/15 6:11	100897.0	45.95	3.9	1199.8
2/15 6:12	101849.0	46.35	3.9	1200.0
2/15 6:13	101288.0	46.10	3.9	1200.0
2/15 6:14	102153.0	46.45	3.9	1200.0
2/15 6:15	100722.0	45.78	3.9	1200.0
2/15 6:16	100732.0	45.84	3.9	1200.2
2/15 6:17	100874.0	45.94	3.9	1199.8
2/15 6:18	101319.0	46.16	3.9	1200.0
2/15 6:19	101248.0	46.13	3.9	1199.8
2/15 6:20	102404.0	46.68	3.9	1199.8
2/15 6:21	101421.0	46.23	3.9	1200.0
2/15 6:22	101323.0	46.13	3.9	1199.7
2/15 6:23	102109.0	46.43	3.9	1199.7
2/15 6:24	100704.0	45.75	3.9	1200.0
2/15 6:25	100691.0	45.85	3.9	1200.0
2/15 6:26	101390.0	46.19	3.9	1200.0
2/15 6:27	101199.0	46.11	3.9	1199.8
2/15 6:28	101048.0	45.95	3.9	1200.0
2/15 6:29	102541.0	46.70	3.9	1200.0
2/15 6:30	101589.0	46.23	3.9	1200.0
2/15 6:31	100545.0	45.81	3.9	1200.0
2/15 6:32	101863.0	46.41	3.9	1200.0
2/15 6:33	100356.0	45.72	3.9	1199.8
2/15 6:34	101563.0	46.27	3.9	1200.2
2/15 6:35	101171.0	46.09	3.9	1199.8
2/15 6:36	101981.0	46.46	3.9	1200.0
2/15 6:37	101630.0	46.32	3.9	1200.0
2/15 6:38	100354.0	45.72	3.9	1200.0
2/15 6:39	101195.0	46.11	3.9	1200.0
2/15 6:40	100526.0	45.80	3.9	1200.0
2/15 6:41	101646.0	46.31	3.9	1200.0
2/15 6:42	100999.0	45.94	3.9	1200.0
2/15 6:43	101420.0	46.10	3.9	1200.0
2/15 6:44	101540.0	46.15	3.9	1199.8

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/15 6:45	102165.0	46.44	3.9	1200.0
2/15 6:46	101063.0	46.01	3.9	1200.0
2/15 6:47	101039.0	45.92	3.9	1200.0
2/15 6:48	101202.0	46.04	3.9	1199.8
2/15 6:49	99899.0	45.51	3.9	1200.0
2/15 6:50	100908.0	45.95	3.9	1199.8
2/15 6:51	101948.0	46.32	3.9	1200.2
2/15 6:52	101385.0	46.14	3.9	1200.0
2/15 6:53	102028.0	46.37	3.9	1200.0
2/15 6:54	101568.0	46.14	3.9	1199.8
2/15 6:55	101420.0	46.10	3.9	1200.7
2/15 6:56	101514.0	46.16	3.9	1200.0
2/15 6:57	101095.0	46.04	3.9	1200.5
2/15 6:58	100597.0	45.83	3.9	1199.8
2/15 6:59	100895.0	45.97	3.9	1199.7
2/15 7:00	102128.0	46.44	3.9	1199.8
2/15 7:01	101198.0	45.98	3.9	1200.0
2/15 7:02	99677.0	45.30	3.9	1200.5
2/15 7:03	100130.0	45.62	3.9	1199.8
2/15 7:04	100326.0	45.71	3.9	1200.0
2/15 7:05	99940.0	45.40	3.9	1200.2
2/15 7:06	101194.0	45.97	3.9	1200.0
2/15 7:07	100302.0	45.59	3.9	1200.0
2/15 7:08	100150.0	45.61	3.9	1200.5
2/15 7:09	101449.0	46.25	3.9	1200.7
2/15 7:10	101205.0	46.33	3.9	1200.2
2/15 7:11	99843.0	45.71	3.9	1200.2
2/15 7:12	100291.0	45.83	3.9	1199.2
2/15 7:13	99819.0	45.37	3.9	1199.2
2/15 7:14	101356.0	45.94	3.9	1200.2
2/15 7:15	100864.0	45.77	3.9	1200.3
2/15 7:16	100193.0	45.58	3.9	1200.0
2/15 7:17	100680.0	45.85	3.9	1200.0
2/15 7:18	101051.0	46.07	3.9	1200.2
2/15 7:19	101335.0	46.28	3.9	1200.2
2/15 7:20	101016.0	46.16	3.9	1200.0
2/15 7:21	101797.0	46.60	3.9	1200.2
2/15 7:22	99802.0	45.69	3.9	1200.2
2/15 7:23	99238.0	45.43	3.9	1199.8
2/15 7:24	100523.0	46.02	3.9	1199.5
2/15 7:25	99212.0	45.37	3.9	1199.5
2/15 7:26	100638.0	45.96	3.9	1200.0
2/15 7:27	99993.0	45.64	3.9	1199.7
2/15 7:28	101597.0	46.29	3.9	1200.2
2/15 7:29	102027.0	46.57	3.9	1200.0
2/15 7:30	100264.0	45.68	3.9	1200.2
2/15 7:31	101714.0	46.29	3.9	1200.0
2/15 7:32	99711.0	45.36	3.9	1200.0
2/15 7:33	101046.0	45.97	3.9	1199.7

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
2/15 7:34	100242.0	45.60	3.9	1200.0
2/15 7:35	99943.0	45.46	3.9	1200.2
2/15 7:36	100431.0	45.76	3.9	1200.2
2/15 7:37	100919.0	45.98	3.9	1200.0
2/15 7:38	101390.0	46.19	3.8	1199.8
2/15 7:39	101014.0	46.00	3.9	1199.5
2/15 7:40	100931.0	45.93	3.9	1200.7
2/15 7:41	100137.0	45.59	3.8	1200.2
2/15 7:42	101061.0	46.04	3.9	1200.0
2/15 7:43	101168.0	46.07	3.8	1199.8
2/15 7:44	100893.0	45.85	3.8	1200.0
2/15 7:45	100101.0	45.67	3.8	1200.0
2/15 7:46	100425.0	45.87	3.8	1200.0
2/15 7:47	100572.0	45.84	3.8	1199.8
2/15 7:48	100708.0	45.81	3.8	1199.8
2/15 7:49	100134.0	45.53	3.8	1200.2
2/15 7:50	102146.0	46.49	3.8	1200.0
2/15 7:51	99648.0	45.33	3.8	1200.0
2/15 7:52	99634.0	45.28	3.8	1199.2
2/15 7:53	102402.0	46.10	3.8	1199.8
2/15 7:54	102143.0	45.76	3.8	1200.5
2/15 7:55	101177.0	45.33	3.8	1199.8
2/15 7:56	101331.0	45.45	3.8	1200.3
2/15 7:57	101757.0	45.88	3.9	1200.2
2/15 7:58	100864.0	45.68	3.9	1200.3
2/15 7:59	102169.0	46.24	3.9	1199.8
2/15 8:00	101446.0	45.75	3.9	1199.3
2/15 8:01	102166.0	45.77	3.9	1200.2
2/15 8:02	101821.0	45.73	3.9	1200.2
2/15 8:03	102430.0	46.28	3.9	1200.5
2/15 8:04	100818.0	45.74	3.9	1200.0
2/15 8:05	101132.0	45.85	3.9	1200.7
2/15 8:06	102231.0	46.35	3.9	1200.2
2/15 8:07	101496.0	45.95	3.9	1200.0
2/15 8:08	100734.0	45.67	3.9	1200.2
2/15 8:09	100220.0	45.44	3.8	1199.8
2/15 8:10	100989.0	45.69	3.8	1200.2
2/15 8:11	101055.0	45.75	3.8	1200.0
2/15 8:12	101046.0	45.79	3.8	1200.0
2/15 8:13	99607.0	45.16	3.8	1200.0
2/15 8:14	100069.0	45.37	3.8	1200.2
2/15 8:15	100462.0	45.55	3.8	1200.0
2/15 8:16	100106.0	45.39	3.8	1200.2
2/15 8:17	100530.0	45.58	3.8	1199.8
2/15 8:18	101032.0	45.81	3.8	1200.0
2/15 8:19	99733.0	45.28	3.8	1200.0
2/15 8:20	100354.0	45.53	3.8	1200.0
2/15 8:21	101102.0	45.84	3.8	1199.8
2/15 8:22	101243.0	45.74	3.8	1199.8

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	*F 1-Min
2/15 8:23	101420.0	45.84	45.84	3.8	3.8	1200.2	1200.0	1200.0
2/15 8:24	100299.0	45.38	45.38	3.8	3.8	1200.0	1200.0	1200.0
2/15 8:25	100938.0	45.67	45.67	3.8	3.8	1200.2	1200.0	1200.0
2/15 8:26	102095.0	46.22	46.22	3.9	3.9	1199.8	1200.0	1200.0
2/15 8:27	101609.0	46.00	46.00	3.8	3.8	1200.0	1200.0	1200.0
2/15 8:28	101210.0	45.86	45.86	3.8	3.8	1200.0	1200.0	1200.0
2/15 8:29	101681.0	46.10	46.10	3.8	3.8	1200.0	1200.0	1200.0
2/15 8:30	100667.0	45.67	45.67	3.8	3.8	1200.2	1200.0	1200.0
2/15 8:31	100020.0	45.35	45.35	3.9	3.9	1200.2	1200.0	1200.0
2/15 8:32	99742.0	45.31	45.31	3.9	3.9	1200.0	1200.0	1200.0
2/15 8:33	100200.0	45.43	45.43	3.9	3.9	1199.0	1200.0	1200.0
2/15 8:34	101247.0	45.74	45.74	3.9	3.9	1199.3	1200.0	1200.0
2/15 8:35	103527.0	46.15	46.15	3.9	3.9	1198.7	1200.0	1200.0
2/15 8:36	106139.0	46.68	46.68	3.9	3.9	1197.5	1201.2	1201.2
2/15 8:37	110052.0	46.88	46.88	3.5	3.5	1185.3	1185.3	1185.3
2/15 8:38	112762.0	46.30	46.30	3.5	3.5	1190.3	1189.7	1189.7
2/15 8:39	98034.0	40.95	40.95	3.5	3.5	1190.7	1190.7	1190.7
2/15 8:40	94461.0	40.45	40.45	3.5	3.5	1189.8	1189.8	1189.8
2/15 8:41	94303.0	40.76	40.76	3.5	3.5	1190.0	1190.0	1190.0
2/15 8:42	96847.0	41.65	41.65	3.5	3.5	1193.7	1193.7	1193.7
2/15 8:43	96458.0	41.28	41.28	3.9	3.9	1200.5	1200.5	1200.5
2/15 8:44	98257.0	40.84	40.84	3.5	3.5	1190.3	1189.8	1189.8
2/15 8:45	96351.0	41.38	41.38	3.5	3.5	1189.8	1189.8	1189.8
2/15 8:46	95296.0	40.96	40.96	3.5	3.5	1189.7	1189.7	1189.7
2/15 8:47	94789.0	40.86	40.86	3.5	3.5	1190.0	1190.0	1190.0
2/15 8:48	97560.0	41.69	41.69	3.5	3.5	1190.7	1190.7	1190.7
2/15 8:49	94328.0	40.34	40.34	3.7	3.7	1197.2	1197.2	1197.2
2/15 8:50	91870.0	40.96	40.96	3.9	3.9	1200.5	1200.5	1200.5
2/15 8:51	90393.0	41.15	41.15	3.8	3.8	1200.3	1200.3	1200.3
2/15 8:52	95039.0	43.49	43.49	3.8	3.8	1199.8	1199.8	1199.8
2/15 8:53	101169.0	46.15	46.15	3.8	3.8	1200.0	1200.0	1200.0
2/15 8:54	101149.0	46.01	46.01	3.8	3.8	1200.2	1200.2	1200.2
2/15 8:55	100737.0	45.85	45.85	3.8	3.8	1200.3	1200.3	1200.3
2/15 8:56	100401.0	45.80	45.80	3.8	3.8	1199.8	1199.8	1199.8
2/15 8:57	100599.0	45.91	45.91	3.8	3.8	1200.0	1200.0	1200.0
2/15 8:58	100203.0	45.73	45.73	3.8	3.8	1200.0	1200.0	1200.0
2/15 8:59	99511.0	45.31	45.31	3.8	3.8	1200.2	1200.2	1200.2
2/15 9:00	100472.0	45.66	45.66	3.8	3.8	1200.0	1200.0	1200.0
2/15 9:01	101214.0	46.06	46.06	3.8	3.8	1200.3	1200.3	1200.3
2/15 9:02	100743.0	45.93	45.93	3.8	3.8	1199.8	1199.8	1199.8
2/15 9:03	99749.0	45.48	45.48	3.8	3.8	1200.0	1200.0	1200.0
2/15 9:04	100005.0	45.62	45.62	3.8	3.8	1200.3	1200.3	1200.3
2/15 9:05	99353.0	45.34	45.34	3.8	3.8	1199.8	1199.8	1199.8
2/15 9:06	100628.0	45.85	45.85	3.8	3.8	1200.0	1200.0	1200.0
2/15 9:07	100023.0	45.63	45.63	3.8	3.8	1200.3	1200.3	1200.3
2/15 9:08	100867.0	46.07	46.07	3.8	3.8	1199.8	1199.8	1199.8
2/15 9:09	99213.0	45.31	45.31	3.8	3.8	1200.0	1200.0	1200.0
2/15 9:10	101665.0	46.34	46.34	3.8	3.8	1199.8	1199.8	1199.8
2/15 9:11	99384.0	45.30	45.30	3.8	3.8	1200.0	1200.0	1200.0

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp	F 1-Min	T7
2/15 9:12	99428.0	1-Min	45.30	3.8	1200.2			
2/15 9:13	101295.0		46.17	3.8	1200.0			
2/15 9:14	100556.0		45.82	3.8	1200.0			
2/15 9:15	99524.0		45.45	3.8	1200.0			
2/15 9:16	98646.0		45.05	3.8	1200.2			
2/15 9:17	99806.0		45.58	3.8	1200.0			
2/15 9:18	99150.0		45.28	3.8	1200.0			
2/15 9:19	99301.0		45.37	3.8	1200.3			
2/15 9:20	98896.0		45.28	3.8	1200.0			
2/15 9:21	101133.0		46.33	3.8	1199.7			
2/15 9:22	99466.0		45.54	3.8	1200.0			
2/15 9:23	100740.0		46.12	3.8	1200.0			
2/15 9:24	99524.0		45.53	3.8	1200.0			
2/15 9:25	100809.0		46.13	3.8	1200.0			
2/15 9:26	99528.0		45.54	3.8	1200.5			
2/15 9:27	98846.0		45.27	3.8	1200.0			
2/15 9:28	100014.0		45.78	3.8	1200.0			
2/15 9:29	99681.0		45.65	3.8	1200.2			
2/15 9:30	99329.0		45.58	3.8	1199.8			
2/15 9:31	98855.0		45.39	3.8	1201.0			
2/15 9:32	99379.0		46.06	3.8	1200.5			
2/15 9:33	99112.0		45.83	3.8	1199.5			
2/15 9:34	99114.0		45.64	3.8	1199.8			
2/15 9:35	98450.0		45.40	3.8	1199.7			
2/15 9:36	98833.0		45.35	3.8	1199.8			
2/15 9:37	99450.0		45.53	3.8	1200.0			
2/15 9:38	98657.0		45.15	3.8	1199.5			
2/15 9:39	99232.0		45.27	3.8	1199.8			
2/15 9:40	99052.0		45.15	3.8	1200.0			
2/15 9:41	99803.0		45.47	3.8	1200.2			
2/15 9:42	99269.0		45.23	3.8	1199.8			
2/15 9:43	99940.0		45.53	3.8	1200.2			
2/15 9:44	99735.0		45.58	3.8	1200.3			
2/15 9:45	98833.0		45.16	3.8	1199.3			
2/15 9:46	99238.0		45.04	3.8	1199.7			
2/15 9:47	100202.0		45.30	3.8	1200.0			
2/15 9:48	99755.0		45.23	3.8	1199.8			
2/15 9:49	100644.0		45.71	3.8	1200.5			
2/15 9:50	99921.0		45.52	3.8	1200.0			
2/15 9:51	100359.0		45.65	3.8	1199.5			
2/15 9:52	100305.0		45.57	3.8	1200.2			
2/15 9:53	99722.0		45.32	3.8	1199.8			
2/15 9:54	99878.0		45.49	3.8	1200.0			
2/15 9:55	99506.0		45.37	3.8	1200.5			
2/15 9:56	98740.0		45.01	3.8	1199.7			
2/15 9:57	99839.0		45.51	3.8	1200.0			
2/15 9:58	99413.0		45.32	3.8	1200.0			
2/15 9:59	99077.0		45.14	3.8	1200.2			
2/15 10:00	98926.0		45.13	3.8	1200.0			

Timestamp	(TG-751) Landfill Gas Flow scf/hr	(TG-751) Heat Input mmBtu/hr	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min		
2/15 10:01	100041.0	45.64	3.8	1200.0
2/15 10:02	99174.0	45.18	3.8	1199.5
2/15 10:03	100368.0	45.55	3.8	1199.5
2/15 10:04	100191.0	45.33	3.8	1200.0
2/15 10:05	100095.0	45.39	3.8	1200.7
2/15 10:06	98565.0	45.04	3.8	1201.0
2/15 10:07	98232.0	45.10	3.8	1199.7
2/15 10:08	98036.0	44.88	3.8	1199.5
2/15 10:09	98723.0	45.11	3.8	1200.0
2/15 10:10	98684.0	44.91	3.8	1200.0
2/15 10:11	99426.0	45.25	3.8	1199.8
2/15 10:12	100042.0	45.39	3.8	1200.2
2/15 10:13	98961.0	44.98	3.8	1200.0
2/15 10:14	99275.0	45.12	3.8	1200.2
2/15 10:15	99654.0	45.27	3.8	1200.2
2/15 10:16	98505.0	45.12	3.8	1199.7
2/15 10:17	100211.0	45.25	3.8	1199.2
2/15 10:18	100548.0	45.18	3.8	1199.5
2/15 10:19	100815.0	45.35	3.8	1200.2
2/15 10:20	100229.0	45.17	3.8	1200.3
2/15 10:21	98919.0	44.64	3.8	1199.7
2/15 10:22	100243.0	45.16	3.8	1199.5
2/15 10:23	99919.0	44.89	3.8	1199.5
2/15 10:24	100116.0	44.99	3.8	1200.5
2/15 10:25	99934.0	45.12	3.8	1200.7
2/15 10:26	98259.0	45.03	3.8	1199.7
2/15 10:27	97985.0	44.41	3.8	1200.0
2/15 10:28	98358.0	44.60	3.8	1199.7
2/15 10:29	99007.0	44.86	3.8	1200.0
2/15 10:30	100619.0	45.52	3.8	1199.8
2/15 10:31	98999.0	44.79	3.8	1200.7
2/15 10:32	97608.0	44.30	3.8	1200.3
2/15 10:33	98463.0	44.73	3.8	1200.2
2/15 10:34	99063.0	45.06	3.8	1199.8
2/15 10:35	98434.0	44.67	3.8	1199.3
2/15 10:36	99718.0	45.08	3.8	1199.7
2/15 10:37	98531.0	44.57	3.8	1200.0
2/15 10:38	99653.0	45.24	3.8	1200.5
2/15 10:39	99552.0	45.33	3.8	1200.2
2/15 10:40	97850.0	44.66	3.8	1200.3
2/15 10:41	97804.0	44.67	3.8	1199.3
2/15 10:42	99099.0	44.69	3.8	1199.7
2/15 10:43	97973.0	44.45	3.8	1199.7
2/15 10:44	98339.0	44.68	3.8	1200.7
2/15 10:45	98832.0	45.12	3.8	1200.3
2/15 10:46	97911.0	44.82	3.8	1200.0
2/15 10:47	99047.0	44.81	3.8	1199.2
2/15 10:48	96742.0	44.88	3.8	1199.7
2/15 10:49	99910.0	45.30	3.8	1199.8

Timestamp	(TG-751)		(TG-751) Heat		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min		
2/15 10:50	99909.0	45.28	3.8	1200.5		
2/15 10:51	98730.0	44.93	3.8	1200.3		
2/15 10:52	98339.0	44.83	3.8	1200.0		
2/15 10:53	98493.0	44.98	3.8	1199.7		
2/15 10:54	98937.0	45.19	3.8	1199.8		
2/15 10:55	98365.0	44.84	3.8	1199.7		
2/15 10:56	98312.0	45.20	3.8	1200.0		
2/15 10:57	98039.0	44.56	3.8	1199.8		
2/15 10:58	98437.0	44.74	3.8	1200.3		
2/15 10:59	98412.0	44.75	3.8	1200.0		
2/15 11:00	97929.0	44.53	3.8	1199.7		
2/15 11:01	98754.0	44.90	3.8	1200.0		
2/15 11:02	98046.0	44.67	3.8	1200.0		
2/15 11:03	97248.0	44.31	3.8	1200.3		
2/15 11:04	98749.0	45.02	3.8	1199.7		
2/15 11:05	99066.0	45.09	3.8	1200.0		
2/15 11:06	98458.0	44.86	3.8	1199.7		
2/15 11:07	98618.0	44.86	3.8	1200.0		
2/15 11:08	97552.0	44.41	3.8	1200.0		
2/15 11:09	97667.0	44.45	3.8	1200.0		
2/15 11:10	98409.0	44.87	3.8	1200.0		
2/15 11:11	99100.0	45.23	3.8	1200.0		
2/15 11:12	97704.0	44.53	3.8	1199.7		
2/15 11:13	97847.0	44.61	3.8	1200.0		
2/15 11:14	98236.0	44.87	3.8	1199.8		
2/15 11:15	98837.0	45.06	3.8	1200.0		
2/15 11:16	97492.0	44.52	3.8	1200.2		
2/15 11:17	98344.0	44.86	3.8	1200.3		
2/15 11:18	97838.0	44.68	3.8	1200.0		
2/15 11:19	97742.0	44.72	3.8	1200.0		
2/15 11:20	98127.0	44.92	3.8	1200.0		
2/15 11:21	98960.0	44.44	3.8	1200.0		
2/15 11:22	97353.0	44.59	3.8	1199.8		
2/15 11:23	98415.0	44.98	3.8	1200.2		
2/15 11:24	97943.0	44.75	3.8	1199.5		
2/15 11:25	98685.0	45.05	3.8	1200.0		
2/15 11:26	98258.0	44.88	3.8	1200.0		
2/15 11:27	97675.0	44.72	3.8	1200.2		
2/15 11:28	97978.0	44.84	3.8	1199.8		
2/15 11:29	97959.0	44.83	3.8	1200.0		
2/15 11:30	97527.0	44.65	3.8	1200.2		
2/15 11:31	98043.0	44.88	3.8	1200.2		
2/15 11:32	98600.0	45.14	3.8	1200.0		
2/15 11:33	97647.0	44.70	3.8	1200.0		
2/15 11:34	97987.0	44.86	3.8	1200.2		
2/15 11:35	97743.0	44.75	3.8	1200.0		
2/15 11:36	98061.0	44.89	3.8	1199.8		
2/15 11:37	98770.0	45.22	3.8	1200.0		
2/15 11:38	97937.0	44.89	3.8	1200.2		

Timestamp	(TG-751) Landfill Gas Flow scf/hr		(TG-751) Heat Input mmBtu/hr		(TG-751) Megawatts 1-Min		(TG-751) T7 Exhaust Temp °F 1-Min	
	1-Min		1-Min					
2/15 11:39	96265.0		44.21		3.8		1200.5	
2/15 11:40	97872.0		44.93		3.8		1199.7	
2/15 11:41	97197.0		44.61		3.8		1200.0	
2/15 11:42	97735.0		44.77		3.8		1199.7	
2/15 11:43	98260.0		44.98		3.8		1200.0	
2/15 11:44	98177.0		45.00		3.8		1200.0	
2/15 11:45	98308.0		45.09		3.8		1200.0	
2/15 11:46	98304.0		45.11		3.8		1200.0	
2/15 11:47	97670.0		44.79		3.8		1200.2	
2/15 11:48	97838.0		44.79		3.8		1200.0	
2/15 11:49	96370.0		44.17		3.8		1200.2	
2/15 11:50	97989.0		44.89		3.8		1200.0	
2/15 11:51	96782.0		44.39		3.8		1200.5	
2/15 11:52	98280.0		45.07		3.8		1199.8	
2/15 11:53	98642.0		44.27		3.8		1200.0	
2/15 11:54	97272.0		44.64		3.8		1200.0	
2/15 11:55	96578.0		44.32		3.8		1200.2	
2/15 11:56	96692.0		44.40		3.8		1200.2	
2/15 11:57	95829.0		44.05		3.8		1200.0	
2/15 11:58	97852.0		44.98		3.8		1200.0	
2/15 11:59	97720.0		44.86		3.8		1199.8	
2/15 12:00	98357.0		45.17		3.8		1199.7	
2/15 12:01	97553.0		44.77		3.8		1200.0	
2/15 12:02	96880.0		44.54		3.8		1199.5	
2/15 12:03	98077.0		45.01		3.8		1200.2	
2/15 12:04	97030.0		44.58		3.8		1200.0	
2/15 12:05	96927.0		44.48		3.8		1200.0	
2/15 12:06	96884.0		44.56		3.8		1200.0	
2/15 12:07	97611.0		44.88		3.8		1199.8	
2/15 12:08	97619.0		44.88		3.8		1200.0	
2/15 12:09	97758.0		44.97		3.8		1200.2	
2/15 12:10	96820.0		44.57		3.8		1199.8	
2/15 12:11	96893.0		44.60		3.8		1200.2	
2/15 12:12	96894.0		44.62		3.8		1199.7	
2/15 12:13	96826.0		44.51		3.8		1200.2	
2/15 12:14	97875.0		45.04		3.8		1200.0	
2/15 12:15	96555.0		44.44		3.8		1200.0	
2/15 12:16	96685.0		44.56		3.8		1200.2	
2/15 12:17	96771.0		44.62		3.8		1200.0	
2/15 12:18	96978.0		44.66		3.8		1200.0	
2/15 12:19	96988.0		44.62		3.8		1200.0	
2/15 12:20	96726.0		44.52		3.8		1200.0	
2/15 12:21	97836.0		45.01		3.8		1200.0	
2/15 12:22	96800.0		44.55		3.8		1199.8	
2/15 12:23	96506.0		44.42		3.8		1200.2	
2/15 12:24	97582.0		44.99		3.8		1200.0	
2/15 12:25	97183.0		44.81		3.8		1200.0	
2/15 12:26	97146.0		44.78		3.8		1200.2	
2/15 12:27	96885.0		44.68		3.8		1200.0	
	99437.0		45.1		3.8		1199.4	

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min	Input 1-Min	Input 1-Min	Input 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min
2/15 12:28	97088.0	44.77	44.77	3.8	3.8	1200.5	1199.7	
2/15 12:29	96554.0	44.52	44.52	3.8	3.8	1199.7	1199.7	
2/15 12:30	97383.0	44.90	44.90	3.8	3.8	1200.0	1200.0	
2/15 12:31	97565.0	44.95	44.95	3.8	3.8	1199.8	1199.8	
2/15 12:32	96024.0	44.17	44.17	3.8	3.8	1200.0	1200.0	
2/15 12:33	96658.0	44.46	44.46	3.8	3.8	1200.0	1200.0	
2/15 12:34	96640.0	44.45	44.45	3.8	3.8	1200.2	1200.2	
2/15 12:35	97374.0	44.88	44.88	3.8	3.8	1200.0	1200.0	
2/15 12:36	96919.0	44.69	44.69	3.8	3.8	1200.0	1200.0	
2/15 12:37	96763.0	44.54	44.54	3.8	3.8	1200.3	1200.3	
2/15 12:38	98328.0	45.34	45.34	3.8	3.8	1199.8	1199.8	
2/15 12:39	97095.0	44.75	44.75	3.8	3.8	1200.2	1200.2	
2/15 12:40	96363.0	44.45	44.45	3.8	3.8	1200.0	1200.0	
2/15 12:41	96960.0	44.71	44.71	3.8	3.8	1200.0	1200.0	
2/15 12:42	96373.0	44.44	44.44	3.8	3.8	1200.0	1200.0	
2/15 12:43	97072.0	44.76	44.76	3.8	3.8	1200.3	1200.3	
2/15 12:44	96443.0	44.47	44.47	3.8	3.8	1200.2	1200.2	
2/15 12:45	96854.0	44.68	44.68	3.8	3.8	1199.8	1199.8	
2/15 12:46	96173.0	44.41	44.41	3.8	3.8	1200.2	1200.2	
2/15 12:47	97317.0	44.90	44.90	3.8	3.8	1200.0	1200.0	
2/15 12:48	96521.0	44.52	44.52	3.8	3.8	1200.0	1200.0	
2/15 12:49	97161.0	44.80	44.80	3.8	3.8	1200.0	1200.0	
2/15 12:50	96374.0	44.44	44.44	3.8	3.8	1200.0	1200.0	
2/15 12:51	97212.0	44.82	44.82	3.8	3.8	1200.0	1200.0	
2/15 12:52	96550.0	44.52	44.52	3.8	3.8	1200.0	1200.0	
2/15 12:53	95649.0	44.13	44.13	3.8	3.8	1199.8	1199.8	
2/15 12:54	96244.0	44.42	44.42	3.8	3.8	1199.7	1199.7	
2/15 12:55	96827.0	44.65	44.65	3.8	3.8	1200.0	1200.0	
2/15 12:56	97716.0	45.06	45.06	3.8	3.8	1200.0	1200.0	
2/15 12:57	96566.0	44.53	44.53	3.8	3.8	1200.3	1200.3	
2/15 12:58	96834.0	44.67	44.67	3.8	3.8	1200.2	1200.2	
2/15 12:59	95992.0	44.34	44.34	3.8	3.8	1200.0	1200.0	
2/15 13:00	95685.0	44.23	44.23	3.8	3.8	1200.0	1200.0	
2/15 13:01	95609.0	44.19	44.19	3.8	3.8	1200.0	1200.0	
2/15 13:02	96343.0	44.53	44.53	3.8	3.8	1199.7	1199.7	
2/15 13:03	97401.0	44.96	44.96	3.8	3.8	1200.0	1200.0	
2/15 13:04	96767.0	44.62	44.62	3.8	3.8	1199.8	1199.8	
2/15 13:05	95889.0	44.21	44.21	3.8	3.8	1200.0	1200.0	
2/15 13:06	96659.0	44.64	44.64	3.8	3.8	1199.7	1199.7	
2/15 13:07	97485.0	44.72	44.72	3.8	3.8	1199.3	1199.3	
2/15 13:08	98217.0	44.89	44.89	3.8	3.8	1200.2	1200.2	
2/15 13:09	98580.0	45.11	45.11	3.8	3.8	1200.0	1200.0	
2/15 13:10	98504.0	45.06	45.06	3.8	3.8	1199.8	1199.8	
2/15 13:11	96769.0	44.19	44.19	3.8	3.8	1200.0	1200.0	
2/15 13:12	97961.0	44.74	44.74	3.8	3.8	1199.7	1199.7	
2/15 13:13	98453.0	44.96	44.96	3.8	3.8	1200.0	1200.0	
2/15 13:14	98949.0	45.16	45.16	3.8	3.8	1200.2	1200.2	
2/15 13:15	97654.0	44.66	44.66	3.8	3.8	1199.8	1199.8	
2/15 13:16	97909.0	44.74	44.74	3.8	3.8	1199.8	1199.8	

Timestamp	(TG-751) Landfill Gas Flow scf/hr	(TG-751) Heat Input mmBtu/hr	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min		
2/15 13:17	97588.0	44.66	3.8	1200.0
2/15 13:18	96952.0	44.35	3.8	1199.8
2/15 13:19	98154.0	44.88	3.8	1200.5
2/15 13:20	97540.0	44.62	3.8	1200.0
2/15 13:21	96427.0	44.23	3.8	1200.7
2/15 13:22	96245.0	44.30	3.8	1200.0
2/15 13:23	96533.0	44.59	3.8	1199.3
2/15 13:24	97252.0	44.87	3.8	1200.2
2/15 13:25	96285.0	44.50	3.8	1199.8
2/15 13:26	96496.0	44.60	3.8	1200.2
2/15 13:27	97189.0	44.92	3.8	1200.0
2/15 13:28	97514.0	45.10	3.8	1199.8
2/15 13:29	96708.0	44.72	3.8	1200.0
2/15 13:30	96705.0	44.70	3.8	1199.8
2/15 13:31	96802.0	44.74	3.8	1200.0
2/15 13:32	96340.0	44.50	3.8	1200.0
2/15 13:33	96741.0	44.71	3.8	1200.3
2/15 13:34	96716.0	44.70	3.8	1200.0
2/15 13:35	97550.0	45.09	3.8	1200.2
2/15 13:36	97051.0	44.86	3.8	1199.8
2/15 13:37	96866.0	44.85	3.8	1200.0
2/15 13:38	97355.0	45.05	3.8	1199.5
2/15 13:39	98009.0	45.26	3.8	1200.0
2/15 13:40	96929.0	44.80	3.8	1200.0
2/15 13:41	95189.0	43.99	3.8	1199.8
2/15 13:42	95941.0	44.34	3.8	1200.0
2/15 13:43	96583.0	44.64	3.8	1200.5
2/15 13:44	96205.0	44.50	3.8	1199.8
2/15 13:45	96559.0	44.59	3.8	1199.8
2/15 13:46	96978.0	44.82	3.8	1200.2
2/15 13:47	96958.0	44.81	3.8	1200.0
2/15 13:48	97354.0	44.97	3.8	1200.2
2/15 13:49	96721.0	44.70	3.8	1199.8
2/15 13:50	96630.0	44.66	3.8	1200.0
2/15 13:51	95592.0	44.18	3.8	1199.8
2/15 13:52	96767.0	44.67	3.8	1200.0
2/15 13:53	95454.0	44.06	3.8	1200.3
2/15 13:54	97398.0	44.98	3.8	1200.2
2/15 13:55	95875.0	44.34	3.8	1199.5
2/15 13:56	98379.0	45.09	3.8	1199.3
2/15 13:57	97810.0	44.69	3.8	1200.8
2/15 13:58	97134.0	44.47	3.8	1200.3
2/15 13:59	96541.0	44.30	3.8	1200.0
2/15 14:00	98502.0	45.20	3.8	1200.0
2/15 14:01	98030.0	44.97	3.8	1200.0
2/15 14:02	99092.0	45.36	3.8	1200.0
2/15 14:03	98010.0	44.82	3.8	1199.7
2/15 14:04	97562.0	44.58	3.8	1200.7
2/15 14:05	96959.0	44.48	3.8	1199.3

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/15 14:06	98489.0	44.84	3.8	1200.5
2/15 14:07	97486.0	44.53	3.8	1200.2
2/15 14:08	97139.0	44.50	3.8	1200.2
2/15 14:09	97046.0	44.54	3.8	1200.2
2/15 14:10	98003.0	44.97	3.8	1199.8
2/15 14:11	98037.0	44.97	3.8	1200.0
2/15 14:12	96392.0	44.18	3.8	1199.7
2/15 14:13	97922.0	44.83	3.8	1199.8
2/15 14:14	97281.0	44.53	3.8	1200.2
2/15 14:15	97560.0	44.74	3.8	1199.5
2/15 14:16	96520.0	44.67	3.8	1198.7
2/15 14:17	99090.0	45.04	3.8	1200.3
2/15 14:18	98010.0	44.73	3.8	1200.7
2/15 14:19	97693.0	44.70	3.8	1200.0
2/15 14:20	97198.0	44.55	3.8	1200.0
2/15 14:21	97873.0	44.89	3.8	1199.8
2/15 14:22	96581.0	44.29	3.8	1200.5
2/15 14:23	96854.0	44.55	3.8	1200.2
2/15 14:24	97700.0	44.99	3.8	1200.7
2/15 14:25	95254.0	43.95	3.8	1199.5
2/15 14:26	96210.0	44.32	3.8	1200.0
2/15 14:27	96074.0	44.22	3.8	1199.7
2/15 14:28	97336.0	44.83	3.8	1200.3
2/15 14:29	97290.0	44.86	3.8	1200.0
2/15 14:30	96682.0	44.58	3.8	1200.0
2/15 14:31	97062.0	44.73	3.8	1200.2
2/15 14:32	96615.0	44.53	3.8	1200.2
2/15 14:33	96915.0	44.69	3.8	1199.8
2/15 14:34	97331.0	44.82	3.8	1200.0
2/15 14:35	97136.0	44.73	3.8	1200.0
2/15 14:36	96374.0	44.35	3.8	1200.3
2/15 14:37	97330.0	44.88	3.8	1200.2
2/15 14:38	97072.0	44.76	3.8	1200.0
2/15 14:39	97274.0	44.93	3.8	1200.0
2/15 14:40	97145.0	44.86	3.8	1200.0
2/15 14:41	97525.0	45.05	3.8	1200.0
2/15 14:42	96503.0	44.60	3.8	1200.0
2/15 14:43	95842.0	44.22	3.8	1200.0
2/15 14:44	96102.0	44.29	3.8	1199.0
2/15 14:45	98887.0	45.32	3.8	1200.2
2/15 14:46	97301.0	44.76	3.8	1200.5
2/15 14:47	97973.0	45.17	3.8	1199.5
2/15 14:48	97653.0	44.97	3.8	1200.5
2/15 14:49	96867.0	44.69	3.8	1200.0
2/15 14:50	96793.0	44.70	3.8	1200.5
2/15 14:51	96433.0	44.64	3.8	1199.5
2/15 14:52	96934.0	44.76	3.8	1200.2
2/15 14:53	96941.0	44.73	3.8	1200.0
2/15 14:54	96620.0	44.60	3.8	1200.0

Timestamp	(TG-751)		(TG-751) Heat		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min	Exhaust Temp °F 1-Min	Input mBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min
2/15 14:55	96388.0	44.55	44.55	3.8	1200.0	1200.0
2/15 14:56	97256.0	44.95	44.95	3.8	1200.0	1200.0
2/15 14:57	97266.0	44.96	44.96	3.8	1200.0	1200.0
2/15 14:58	96129.0	44.45	44.45	3.8	1200.0	1200.0
2/15 14:59	96823.0	44.86	44.86	3.8	1200.0	1200.0
2/15 15:00	97177.0	44.95	44.95	3.8	1200.0	1200.0
2/15 15:01	97255.0	44.97	44.97	3.8	1200.0	1200.0
2/15 15:02	96681.0	44.79	44.79	3.8	1200.0	1200.0
2/15 15:03	94854.0	43.97	43.97	3.8	1200.0	1200.0
2/15 15:04	96706.0	44.77	44.77	3.8	1199.8	1199.8
2/15 15:05	96725.0	44.25	44.25	3.8	1200.0	1200.0
2/15 15:06	96095.0	44.38	44.38	3.8	1199.8	1199.8
2/15 15:07	97754.0	45.03	45.03	3.8	1199.5	1199.5
2/15 15:08	99537.0	45.65	45.65	3.8	1200.0	1200.0
2/15 15:09	97866.0	44.96	44.96	3.8	1199.8	1199.8
2/15 15:10	98324.0	45.17	45.17	3.8	1199.5	1199.5
2/15 15:11	96974.0	44.42	44.42	3.8	1200.0	1200.0
2/15 15:12	96634.0	44.33	44.33	3.8	1200.0	1200.0
2/15 15:13	97613.0	44.72	44.72	3.8	1200.0	1200.0
2/15 15:14	98422.0	45.09	45.09	3.8	1200.2	1200.2
2/15 15:15	97590.0	44.70	44.70	3.8	1199.8	1199.8
2/15 15:16	97315.0	44.55	44.55	3.8	1199.3	1199.3
2/15 15:17	98278.0	44.75	44.75	3.8	1199.8	1199.8
2/15 15:18	100772.0	45.44	45.44	3.8	1198.5	1198.5
2/15 15:19	99918.0	45.03	45.03	3.8	1201.3	1201.3
2/15 15:20	99170.0	45.04	45.04	3.8	1200.5	1200.5
2/15 15:21	96776.0	44.20	44.20	3.8	1201.3	1201.3
2/15 15:22	96962.0	44.69	44.69	3.8	1200.3	1200.3
2/15 15:23	98051.0	45.12	45.12	3.8	1197.5	1197.5
2/15 15:24	99433.0	44.79	44.79	3.8	1200.7	1200.7
2/15 15:25	96610.0	44.66	44.66	3.8	1201.2	1201.2
2/15 15:26	98086.0	44.93	44.93	3.8	1201.3	1201.3
2/15 15:27	97295.0	44.89	44.89	3.8	1200.7	1200.7
2/15 15:28	96148.0	44.44	44.44	3.8	1198.7	1198.7
2/15 15:29	98267.0	44.88	44.88	3.8	1199.7	1199.7
2/15 15:30	97938.0	44.65	44.65	3.8	1200.5	1200.5
2/15 15:31	97248.0	44.54	44.54	3.8	1200.7	1200.7
2/15 15:32	97365.0	44.76	44.76	3.8	1200.0	1200.0
2/15 15:33	97974.0	45.07	45.07	3.8	1199.8	1199.8
2/15 15:34	98621.0	45.35	45.35	3.8	1199.7	1199.7
2/15 15:35	98421.0	45.15	45.15	3.8	1199.8	1199.8
2/15 15:36	98508.0	45.08	45.08	3.8	1199.3	1199.3
2/15 15:37	99008.0	45.04	45.04	3.8	1201.3	1201.3
2/15 15:38	96730.0	44.33	44.33	3.8	1201.2	1201.2
2/15 15:39	97277.0	45.07	45.07	3.8	1200.5	1200.5
2/15 15:40	96616.0	44.86	44.86	3.8	1199.3	1199.3
2/15 15:41	97838.0	45.33	45.33	3.8	1199.5	1199.5
2/15 15:42	96874.0	44.38	44.38	3.8	1200.0	1200.0
2/15 15:43	96377.0	44.55	44.55	3.8	1200.0	1200.0

Timestamp	(TG-751) Landfill Gas Flow scf/hr		(TG-751) Heat Input mmBtu/hr		(TG-751) Megawatts 1-Min		(TG-751) T7 Exhaust Temp °F 1-Min	
	1-Min		1-Min					
2/15 15:44	96347.0		44.53		3.8		1200.3	
2/15 15:45	95700.0		44.39		3.8		1199.8	
2/15 15:46	96194.0		44.61		3.8		1199.5	
2/15 15:47	96749.0		44.90		3.8		1199.7	
2/15 15:48	96272.0		44.60		3.8		1200.0	
2/15 15:49	96986.0		44.94		3.8		1200.0	
2/15 15:50	97378.0		45.12		3.8		1200.0	
2/15 15:51	96518.0		44.75		3.8		1200.3	
2/15 15:52	95864.0		44.44		3.8		1200.2	
2/15 15:53	95753.0		44.36		3.8		1199.7	
2/15 15:54	96928.0		44.91		3.8		1200.0	
2/15 15:55	97189.0		45.03		3.8		1199.8	
2/15 15:56	96797.0		44.85		3.8		1199.8	
2/15 15:57	96111.0		44.47		3.8		1200.0	
2/15 15:58	97399.0		45.02		3.8		1200.0	
2/15 15:59	96638.0		44.70		3.8		1200.3	
2/15 16:00	96285.0		44.63		3.8		1199.8	
2/15 16:01	95950.0		44.46		3.8		1199.5	
2/15 16:02	96650.0		44.78		3.8		1200.0	
2/15 16:03	96253.0		44.61		3.8		1200.2	
2/15 16:04	97357.0		45.11		3.8		1200.0	
2/15 16:05	96652.0		44.78		3.8		1200.0	
2/15 16:06	96587.0		44.71		3.8		1200.0	
2/15 16:07	96589.0		44.74		3.8		1200.0	
2/15 16:08	96521.0		44.72		3.8		1200.0	
2/15 16:09	96362.0		44.74		3.8		1200.0	
2/15 16:10	96912.0		44.95		3.8		1199.7	
2/15 16:11	96693.0		44.76		3.8		1199.5	
2/15 16:12	96433.0		44.65		3.8		1200.3	
2/15 16:13	97088.0		44.98		3.8		1200.2	
2/15 16:14	97106.0		44.99		3.8		1200.2	
2/15 16:15	96672.0		44.74		3.8		1200.0	
2/15 16:16	96484.0		44.70		3.8		1199.8	
2/15 16:17	96615.0		44.76		3.8		1199.8	
2/15 16:18	96046.0		44.52		3.8		1199.8	
2/15 16:19	97554.0		45.16		3.8		1199.8	
2/15 16:20	96371.0		44.65		3.8		1200.0	
2/15 16:21	97192.0		44.97		3.8		1200.0	
2/15 16:22	96112.0		44.49		3.8		1199.8	
2/15 16:23	96752.0		44.72		3.8		1200.0	
2/15 16:24	96595.0		44.65		3.8		1200.2	
2/15 16:25	95793.0		44.29		3.8		1200.0	
2/15 16:26	96508.0		44.64		3.8		1200.5	
2/15 16:27	96424.0		44.64		3.8		1200.2	
2/15 16:28	95571.0		44.28		3.8		1200.0	
2/15 16:29	96738.0		44.74		3.8		1200.0	
2/15 16:30	96237.0		44.48		3.8		1200.0	
2/15 16:31	96362.0		44.51		3.8		1199.8	
2/15 16:32	96393.0		44.52		3.8		1199.7	
	97103.2		44.7		3.8		1200.0	

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/15 16:33	98021.0	45.22	3.8	1200.2
2/15 16:34	98114.0	45.31	3.8	1200.0
2/15 16:35	96562.0	44.63	3.8	1199.8
2/15 16:36	96493.0	44.18	3.8	1200.2
2/15 16:37	95897.0	44.43	3.8	1200.0
2/15 16:38	95746.0	44.43	3.8	1199.8
2/15 16:39	95971.0	44.46	3.8	1200.0
2/15 16:40	96913.0	44.90	3.8	1199.7
2/15 16:41	97723.0	45.20	3.8	1200.2
2/15 16:42	97390.0	45.01	3.8	1200.0
2/15 16:43	97263.0	44.95	3.8	1200.2
2/15 16:44	95611.0	44.19	3.8	1200.2
2/15 16:45	97364.0	44.97	3.8	1200.3
2/15 16:46	96159.0	44.45	3.8	1199.8
2/15 16:47	96218.0	44.49	3.8	1200.0
2/15 16:48	96862.0	44.82	3.8	1200.2
2/15 16:49	95288.0	44.15	3.8	1199.8
2/15 16:50	96843.0	44.37	3.8	1199.7
2/15 16:51	97223.0	44.94	3.8	1200.2
2/15 16:52	95523.0	44.11	3.8	1199.8
2/15 16:53	97295.0	44.97	3.8	1199.8
2/15 16:54	98058.0	45.26	3.8	1200.2
2/15 16:55	97589.0	45.15	3.8	1199.8
2/15 16:56	96406.0	44.56	3.8	1199.8
2/15 16:57	97588.0	45.08	3.8	1200.0
2/15 16:58	96389.0	45.40	3.8	1199.5
2/15 16:59	98406.0	45.40	3.8	1200.2
2/15 17:00	98154.0	45.26	3.8	1200.0
2/15 17:01	97203.0	44.84	3.8	1200.0
2/15 17:02	97752.0	45.10	3.8	1200.7
2/15 17:03	96944.0	44.77	3.8	1199.7
2/15 17:04	96349.0	44.45	3.8	1200.0
2/15 17:05	98770.0	45.54	3.8	1200.0
2/15 17:06	96888.0	44.68	3.8	1200.0
2/15 17:07	96573.0	44.53	3.8	1200.0
2/15 17:08	96971.0	44.74	3.8	1200.0
2/15 17:09	96503.0	44.50	3.8	1200.2
2/15 17:10	97171.0	44.81	3.8	1199.8
2/15 17:11	96183.0	45.27	3.8	1200.0
2/15 17:12	97369.0	44.88	3.8	1200.2
2/15 17:13	96673.0	44.50	3.8	1199.5
2/15 17:14	97624.0	44.95	3.8	1200.2
2/15 17:15	97531.0	44.95	3.8	1200.0
2/15 17:16	97922.0	45.09	3.8	1200.0
2/15 17:17	97368.0	44.79	3.8	1200.0
2/15 17:18	96465.0	45.22	3.8	1200.0
2/15 17:19	97180.0	44.70	3.8	1200.2
2/15 17:20	97172.0	44.81	3.8	1200.2
2/15 17:21	96487.0	44.49	3.8	1200.0

Timestamp	(TG-751) Landfill Gas Flow scf/hr	(TG-751) Heat Input mmBtu/hr	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min		
2/15 17:22	98052.0	45.13	3.8	1200.0
2/15 17:23	98123.0	45.14	3.8	1200.2
2/15 17:24	97741.0	44.96	3.8	1199.8
2/15 17:25	97238.0	44.65	3.8	1200.0
2/15 17:26	98164.0	45.15	3.8	1200.0
2/15 17:27	98334.0	45.25	3.8	1199.7
2/15 17:28	97644.0	44.83	3.8	1200.3
2/15 17:29	98073.0	45.11	3.8	1199.8
2/15 17:30	97015.0	44.68	3.8	1199.8
2/15 17:31	97935.0	45.08	3.8	1200.0
2/15 17:32	98136.0	45.14	3.8	1200.0
2/15 17:33	97608.0	44.88	3.8	1200.0
2/15 17:34	97990.0	45.08	3.8	1200.0
2/15 17:35	97013.0	44.55	3.8	1200.0
2/15 17:36	97655.0	44.82	3.8	1199.8
2/15 17:37	96868.0	44.45	3.8	1200.3
2/15 17:38	97161.0	44.57	3.8	1200.3
2/15 17:39	97299.0	44.73	3.8	1200.2
2/15 17:40	97141.0	44.68	3.8	1200.0
2/15 17:41	97617.0	44.89	3.8	1199.7
2/15 17:42	97268.0	44.64	3.8	1199.8
2/15 17:43	97920.0	44.94	3.8	1199.8
2/15 17:44	97158.0	44.59	3.8	1200.0
2/15 17:45	96881.0	44.46	3.8	1199.8
2/15 17:46	98558.0	45.20	3.8	1200.0
2/15 17:47	97145.0	44.49	3.8	1199.8
2/15 17:48	97876.0	44.84	3.8	1200.2
2/15 17:49	97345.0	44.60	3.8	1200.0
2/15 17:50	99277.0	45.47	3.8	1199.8
2/15 17:51	97963.0	44.83	3.8	1199.8
2/15 17:52	99186.0	45.41	3.8	1199.8
2/15 17:53	97906.0	44.82	3.8	1200.0
2/15 17:54	97895.0	44.82	3.8	1200.0
2/15 17:55	98670.0	45.17	3.8	1199.8
2/15 17:56	98512.0	45.05	3.8	1200.0
2/15 17:57	97379.0	44.55	3.8	1200.0
2/15 17:58	98210.0	44.94	3.8	1199.7
2/15 17:59	98230.0	44.95	3.8	1200.0
2/15 18:00	98970.0	45.26	3.8	1199.3
2/15 18:01	98137.0	44.82	3.8	1200.3
2/15 18:02	97705.0	44.64	3.8	1199.7
2/15 18:03	98287.0	44.87	3.8	1200.2
2/15 18:04	99575.0	45.40	3.8	1200.2
2/15 18:05	98189.0	44.86	3.8	1200.0
2/15 18:06	98126.0	44.80	3.8	1200.0
2/15 18:07	98563.0	45.01	3.8	1199.8
2/15 18:08	97978.0	44.72	3.8	1200.0
2/15 18:09	99013.0	45.19	3.8	1199.8
2/15 18:10	98501.0	44.91	3.8	1200.2

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Exhaust Temp °F 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Megawatts 1-Min
2/15 18:11	99276.0	45.23	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:12	99168.0	45.20	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:13	98198.0	44.80	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:14	99299.0	45.35	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:15	98277.0	44.88	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:16	97823.0	44.70	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:17	98413.0	44.94	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:18	98898.0	45.15	3.8	3.8	1199.7	3.8	1199.7	3.8
2/15 18:19	98494.0	44.93	3.8	3.8	1199.8	3.8	1199.8	3.8
2/15 18:20	98589.0	44.95	3.8	3.8	1199.8	3.8	1199.8	3.8
2/15 18:21	98517.0	45.34	3.8	3.8	1199.8	3.8	1199.8	3.8
2/15 18:22	98261.0	44.77	3.8	3.8	1200.2	3.8	1200.2	3.8
2/15 18:23	98546.0	44.90	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:24	98180.0	44.71	3.8	3.8	1199.7	3.8	1199.7	3.8
2/15 18:25	98492.0	44.87	3.8	3.8	1200.3	3.8	1200.3	3.8
2/15 18:26	99118.0	45.19	3.8	3.8	1199.8	3.8	1199.8	3.8
2/15 18:27	98177.0	44.76	3.8	3.8	1200.2	3.8	1200.2	3.8
2/15 18:28	98523.0	44.92	3.8	3.8	1199.8	3.8	1199.8	3.8
2/15 18:29	99127.0	45.16	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:30	98298.0	44.79	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:31	98532.0	44.89	3.8	3.8	1200.2	3.8	1200.2	3.8
2/15 18:32	99411.0	45.18	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:33	98192.0	44.71	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:34	97981.0	44.61	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:35	98240.0	44.71	3.8	3.8	1200.2	3.8	1200.2	3.8
2/15 18:36	98434.0	44.84	3.8	3.8	1200.2	3.8	1200.2	3.8
2/15 18:37	98779.0	45.00	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:38	98350.0	44.81	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:39	98500.0	44.88	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:40	99251.0	45.22	3.8	3.8	1199.8	3.8	1199.8	3.8
2/15 18:41	98467.0	44.86	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:42	98724.0	44.93	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:43	99155.0	45.18	3.8	3.8	1199.8	3.8	1199.8	3.8
2/15 18:44	98828.0	45.01	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:45	100000.0	45.53	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:46	98884.0	45.00	3.8	3.8	1200.2	3.8	1200.2	3.8
2/15 18:47	99210.0	45.09	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:48	99152.0	45.15	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:49	99776.0	45.46	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:50	98453.0	44.78	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:51	98990.0	45.08	3.8	3.8	1199.8	3.8	1199.8	3.8
2/15 18:52	99148.0	45.08	3.8	3.8	1199.8	3.8	1199.8	3.8
2/15 18:53	98805.0	44.91	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:54	99367.0	45.18	3.8	3.8	1200.2	3.8	1200.2	3.8
2/15 18:55	98742.0	44.88	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:56	98946.0	44.97	3.8	3.8	1199.8	3.8	1199.8	3.8
2/15 18:57	98780.0	44.95	3.8	3.8	1200.2	3.8	1200.2	3.8
2/15 18:58	100171.0	45.64	3.8	3.8	1200.0	3.8	1200.0	3.8
2/15 18:59	99140.0	45.20	3.8	3.8	1200.2	3.8	1200.2	3.8

(TG-751)		(TG-751) Gas	(TG-751) Heat	(TG-751) T7
		Flow scf/hr	Input mmBtu/hr	Exhaust Temp
		1-Min	1-Min	°F 1-Min
Timestamp				
2/15 19:00		98411.0	44.87	1200.0
Average (all)		98483.4	45.03	1199.8
Total (all)		--	--	--
Minimum (all)		90393.0	40.34	1185.3
Maximum (all)		112762.0	46.88	1201.3
Average (valid values only)		98483.4	45.03	1199.8
Total (valid values only)		--	--	--
Count (valid values only)		781	781	781

CeDAR 1-Minute Data

Sunshine Gas Producers, LLC

Data for 2/16/2023 6:00 AM thru 2/16/2023 7:00 PM

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
2/16 6:00	99259.0	45.69	3.8	1199.8
2/16 6:01	99511.0	45.77	3.8	1199.8
2/16 6:02	98632.0	45.35	3.8	1200.3
2/16 6:03	100048.0	46.02	3.8	1200.2
2/16 6:04	99797.0	45.88	3.8	1200.0
2/16 6:05	99817.0	45.86	3.8	1199.8
2/16 6:06	100495.0	46.17	3.8	1200.0
2/16 6:07	99187.0	45.61	3.8	1200.0
2/16 6:08	99497.0	45.66	3.8	1199.8
2/16 6:09	100532.0	46.22	3.8	1200.0
2/16 6:10	100002.0	46.00	3.9	1199.8
2/16 6:11	99596.0	45.80	3.8	1200.0
2/16 6:12	100120.0	46.06	3.8	1200.0
2/16 6:13	99959.0	45.98	3.9	1200.0
2/16 6:14	99382.0	45.71	3.9	1200.2
2/16 6:15	100562.0	46.15	3.8	1200.2
2/16 6:16	100384.0	46.06	3.8	1200.2
2/16 6:17	98988.0	45.45	3.8	1200.0
2/16 6:18	99227.0	45.59	3.8	1200.2
2/16 6:19	98656.0	45.75	3.8	1200.0
2/16 6:20	98613.0	45.79	3.8	1200.0
2/16 6:21	100386.0	46.07	3.8	1200.0
2/16 6:22	100077.0	45.98	3.8	1200.2
2/16 6:23	100498.0	46.12	3.8	1199.7
2/16 6:24	100433.0	46.09	3.9	1199.5
2/16 6:25	100529.0	46.10	3.9	1199.8
2/16 6:26	99373.0	45.49	3.9	1200.0
2/16 6:27	100584.0	46.08	3.9	1199.7
2/16 6:28	101179.0	46.32	3.9	1200.0
2/16 6:29	100058.0	45.92	3.9	1200.2
2/16 6:30	100541.0	46.14	3.9	1199.8
2/16 6:31	100849.0	46.28	3.8	1200.0
2/16 6:32	100296.0	46.01	3.9	1200.0
2/16 6:33	98065.0	44.92	3.9	1200.2
2/16 6:34	99094.0	45.41	3.8	1199.8
2/16 6:35	100787.0	46.14	3.9	1200.0
2/16 6:36	100067.0	45.83	3.9	1200.0
2/16 6:37	100597.0	46.10	3.9	1199.7
2/16 6:38	99641.0	45.59	3.9	1200.2
2/16 6:39	99961.0	45.76	3.9	1200.0
2/16 6:40	99560.0	45.58	3.9	1200.2
2/16 6:41	99330.0	45.47	3.9	1200.0
2/16 6:42	99103.0	45.39	3.9	1199.8
2/16 6:43	100596.0	46.03	3.9	1200.0
2/16 6:44	100125.0	45.82	3.9	1200.3

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/16 6:45	100855.0	46.17	3.9	1200.2
2/16 6:46	101082.0	46.27	3.9	1200.2
2/16 6:47	100667.0	46.09	3.9	1200.2
2/16 6:48	100032.0	45.79	3.9	1200.0
2/16 6:49	100285.0	45.91	3.9	1199.8
2/16 6:50	100965.0	46.22	3.9	1200.2
2/16 6:51	100023.0	45.71	3.9	1199.8
2/16 6:52	101828.0	46.51	3.9	1200.2
2/16 6:53	101447.0	46.36	3.9	1200.2
2/16 6:54	100988.0	46.23	3.9	1200.0
2/16 6:55	99385.0	45.52	3.9	1199.5
2/16 6:56	101892.0	46.56	3.9	1200.2
2/16 6:57	100006.0	45.76	3.9	1200.5
2/16 6:58	100192.0	45.98	3.9	1200.2
2/16 6:59	99412.0	45.54	3.9	1199.5
2/16 7:00	100857.0	46.17	3.9	1199.8
2/16 7:01	101869.0	46.61	3.9	1200.0
2/16 7:02	100823.0	46.10	3.9	1199.8
2/16 7:03	100594.0	46.05	3.9	1200.0
2/16 7:04	100119.0	45.83	3.9	1200.0
2/16 7:05	101637.0	46.45	3.9	1200.0
2/16 7:06	100608.0	45.95	3.9	1199.8
2/16 7:07	101171.0	46.15	3.9	1200.0
2/16 7:08	100096.0	45.69	3.9	1200.2
2/16 7:09	100275.0	45.80	3.9	1200.7
2/16 7:10	100271.0	45.87	3.9	1200.5
2/16 7:11	100528.0	46.11	3.9	1200.2
2/16 7:12	99008.0	45.52	3.9	1200.0
2/16 7:13	99375.0	45.74	3.9	1199.7
2/16 7:14	100163.0	46.05	3.9	1199.8
2/16 7:15	101174.0	46.52	3.9	1200.5
2/16 7:16	101360.0	46.43	3.9	1199.7
2/16 7:17	100540.0	45.92	3.9	1198.5
2/16 7:18	101298.0	46.15	3.9	1200.0
2/16 7:19	101350.0	46.27	3.9	1198.7
2/16 7:20	101079.0	46.16	3.9	1200.3
2/16 7:21	101124.0	46.24	3.9	1200.0
2/16 7:22	101262.0	46.36	3.9	1200.2
2/16 7:23	101712.0	46.58	3.9	1200.0
2/16 7:24	100521.0	46.04	3.9	1200.0
2/16 7:25	99543.0	45.57	3.9	1200.0
2/16 7:26	100951.0	46.25	3.9	1199.8
2/16 7:27	101034.0	46.20	3.9	1200.0
2/16 7:28	100584.0	46.07	3.9	1199.8
2/16 7:29	99816.0	45.81	3.9	1200.0
2/16 7:30	100453.0	46.08	3.9	1200.0
2/16 7:31	99470.0	45.56	3.9	1199.8
2/16 7:32	100531.0	46.02	3.9	1200.0
2/16 7:33	101521.0	46.48	3.9	1200.2

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	100773.0	46.13	3.9	1200.0
2/16 7:34	99987.0	45.78	3.9	1199.8
2/16 7:35	100965.0	46.22	3.9	1199.8
2/16 7:36	101715.0	46.46	3.9	1200.0
2/16 7:37	101185.0	46.21	3.9	1200.0
2/16 7:38	101636.0	46.42	3.9	1200.0
2/16 7:39	100912.0	46.09	3.9	1199.8
2/16 7:40	101394.0	46.28	3.9	1200.0
2/16 7:41	101732.0	46.46	3.9	1200.3
2/16 7:42	99698.0	45.62	3.9	1200.2
2/16 7:43	100436.0	46.03	3.9	1200.3
2/16 7:44	100457.0	46.01	3.9	1200.0
2/16 7:45	100400.0	46.05	3.9	1200.3
2/16 7:46	100516.0	46.13	3.9	1200.2
2/16 7:47	100602.0	46.20	3.8	1199.8
2/16 7:48	100074.0	46.01	3.8	1199.8
2/16 7:49	99983.0	45.99	3.8	1200.2
2/16 7:50	98747.0	45.43	3.8	1200.0
2/16 7:51	101015.0	46.47	3.9	1199.7
2/16 7:52	99225.0	45.62	3.8	1200.0
2/16 7:53	98403.0	45.70	3.8	1199.8
2/16 7:54	98999.0	45.46	3.8	1200.0
2/16 7:55	100686.0	46.32	3.8	1200.2
2/16 7:56	99133.0	45.62	3.8	1199.5
2/16 7:57	99798.0	45.91	3.9	1200.2
2/16 7:58	100235.0	46.11	3.9	1200.0
2/16 7:59	99933.0	46.04	3.9	1200.0
2/16 8:00	99118.0	45.81	3.8	1200.0
2/16 8:01	99259.0	45.75	3.8	1200.0
2/16 8:02	99439.0	45.87	3.8	1200.7
2/16 8:03	97627.0	45.31	3.8	1201.7
2/16 8:04	96679.0	45.53	3.8	1201.7
2/16 8:05	96345.0	45.82	3.8	1200.0
2/16 8:06	96920.0	46.16	3.8	1199.5
2/16 8:07	96800.0	45.90	3.8	1199.2
2/16 8:08	98299.0	46.36	3.8	1199.2
2/16 8:09	98149.0	46.11	3.8	1199.7
2/16 8:10	97385.0	45.65	3.8	1200.0
2/16 8:11	98453.0	46.02	3.8	1199.0
2/16 8:12	99671.0	46.32	3.8	1200.0
2/16 8:13	98418.0	45.62	3.8	1199.8
2/16 8:14	98747.0	45.66	3.8	1200.3
2/16 8:15	99634.0	46.05	3.8	1200.0
2/16 8:16	98482.0	45.66	3.8	1200.7
2/16 8:17	98161.0	45.77	3.8	1200.2
2/16 8:18	98847.0	46.20	3.8	1200.0
2/16 8:19	98274.0	45.98	3.8	1200.3
2/16 8:20	97151.0	45.53	3.8	1200.0
2/16 8:21	97941.0	45.90	3.8	1200.0
2/16 8:22				

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/16 8:23	98296.0	46.07	3.8	1200.3
2/16 8:24	98925.0	46.46	3.8	1200.0
2/16 8:25	96899.0	45.49	3.8	1200.0
2/16 8:26	97639.0	45.81	3.8	1200.3
2/16 8:27	97859.0	46.11	3.8	1200.0
2/16 8:28	97248.0	45.84	3.8	1199.8
2/16 8:29	97469.0	45.99	3.8	1200.5
2/16 8:30	97186.0	45.80	3.8	1200.0
2/16 8:31	97721.0	46.02	3.8	1200.0
2/16 8:32	96723.0	45.57	3.8	1200.0
2/16 8:33	96620.0	45.59	3.8	1200.2
2/16 8:34	98259.0	46.38	3.8	1200.0
2/16 8:35	96955.0	45.77	3.8	1200.0
2/16 8:36	96487.0	45.54	3.8	1200.0
2/16 8:37	96841.0	45.71	3.8	1199.8
2/16 8:38	97163.0	45.86	3.8	1199.7
2/16 8:39	96830.0	45.68	3.8	1200.2
2/16 8:40	98298.0	46.40	3.8	1199.7
2/16 8:41	97204.0	45.88	3.8	1200.5
2/16 8:42	97371.0	45.90	3.8	1199.8
2/16 8:43	96756.0	45.56	3.8	1200.0
2/16 8:44	97079.0	45.71	3.8	1200.5
2/16 8:45	97662.0	46.06	3.8	1200.3
2/16 8:46	97210.0	45.88	3.8	1200.0
2/16 8:47	96731.0	45.60	3.8	1199.8
2/16 8:48	97169.0	45.76	3.8	1200.0
2/16 8:49	96858.0	45.63	3.8	1199.8
2/16 8:50	97344.0	45.93	3.8	1200.0
2/16 8:51	96723.0	45.65	3.8	1200.0
2/16 8:52	96905.0	45.74	3.8	1200.0
2/16 8:53	96902.0	45.77	3.8	1199.8
2/16 8:54	96385.0	45.50	3.8	1199.7
2/16 8:55	96373.0	45.49	3.8	1199.8
2/16 8:56	96135.0	45.38	3.8	1200.2
2/16 8:57	96532.0	45.59	3.8	1200.3
2/16 8:58	96522.0	45.69	3.8	1199.8
2/16 8:59	96207.0	45.64	3.8	1200.2
2/16 9:00	96672.0	45.84	3.8	1200.2
2/16 9:01	96537.0	45.80	3.8	1200.2
2/16 9:02	95092.0	45.16	3.8	1200.0
2/16 9:03	95863.0	45.46	3.8	1200.0
2/16 9:04	96924.0	45.85	3.8	1199.0
2/16 9:05	98124.0	46.01	3.8	1199.5
2/16 9:06	97344.0	45.60	3.8	1200.7
2/16 9:07	96347.0	45.24	3.8	1200.2
2/16 9:08	97073.0	45.55	3.8	1199.8
2/16 9:09	97349.0	45.63	3.8	1199.7
2/16 9:10	96642.0	45.30	3.8	1200.2
2/16 9:11	97244.0	45.65	3.8	1200.7

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/16 9:12	96629.0		45.52		3.8		1200.0	
2/16 9:13	95584.0		45.13		3.8		1200.5	
2/16 9:14	97013.0		45.90		3.8		1199.7	
2/16 9:15	96271.0		45.55		3.8		1199.8	
2/16 9:16	96104.0		45.57		3.8		1199.8	
2/16 9:17	96232.0		45.63		3.8		1200.0	
2/16 9:18	96327.0		45.68		3.8		1199.8	
2/16 9:19	96607.0		45.81		3.8		1200.0	
2/16 9:20	96388.0		45.71		3.8		1200.2	
2/16 9:21	97325.0		46.15		3.8		1200.0	
2/16 9:22	96118.0		45.58		3.8		1200.0	
2/16 9:23	97414.0		46.19		3.8		1199.8	
2/16 9:24	95099.0		45.10		3.8		1200.0	
2/16 9:25	96486.0		45.77		3.8		1200.0	
2/16 9:26	96042.0		45.64		3.8		1200.2	
2/16 9:27	96234.0		45.71		3.8		1200.0	
2/16 9:28	96057.0		45.58		3.8		1200.0	
2/16 9:29	96227.0		45.63		3.8		1200.0	
2/16 9:30	96072.0		45.56		3.8		1200.2	
2/16 9:31	96727.0		45.84		3.8		1200.2	
2/16 9:32	95469.0		45.27		3.8		1199.7	
2/16 9:33	96337.0		45.68		3.8		1200.7	
2/16 9:34	95502.0		45.31		3.8		1200.2	
2/16 9:35	94460.0		44.86		3.8		1199.8	
2/16 9:36	95419.0		45.34		3.8		1200.3	
2/16 9:37	96122.0		45.66		3.8		1199.5	
2/16 9:38	97360.0		46.11		3.8		1199.8	
2/16 9:39	96012.0		45.47		3.8		1199.8	
2/16 9:40	95925.0		45.38		3.8		1200.0	
2/16 9:41	95768.0		45.31		3.8		1200.2	
2/16 9:42	96185.0		45.38		3.8		1199.0	
2/16 9:43	96493.0		45.12		3.8		1199.0	
2/16 9:44	97520.0		45.37		3.8		1200.0	
2/16 9:45	96761.0		45.03		3.8		1200.0	
2/16 9:46	98484.0		45.70		3.8		1199.8	
2/16 9:47	98444.0		46.07		3.8		1199.7	
2/16 9:48	98533.0		45.62		3.8		1200.0	
2/16 9:49	98884.0		45.66		3.8		1198.5	
2/16 9:50	104542.0		47.02		3.8		1198.3	
2/16 9:51	103326.0		45.67		3.8		1200.3	
2/16 9:52	102103.0		45.77		3.8		1200.7	
2/16 9:53	100329.0		45.30		3.8		1201.5	
2/16 9:54	96512.0		45.26		3.8		1201.5	
2/16 9:55	98528.0		45.61		3.8		1199.2	
2/16 9:56	99666.0		45.87		3.8		1199.3	
2/16 9:57	99812.0		45.83		3.8		1200.0	
2/16 9:58	98342.0		45.27		3.8		1200.8	
2/16 9:59	97830.0		45.22		3.8		1200.7	
2/16 10:00	97752.0		45.42		3.8		1200.3	

Timestamp	(TG-751) Landfill Gas		(TG-751) Heat		(TG-751) Megawatts 1-Min		(TG-751) T7 Exhaust Temp	
	Flow scf/hr	1-Min	Input mmBtu/hr	1-Min	Megawatts 1-Min	1-Min	°F 1-Min	1-Min
2/16 10:01	98428.0		45.78		3.8		1199.7	
2/16 10:02	98599.0		45.78		3.8		1199.8	
2/16 10:03	97919.0		45.50		3.8		1200.3	
2/16 10:04	98332.0		45.74		3.8		1200.2	
2/16 10:05	97369.0		45.42		3.8		1200.0	
2/16 10:06	97322.0		45.37		3.8		1199.5	
2/16 10:07	98863.0		46.01		3.8		1199.5	
2/16 10:08	98090.0		45.58		3.8		1200.0	
2/16 10:09	97482.0		45.26		3.8		1200.3	
2/16 10:10	98675.0		45.82		3.8		1200.2	
2/16 10:11	98503.0		45.76		3.8		1200.3	
2/16 10:12	97858.0		45.52		3.8		1199.8	
2/16 10:13	98254.0		45.73		3.8		1199.7	
2/16 10:14	97427.0		45.27		3.8		1199.8	
2/16 10:15	98235.0		45.64		3.8		1199.8	
2/16 10:16	98723.0		45.84		3.8		1200.0	
2/16 10:17	97852.0		45.43		3.8		1200.3	
2/16 10:18	97605.0		45.32		3.8		1200.2	
2/16 10:19	96894.0		45.09		3.8		1200.5	
2/16 10:20	97758.0		45.43		3.8		1199.3	
2/16 10:21	97980.0		45.47		3.8		1199.7	
2/16 10:22	98207.0		45.58		3.8		1199.8	
2/16 10:23	98270.0		45.56		3.8		1200.0	
2/16 10:24	98263.0		45.49		3.8		1200.0	
2/16 10:25	98608.0		45.66		3.8		1200.2	
2/16 10:26	96904.0		44.99		3.8		1200.2	
2/16 10:27	97076.0		45.10		3.8		1200.2	
2/16 10:28	96920.0		45.04		3.8		1199.8	
2/16 10:29	97681.0		45.30		3.8		1199.8	
2/16 10:30	97131.0		45.03		3.8		1199.8	
2/16 10:31	97901.0		45.30		3.8		1199.8	
2/16 10:32	97314.0		45.08		3.8		1200.0	
2/16 10:33	97315.0		45.12		3.8		1200.5	
2/16 10:34	96795.0		44.90		3.8		1199.8	
2/16 10:35	96172.0		44.58		3.8		1200.2	
2/16 10:36	97424.0		45.18		3.8		1200.2	
2/16 10:37	97941.0		45.40		3.8		1199.7	
2/16 10:38	97130.0		45.03		3.8		1200.7	
2/16 10:39	96678.0		44.89		3.8		1200.2	
2/16 10:40	97821.0		45.34		3.8		1200.0	
2/16 10:41	96124.0		44.53		3.8		1200.0	
2/16 10:42	97476.0		45.16		3.8		1199.8	
2/16 10:43	97497.0		45.17		3.8		1200.0	
2/16 10:44	96591.0		44.75		3.8		1200.2	
2/16 10:45	98346.0		45.57		3.8		1200.3	
2/16 10:46	97036.0		44.92		3.8		1199.7	
2/16 10:47	97522.0		45.07		3.8		1200.0	
2/16 10:48	96970.0		44.82		3.8		1200.3	
2/16 10:49	96010.0		44.45		3.8		1200.0	

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp	°F 1-Min	
2/16 10:50	96479.0	44.64	44.64	3.8	1199.8	1200.0		
2/16 10:51	97114.0	44.99	44.99	3.8	1199.8	1200.0		
2/16 10:52	98657.0	45.71	45.71	3.8	1199.8	1200.0		
2/16 10:53	97176.0	45.02	45.02	3.8	1199.8	1200.0		
2/16 10:54	97617.0	45.20	45.20	3.8	1200.3	1200.0		
2/16 10:55	98652.0	45.60	45.60	3.8	1200.2	1200.0		
2/16 10:56	97625.0	45.14	45.14	3.8	1200.0	1200.0		
2/16 10:57	97100.0	44.90	44.90	3.8	1200.0	1200.0		
2/16 10:58	96935.0	44.83	44.83	3.8	1200.0	1200.0		
2/16 10:59	97173.0	45.02	45.02	3.8	1200.0	1200.0		
2/16 11:00	96982.0	44.90	44.90	3.8	1200.0	1200.0		
2/16 11:01	96787.0	44.81	44.81	3.8	1200.0	1200.0		
2/16 11:02	97502.0	45.06	45.06	3.8	1200.0	1200.0		
2/16 11:03	98153.0	45.36	45.36	3.8	1199.8	1200.0		
2/16 11:04	97932.0	45.26	45.26	3.8	1200.0	1200.0		
2/16 11:05	97364.0	44.97	44.97	3.8	1200.0	1200.0		
2/16 11:06	96729.0	44.63	44.63	3.8	1200.0	1200.0		
2/16 11:07	97924.0	45.26	45.26	3.8	1200.3	1200.2		
2/16 11:08	98288.0	45.34	45.34	3.8	1200.2	1200.2		
2/16 11:09	97775.0	45.19	45.19	3.8	1200.2	1200.0		
2/16 11:10	97130.0	44.85	44.85	3.8	1200.0	1200.0		
2/16 11:11	96501.0	44.53	44.53	3.8	1200.0	1200.0		
2/16 11:12	96488.0	44.57	44.57	3.8	1200.0	1200.0		
2/16 11:13	97397.0	45.02	45.02	3.8	1200.3	1200.3		
2/16 11:14	96318.0	44.52	44.52	3.8	1200.3	1200.0		
2/16 11:15	97671.0	45.25	45.25	3.8	1200.0	1200.0		
2/16 11:16	97615.0	45.23	45.23	3.8	1199.7	1200.0		
2/16 11:17	96628.0	44.77	44.77	3.8	1200.2	1200.2		
2/16 11:18	97086.0	44.98	44.98	3.8	1200.0	1200.0		
2/16 11:19	98353.0	45.54	45.54	3.8	1200.0	1200.0		
2/16 11:20	97173.0	45.02	45.02	3.8	1200.3	1199.8		
2/16 11:21	95903.0	44.43	44.43	3.8	1200.0	1200.0		
2/16 11:22	96831.0	44.89	44.89	3.8	1200.0	1200.0		
2/16 11:23	97119.0	45.00	45.00	3.8	1200.0	1200.0		
2/16 11:24	95996.0	44.48	44.48	3.8	1200.2	1200.0		
2/16 11:25	97226.0	45.02	45.02	3.8	1200.0	1200.0		
2/16 11:26	96842.0	44.87	44.87	3.8	1200.0	1200.0		
2/16 11:27	97458.0	45.15	45.15	3.8	1200.0	1200.0		
2/16 11:28	96869.0	44.88	44.88	3.8	1200.2	1200.3		
2/16 11:29	96424.0	44.70	44.70	3.8	1200.0	1199.5		
2/16 11:30	95994.0	44.57	44.57	3.8	1199.8	1200.0		
2/16 11:31	95342.0	44.25	44.25	3.8	1200.0	1200.0		
2/16 11:32	97711.0	45.27	45.27	3.8	1200.0	1200.0		
2/16 11:33	97544.0	45.05	45.05	3.8	1200.0	1200.0		
2/16 11:34	96821.0	44.71	44.71	3.8	1200.0	1200.0		
2/16 11:35	97220.0	44.94	44.94	3.8	1200.0	1200.0		
2/16 11:36	96455.0	44.66	44.66	3.8	1199.5	1200.0		
2/16 11:37	97148.0	45.03	45.03	3.8	1199.5	1200.0		
2/16 11:38	96741.0	44.82	44.82	3.8	1200.0	1200.0		

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min	Exhaust Temp °F 1-Min	Input mmBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Megawatts 1-Min
2/16 11:39	96040.0	44.50	44.50	3.8	1200.2	3.8	1200.2	3.8
2/16 11:40	96635.0	44.77	44.77	3.8	1199.7	3.8	1199.7	3.8
2/16 11:41	97594.0	45.15	45.15	3.8	1200.0	3.8	1200.0	3.8
2/16 11:42	96309.0	44.59	44.59	3.8	1200.0	3.8	1200.0	3.8
2/16 11:43	96895.0	44.89	44.89	3.8	1200.0	3.8	1200.0	3.8
2/16 11:44	95820.0	44.39	44.39	3.8	1200.3	3.8	1200.3	3.8
2/16 11:45	95819.0	44.46	44.46	3.8	1200.0	3.8	1200.0	3.8
2/16 11:46	96571.0	44.79	44.79	3.8	1199.8	3.8	1199.8	3.8
2/16 11:47	96576.0	44.81	44.81	3.8	1199.8	3.8	1199.8	3.8
2/16 11:48	97090.0	45.08	45.08	3.8	1200.0	3.8	1200.0	3.8
2/16 11:49	97411.0	45.16	45.16	3.8	1200.3	3.8	1200.3	3.8
2/16 11:50	97025.0	44.97	44.97	3.8	1200.3	3.8	1200.3	3.8
2/16 11:51	97171.0	45.02	45.02	3.8	1200.0	3.8	1200.0	3.8
2/16 11:52	96770.0	44.88	44.88	3.8	1200.3	3.8	1200.3	3.8
2/16 11:53	95822.0	44.46	44.46	3.8	1200.0	3.8	1200.0	3.8
2/16 11:54	96071.0	44.61	44.61	3.8	1200.0	3.8	1200.0	3.8
2/16 11:55	96267.0	44.74	44.74	3.8	1200.0	3.8	1200.0	3.8
2/16 11:56	97172.0	45.10	45.10	3.8	1200.0	3.8	1200.0	3.8
2/16 11:57	96654.0	44.87	44.87	3.8	1200.0	3.8	1200.0	3.8
2/16 11:58	96178.0	44.66	44.66	3.8	1200.0	3.8	1200.0	3.8
2/16 11:59	96726.0	44.86	44.86	3.8	1199.7	3.8	1199.7	3.8
2/16 12:00	98459.0	44.69	44.69	3.8	1200.2	3.8	1200.2	3.8
2/16 12:01	96686.0	44.77	44.77	3.8	1200.0	3.8	1200.0	3.8
2/16 12:02	96029.0	44.51	44.51	3.8	1200.3	3.8	1200.3	3.8
2/16 12:03	95833.0	44.47	44.47	3.8	1200.2	3.8	1200.2	3.8
2/16 12:04	96232.0	44.77	44.77	3.8	1200.2	3.8	1200.2	3.8
2/16 12:05	96776.0	44.96	44.96	3.8	1200.0	3.8	1200.0	3.8
2/16 12:06	95579.0	44.42	44.42	3.8	1200.0	3.8	1200.0	3.8
2/16 12:07	97500.0	45.27	45.27	3.8	1199.7	3.8	1199.7	3.8
2/16 12:08	96187.0	44.58	44.58	3.8	1200.0	3.8	1200.0	3.8
2/16 12:09	97061.0	44.97	44.97	3.8	1200.0	3.8	1200.0	3.8
2/16 12:10	96356.0	44.72	44.72	3.8	1200.2	3.8	1200.2	3.8
2/16 12:11	96901.0	45.02	45.02	3.8	1200.2	3.8	1200.2	3.8
2/16 12:12	96885.0	45.09	45.09	3.8	1200.0	3.8	1200.0	3.8
2/16 12:13	96725.0	45.02	45.02	3.8	1200.2	3.8	1200.2	3.8
2/16 12:14	96751.0	44.67	44.67	3.8	1200.0	3.8	1200.0	3.8
2/16 12:15	96907.0	45.18	45.18	3.8	1200.0	3.8	1200.0	3.8
2/16 12:16	97226.0	45.27	45.27	3.8	1200.0	3.8	1200.0	3.8
2/16 12:17	96297.0	44.86	44.86	3.8	1200.0	3.8	1200.0	3.8
2/16 12:18	96022.0	44.73	44.73	3.8	1200.0	3.8	1200.0	3.8
2/16 12:19	96236.0	44.79	44.79	3.8	1200.2	3.8	1200.2	3.8
2/16 12:20	96331.0	44.87	44.87	3.8	1199.8	3.8	1199.8	3.8
2/16 12:21	97048.0	45.23	45.23	3.8	1200.0	3.8	1200.0	3.8
2/16 12:22	95053.0	44.26	44.26	3.8	1200.0	3.8	1200.0	3.8
2/16 12:23	95520.0	44.47	44.47	3.8	1200.0	3.8	1200.0	3.8
2/16 12:24	96570.0	45.03	45.03	3.8	1200.0	3.8	1200.0	3.8
2/16 12:25	94844.0	44.24	44.24	3.8	1200.0	3.8	1200.0	3.8
2/16 12:26	96479.0	45.01	45.01	3.8	1199.8	3.8	1199.8	3.8
2/16 12:27	95979.0	44.67	44.67	3.8	1200.0	3.8	1200.0	3.8
Average Run 5	97640.5	45.5	45.5	3.8	1200.0	3.8	1200.0	3.8

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/16 12:28	95970.0	44.64	3.8	1199.8
2/16 12:29	96983.0	45.03	3.8	1200.2
2/16 12:30	96331.0	44.73	3.8	1200.2
2/16 12:31	95686.0	44.51	3.8	1200.0
2/16 12:32	97008.0	45.15	3.8	1200.0
2/16 12:33	95778.0	44.56	3.8	1200.0
2/16 12:34	96780.0	45.02	3.8	1199.8
2/16 12:35	96165.0	44.73	3.8	1200.0
2/16 12:36	95381.0	44.32	3.8	1199.8
2/16 12:37	96296.0	44.75	3.8	1200.0
2/16 12:38	97374.0	45.27	3.8	1200.0
2/16 12:39	96964.0	45.08	3.8	1200.0
2/16 12:40	95487.0	44.44	3.8	1199.7
2/16 12:41	96787.0	45.07	3.8	1200.0
2/16 12:42	95928.0	44.68	3.8	1199.8
2/16 12:43	95953.0	44.73	3.8	1200.3
2/16 12:44	95297.0	44.43	3.8	1200.2
2/16 12:45	95093.0	44.29	3.8	1199.8
2/16 12:46	96130.0	44.76	3.8	1200.0
2/16 12:47	95741.0	44.64	3.8	1199.8
2/16 12:48	96413.0	44.89	3.8	1200.0
2/16 12:49	96575.0	44.95	3.8	1200.0
2/16 12:50	96821.0	45.03	3.8	1200.0
2/16 12:51	96893.0	45.06	3.8	1200.2
2/16 12:52	96063.0	44.81	3.8	1200.0
2/16 12:53	95840.0	44.68	3.8	1200.5
2/16 12:54	96011.0	44.81	3.8	1199.8
2/16 12:55	96273.0	44.91	3.8	1199.8
2/16 12:56	96129.0	44.84	3.8	1199.7
2/16 12:57	96233.0	44.80	3.8	1199.7
2/16 12:58	96960.0	45.13	3.8	1200.0
2/16 12:59	95991.0	44.67	3.8	1200.2
2/16 13:00	96632.0	44.95	3.8	1200.0
2/16 13:01	97137.0	45.23	3.8	1200.0
2/16 13:02	96032.0	44.78	3.8	1200.0
2/16 13:03	96222.0	44.87	3.8	1200.0
2/16 13:04	96508.0	45.02	3.8	1200.0
2/16 13:05	96579.0	45.05	3.8	1200.2
2/16 13:06	95535.0	44.60	3.8	1200.3
2/16 13:07	96238.0	44.98	3.8	1199.7
2/16 13:08	96066.0	44.82	3.8	1200.2
2/16 13:09	96907.0	45.27	3.8	1199.8
2/16 13:10	96516.0	45.10	3.8	1200.0
2/16 13:11	95367.0	44.55	3.8	1200.0
2/16 13:12	96586.0	45.15	3.8	1199.8
2/16 13:13	96116.0	44.95	3.8	1200.0
2/16 13:14	95185.0	44.51	3.8	1200.0
2/16 13:15	95540.0	44.70	3.8	1200.0
2/16 13:16	96226.0	44.95	3.8	1199.8

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Exhaust Temp °F 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Megawatts 1-Min
2/16 13:17	95970.0	44.85	3.8	1200.3	3.8	1199.8	3.8	1200.0
2/16 13:18	96358.0	45.06	3.8	1200.0	3.8	1199.8	3.8	1200.0
2/16 13:19	95642.0	44.72	3.8	1200.0	3.8	1199.8	3.8	1200.0
2/16 13:20	95291.0	44.54	3.8	1199.8	3.8	1199.8	3.8	1200.0
2/16 13:21	96469.0	45.11	3.8	1199.8	3.8	1199.8	3.8	1200.0
2/16 13:22	95251.0	44.54	3.8	1200.0	3.8	1199.8	3.8	1200.0
2/16 13:23	96074.0	45.01	3.8	1199.8	3.8	1199.8	3.8	1200.0
2/16 13:24	95497.0	44.88	3.8	1199.3	3.8	1200.5	3.8	1200.5
2/16 13:25	97096.0	45.40	3.8	1200.2	3.8	1200.2	3.8	1200.2
2/16 13:26	95821.0	44.72	3.8	1200.2	3.8	1199.7	3.8	1199.7
2/16 13:27	95761.0	44.78	3.8	1199.8	3.8	1198.3	3.8	1200.8
2/16 13:28	95485.0	44.67	3.8	1200.5	3.8	1200.5	3.8	1200.5
2/16 13:29	95018.0	44.51	3.8	1200.3	3.8	1200.0	3.8	1199.8
2/16 13:30	96087.0	44.90	3.8	1200.0	3.8	1200.0	3.8	1200.0
2/16 13:31	96134.0	44.95	3.8	1200.8	3.8	1200.5	3.8	1200.5
2/16 13:32	96860.0	44.66	3.8	1200.3	3.8	1199.8	3.8	1200.0
2/16 13:33	96720.0	44.88	3.8	1200.0	3.8	1200.0	3.8	1200.0
2/16 13:34	96036.0	44.82	3.8	1200.5	3.8	1200.5	3.8	1200.5
2/16 13:35	96227.0	44.88	3.8	1200.0	3.8	1200.0	3.8	1200.0
2/16 13:36	96594.0	44.78	3.8	1200.0	3.8	1200.0	3.8	1200.0
2/16 13:37	96475.0	44.72	3.8	1200.0	3.8	1200.0	3.8	1200.0
2/16 13:38	96954.0	44.99	3.8	1200.0	3.8	1200.0	3.8	1200.0
2/16 13:39	96679.0	44.99	3.8	1200.0	3.8	1200.0	3.8	1200.0
2/16 13:40	96430.0	44.88	3.8	1200.0	3.8	1200.0	3.8	1200.0
2/16 13:41	95843.0	44.60	3.8	1200.0	3.8	1200.0	3.8	1200.0
2/16 13:42	96629.0	44.92	3.8	1200.0	3.8	1200.0	3.8	1200.0
2/16 13:43	96476.0	44.94	3.8	1200.2	3.8	1200.2	3.8	1200.2
2/16 13:44	96293.0	44.75	3.8	1200.7	3.8	1201.8	3.8	1200.7
2/16 13:45	98521.0	45.66	3.8	1199.7	3.8	1199.8	3.8	1200.7
2/16 13:46	98601.0	45.30	3.8	1199.0	3.8	1199.8	3.8	1200.7
2/16 13:47	103769.0	46.17	3.8	1199.8	3.8	1201.5	3.8	1200.2
2/16 13:48	102886.0	44.38	3.8	1200.0	3.8	1200.0	3.8	1200.0
2/16 13:49	98778.0	44.30	3.8	1200.3	3.8	1199.8	3.8	1200.3
2/16 13:50	96551.0	44.41	3.8	1200.7	3.8	1200.7	3.8	1200.7
2/16 13:51	96215.0	44.51	3.8	1197.3	3.8	1201.5	3.8	1200.2
2/16 13:52	95549.0	44.81	3.8	1200.2	3.8	1200.0	3.8	1200.0
2/16 13:53	96413.0	44.99	3.8	1199.8	3.8	1199.8	3.8	1199.8
2/16 13:54	96328.0	44.97	3.8	1200.3	3.8	1200.3	3.8	1200.3
2/16 13:55	95880.0	44.77	3.8	1200.7	3.8	1201.5	3.8	1200.2
2/16 13:56	97795.0	45.49	3.8	1201.5	3.8	1200.2	3.8	1200.0
2/16 13:57	97303.0	44.97	3.8	1200.0	3.8	1199.8	3.8	1199.8
2/16 13:58	95148.0	44.39	3.8	1200.0	3.8	1200.3	3.8	1200.5
2/16 13:59	96211.0	44.99	3.8	1200.3	3.8	1200.5	3.8	1199.8
2/16 14:00	96356.0	45.06	3.8	1200.3	3.8	1200.5	3.8	1200.5
2/16 14:01	96006.0	44.89	3.8	1200.5	3.8	1200.5	3.8	1200.5
2/16 14:02	96668.0	45.12	3.8	1200.5	3.8	1200.5	3.8	1200.5
2/16 14:03	96406.0	45.08	3.8	1200.5	3.8	1200.5	3.8	1200.5
2/16 14:04	95632.0	44.72	3.8	1200.5	3.8	1200.5	3.8	1200.5
2/16 14:05	95160.0	44.50	3.8	1200.5	3.8	1200.5	3.8	1200.5

Timestamp	(TG-751) Landfill Gas		(TG-751) Heat		(TG-751) T7 Exhaust Temp	
	Flow scf/hr	1-Min	Input mmBtu/hr	1-Min	Megawatts 1-Min	°F 1-Min
2/16 14:06	94571.0	44.22		3.8	1199.8	
2/16 14:07	96286.0	44.99		3.8	1200.0	
2/16 14:08	96122.0	44.95		3.8	1200.2	
2/16 14:09	95995.0	44.89		3.8	1200.0	
2/16 14:10	95939.0	44.86		3.8	1199.7	
2/16 14:11	95857.0	44.80		3.8	1198.7	
2/16 14:12	98811.0	45.70		3.8	1200.2	
2/16 14:13	98682.0	45.44		3.8	1199.0	
2/16 14:14	96568.0	44.29		3.8	1202.8	
2/16 14:15	95008.0	44.45		3.8	1201.0	
2/16 14:16	95559.0	44.84		3.8	1199.5	
2/16 14:17	95574.0	44.75		3.8	1198.8	
2/16 14:18	95930.0	44.62		3.8	1200.3	
2/16 14:19	94442.0	44.13		3.8	1200.7	
2/16 14:20	94877.0	44.37		3.8	1200.0	
2/16 14:21	96299.0	45.06		3.8	1199.5	
2/16 14:22	94985.0	44.40		3.8	1200.0	
2/16 14:23	94761.0	44.33		3.8	1200.0	
2/16 14:24	95048.0	44.45		3.8	1199.8	
2/16 14:25	95739.0	44.77		3.8	1199.8	
2/16 14:26	96730.0	45.29		3.8	1200.0	
2/16 14:27	95366.0	44.60		3.8	1200.0	
2/16 14:28	95606.0	44.71		3.8	1200.0	
2/16 14:29	95784.0	44.79		3.8	1199.8	
2/16 14:30	95543.0	44.67		3.8	1199.8	
2/16 14:31	95805.0	44.82		3.8	1200.2	
2/16 14:32	95516.0	44.77		3.8	1200.0	
2/16 14:33	95178.0	44.59		3.8	1200.0	
2/16 14:34	96343.0	45.08		3.8	1200.0	
2/16 14:35	94930.0	44.39		3.8	1199.8	
2/16 14:36	95770.0	44.78		3.8	1200.0	
2/16 14:37	96572.0	45.16		3.8	1200.0	
2/16 14:38	96172.0	44.97		3.8	1200.2	
2/16 14:39	96316.0	45.07		3.8	1199.5	
2/16 14:40	95584.0	44.69		3.8	1200.2	
2/16 14:41	95693.0	44.82		3.8	1200.0	
2/16 14:42	96638.0	45.21		3.8	1200.0	
2/16 14:43	95050.0	44.55		3.8	1199.8	
2/16 14:44	94167.0	44.14		3.8	1200.2	
2/16 14:45	94917.0	44.49		3.8	1200.2	
2/16 14:46	95630.0	44.85		3.8	1200.2	
2/16 14:47	95271.0	44.67		3.8	1199.8	
2/16 14:48	95274.0	44.63		3.8	1199.8	
2/16 14:49	95497.0	44.71		3.8	1200.2	
2/16 14:50	95665.0	44.76		3.8	1199.8	
2/16 14:51	95073.0	44.51		3.8	1200.0	
2/16 14:52	95243.0	44.64		3.8	1200.0	
2/16 14:53	95790.0	44.90		3.8	1199.8	
2/16 14:54	96252.0	45.03		3.8	1200.0	

Timestamp	(TG-751) Landfill Gas		(TG-751) Heat		(TG-751) Exhaust Temp	
	Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Megawatts 1-Min	°F 1-Min	T7	
2/16 14:55	95907.0	44.92	3.8	1200.0		
2/16 14:56	94885.0	44.43	3.8	1200.0		
2/16 14:57	95716.0	44.84	3.8	1200.2		
2/16 14:58	95421.0	44.62	3.8	1200.2		
2/16 14:59	95469.0	44.64	3.8	1199.8		
2/16 15:00	95068.0	44.54	3.8	1199.8		
2/16 15:01	96321.0	45.10	3.8	1199.8		
2/16 15:02	95700.0	44.81	3.8	1200.0		
2/16 15:03	96836.0	45.39	3.8	1200.2		
2/16 15:04	95359.0	44.65	3.8	1200.0		
2/16 15:05	95451.0	44.69	3.8	1200.0		
2/16 15:06	95320.0	44.57	3.8	1199.8		
2/16 15:07	96427.0	45.09	3.8	1200.2		
2/16 15:08	95846.0	44.91	3.8	1200.2		
2/16 15:09	95290.0	44.66	3.8	1199.5		
2/16 15:10	94540.0	44.28	3.8	1200.2		
2/16 15:11	96151.0	45.04	3.8	1199.8		
2/16 15:12	96305.0	45.03	3.8	1199.7		
2/16 15:13	95858.0	44.82	3.8	1199.8		
2/16 15:14	96705.0	45.13	3.8	1199.8		
2/16 15:15	94732.0	44.27	3.8	1200.3		
2/16 15:16	96133.0	44.95	3.8	1200.0		
2/16 15:17	95485.0	44.73	3.8	1200.0		
2/16 15:18	95282.0	44.61	3.8	1199.8		
2/16 15:19	95721.0	44.79	3.8	1199.7		
2/16 15:20	95433.0	44.62	3.8	1200.2		
2/16 15:21	95334.0	44.60	3.8	1200.3		
2/16 15:22	96158.0	44.96	3.8	1200.0		
2/16 15:23	96104.0	45.01	3.8	1200.0		
2/16 15:24	95708.0	44.75	3.8	1199.8		
2/16 15:25	95413.0	44.69	3.8	1200.2		
2/16 15:26	95667.0	44.84	3.8	1199.8		
2/16 15:27	96935.0	45.33	3.8	1199.5		
2/16 15:28	96074.0	44.90	3.8	1200.2		
2/16 15:29	95568.0	44.69	3.8	1199.7		
2/16 15:30	94888.0	44.29	3.8	1200.0		
2/16 15:31	95700.0	44.72	3.8	1199.7		
2/16 15:32	95836.0	44.74	3.8	1200.0		
2/16 15:33	96761.0	45.26	3.8	1200.7		
2/16 15:34	95596.0	44.76	3.8	1200.2		
2/16 15:35	96095.0	44.99	3.8	1200.0		
2/16 15:36	96106.0	45.05	3.8	1199.8		
2/16 15:37	95985.0	44.99	3.8	1199.5		
2/16 15:38	96823.0	45.24	3.8	1200.0		
2/16 15:39	96839.0	45.28	3.8	1199.8		
2/16 15:40	96457.0	45.08	3.8	1200.2		
2/16 15:41	95640.0	44.64	3.8	1200.2		
2/16 15:42	95878.0	44.81	3.8	1199.8		
2/16 15:43	96328.0	44.96	3.8	1200.2		

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input	1-Min	Megawatts	1-Min	Exhaust Temp	1-Min
2/16 15:44	96226.0	45.00	44.50	3.8	1200.0	1199.8	1200.0	1199.8
2/16 15:45	95188.0	44.50	44.50	3.8	1199.8	1199.8	1199.8	1199.8
2/16 15:46	95698.0	44.72	45.19	3.8	1200.0	1200.0	1200.0	1200.0
2/16 15:47	96827.0	44.84	45.06	3.8	1200.0	1200.0	1200.0	1200.0
2/16 15:48	96108.0	44.84	44.80	3.8	1200.0	1200.0	1200.0	1200.0
2/16 15:49	96604.0	44.80	44.43	3.8	1199.7	1199.7	1199.7	1199.7
2/16 15:50	96035.0	44.21	44.91	3.8	1200.0	1200.0	1200.0	1200.0
2/16 15:51	95122.0	44.91	44.93	3.8	1199.7	1199.7	1199.7	1199.7
2/16 15:52	94760.0	44.91	45.03	3.8	1200.0	1200.0	1200.0	1200.0
2/16 15:53	96370.0	44.93	44.88	3.8	1200.0	1200.0	1200.0	1200.0
2/16 15:54	96383.0	45.03	45.27	3.8	1199.7	1199.7	1199.7	1199.7
2/16 15:55	96635.0	45.03	45.16	3.8	1200.0	1200.0	1200.0	1200.0
2/16 15:56	96195.0	44.88	45.39	3.8	1199.8	1199.8	1199.8	1199.8
2/16 15:57	97052.0	45.27	45.00	3.8	1200.0	1200.0	1200.0	1200.0
2/16 15:58	96950.0	45.16	44.72	3.8	1200.0	1200.0	1200.0	1200.0
2/16 15:59	97370.0	45.39	44.85	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:00	96642.0	45.00	44.56	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:01	95857.0	44.72	45.01	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:02	96240.0	44.85	45.06	3.8	1199.7	1199.7	1199.7	1199.7
2/16 16:03	95520.0	44.56	45.10	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:04	96485.0	45.01	44.66	3.8	1199.8	1199.8	1199.8	1199.8
2/16 16:05	96604.0	45.06	45.15	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:06	95736.0	44.66	44.91	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:07	96913.0	45.10	44.70	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:08	96796.0	45.05	44.74	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:09	96967.0	45.15	44.88	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:10	96492.0	44.91	44.92	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:11	96048.0	44.70	44.67	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:12	95997.0	44.74	44.47	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:13	96389.0	44.88	44.84	3.8	1199.8	1199.8	1199.8	1199.8
2/16 16:14	96545.0	44.92	45.05	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:15	96022.0	44.67	44.78	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:16	95554.0	44.47	44.83	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:17	95421.0	44.43	44.84	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:18	96323.0	44.85	44.90	3.8	1199.8	1199.8	1199.8	1199.8
2/16 16:19	96302.0	44.90	45.05	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:20	96588.0	45.05	44.98	3.8	1199.8	1199.8	1199.8	1199.8
2/16 16:21	96460.0	44.98	44.72	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:22	96079.0	44.72	45.06	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:23	96826.0	45.06	44.84	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:24	96354.0	44.84	44.78	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:25	96223.0	44.78	44.83	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:26	96325.0	44.83	45.17	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:27	97060.0	45.17	44.72	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:28	96099.0	44.72	44.95	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:29	96590.0	44.95	45.26	3.8	1200.5	1200.5	1200.5	1200.5
2/16 16:30	97255.0	45.26	44.35	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:31	95105.0	44.35	44.96	3.8	1200.0	1200.0	1200.0	1200.0
2/16 16:32	96466.0	44.96	44.8	3.8	1200.0	1200.0	1200.0	1200.0
Average Run 6	96136.4	44.8		3.8				

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min		Input mmBtu/hr 1-Min		Megawatts 1-Min		Exhaust Temp °F 1-Min	
2/16 16:33	95714.0		44.65		3.8		1199.7	
2/16 16:34	96057.0		44.74		3.8		1199.7	
2/16 16:35	96876.0		45.07		3.8		1200.0	
2/16 16:36	97107.0		45.17		3.8		1200.2	
2/16 16:37	96133.0		44.72		3.8		1200.0	
2/16 16:38	95461.0		44.43		3.8		1200.0	
2/16 16:39	96287.0		44.81		3.8		1200.0	
2/16 16:40	95612.0		44.54		3.8		1200.2	
2/16 16:41	96234.0		44.80		3.8		1199.8	
2/16 16:42	95695.0		44.49		3.8		1200.0	
2/16 16:43	95577.0		44.38		3.8		1200.0	
2/16 16:44	97412.0		45.23		3.8		1200.3	
2/16 16:45	96718.0		44.88		3.8		1200.2	
2/16 16:46	95523.0		44.35		3.8		1200.0	
2/16 16:47	96768.0		45.04		3.8		1199.8	
2/16 16:48	97430.0		45.30		3.8		1200.0	
2/16 16:49	96067.0		44.71		3.8		1199.7	
2/16 16:50	95020.0		44.22		3.8		1200.2	
2/16 16:51	96940.0		45.10		3.8		1199.7	
2/16 16:52	96485.0		44.80		3.8		1200.0	
2/16 16:53	96040.0		44.59		3.8		1200.0	
2/16 16:54	96669.0		44.88		3.8		1199.8	
2/16 16:55	96188.0		44.66		3.8		1200.0	
2/16 16:56	96744.0		44.92		3.8		1200.3	
2/16 16:57	97017.0		45.13		3.8		1200.0	
2/16 16:58	95845.0		44.61		3.8		1200.0	
2/16 16:59	96122.0		44.73		3.8		1199.7	
2/16 17:00	96275.0		44.79		3.8		1199.8	
2/16 17:01	95958.0		44.64		3.8		1199.8	
2/16 17:02	97447.0		45.28		3.8		1200.2	
2/16 17:03	97295.0		45.18		3.8		1199.8	
2/16 17:04	97512.0		45.27		3.8		1200.0	
2/16 17:05	97977.0		45.49		3.8		1200.2	
2/16 17:06	97013.0		45.12		3.8		1200.0	
2/16 17:07	94956.0		44.19		3.8		1200.2	
2/16 17:08	96443.0		44.82		3.8		1200.0	
2/16 17:09	97220.0		45.14		3.8		1200.2	
2/16 17:10	97698.0		45.36		3.8		1200.0	
2/16 17:11	95717.0		44.44		3.8		1200.0	
2/16 17:12	96761.0		44.93		3.8		1200.0	
2/16 17:13	96684.0		44.89		3.8		1200.0	
2/16 17:14	96810.0		44.95		3.8		1200.2	
2/16 17:15	95900.0		44.60		3.8		1200.0	
2/16 17:16	96524.0		44.89		3.8		1199.8	
2/16 17:17	96364.0		44.77		3.8		1199.8	
2/16 17:18	96801.0		44.94		3.8		1199.8	
2/16 17:19	95960.0		44.55		3.8		1200.2	
2/16 17:20	97576.0		45.31		3.8		1200.0	
2/16 17:21	96391.0		44.75		3.8		1199.8	

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp	°F 1-Min	
2/16 17:22	96237.0	44.68	3.8	1200.0	3.8	1200.0		
2/16 17:23	95462.0	44.32	3.8	1200.2	3.8	1200.0		
2/16 17:24	96855.0	44.97	3.8	1200.0	3.8	1200.0		
2/16 17:25	96708.0	44.90	3.8	1200.0	3.8	1200.0		
2/16 17:26	96716.0	44.91	3.8	1200.0	3.8	1200.0		
2/16 17:27	96872.0	44.98	3.8	1200.0	3.8	1200.0		
2/16 17:28	96793.0	44.97	3.8	1200.0	3.8	1200.0		
2/16 17:29	96328.0	44.73	3.8	1200.0	3.8	1200.0		
2/16 17:30	96489.0	44.80	3.8	1200.0	3.8	1200.0		
2/16 17:31	97797.0	45.41	3.8	1200.0	3.8	1200.0		
2/16 17:32	97060.0	45.04	3.8	1200.0	3.8	1200.0		
2/16 17:33	97805.0	45.41	3.8	1200.0	3.8	1200.0		
2/16 17:34	97205.0	45.09	3.8	1200.0	3.8	1200.0		
2/16 17:35	96292.0	44.71	3.8	1200.0	3.8	1200.0		
2/16 17:36	96843.0	44.96	3.8	1200.0	3.8	1200.0		
2/16 17:37	95118.0	44.16	3.8	1200.0	3.8	1200.0		
2/16 17:38	97011.0	45.04	3.8	1200.0	3.8	1200.0		
2/16 17:39	97348.0	45.20	3.8	1200.0	3.8	1200.0		
2/16 17:40	97413.0	45.18	3.8	1200.0	3.8	1200.0		
2/16 17:41	96489.0	44.80	3.8	1200.0	3.8	1200.0		
2/16 17:42	96552.0	44.76	3.8	1200.0	3.8	1200.0		
2/16 17:43	95845.0	44.50	3.8	1200.0	3.8	1200.0		
2/16 17:44	96791.0	44.92	3.8	1200.0	3.8	1200.0		
2/16 17:45	97563.0	45.33	3.8	1200.0	3.8	1200.0		
2/16 17:46	97395.0	45.22	3.8	1200.0	3.8	1200.0		
2/16 17:47	97122.0	45.07	3.8	1200.0	3.8	1200.0		
2/16 17:48	96830.0	44.86	3.8	1200.0	3.8	1200.0		
2/16 17:49	97385.0	45.15	3.8	1200.0	3.8	1200.0		
2/16 17:50	96922.0	44.90	3.8	1200.0	3.8	1200.0		
2/16 17:51	97388.0	45.15	3.8	1200.0	3.8	1200.0		
2/16 17:52	95683.0	44.35	3.8	1200.0	3.8	1200.0		
2/16 17:53	97397.0	45.19	3.8	1200.0	3.8	1200.0		
2/16 17:54	97664.0	45.32	3.8	1200.0	3.8	1200.0		
2/16 17:55	96812.0	44.93	3.8	1200.0	3.8	1200.0		
2/16 17:56	96562.0	44.81	3.8	1200.0	3.8	1200.0		
2/16 17:57	97212.0	45.09	3.8	1200.0	3.8	1200.0		
2/16 17:58	97968.0	45.44	3.8	1200.0	3.8	1200.0		
2/16 17:59	97431.0	45.17	3.8	1200.0	3.8	1200.0		
2/16 18:00	97257.0	45.06	3.8	1200.0	3.8	1200.0		
2/16 18:01	96232.0	44.61	3.8	1200.0	3.8	1200.0		
2/16 18:02	97639.0	45.24	3.8	1200.0	3.8	1200.0		
2/16 18:03	98222.0	45.47	3.8	1200.0	3.8	1200.0		
2/16 18:04	97509.0	45.07	3.8	1200.0	3.8	1200.0		
2/16 18:05	97177.0	44.92	3.8	1200.0	3.8	1200.0		
2/16 18:06	96622.0	44.76	3.8	1200.0	3.8	1200.0		
2/16 18:07	97471.0	45.16	3.8	1200.0	3.8	1200.0		
2/16 18:08	98146.0	45.47	3.8	1200.0	3.8	1200.0		
2/16 18:09	97927.0	45.37	3.8	1200.0	3.8	1200.0		
2/16 18:10	97669.0	45.33	3.8	1200.0	3.8	1200.0		

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min		Input mmBtu/hr 1-Min		Megawatts 1-Min		Exhaust Temp °F 1-Min	
2/16 18:11	96623.0		44.83		3.8		1200.0	
2/16 18:12	97477.0		45.18		3.8		1199.7	
2/16 18:13	97658.0		45.17		3.8		1200.0	
2/16 18:14	97586.0		45.21		3.8		1200.2	
2/16 18:15	98020.0		45.35		3.8		1200.2	
2/16 18:16	98015.0		45.38		3.8		1200.0	
2/16 18:17	97388.0		45.03		3.8		1199.8	
2/16 18:18	97698.0		45.21		3.8		1199.8	
2/16 18:19	97576.0		45.13		3.8		1199.8	
2/16 18:20	98106.0		45.37		3.8		1200.0	
2/16 18:21	96644.0		44.67		3.8		1200.0	
2/16 18:22	97178.0		44.94		3.8		1200.0	
2/16 18:23	97553.0		45.17		3.8		1200.0	
2/16 18:24	97124.0		44.91		3.8		1199.8	
2/16 18:25	96951.0		44.92		3.8		1199.7	
2/16 18:26	98181.0		45.40		3.8		1199.8	
2/16 18:27	96376.0		44.55		3.8		1200.0	
2/16 18:28	97434.0		45.03		3.8		1200.0	
2/16 18:29	96749.0		44.77		3.8		1199.8	
2/16 18:30	97141.0		44.95		3.8		1200.0	
2/16 18:31	97665.0		45.21		3.8		1200.0	
2/16 18:32	97570.0		45.17		3.8		1200.0	
2/16 18:33	96823.0		44.86		3.8		1199.8	
2/16 18:34	97330.0		45.01		3.8		1200.0	
2/16 18:35	97683.0		45.15		3.8		1200.0	
2/16 18:36	97960.0		45.25		3.8		1200.0	
2/16 18:37	97400.0		44.99		3.8		1200.2	
2/16 18:38	97708.0		45.16		3.8		1200.2	
2/16 18:39	96927.0		44.87		3.8		1199.8	
2/16 18:40	96454.0		44.66		3.8		1199.8	
2/16 18:41	96675.0		44.76		3.8		1200.0	
2/16 18:42	98390.0		45.48		3.8		1199.7	
2/16 18:43	97596.0		45.11		3.8		1200.0	
2/16 18:44	96349.0		45.46		3.8		1199.8	
2/16 18:45	98664.0		45.63		3.8		1200.0	
2/16 18:46	98357.0		45.46		3.8		1200.0	
2/16 18:47	97137.0		44.90		3.8		1200.0	
2/16 18:48	97081.0		44.89		3.8		1200.0	
2/16 18:49	97878.0		45.27		3.8		1200.0	
2/16 18:50	97198.0		44.95		3.8		1200.3	
2/16 18:51	97287.0		45.00		3.8		1200.0	
2/16 18:52	97686.0		45.26		3.8		1200.5	
2/16 18:53	97299.0		45.08		3.8		1199.8	
2/16 18:54	97811.0		45.32		3.8		1199.8	
2/16 18:55	97583.0		45.21		3.8		1200.0	
2/16 18:56	96682.0		44.71		3.8		1200.0	
2/16 18:57	97374.0		45.00		3.8		1200.0	
2/16 18:58	96510.0		45.53		3.8		1200.2	
2/16 18:59	98196.0		45.39		3.8		1200.2	

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	2/16 19:00	98175.0	45.46	3.8
Average (all)	97305.9	45.21	3.8	1200.0
Total (all)	--	--	--	--
Minimum (all)	94167.0	44.13	3.8	1197.3
Maximum (all)	104542.0	47.02	3.9	1202.8
Average (valid values only)	97305.9	45.21	3.8	1200.0
Total (valid values only)	--	--	--	--
Count (valid values only)	781	781	781	781

CeDAR 1-Minute Data

Sunshine Gas Producers, LLC
Data for 2/17/2023 6:00 AM thru 2/17/2023 7:00 PM

Timestamp	(TG-751) Landfill Gas Flow scf/hr		(TG-751) Heat Input mmBtu/hr		(TG-751) Exhaust Temp °F 1-Min		T7
	1-Min		1-Min	Megawatts 1-Min			
2/17 6:00	96692.0		45.30	3.8		1199.8	
2/17 6:01	97159.0		45.46	3.8		1200.0	
2/17 6:02	96941.0		45.33	3.8		1198.7	
2/17 6:03	97711.0		45.67	3.8		1199.8	
2/17 6:04	97290.0		45.52	3.8		1200.0	
2/17 6:05	96464.0		45.13	3.8		1199.7	
2/17 6:06	97195.0		45.45	3.8		1199.8	
2/17 6:07	97515.0		45.60	3.8		1200.3	
2/17 6:08	97735.0		45.73	3.8		1199.5	
2/17 6:09	97054.0		45.38	3.8		1200.2	
2/17 6:10	97716.0		45.72	3.8		1200.0	
2/17 6:11	96551.0		45.17	3.8		1200.2	
2/17 6:12	98803.0		46.26	3.8		1199.8	
2/17 6:13	97284.0		45.49	3.8		1200.0	
2/17 6:14	98076.0		45.86	3.8		1200.0	
2/17 6:15	98385.0		46.01	3.8		1200.2	
2/17 6:16	97516.0		45.58	3.8		1200.0	
2/17 6:17	97656.0		45.67	3.8		1200.0	
2/17 6:18	97333.0		45.53	3.8		1200.0	
2/17 6:19	96844.0		45.39	3.8		1200.0	
2/17 6:20	97835.0		45.84	3.8		1200.0	
2/17 6:21	97665.0		45.78	3.8		1200.0	
2/17 6:22	97699.0		45.70	3.8		1200.2	
2/17 6:23	97778.0		45.74	3.8		1200.0	
2/17 6:24	96859.0		45.29	3.8		1199.8	
2/17 6:25	96915.0		45.34	3.8		1200.0	
2/17 6:26	97938.0		45.80	3.8		1200.0	
2/17 6:27	97272.0		45.48	3.8		1199.7	
2/17 6:28	97966.0		45.79	3.8		1200.0	
2/17 6:29	97370.0		45.45	3.8		1200.2	
2/17 6:30	98542.0		46.05	3.8		1200.2	
2/17 6:31	99449.0		46.50	3.8		1200.0	
2/17 6:32	98071.0		45.86	3.8		1199.8	
2/17 6:33	97728.0		45.70	3.8		1200.0	
2/17 6:34	96335.0		45.05	3.8		1200.0	
2/17 6:35	96922.0		45.32	3.8		1200.0	
2/17 6:36	96871.0		45.25	3.8		1200.0	
2/17 6:37	97134.0		45.34	3.8		1200.2	
2/17 6:38	95578.0		44.67	3.8		1200.0	
2/17 6:39	96644.0		45.19	3.8		1200.0	
2/17 6:40	97281.0		45.46	3.8		1199.8	
2/17 6:41	96506.0		45.22	3.8		1200.0	
2/17 6:42	96971.0		45.34	3.8		1200.0	
2/17 6:43	96327.0		45.06	3.8		1200.0	
2/17 6:44	98031.0		45.82	3.8		1199.3	

Timestamp	(TG-751) Landfill Gas		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Flow scf/hr	1-Min	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp °F	1-Min
2/17 6:45	97277.0	45.47	45.47	3.8	3.8	1200.2	1200.0	1200.0
2/17 6:46	98538.0	45.06	45.06	3.8	3.8	1200.0	1200.0	1200.0
2/17 6:47	97029.0	45.26	45.26	3.8	3.8	1199.8	1200.2	1200.2
2/17 6:48	97451.0	45.46	45.46	3.8	3.8	1200.2	1200.0	1200.0
2/17 6:49	97730.0	45.61	45.61	3.8	3.8	1199.8	1200.0	1200.0
2/17 6:50	97389.0	45.54	45.54	3.8	3.8	1200.0	1200.0	1200.0
2/17 6:51	97399.0	45.52	45.52	3.8	3.8	1200.0	1200.0	1200.0
2/17 6:52	97812.0	45.76	45.76	3.8	3.8	1200.0	1200.0	1200.0
2/17 6:53	97520.0	45.60	45.60	3.8	3.8	1200.0	1200.0	1200.0
2/17 6:54	97141.0	45.42	45.42	3.8	3.8	1199.7	1200.0	1200.0
2/17 6:55	96799.0	45.22	45.22	3.8	3.8	1200.0	1200.0	1200.0
2/17 6:56	98241.0	45.83	45.83	3.8	3.8	1200.0	1200.0	1200.0
2/17 6:57	96601.0	45.09	45.09	3.8	3.8	1200.0	1200.0	1200.0
2/17 6:58	96754.0	45.24	45.24	3.8	3.8	1200.0	1200.0	1200.0
2/17 6:59	97046.0	45.44	45.44	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:00	97405.0	45.61	45.61	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:01	96979.0	45.43	45.43	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:02	96318.0	45.07	45.07	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:03	96934.0	45.32	45.32	3.8	3.8	1199.8	1200.0	1200.0
2/17 7:04	97136.0	45.53	45.53	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:05	96886.0	45.41	45.41	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:06	97596.0	45.75	45.75	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:07	96832.0	45.28	45.28	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:08	96795.0	45.26	45.26	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:09	97975.0	45.89	45.89	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:10	96342.0	45.15	45.15	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:11	96451.0	45.25	45.25	3.8	3.8	1199.7	1200.0	1200.0
2/17 7:12	96034.0	45.11	45.11	3.8	3.8	1199.5	1200.0	1200.0
2/17 7:13	97015.0	45.47	45.47	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:14	96422.0	45.19	45.19	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:15	97206.0	45.51	45.51	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:16	97035.0	45.46	45.46	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:17	97285.0	45.59	45.59	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:18	96958.0	45.45	45.45	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:19	97099.0	45.51	45.51	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:20	98397.0	46.14	46.14	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:21	97160.0	45.54	45.54	3.8	3.8	1199.5	1200.0	1200.0
2/17 7:22	96467.0	45.24	45.24	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:23	98051.0	45.96	45.96	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:24	98080.0	45.97	45.97	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:25	96229.0	45.19	45.19	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:26	96158.0	45.16	45.16	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:27	96474.0	45.23	45.23	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:28	96809.0	45.45	45.45	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:29	97005.0	45.47	45.47	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:30	97377.0	45.69	45.69	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:31	97019.0	45.47	45.47	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:32	97406.0	45.69	45.69	3.8	3.8	1200.0	1200.0	1200.0
2/17 7:33	97418.0	45.66	45.66	3.8	3.8	1200.0	1200.0	1200.0

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp	°F 1-Min	
2/17 7:34	95747.0	44.86	3.8	1199.8				
2/17 7:35	98504.0	46.17	3.8	1200.0				
2/17 7:36	97588.0	45.72	3.8	1200.2				
2/17 7:37	97208.0	45.56	3.8	1200.0				
2/17 7:38	97051.0	45.49	3.8	1199.8				
2/17 7:39	97380.0	45.55	3.8	1200.0				
2/17 7:40	96685.0	45.29	3.8	1200.0				
2/17 7:41	96487.0	45.12	3.8	1200.0				
2/17 7:42	98080.0	45.89	3.8	1200.0				
2/17 7:43	96867.0	45.30	3.8	1199.8				
2/17 7:44	96895.0	45.31	3.8	1200.3				
2/17 7:45	97013.0	45.36	3.8	1200.0				
2/17 7:46	96481.0	45.14	3.8	1200.2				
2/17 7:47	97636.0	45.73	3.8	1199.8				
2/17 7:48	97632.0	45.68	3.8	1200.0				
2/17 7:49	97809.0	45.84	3.8	1200.3				
2/17 7:50	95803.0	44.90	3.8	1199.8				
2/17 7:51	97178.0	45.50	3.8	1200.0				
2/17 7:52	97520.0	45.60	3.8	1199.5				
2/17 7:53	96634.0	45.16	3.8	1199.8				
2/17 7:54	97931.0	45.68	3.8	1200.0				
2/17 7:55	96701.0	45.11	3.8	1200.3				
2/17 7:56	96303.0	45.11	3.8	1200.0				
2/17 7:57	97095.0	45.43	3.8	1200.0				
2/17 7:58	98196.0	45.92	3.8	1200.2				
2/17 7:59	98136.0	45.89	3.8	1200.2				
2/17 8:00	97200.0	45.47	3.8	1199.8				
2/17 8:01	97286.0	45.55	3.8	1199.8				
2/17 8:02	97695.0	45.68	3.8	1199.8				
2/17 8:03	97515.0	45.57	3.8	1200.0				
2/17 8:04	98118.0	45.79	3.8	1200.0				
2/17 8:05	97250.0	45.39	3.8	1200.0				
2/17 8:06	97484.0	45.53	3.8	1200.2				
2/17 8:07	96941.0	45.33	3.8	1200.2				
2/17 8:08	96994.0	45.46	3.8	1199.8				
2/17 8:09	97881.0	45.83	3.8	1200.0				
2/17 8:10	96720.0	45.28	3.8	1199.7				
2/17 8:11	96970.0	45.36	3.8	1200.0				
2/17 8:12	97523.0	45.60	3.8	1200.0				
2/17 8:13	97821.0	45.85	3.8	1200.2				
2/17 8:14	96812.0	45.40	3.8	1200.5				
2/17 8:15	97738.0	45.81	3.8	1199.0				
2/17 8:16	97696.0	45.56	3.8	1200.0				
2/17 8:17	97517.0	45.37	3.8	1200.0				
2/17 8:18	98901.0	45.73	3.8	1199.3				
2/17 8:19	97834.0	45.22	3.8	1201.0				
2/17 8:20	97062.0	45.25	3.8	1200.0				
2/17 8:21	97144.0	45.30	3.8	1200.0				
2/17 8:22	96693.0	45.08	3.8	1200.0				

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min	Gas Flow scf/hr 1-Min	Input mmBtu/hr 1-Min	Heat Input mmBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	T7 Exhaust Temp °F 1-Min	T7 Exhaust Temp °F 1-Min
2/17 8:23	98207.0	98207.0	45.81	45.81	3.8	1200.0	1200.0	1200.0
2/17 8:24	97477.0	97477.0	45.47	45.47	3.8	1200.2	1200.2	1200.2
2/17 8:25	97622.0	97622.0	45.54	45.54	3.8	1200.2	1200.2	1200.2
2/17 8:26	96645.0	96645.0	45.15	45.15	3.8	1200.5	1200.5	1200.5
2/17 8:27	97928.0	97928.0	45.77	45.77	3.8	1199.7	1199.7	1199.7
2/17 8:28	97862.0	97862.0	45.73	45.73	3.8	1200.3	1200.3	1200.3
2/17 8:29	96106.0	96106.0	44.94	44.94	3.8	1200.0	1200.0	1200.0
2/17 8:30	96919.0	96919.0	45.38	45.38	3.8	1200.2	1200.2	1200.2
2/17 8:31	96386.0	96386.0	45.09	45.09	3.8	1199.8	1199.8	1199.8
2/17 8:32	97117.0	97117.0	45.41	45.41	3.8	1199.8	1199.8	1199.8
2/17 8:33	97518.0	97518.0	45.62	45.62	3.8	1200.2	1200.2	1200.2
2/17 8:34	96669.0	96669.0	45.31	45.31	3.8	1200.2	1200.2	1200.2
2/17 8:35	96854.0	96854.0	45.39	45.39	3.8	1200.2	1200.2	1200.2
2/17 8:36	97600.0	97600.0	45.72	45.72	3.8	1200.0	1200.0	1200.0
2/17 8:37	96996.0	96996.0	45.44	45.44	3.8	1200.2	1200.2	1200.2
2/17 8:38	96268.0	96268.0	45.04	45.04	3.8	1200.2	1200.2	1200.2
2/17 8:39	96201.0	96201.0	45.07	45.07	3.8	1199.5	1199.5	1199.5
2/17 8:40	96152.0	96152.0	44.98	44.98	3.8	1200.2	1200.2	1200.2
2/17 8:41	97625.0	97625.0	45.68	45.68	3.8	1199.2	1199.2	1199.2
2/17 8:42	95962.0	95962.0	44.87	44.87	3.8	1200.2	1200.2	1200.2
2/17 8:43	97250.0	97250.0	45.47	45.47	3.8	1200.2	1200.2	1200.2
2/17 8:44	96929.0	96929.0	45.34	45.34	3.8	1200.0	1200.0	1200.0
2/17 8:45	97813.0	97813.0	45.79	45.79	3.8	1199.8	1199.8	1199.8
2/17 8:46	98038.0	98038.0	45.87	45.87	3.8	1200.0	1200.0	1200.0
2/17 8:47	97373.0	97373.0	45.61	45.61	3.8	1200.2	1200.2	1200.2
2/17 8:48	96486.0	96486.0	45.21	45.21	3.8	1200.0	1200.0	1200.0
2/17 8:49	96438.0	96438.0	45.10	45.10	3.8	1200.0	1200.0	1200.0
2/17 8:50	95627.0	95627.0	44.79	44.79	3.8	1199.8	1199.8	1199.8
2/17 8:51	96968.0	96968.0	45.34	45.34	3.8	1200.0	1200.0	1200.0
2/17 8:52	97213.0	97213.0	45.38	45.38	3.8	1200.0	1200.0	1200.0
2/17 8:53	97635.0	97635.0	45.64	45.64	3.8	1200.0	1200.0	1200.0
2/17 8:54	97540.0	97540.0	45.56	45.56	3.8	1199.5	1199.5	1199.5
2/17 8:55	98360.0	98360.0	45.82	45.82	3.8	1200.2	1200.2	1200.2
2/17 8:56	97657.0	97657.0	45.51	45.51	3.8	1200.0	1200.0	1200.0
2/17 8:57	96727.0	96727.0	45.12	45.12	3.8	1200.2	1200.2	1200.2
2/17 8:58	97332.0	97332.0	45.40	45.40	3.8	1200.0	1200.0	1200.0
2/17 8:59	97732.0	97732.0	45.50	45.50	3.8	1199.3	1199.3	1199.3
2/17 9:00	99017.0	99017.0	45.71	45.71	3.8	1199.5	1199.5	1199.5
2/17 9:01	98245.0	98245.0	45.41	45.41	3.8	1201.0	1201.0	1201.0
2/17 9:02	97504.0	97504.0	45.46	45.46	3.8	1201.0	1201.0	1201.0
2/17 9:03	96464.0	96464.0	45.29	45.29	3.8	1200.0	1200.0	1200.0
2/17 9:04	97085.0	97085.0	45.54	45.54	3.8	1199.5	1199.5	1199.5
2/17 9:05	98084.0	98084.0	45.89	45.89	3.8	1199.5	1199.5	1199.5
2/17 9:06	97584.0	97584.0	45.74	45.74	3.8	1200.2	1200.2	1200.2
2/17 9:07	96646.0	96646.0	45.22	45.22	3.8	1199.8	1199.8	1199.8
2/17 9:08	97608.0	97608.0	45.64	45.64	3.8	1200.0	1200.0	1200.0
2/17 9:09	96690.0	96690.0	45.23	45.23	3.8	1200.0	1200.0	1200.0
2/17 9:10	96768.0	96768.0	45.31	45.31	3.8	1199.8	1199.8	1199.8
2/17 9:11	97033.0	97033.0	45.37	45.37	3.8	1200.2	1200.2	1200.2

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr	1-Min	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp °F	1-Min
2/17 9:12	97412.0		45.57		3.8		1199.5	
2/17 9:13	96993.0		45.25		3.8		1200.0	
2/17 9:14	96936.0		45.19		3.8		1199.7	
2/17 9:15	97022.0		45.21		3.8		1200.8	
2/17 9:16	96118.0		44.95		3.8		1200.5	
2/17 9:17	97383.0		45.30		3.8		1199.3	
2/17 9:18	97310.0		45.08		3.8		1199.0	
2/17 9:19	98010.0		45.27		3.8		1200.5	
2/17 9:20	96924.0		45.13		3.8		1201.2	
2/17 9:21	96510.0		45.21		3.8		1200.2	
2/17 9:22	96947.0		45.33		3.8		1199.5	
2/17 9:23	96583.0		45.18		3.8		1200.0	
2/17 9:24	96777.0		45.25		3.8		1200.0	
2/17 9:25	96458.0		45.02		3.8		1200.0	
2/17 9:26	96997.0		45.28		3.8		1200.0	
2/17 9:27	96664.0		45.17		3.8		1200.0	
2/17 9:28	98716.0		46.16		3.8		1199.8	
2/17 9:29	97267.0		45.43		3.8		1199.8	
2/17 9:30	97017.0		45.26		3.8		1200.0	
2/17 9:31	97246.0		45.37		3.8		1200.0	
2/17 9:32	97940.0		45.75		3.8		1200.0	
2/17 9:33	97959.0		45.65		3.8		1199.7	
2/17 9:34	97546.0		45.42		3.8		1200.5	
2/17 9:35	96218.0		44.92		3.8		1200.0	
2/17 9:36	97972.0		45.70		3.8		1200.0	
2/17 9:37	97501.0		45.48		3.8		1200.0	
2/17 9:38	97283.0		45.38		3.8		1200.2	
2/17 9:39	96682.0		45.12		3.8		1200.0	
2/17 9:40	97006.0		45.28		3.8		1199.8	
2/17 9:41	97511.0		45.60		3.8		1200.0	
2/17 9:42	97331.0		45.51		3.8		1200.0	
2/17 9:43	97595.0		45.56		3.8		1200.0	
2/17 9:44	96751.0		45.13		3.8		1200.0	
2/17 9:45	96979.0		45.22		3.8		1200.2	
2/17 9:46	98041.0		45.76		3.8		1200.2	
2/17 9:47	98500.0		45.93		3.8		1198.8	
2/17 9:48	98019.0		45.37		3.8		1200.2	
2/17 9:49	96687.0		44.92		3.8		1200.7	
2/17 9:50	97443.0		45.54		3.8		1200.5	
2/17 9:51	96312.0		45.03		3.8		1199.8	
2/17 9:52	96476.0		45.17		3.8		1200.0	
2/17 9:53	96639.0		45.25		3.8		1200.2	
2/17 9:54	96724.0		45.33		3.8		1200.0	
2/17 9:55	98162.0		46.01		3.8		1200.0	
2/17 9:56	95986.0		44.99		3.8		1199.8	
2/17 9:57	96150.0		45.02		3.8		1200.0	
2/17 9:58	96657.0		45.30		3.8		1199.8	
2/17 9:59	96098.0		45.04		3.8		1200.0	
2/17 10:00	97091.0		45.46		3.8		1200.2	

Timestamp	(TG-751) Landfill Gas Flow scf/hr	(TG-751) Heat Input mmBtu/hr	(TG-751) Megawatts 1-Min	(TG-751) Exhaust Temp °F 1-Min	(TG-751) T7
	1-Min	1-Min			
2/17 10:01	96494.0	45.20	3.8	1200.3	1200.7
2/17 10:02	96558.0	45.26	3.8	1200.7	1200.7
2/17 10:03	96749.0	45.37	3.8	1199.8	1199.8
2/17 10:04	96000.0	45.00	3.8	1199.8	1199.8
2/17 10:05	96039.0	45.10	3.8	1199.0	1199.0
2/17 10:06	98721.0	45.92	3.8	1200.2	1200.2
2/17 10:07	98015.0	45.23	3.8	1200.3	1200.3
2/17 10:08	98150.0	45.34	3.8	1199.5	1199.5
2/17 10:09	97206.0	44.93	3.8	1198.8	1200.3
2/17 10:10	98907.0	45.48	3.8	1201.0	1201.8
2/17 10:11	99814.0	45.64	3.8	1199.2	1199.2
2/17 10:12	98098.0	45.04	3.8	1200.3	1200.3
2/17 10:13	98330.0	45.61	3.8	1200.5	1200.5
2/17 10:14	97872.0	45.76	3.8	1200.8	1200.8
2/17 10:15	98400.0	45.73	3.8	1200.0	1200.0
2/17 10:16	98608.0	45.60	3.8	1200.3	1200.3
2/17 10:17	96851.0	44.94	3.8	1200.3	1200.3
2/17 10:18	96570.0	45.07	3.8	1200.3	1200.3
2/17 10:19	97047.0	45.41	3.8	1200.3	1200.3
2/17 10:20	96672.0	45.31	3.8	1200.3	1200.3
2/17 10:21	96784.0	45.38	3.8	1200.3	1200.3
2/17 10:22	96548.0	45.25	3.8	1200.3	1200.3
2/17 10:23	96501.0	45.26	3.8	1200.3	1200.3
2/17 10:24	97529.0	45.66	3.8	1201.3	1201.3
2/17 10:25	97333.0	45.17	3.8	1200.3	1200.3
2/17 10:26	96321.0	45.12	3.8	1200.3	1200.3
2/17 10:27	96053.0	45.07	3.8	1200.3	1200.3
2/17 10:28	96578.0	45.35	3.8	1200.3	1200.3
2/17 10:29	96452.0	45.21	3.8	1200.3	1200.3
2/17 10:30	97308.0	45.52	3.8	1200.3	1200.3
2/17 10:31	96705.0	45.22	3.8	1200.3	1200.3
2/17 10:32	97179.0	45.53	3.8	1200.3	1200.3
2/17 10:33	96840.0	45.37	3.8	1200.3	1200.3
2/17 10:34	95456.0	44.82	3.8	1200.3	1200.3
2/17 10:35	95187.0	44.66	3.8	1200.3	1200.3
2/17 10:36	95425.0	44.73	3.8	1200.3	1200.3
2/17 10:37	97064.0	45.47	3.8	1200.3	1200.3
2/17 10:38	96878.0	45.32	3.8	1200.3	1200.3
2/17 10:39	96509.0	45.13	3.8	1200.3	1200.3
2/17 10:40	95715.0	44.76	3.8	1200.3	1200.3
2/17 10:41	96403.0	45.18	3.8	1200.3	1200.3
2/17 10:42	95973.0	44.98	3.8	1200.3	1200.3
2/17 10:43	95792.0	44.90	3.8	1200.3	1200.3
2/17 10:44	96834.0	45.38	3.8	1200.3	1200.3
2/17 10:45	96479.0	45.19	3.8	1200.3	1200.3
2/17 10:46	96358.0	45.01	3.8	1200.3	1200.3
2/17 10:47	97875.0	45.75	3.8	1200.3	1200.3
2/17 10:48	96582.0	45.14	3.8	1200.3	1200.3
2/17 10:49	93932.0	44.02	3.8	1200.3	1200.3

Timestamp	(TG-751) Landfill Gas		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Flow scf/hr	1-Min	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp °F 1-Min	
2/17 10:50	96291.0		45.13		3.8		1200.3	
2/17 10:51	96063.0		45.04		3.8		1199.7	
2/17 10:52	95446.0		44.74		3.8		1200.0	
2/17 10:53	94803.0		44.43		3.8		1199.7	
2/17 10:54	96051.0		44.93		3.8		1199.8	
2/17 10:55	96177.0		44.97		3.8		1200.0	
2/17 10:56	95323.0		44.63		3.8		1200.0	
2/17 10:57	95497.0		44.76		3.8		1200.0	
2/17 10:58	95765.0		44.89		3.8		1200.0	
2/17 10:59	97191.0		45.55		3.8		1200.0	
2/17 11:00	95861.0		44.96		3.8		1200.0	
2/17 11:01	95690.0		44.94		3.8		1200.0	
2/17 11:02	95592.0		44.83		3.8		1199.8	
2/17 11:03	95045.0		44.63		3.8		1200.2	
2/17 11:04	95414.0		44.82		3.8		1199.8	
2/17 11:05	95547.0		44.81		3.8		1199.7	
2/17 11:06	95462.0		44.74		3.8		1200.0	
2/17 11:07	95768.0		44.89		3.8		1199.8	
2/17 11:08	95691.0		44.94		3.8		1199.8	
2/17 11:09	96108.0		45.08		3.8		1200.3	
2/17 11:10	96042.0		45.06		3.8		1200.0	
2/17 11:11	93889.0		44.03		3.8		1200.0	
2/17 11:12	95959.0		44.98		3.8		1200.0	
2/17 11:13	96222.0		45.07		3.8		1200.0	
2/17 11:14	94843.0		44.45		3.8		1200.0	
2/17 11:15	94861.0		44.46		3.8		1200.3	
2/17 11:16	95336.0		44.71		3.8		1200.0	
2/17 11:17	94892.0		44.47		3.8		1199.8	
2/17 11:18	95768.0		44.91		3.8		1200.0	
2/17 11:19	95493.0		44.76		3.8		1199.8	
2/17 11:20	96301.0		45.14		3.8		1200.2	
2/17 11:21	94873.0		44.45		3.8		1199.8	
2/17 11:22	94648.0		44.36		3.8		1200.3	
2/17 11:23	95306.0		44.75		3.8		1200.5	
2/17 11:24	94502.0		44.40		3.8		1199.8	
2/17 11:25	95296.0		44.70		3.8		1200.0	
2/17 11:26	95061.0		44.55		3.8		1200.2	
2/17 11:27	95401.0		44.79		3.7		1199.7	
2/17 11:28	95770.0		44.89		3.7		1200.0	
2/17 11:29	95306.0		44.67		3.8		1199.7	
2/17 11:30	95150.0		44.55		3.7		1199.8	
2/17 11:31	95382.0		44.62		3.8		1200.0	
2/17 11:32	95482.0		44.73		3.8		1199.7	
2/17 11:33	95586.0		44.76		3.8		1200.2	
2/17 11:34	95002.0		44.53		3.8		1200.2	
2/17 11:35	95000.0		44.53		3.8		1200.0	
2/17 11:36	94945.0		44.50		3.8		1199.8	
2/17 11:37	95010.0		44.53		3.8		1200.0	
2/17 11:38	94614.0		44.34		3.8		1200.0	

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min		Input mmBtu/hr 1-Min		Megawatts 1-Min		Exhaust Temp °F 1-Min	
2/17 11:39	95386.0		44.76		3.8		1200.0	
2/17 11:40	95138.0		44.61		3.8		1200.0	
2/17 11:41	94089.0		44.10		3.8		1200.2	
2/17 11:42	94949.0		44.53		3.8		1200.2	
2/17 11:43	95071.0		44.66		3.8		1200.0	
2/17 11:44	94579.0		44.41		3.7		1199.8	
2/17 11:45	95717.0		44.86		3.7		1199.7	
2/17 11:46	95013.0		44.46		3.8		1199.8	
2/17 11:47	94804.0		44.31		3.8		1200.0	
2/17 11:48	95153.0		44.51		3.8		1200.2	
2/17 11:49	94658.0		44.37		3.8		1200.0	
2/17 11:50	94804.0		44.40		3.8		1199.8	
2/17 11:51	94172.0		44.11		3.8		1199.8	
2/17 11:52	95313.0		44.59		3.8		1200.3	
2/17 11:53	95395.0		44.71		3.8		1200.2	
2/17 11:54	94155.0		44.11		3.7		1200.0	
2/17 11:55	93488.0		43.80		3.7		1199.8	
2/17 11:56	95070.0		44.51		3.7		1200.0	
2/17 11:57	95798.0		44.87		3.7		1199.8	
2/17 11:58	94213.0		44.14		3.7		1200.0	
2/17 11:59	94998.0		44.50		3.7		1200.0	
2/17 12:00	94385.0		44.18		3.7		1199.8	
2/17 12:01	94536.0		44.28		3.7		1200.2	
2/17 12:02	94114.0		44.11		3.8		1200.0	
2/17 12:03	94928.0		44.49		3.7		1200.0	
2/17 12:04	95131.0		44.59		3.7		1199.8	
2/17 12:05	94508.0		44.30		3.8		1200.0	
2/17 12:06	95077.0		44.56		3.8		1200.0	
2/17 12:07	95634.0		44.80		3.7		1200.2	
2/17 12:08	95693.0		44.87		3.8		1200.2	
2/17 12:09	94090.0		44.20		3.8		1200.0	
2/17 12:10	95248.0		44.75		3.8		1199.3	
2/17 12:11	94860.0		44.28		3.8		1200.2	
2/17 12:12	96330.0		44.87		3.8		1200.0	
2/17 12:13	95779.0		44.58		3.8		1199.8	
2/17 12:14	95894.0		44.61		3.8		1199.3	
2/17 12:15	95792.0		44.25		3.8		1199.7	
2/17 12:16	96474.0		44.59		3.8		1200.0	
2/17 12:17	97548.0		45.06		3.8		1199.8	
2/17 12:18	96769.0		44.73		3.8		1200.7	
2/17 12:19	94557.0		43.88		3.8		1201.5	
2/17 12:20	94313.0		43.98		3.7		1199.7	
2/17 12:21	94772.0		44.19		3.7		1199.7	
2/17 12:22	94876.0		44.26		3.7		1199.8	
2/17 12:23	94465.0		44.07		3.7		1199.8	
2/17 12:24	96522.0		45.03		3.7		1200.0	
2/17 12:25	95698.0		44.64		3.7		1200.2	
2/17 12:26	95027.0		44.33		3.8		1200.3	
2/17 12:27	95852.0		44.73		3.7		1200.2	

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
	1-Min	1-Min	Megawatts 1-Min	°F 1-Min
2/17 12:28	95538.0	44.63	3.8	1200.0
2/17 12:29	95083.0	44.38	3.7	1199.8
2/17 12:30	96426.0	45.01	3.8	1200.0
2/17 12:31	95545.0	44.59	3.8	1200.5
2/17 12:32	94464.0	44.12	3.7	1200.0
2/17 12:33	95871.0	44.78	3.8	1200.3
2/17 12:34	95295.0	44.56	3.7	1200.0
2/17 12:35	94443.0	44.16	3.7	1199.7
2/17 12:36	94440.0	44.16	3.7	1199.7
2/17 12:37	94652.0	44.28	3.8	1200.0
2/17 12:38	95033.0	44.39	3.7	1199.5
2/17 12:39	95502.0	44.78	3.8	1199.8
2/17 12:40	95890.0	44.63	3.8	1201.0
2/17 12:41	95461.0	44.61	3.7	1200.3
2/17 12:42	95078.0	44.48	3.7	1199.7
2/17 12:43	95706.0	44.50	3.7	1199.0
2/17 12:44	96343.0	44.56	3.8	1200.0
2/17 12:45	96255.0	44.51	3.7	1199.8
2/17 12:46	96345.0	44.55	3.7	1200.2
2/17 12:47	95875.0	44.42	3.7	1200.0
2/17 12:48	95432.0	44.18	3.7	1200.0
2/17 12:49	96393.0	44.66	3.7	1200.2
2/17 12:50	95920.0	44.47	3.7	1200.5
2/17 12:51	95542.0	44.50	3.7	1201.0
2/17 12:52	94684.0	44.27	3.7	1200.0
2/17 12:53	94612.0	44.32	3.7	1199.8
2/17 12:54	93610.0	43.79	3.7	1200.0
2/17 12:55	94609.0	44.27	3.7	1199.7
2/17 12:56	95649.0	44.73	3.7	1200.0
2/17 12:57	94957.0	44.40	3.7	1199.8
2/17 12:58	96447.0	45.10	3.7	1200.0
2/17 12:59	95063.0	44.45	3.7	1199.8
2/17 13:00	95111.0	44.47	3.7	1200.2
2/17 13:01	95362.0	44.56	3.7	1199.7
2/17 13:02	94463.0	44.08	3.7	1200.8
2/17 13:03	94691.0	44.31	3.7	1199.7
2/17 13:04	95015.0	44.46	3.7	1199.2
2/17 13:05	96034.0	44.49	3.7	1199.0
2/17 13:06	97554.0	44.89	3.7	1198.8
2/17 13:07	99337.0	45.04	3.7	1199.3
2/17 13:08	98111.0	44.43	3.8	1201.8
2/17 13:09	96216.0	44.16	3.7	1201.8
2/17 13:10	94427.0	43.92	3.7	1200.3
2/17 13:11	95168.0	44.33	3.7	1199.3
2/17 13:12	95176.0	44.35	3.7	1200.7
2/17 13:13	94032.0	44.09	3.7	1200.0
2/17 13:14	93559.0	44.00	3.7	1200.8
2/17 13:15	94963.0	44.74	3.7	1200.0
2/17 13:16	94782.0	44.65	3.7	1200.0

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts	1-Min	Exhaust Temp	°F 1-Min
2/17 13:17	94917.0		44.70	3.7	3.7	1199.8		
2/17 13:18	93768.0		44.14	3.7	3.7	1200.0		
2/17 13:19	94285.0		44.32	3.7	3.7	1199.8		
2/17 13:20	93473.0		44.00	3.7	3.7	1200.0		
2/17 13:21	94397.0		44.47	3.7	3.7	1200.0		
2/17 13:22	93159.0		43.87	3.7	3.7	1199.2		
2/17 13:23	93399.0		43.98	3.7	3.7	1200.0		
2/17 13:24	94270.0		44.37	3.7	3.7	1199.5		
2/17 13:25	95297.0		44.59	3.7	3.7	1199.0		
2/17 13:26	96795.0		45.03	3.7	3.7	1200.0		
2/17 13:27	95853.0		44.58	3.7	3.7	1200.0		
2/17 13:28	95268.0		44.32	3.7	3.7	1200.2		
2/17 13:29	95320.0		44.34	3.7	3.7	1200.0		
2/17 13:30	95328.0		44.37	3.7	3.7	1200.0		
2/17 13:31	94261.0		43.87	3.7	3.7	1199.8		
2/17 13:32	95577.0		44.50	3.7	3.7	1200.5		
2/17 13:33	94357.0		44.25	3.7	3.7	1200.7		
2/17 13:34	93146.0		43.86	3.7	3.7	1200.0		
2/17 13:35	93812.0		44.24	3.7	3.7	1200.0		
2/17 13:36	94273.0		44.50	3.7	3.7	1199.5		
2/17 13:37	94793.0		44.66	3.7	3.7	1199.7		
2/17 13:38	94140.0		44.33	3.7	3.7	1199.7		
2/17 13:39	96007.0		45.05	3.7	3.7	1199.0		
2/17 13:40	94726.0		44.11	3.7	3.7	1200.0		
2/17 13:41	95582.0		44.48	3.7	3.7	1199.8		
2/17 13:42	95140.0		44.28	3.7	3.7	1200.0		
2/17 13:43	95737.0		44.61	3.8	3.8	1200.3		
2/17 13:44	94640.0		44.10	3.7	3.7	1199.5		
2/17 13:45	95452.0		44.46	3.8	3.8	1200.8		
2/17 13:46	94215.0		44.24	3.7	3.7	1200.2		
2/17 13:47	95114.0		44.60	3.7	3.7	1199.7		
2/17 13:48	95064.0		44.57	3.7	3.7	1200.0		
2/17 13:49	94429.0		44.36	3.7	3.7	1200.2		
2/17 13:50	95051.0		44.67	3.7	3.7	1199.8		
2/17 13:51	94731.0		44.50	3.7	3.7	1200.0		
2/17 13:52	95078.0		44.58	3.7	3.7	1199.3		
2/17 13:53	96711.0		45.07	3.7	3.7	1200.3		
2/17 13:54	95826.0		44.73	3.7	3.7	1200.3		
2/17 13:55	94916.0		44.40	3.7	3.7	1199.5		
2/17 13:56	94272.0		44.05	3.7	3.7	1200.7		
2/17 13:57	94379.0		44.28	3.7	3.7	1200.0		
2/17 13:58	93755.0		43.99	3.7	3.7	1200.0		
2/17 13:59	94164.0		44.21	3.7	3.7	1199.5		
2/17 14:00	94440.0		44.26	3.7	3.7	1200.2		
2/17 14:01	93690.0		44.03	3.7	3.7	1200.0		
2/17 14:02	94740.0		44.56	3.7	3.7	1200.0		
2/17 14:03	95102.0		44.75	3.7	3.7	1200.0		
2/17 14:04	95384.0		44.81	3.7	3.7	1200.0		
2/17 14:05	94721.0		44.50	3.7	3.7	1200.0		

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min	Flow scf/hr	Input mmBtu/hr 1-Min	Input mmBtu/hr	Megawatts 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min
2/17 14:06	94345.0	44.31	44.31	44.31	3.7	3.7	1200.0	1200.0
2/17 14:07	94750.0	44.44	44.44	44.44	3.7	3.7	1200.2	1200.2
2/17 14:08	94914.0	44.47	44.47	44.47	3.7	3.7	1199.0	1199.0
2/17 14:09	95703.0	44.36	44.36	44.36	3.7	3.7	1199.0	1199.0
2/17 14:10	95632.0	43.97	43.97	43.97	3.7	3.7	1200.8	1200.8
2/17 14:11	95220.0	44.04	44.04	44.04	3.7	3.7	1199.2	1199.2
2/17 14:12	97160.0	44.48	44.48	44.48	3.7	3.7	1199.5	1199.5
2/17 14:13	98139.0	44.77	44.77	44.77	3.8	3.8	1200.0	1200.0
2/17 14:14	97813.0	44.65	44.65	44.65	3.8	3.8	1200.3	1200.3
2/17 14:15	96962.0	44.28	44.28	44.28	3.7	3.7	1200.0	1200.0
2/17 14:16	96485.0	44.07	44.07	44.07	3.8	3.8	1199.7	1199.7
2/17 14:17	97747.0	44.47	44.47	44.47	3.8	3.8	1199.3	1199.3
2/17 14:18	97967.0	44.45	44.45	44.45	3.8	3.8	1200.3	1200.3
2/17 14:19	97717.0	44.52	44.52	44.52	3.8	3.8	1200.7	1200.7
2/17 14:20	97891.0	44.79	44.79	44.79	3.8	3.8	1200.2	1200.2
2/17 14:21	97181.0	44.49	44.49	44.49	3.7	3.7	1200.2	1200.2
2/17 14:22	97027.0	44.42	44.42	44.42	3.8	3.8	1199.5	1199.5
2/17 14:23	97154.0	44.40	44.40	44.40	3.8	3.8	1200.3	1200.3
2/17 14:24	96887.0	44.36	44.36	44.36	3.7	3.7	1200.0	1200.0
2/17 14:25	97394.0	44.61	44.61	44.61	3.8	3.8	1200.0	1200.0
2/17 14:26	96794.0	44.36	44.36	44.36	3.8	3.8	1199.8	1199.8
2/17 14:27	97869.0	44.80	44.80	44.80	3.8	3.8	1200.2	1200.2
2/17 14:28	97305.0	44.60	44.60	44.60	3.8	3.8	1200.0	1200.0
2/17 14:29	96873.0	44.33	44.33	44.33	3.8	3.8	1199.7	1199.7
2/17 14:30	97384.0	44.47	44.47	44.47	3.8	3.8	1200.0	1200.0
2/17 14:31	97747.0	44.75	44.75	44.75	3.8	3.8	1200.0	1200.0
2/17 14:32	97379.0	44.58	44.58	44.58	3.8	3.8	1200.0	1200.0
2/17 14:33	97160.0	44.48	44.48	44.48	3.7	3.7	1199.7	1199.7
2/17 14:34	97840.0	44.74	44.74	44.74	3.7	3.7	1199.8	1199.8
2/17 14:35	97474.0	44.57	44.57	44.57	3.8	3.8	1199.8	1199.8
2/17 14:36	96908.0	44.37	44.37	44.37	3.8	3.8	1200.0	1200.0
2/17 14:37	99062.0	45.35	45.35	45.35	3.8	3.8	1200.0	1200.0
2/17 14:38	97619.0	44.69	44.69	44.69	3.8	3.8	1200.0	1200.0
2/17 14:39	97969.0	44.76	44.76	44.76	3.8	3.8	1199.7	1199.7
2/17 14:40	98091.0	44.86	44.86	44.86	3.7	3.7	1200.0	1200.0
2/17 14:41	96911.0	44.24	44.24	44.24	3.7	3.7	1199.8	1199.8
2/17 14:42	96798.0	44.34	44.34	44.34	3.8	3.8	1200.5	1200.5
2/17 14:43	97688.0	44.77	44.77	44.77	3.8	3.8	1199.7	1199.7
2/17 14:44	96952.0	44.46	44.46	44.46	3.8	3.8	1200.0	1200.0
2/17 14:45	98056.0	45.00	45.00	45.00	3.8	3.8	1199.8	1199.8
2/17 14:46	97753.0	44.75	44.75	44.75	3.8	3.8	1200.0	1200.0
2/17 14:47	97567.0	44.77	44.77	44.77	3.8	3.8	1199.7	1199.7
2/17 14:48	97777.0	44.85	44.85	44.85	3.8	3.8	1200.0	1200.0
2/17 14:49	95794.0	43.96	43.96	43.96	3.8	3.8	1200.2	1200.2
2/17 14:50	96908.0	44.49	44.49	44.49	3.8	3.8	1200.0	1200.0
2/17 14:51	96830.0	44.45	44.45	44.45	3.7	3.7	1200.0	1200.0
2/17 14:52	96362.0	44.34	44.34	44.34	3.7	3.7	1200.3	1200.3
2/17 14:53	95712.0	44.15	44.15	44.15	3.7	3.7	1200.5	1200.5
2/17 14:54	95460.0	44.12	44.12	44.12	3.7	3.7	1200.2	1200.2

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas Flow scf/hr 1-Min	Exhaust Temp °F 1-Min	Input mmBtu/hr 1-Min	Heat mmBtu/hr 1-Min	Megawatts 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min	Exhaust Temp °F 1-Min
2/17 14:55	96294.0	44.53	44.53	44.53	3.7	1199.8	1199.8	1199.8
2/17 14:56	96431.0	44.60	44.60	44.60	3.7	1199.8	1199.8	1199.8
2/17 14:57	96286.0	44.51	44.51	44.51	3.7	1200.2	1200.2	1200.2
2/17 14:58	96852.0	44.76	44.76	44.76	3.7	1200.0	1200.0	1200.0
2/17 14:59	95470.0	44.20	44.20	44.20	3.7	1200.3	1200.3	1200.3
2/17 15:00	96223.0	44.54	44.54	44.54	3.7	1199.8	1199.8	1199.8
2/17 15:01	95524.0	44.18	44.18	44.18	3.7	1200.0	1200.0	1200.0
2/17 15:02	96247.0	44.55	44.55	44.55	3.7	1200.0	1200.0	1200.0
2/17 15:03	97551.0	45.14	45.14	45.14	3.7	1199.5	1199.5	1199.5
2/17 15:04	97153.0	44.87	44.87	44.87	3.7	1200.7	1200.7	1200.7
2/17 15:05	95165.0	44.26	44.26	44.26	3.7	1200.8	1200.8	1200.8
2/17 15:06	95259.0	44.44	44.44	44.44	3.7	1199.8	1199.8	1199.8
2/17 15:07	95081.0	44.37	44.37	44.37	3.7	1199.8	1199.8	1199.8
2/17 15:08	95481.0	44.52	44.52	44.52	3.7	1199.3	1199.3	1199.3
2/17 15:09	95716.0	44.61	44.61	44.61	3.8	1200.0	1200.0	1200.0
2/17 15:10	96272.0	44.91	44.91	44.91	3.7	1200.0	1200.0	1200.0
2/17 15:11	95436.0	44.50	44.50	44.50	3.7	1200.7	1200.7	1200.7
2/17 15:12	94819.0	44.25	44.25	44.25	3.7	1199.5	1199.5	1199.5
2/17 15:13	96757.0	44.93	44.93	44.93	3.7	1200.0	1200.0	1200.0
2/17 15:14	96053.0	44.65	44.65	44.65	3.7	1200.0	1200.0	1200.0
2/17 15:15	96466.0	44.82	44.82	44.82	3.7	1199.8	1199.8	1199.8
2/17 15:16	96189.0	44.58	44.58	44.58	3.7	1199.0	1199.0	1199.0
2/17 15:17	96808.0	44.69	44.69	44.69	3.8	1199.8	1199.8	1199.8
2/17 15:18	95437.0	44.08	44.08	44.08	3.7	1200.2	1200.2	1200.2
2/17 15:19	95500.0	44.38	44.38	44.38	3.8	1201.7	1201.7	1201.7
2/17 15:20	93909.0	44.09	44.09	44.09	3.7	1199.8	1199.8	1199.8
2/17 15:21	94657.0	44.58	44.58	44.58	3.7	1199.8	1199.8	1199.8
2/17 15:22	94599.0	44.49	44.49	44.49	3.7	1199.5	1199.5	1199.5
2/17 15:23	95597.0	44.89	44.89	44.89	3.7	1200.2	1200.2	1200.2
2/17 15:24	95001.0	44.63	44.63	44.63	3.7	1200.0	1200.0	1200.0
2/17 15:25	94443.0	44.40	44.40	44.40	3.7	1200.0	1200.0	1200.0
2/17 15:26	94565.0	44.53	44.53	44.53	3.7	1200.0	1200.0	1200.0
2/17 15:27	94401.0	44.37	44.37	44.37	3.7	1199.5	1199.5	1199.5
2/17 15:28	95340.0	44.69	44.69	44.69	3.7	1200.0	1200.0	1200.0
2/17 15:29	96046.0	44.84	44.84	44.84	3.7	1199.5	1199.5	1199.5
2/17 15:30	95360.0	44.46	44.46	44.46	3.7	1200.7	1200.7	1200.7
2/17 15:31	94212.0	44.11	44.11	44.11	3.7	1200.3	1200.3	1200.3
2/17 15:32	95008.0	44.50	44.50	44.50	3.7	1200.0	1200.0	1200.0
2/17 15:33	95494.0	44.74	44.74	44.74	3.7	1200.0	1200.0	1200.0
2/17 15:34	96048.0	44.91	44.91	44.91	3.7	1200.0	1200.0	1200.0
2/17 15:35	95277.0	44.55	44.55	44.55	3.7	1199.5	1199.5	1199.5
2/17 15:36	95395.0	44.61	44.61	44.61	3.7	1200.3	1200.3	1200.3
2/17 15:37	95113.0	44.56	44.56	44.56	3.7	1200.2	1200.2	1200.2
2/17 15:38	95617.0	44.91	44.91	44.91	3.7	1199.8	1199.8	1199.8
2/17 15:39	94638.0	44.36	44.36	44.36	3.7	1200.0	1200.0	1200.0
2/17 15:40	94229.0	44.17	44.17	44.17	3.7	1200.0	1200.0	1200.0
2/17 15:41	94994.0	44.60	44.60	44.60	3.7	1200.0	1200.0	1200.0
2/17 15:42	94317.0	44.21	44.21	44.21	3.7	1199.8	1199.8	1199.8
2/17 15:43	95918.0	44.83	44.83	44.83	3.7	1199.5	1199.5	1199.5

Timestamp	(TG-751) Landfill Gas Flow scf/hr		(TG-751) Heat Input mmBtu/hr		(TG-751) Megawatts 1-Min		(TG-751) T7 Exhaust Temp °F 1-Min	
	1-Min	1-Min	1-Min	1-Min	1-Min	1-Min	1-Min	1-Min
2/17 15:44	96261.0	44.84	44.84	3.7	3.7	1201.0	1201.0	
2/17 15:45	94687.0	44.35	44.35	3.7	3.7	1200.3	1200.3	
2/17 15:46	93970.0	44.12	44.12	3.7	3.7	1200.2	1200.2	
2/17 15:47	94075.0	44.18	44.18	3.7	3.7	1199.8	1199.8	
2/17 15:48	95893.0	45.03	45.03	3.7	3.7	1199.8	1199.8	
2/17 15:49	95267.0	44.78	44.78	3.7	3.7	1199.8	1199.8	
2/17 15:50	95783.0	44.97	44.97	3.7	3.7	1199.8	1199.8	
2/17 15:51	94490.0	44.29	44.29	3.7	3.7	1200.0	1200.0	
2/17 15:52	93831.0	44.01	44.01	3.7	3.7	1199.8	1199.8	
2/17 15:53	95360.0	44.77	44.77	3.7	3.7	1200.0	1200.0	
2/17 15:54	94822.0	44.53	44.53	3.7	3.7	1200.0	1200.0	
2/17 15:55	95142.0	44.68	44.68	3.7	3.7	1200.0	1200.0	
2/17 15:56	95813.0	45.01	45.01	3.7	3.7	1200.0	1200.0	
2/17 15:57	95370.0	44.75	44.75	3.7	3.7	1200.0	1200.0	
2/17 15:58	95746.0	44.90	44.90	3.7	3.7	1200.2	1200.2	
2/17 15:59	95288.0	44.66	44.66	3.7	3.7	1199.8	1199.8	
2/17 16:00	92918.0	43.60	43.60	3.7	3.7	1200.0	1200.0	
2/17 16:01	94251.0	44.28	44.28	3.7	3.7	1200.0	1200.0	
2/17 16:02	94314.0	44.28	44.28	3.7	3.7	1199.7	1199.7	
2/17 16:03	94840.0	44.47	44.47	3.7	3.7	1199.8	1199.8	
2/17 16:04	95156.0	44.63	44.63	3.7	3.7	1200.0	1200.0	
2/17 16:05	94098.0	44.19	44.19	3.7	3.7	1200.0	1200.0	
2/17 16:06	93980.0	44.12	44.12	3.7	3.7	1200.0	1200.0	
2/17 16:07	94113.0	44.21	44.21	3.7	3.7	1199.8	1199.8	
2/17 16:08	94291.0	44.33	44.33	3.7	3.7	1200.0	1200.0	
2/17 16:09	95108.0	44.79	44.79	3.7	3.7	1199.8	1199.8	
2/17 16:10	94194.0	44.35	44.35	3.7	3.7	1200.0	1200.0	
2/17 16:11	94082.0	44.32	44.32	3.7	3.7	1200.5	1200.5	
2/17 16:12	94310.0	44.44	44.44	3.7	3.7	1199.3	1199.3	
2/17 16:13	95456.0	44.82	44.82	3.7	3.7	1199.3	1199.3	
2/17 16:14	95109.0	44.49	44.49	3.7	3.7	1199.8	1199.8	
2/17 16:15	94830.0	44.32	44.32	3.7	3.7	1199.8	1199.8	
2/17 16:16	94334.0	44.06	44.06	3.7	3.7	1200.5	1200.5	
2/17 16:17	94170.0	44.05	44.05	3.7	3.7	1200.0	1200.0	
2/17 16:18	94690.0	44.38	44.38	3.7	3.7	1200.0	1200.0	
2/17 16:19	93813.0	43.88	43.88	3.7	3.7	1199.8	1199.8	
2/17 16:20	95343.0	44.60	44.60	3.7	3.7	1200.0	1200.0	
2/17 16:21	93785.0	43.91	43.91	3.7	3.7	1200.0	1200.0	
2/17 16:22	94568.0	44.25	44.25	3.7	3.7	1199.7	1199.7	
2/17 16:23	94949.0	44.40	44.40	3.7	3.7	1200.0	1200.0	
2/17 16:24	94292.0	44.17	44.17	3.7	3.7	1199.8	1199.8	
2/17 16:25	95145.0	44.57	44.57	3.7	3.7	1200.0	1200.0	
2/17 16:26	94724.0	44.40	44.40	3.7	3.7	1200.0	1200.0	
2/17 16:27	94492.0	44.31	44.31	3.7	3.7	1200.3	1200.3	
2/17 16:28	93730.0	44.01	44.01	3.7	3.7	1200.2	1200.2	
2/17 16:29	94357.0	44.38	44.38	3.7	3.7	1199.8	1199.8	
2/17 16:30	95129.0	44.71	44.71	3.7	3.7	1200.0	1200.0	
2/17 16:31	95047.0	44.65	44.65	3.7	3.7	1199.8	1199.8	
2/17 16:32	95248.0	44.64	44.64	3.7	3.7	1200.0	1200.0	

Timestamp	(TG-751) Landfill Gas Flow scf/hr 1-Min	(TG-751) Heat Input mmBtu/hr 1-Min	(TG-751) Megawatts 1-Min	(TG-751) T7 Exhaust Temp °F 1-Min
2/17 16:33	95196.0	44.62	3.7	1200.3
2/17 16:34	94831.0	44.55	3.7	1200.2
2/17 16:35	94628.0	44.46	3.7	1200.2
2/17 16:36	95152.0	44.70	3.7	1200.0
2/17 16:37	94789.0	44.53	3.7	1199.7
2/17 16:38	94207.0	44.26	3.7	1200.0
2/17 16:39	93423.0	43.89	3.7	1200.0
2/17 16:40	95273.0	44.76	3.7	1200.0
2/17 16:41	95140.0	44.70	3.7	1200.0
2/17 16:42	95608.0	44.92	3.7	1200.0
2/17 16:43	94721.0	44.48	3.7	1199.8
2/17 16:44	95742.0	44.89	3.7	1200.0
2/17 16:45	95414.0	44.72	3.7	1200.2
2/17 16:46	95096.0	44.57	3.7	1199.8
2/17 16:47	95138.0	44.59	3.7	1200.0
2/17 16:48	94241.0	44.22	3.7	1200.2
2/17 16:49	95207.0	44.70	3.7	1199.7
2/17 16:50	94346.0	44.31	3.7	1200.2
2/17 16:51	94885.0	44.58	3.7	1199.8
2/17 16:52	94630.0	44.46	3.7	1200.0
2/17 16:53	94450.0	44.37	3.7	1199.7
2/17 16:54	95896.0	44.98	3.7	1199.7
2/17 16:55	96525.0	45.26	3.7	1200.0
2/17 16:56	94224.0	44.25	3.7	1200.0
2/17 16:57	94984.0	44.60	3.7	1200.0
2/17 16:58	94834.0	44.55	3.8	1199.7
2/17 16:59	96757.0	45.35	3.8	1200.0
2/17 17:00	94975.0	44.55	3.8	1200.0
2/17 17:01	95502.0	44.84	3.8	1200.0
2/17 17:02	95706.0	44.91	3.8	1200.0
2/17 17:03	95945.0	44.97	3.8	1199.7
2/17 17:04	95272.0	44.65	3.8	1200.0
2/17 17:05	94506.0	44.33	3.8	1200.0
2/17 17:06	95260.0	44.70	3.8	1199.7
2/17 17:07	95213.0	44.62	3.8	1200.2
2/17 17:08	95527.0	44.77	3.8	1200.0
2/17 17:09	96060.0	45.02	3.8	1199.8
2/17 17:10	95086.0	44.57	3.8	1200.0
2/17 17:11	94580.0	44.33	3.8	1200.2
2/17 17:12	94848.0	44.38	3.8	1199.7
2/17 17:13	95190.0	44.51	3.8	1200.0
2/17 17:14	96138.0	44.96	3.8	1199.8
2/17 17:15	95583.0	44.62	3.8	1200.0
2/17 17:16	96034.0	44.83	3.8	1200.3
2/17 17:17	95234.0	44.51	3.8	1200.2
2/17 17:18	94533.0	44.20	3.8	1199.8
2/17 17:19	95008.0	44.45	3.8	1200.0
2/17 17:20	94688.0	44.35	3.8	1200.0
2/17 17:21	95156.0	44.53	3.8	1200.0

Timestamp	(TG-751) Landfill Gas Flow scf/hr		(TG-751) Heat Input mmBtu/hr		(TG-751) T7 Exhaust Temp °F 1-Min	
	1-Min		1-Min	Megawatts 1-Min		
2/17 17:22	96799.0		45.28	3.8		1199.5
2/17 17:23	95845.0		44.82	3.8		1199.8
2/17 17:24	96074.0		44.92	3.8		1200.0
2/17 17:25	95708.0		44.75	3.8		1200.2
2/17 17:26	96273.0		45.02	3.8		1199.8
2/17 17:27	95480.0		44.65	3.8		1200.0
2/17 17:28	96536.0		45.14	3.8		1200.2
2/17 17:29	95022.0		44.43	3.8		1199.8
2/17 17:30	95612.0		44.71	3.8		1200.2
2/17 17:31	96599.0		45.17	3.8		1200.0
2/17 17:32	95850.0		44.82	3.8		1200.0
2/17 17:33	95027.0		44.46	3.8		1200.3
2/17 17:34	96070.0		44.98	3.8		1199.8
2/17 17:35	95575.0		44.89	3.8		1200.0
2/17 17:36	95404.0		44.59	3.8		1199.8
2/17 17:37	94999.0		44.32	3.8		1200.2
2/17 17:38	95668.0		44.63	3.8		1200.0
2/17 17:39	96118.0		44.84	3.8		1199.8
2/17 17:40	95277.0		44.52	3.8		1200.0
2/17 17:41	96006.0		44.89	3.8		1200.0
2/17 17:42	94858.0		44.36	3.8		1200.0
2/17 17:43	94606.0		44.21	3.8		1200.0
2/17 17:44	94789.0		44.30	3.8		1199.8
2/17 17:45	95838.0		44.77	3.8		1200.0
2/17 17:46	95949.0		44.76	3.8		1200.2
2/17 17:47	95866.0		44.63	3.8		1200.0
2/17 17:48	95268.0		44.44	3.8		1200.2
2/17 17:49	95667.0		44.63	3.8		1199.8
2/17 17:50	96389.0		44.97	3.8		1200.0
2/17 17:51	95208.0		44.42	3.8		1200.0
2/17 17:52	96376.0		44.93	3.8		1200.0
2/17 17:53	94786.0		44.19	3.8		1200.2
2/17 17:54	95657.0		44.63	3.8		1200.0
2/17 17:55	95812.0		44.70	3.8		1199.8
2/17 17:56	95653.0		44.62	3.8		1200.0
2/17 17:57	97083.0		45.22	3.8		1199.8
2/17 17:58	96240.0		44.79	3.8		1200.2
2/17 17:59	96683.0		44.99	3.8		1200.0
2/17 18:00	96290.0		44.81	3.8		1200.0
2/17 18:01	96319.0		44.81	3.8		1200.2
2/17 18:02	95537.0		44.46	3.8		1200.2
2/17 18:03	96104.0		44.72	3.8		1199.8
2/17 18:04	95716.0		44.55	3.8		1200.0
2/17 18:05	96053.0		44.70	3.8		1200.2
2/17 18:06	96055.0		44.73	3.8		1199.8
2/17 18:07	95756.0		44.57	3.8		1200.0
2/17 18:08	95050.0		44.26	3.8		1200.0
2/17 18:09	96775.0		45.04	3.8		1199.5
2/17 18:10	96547.0		44.86	3.8		1199.8

Timestamp	(TG-751)		(TG-751) Heat		(TG-751)		(TG-751) T7	
	Landfill Gas	Flow scf/hr	Input mmBtu/hr	1-Min	Megawatts 1-Min	Exhaust Temp	°F 1-Min	
2/17 18:11	95878.0	44.59	3.8	1199.8				
2/17 18:12	95736.0	44.48	3.8	1200.0				
2/17 18:13	95867.0	44.62	3.8	1200.2				
2/17 18:14	96110.0	44.75	3.8	1200.0				
2/17 18:15	94625.0	44.13	3.8	1200.0				
2/17 18:16	96752.0	45.13	3.8	1200.0				
2/17 18:17	96392.0	44.97	3.8	1200.0				
2/17 18:18	95197.0	44.38	3.8	1200.0				
2/17 18:19	95752.0	44.53	3.8	1199.8				
2/17 18:20	96131.0	44.71	3.8	1199.8				
2/17 18:21	95403.0	44.35	3.8	1200.2				
2/17 18:22	95655.0	44.52	3.8	1199.8				
2/17 18:23	95659.0	44.52	3.8	1200.0				
2/17 18:24	94699.0	44.07	3.8	1200.0				
2/17 18:25	95955.0	44.66	3.8	1200.0				
2/17 18:26	96825.0	45.10	3.8	1200.2				
2/17 18:27	95965.0	44.66	3.8	1200.2				
2/17 18:28	94817.0	44.13	3.8	1200.0				
2/17 18:29	95531.0	44.44	3.8	1200.0				
2/17 18:30	97029.0	45.16	3.8	1200.0				
2/17 18:31	95862.0	44.61	3.8	1200.0				
2/17 18:32	95147.0	44.28	3.8	1200.2				
2/17 18:33	95582.0	44.50	3.8	1200.5				
2/17 18:34	95206.0	44.39	3.8	1200.2				
2/17 18:35	95041.0	44.29	3.8	1199.7				
2/17 18:36	95402.0	44.40	3.8	1199.8				
2/17 18:37	95917.0	44.59	3.8	1200.2				
2/17 18:38	96092.0	44.64	3.8	1199.8				
2/17 18:39	96567.0	44.76	3.8	1200.0				
2/17 18:40	95111.0	44.16	3.8	1200.0				
2/17 18:41	96098.0	44.62	3.8	1200.0				
2/17 18:42	96933.0	45.00	3.8	1200.2				
2/17 18:43	96451.0	44.81	3.8	1200.2				
2/17 18:44	95843.0	44.60	3.8	1200.2				
2/17 18:45	96009.0	44.68	3.8	1200.0				
2/17 18:46	95215.0	44.32	3.8	1200.2				
2/17 18:47	96451.0	44.84	3.8	1199.8				
2/17 18:48	95229.0	44.32	3.8	1200.0				
2/17 18:49	95248.0	44.25	3.8	1199.8				
2/17 18:50	96490.0	44.83	3.8	1200.0				
2/17 18:51	95518.0	44.35	3.8	1199.8				
2/17 18:52	96387.0	44.81	3.8	1200.3				
2/17 18:53	96087.0	44.67	3.8	1199.8				
2/17 18:54	94968.0	44.15	3.8	1200.2				
2/17 18:55	96121.0	44.71	3.8	1200.0				
2/17 18:56	95520.0	44.46	3.8	1200.0				
2/17 18:57	95950.0	44.61	3.8	1200.0				
2/17 18:58	95694.0	44.43	3.8	1200.0				
2/17 18:59	96565.0	44.82	3.8	1200.0				

(TG-751)		(TG-751) Heat	(TG-751) T7
Landfill Gas		Input mmBtu/hr	Exhaust Temp
Flow scf/hr	1-Min	1-Min	°F 1-Min
Timestamp			
2/17 19:00	96456.0	44.74	1200.3
Average (all)	96104.4	44.87	1200.0
Total (all)	--	--	--
Minimum (all)	92918.0	43.60	1198.8
Maximum (all)	99814.0	46.50	1201.8
Average (valid values only)	96104.4	44.87	1200.0
Total (valid values only)	--	--	--
Count (valid values only)	781	781	781

APPENDIX C CALCULATIONS

Appendix C.1

General Emissions Calculations

GENERAL EMISSIONS CALCULATIONS

I. Stack Gas Velocity

A. Stack gas molecular weight, lb/lb-mole

$$MW_{dry} = 0.44 * \% CO_2 + 0.32 * \% O_2 + 0.28 * \% N_2$$

$$MW_{wet} = MW_{dry} * (1 - B_{wo}) + 18 * B_{wo}$$

B. Absolute stack pressure, iwg

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

C. Stack gas velocity, ft/sec

$$V_s = 85.49 * C_p * \sqrt{\frac{\Delta P * T_s}{P_s * MW_{wet}}}$$

II. Moisture

A. Sample gas volume, dscf

$$V_{mstd} = 0.033422 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6} \right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.04716 * V_{ic} * \frac{T_{ref}}{528^{\circ}R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack Gas Volumetric Flow Rate

A. Actual stack gas volumetric flow rate, wacfm

$$Q = V_s * A_s * 60$$

B. Standard stack gas flow rate, dscfm

$$Q_{sd} = Q * (1 - B_{wo}) * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$

C. Standard stack gas flow rate, scfm

$$Q_s = Q * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$

IV. Gaseous Mass Emission Rates, lb/hr

$$M = \frac{\text{ppm} * MW_i * Q_{sd} * 60}{SV * 10^6}$$

V. Emission Rates, lb/MMBtu

$$\frac{\text{lb}}{\text{MMBtu}} = \frac{\text{ppm} * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \% O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s (V_{mstd})}{(1 - B_{wo}) * V_s * P_s * Dn^2} * \frac{520^\circ R}{T_{ref}}$$

VII. Particulate Emissions

- (a) Grain loading, gr/dscf
 $C = 0.01543 (M_n/V_{m \text{ std}})$

- (b) Grain loading at 12% CO₂, gr/dscf
 $C_{12\% \text{ CO}_2} = C (12/\% \text{ CO}_2)$

- (b) Grain loading at 15% O₂, gr/dscf
 $C_{15\% \text{ O}_2} = C * 5.9/(20.9 - O_2)$

- (c) Mass emissions, lb/hr
 $M = C * Q_{sd} * (60 \text{ min/hr}) / (7000 \text{ gr/lb})$

- (d) Particulate emission factor

$$\text{lb}/10^6 \text{ Btu} = Cx \frac{1 \text{ lb}}{7000 \text{ gr}} * F * \frac{20.9}{20.9 - \% O_2}$$

VII. Metal Emissions

- (a) Concentration, mg/dscf
 $C_{\text{mg/dscf}} = (M_n/V_{m \text{ std}})$

- (b) Concentration, mg/dscm
 $C_{\text{mg/dscm}} = (M_n/V_{m \text{ std}}) * (35.31 \text{ ft}^3/\text{m}^3)$

- (c) Concentration at 15% O₂, mg/dscm
 $C_{15\% \text{ O}_2} = C_{\text{mg/dscm}} * 5.9/(20.9 - O_2)$

- (d) Mass emissions, lb/hr
 $M = C_{\text{mg/dscf}} * Q_{sd} * (60 \text{ min/hr}) / (454 \times 10^3 \text{ mg/lb})$

Nomenclature:

A_s	=	stack area, ft ²
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO_2}$	=	particulate grain loading, gr/dscf corrected to 12% CO ₂
$C_{12\%O_2}$	=	particulate grain loading, gr/dscf corrected to 15% O ₂
C_p	=	pitot calibration factor, dimensionless
D_n	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O ₂
H	=	orifice differential pressure, iwg
I	=	% isokinetics
M_n	=	mass of collected particulate, mg
M_i	=	mass emission rate of specie i, lb/hr
MW	=	molecular weight of flue gas, lb/lb-mole
M_{wi}	=	molecular weight of specie i:
		SO ₂ : 64
		NO _x : 46
		CO: 28
		HC: 16
		HCHO: 30.03
		HCL: 36.458
		HF: 20.01
t	=	sample time, minutes
ΔP	=	average velocity head, iwg = $(\sqrt{\Delta P})^2$
P_{bar}	=	barometric pressure, inches Hg
P_s	=	stack absolute pressure, inches Hg
P_{sg}	=	stack static pressure, iwbg
Q	=	wet stack flow rate at actual conditions, wacfm
Q_{sd}	=	dry standard stack flow rate, dscfm
SV	=	specific molar volume of an ideal gas at standard conditions, ft ³ /lb-mole
T_m	=	meter temperature, °R
T_{ref}	=	reference temperature, °R
T_s	=	stack temperature, °R
V_s	=	stack gas velocity, ft/sec
V_{lc}	=	volume of liquid collected in impingers, ml
V_m	=	uncorrected dry meter volume, dcf
V_{mstd}	=	dry meter volume at standard conditions, dscf
V_{wstd}	=	volume of water vapor at standard conditions, scf
Y_d	=	meter calibration coefficient

Appendix C.2

Data Summaries

Appendix C.2.1

CT-4 Data

Gaseous Emissions Test Summary
SUNSHINE GAS CT 4

Test Number	RUN 1-CT4	RUN 2-CT4	RUN 3-CT4	RUN 4-CT4	RUN 5-CT4	RUN 6-CT4	RUN 7-CT4	Averages
Date	2/7/2023	2/8/2023	2/8/2023	2/9/2023	2/9/2023	2/10/2023	2/10/2023	
Start Time	10:53	8:11	13:06	8:06	12:41	7:51	12:16	
Stop Time	15:03	12:18	17:12	12:21	16:55	12:00	16:25	
Pre-Test Information:								
Reference Temperature, °F	68	68	68	68	68	68	68	
Diluent Emissions and Stack Flow Rate:								
O ₂ , % vol. dry	16.02	16.01	16.07	16.04	15.98	16.01	16.05	16.03
CO ₂ , % vol. dry	4.40	4.52	4.47	4.37	4.30	4.49	4.54	4.44
Stack Flow Rate, dscfm	34,673	34,670	34,381	34,767	34,864	34,564	34,491	34,630
Pollutant Emissions:								
Carbon Monoxide (CO)								
ppm vol. dry	1.22	1.27	0.96	0.63	1.04	0.43	0.22	0.82
ppmc vol. dry @ 15% O ₂	1.48	1.53	1.18	0.77	1.25	0.52	0.26	1.00
lb/hr	0.18	0.19	0.14	0.10	0.16	0.06	0.03	0.12

EPA 10 EXAMPLE CALCULATION

TEST NUMBER: CT-4- 1-EPA 10

				Run 1
Identifier	Description	Units	Equation	Value
Using Data from Run 1:				
A	CO Pre-Test Zero Bias Response	ppm	--	-0.09
B	CO Post-Test Zero Bias Response	ppm	--	-0.05
C	CO Pre-Test Span Bias Response	ppm	--	4.59
D	CO Post-Test Span Bias Response	ppm	--	4.65
E	Avg. Pre-Test Zero Bias Response	ppm	$(A+B)/2$	-0.07
F	Avg. Post-Test Span Bias Response	ppm	$(C+D)/2$	4.62
G	CO Span Gas Value	ppm	--	4.68
H	CO Average (raw)	ppm	--	1.15
I	Drift/Bias Corrected CO:	ppm	$(H-E)/(F-E)*G$	1.22
J	Drift/Bias Corrected O ₂ :	%	--	16.02
K	Drift/Bias Corrected CO ₂ :	%	--	4.40
L	Meter Volume	acf	--	199.991
M	Barometric Pressure	" Hg	--	28.36
N	Delta H	" H ₂ O	--	2.0125
O	Reference Temperature	R	--	528
P	Meter Temperature	R	--	544.5
Q	Y _d	--	--	0.992
R	Meter Volume (standard)	dscf	$1/29.92 * C * (D + E/13.6) * F/G * H$	183.286
S	Liquid Collected	grams	--	219
T	Water vapor volume	scf	$0.04716 * S * F/528$	10.328
U	Moisture Content	--	$T/(T + R)$	0.053
V	Molecular weight, dry	lb/lb-mole	$0.44 * K + 0.32 * J + 0.28 * (100 - J - K)$	29.35
W	Molecular weight, wet	lb/lb-mole	$V * (1 - U) + 18 * U$	28.74
X	Static Pressure	" H ₂ O	--	-0.55
Y	Stack Pressure	" Hg	$M + X/13.6$	28.32
Z	Average Velocity Differential Pressure	" H ₂ O	square of the average of the square roots	1.0065
AA	Stack Temperature	R	--	1163.458
AB	Pitot Tube Coefficient	--	--	0.84
AC	Stack Velocity	fps	$85.49 * AB * \sqrt{Z * AA / Y / W}$	86.14
AD	Stack Area	ft ²	--	16.50
AE	Stack Flow Rate	acfm	$AC * AD * 60$	85,268
AF	Stack Flow Rate	dscfm	$AE * (1 - U) * O * Y / AA / 29.92$	34,673
AG	Specific Molar Volume	SCF/lb-mole	$385.3 * O / 528$	385.3
AH	CO emission rate	lb/hr	$I * 28 * AF * 60 / AG / 10^6$	0.18
AI	CO concentration, corrected	ppm@15%O ₂	$I*5.9/(20.9-J)$	1.48

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only. Stack gas velocity and moisture content was reported from EPA Method 5, R1.

Montrose Particulate Matter Test Summary											
Client/Location.....	DTE Sunshine										
Sample Location.....	CT4										
Test No.....	1-EPA 5	2-EPA 5	3-EPA 5	4-EPA 5	5-EPA 5	6-EPA 5	7-EPA 5	Reference Temp (F): Fuel..... Data By.....			
Date.....	February 7, 2023	February 8, 2023	February 8, 2023	February 9, 2023	February 9, 2023	February 10, 2023	February 10, 2023	Average			
Start Time.....	10:50	8:10	13:05	8:05	12:40	7:50	12:15	*			
Stop Time.....	15:00	12:20	17:15	12:15	16:50	12:00	16:25	*			
Bar Press (in Hg).....	28.36	28.34	28.34	28.32	28.32	28.26	28.26	*			
Test Method.....	EPA M5	EPA M5	EPA M5	EPA M5	EPA M5	EPA M5	EPA M5	*			
Sample Time (Min).....	240	240	240	240	240	240	240	*			
Sample Train.....	42 WCS	42 WCS	42 WCS	42 WCS	42 WCS	42 WCS	42 WCS	*			
Meter Cal Factor.....	0.992	0.992	0.992	0.992	0.992	0.992	0.992	*			
Pilot Factor.....	0.84	0.84	0.84	0.84	0.84	0.84	0.84	*			
Nozzle Diam (in).....	0.257	0.257	0.257	0.257	0.257	0.257	0.257	*			
Stack Area (sq ft).....	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.03			
Stack O2 (%).....	16.02	16.01	16.07	16.04	15.98	16.01	16.05	16.05			
Stack CO2 (%).....	4.40	4.47	4.47	4.37	4.30	4.49	4.54	4.44			
Stack Press (inHg).....	-0.55	-0.54	-0.54	-0.57	-0.57	-0.55	-0.55	-0.55			
Stack Temp (F).....	703.5	701.7	700.4	702.9	703.5	715.2	716.1	706.2			
Vel Head (inHg).....	1.0065	1.0036	0.9857	1.0025	1.0087	1.0083	1.0086	1.0034			
Meter Temp (F).....	84.5	76.6	91.5	84.8	91.5	74.4	86.3	84.2			
Meter Press (inHg).....	2.013	2.000	1.967	2.004	2.008	2.013	2.013	2.002			
Meter Vol (acf).....	199.991	198.273	196.276	201.295	199.297	194.565	192.868	197.509			
Liquid Vol (ml).....	219.0	214.0	206.1	194.2	191.3	201.8	203.6	204.3			
Std Sample Vol (SCF).....	183.286	184.257	177.453	184.148	180.091	181.069	175.574	180.840			
Moisture Fraction.....	0.053	0.052	0.052	0.047	0.048	0.050	0.052	0.051			
Stack Gas Mol Wt.....	28.74	28.77	28.77	28.80	28.79	28.79	28.78	28.78			
Stack Gas Velocity (ft/sec).....	86.14	85.93	85.12	85.91	86.23	86.72	86.79	86.12			
Isokinetic Ratio (%).....	100.9	101.4	98.5	101.1	98.6	100.0	97.1	99.6			
Stack Flow Rate (wacfm).....	85.268	85.063	84.263	85.048	85.359	85.851	85.914	85.252			
Stack Flow Rate (dscfm).....	34.673	34.670	34.381	34.767	34.610	34.564	34.491	34.630			
Stack Flow Rate (scfm).....	36.626	36.568	36.265	36.496	36.610	36.380	36.377	36.475			
Heated Filter, mg.....	0.0	1.3	0.9	0.0	0.8	0.4	1.3	0.7			
Probe Wash, mg.....	0.7	0.2	0.3	0.7	0.5	0.1	0.1	0.4			
Total Weight Gain, mg.....	0.7	1.5	1.2	0.7	1.3	0.5	1.4	1.0			
Particulate Emissions											
Grain Loading, gr/dscf.....	0.00006	0.00013	0.00010	0.00006	0.00011	0.00004	0.00012	0.00009			
Grain Loading @ 15% O2.....	0.00007	0.00015	0.00013	0.00007	0.00013	0.00005	0.00015	0.00011			
Mass Emissions, lb/hr.....	0.018	0.037	0.031	0.017	0.033	0.013	0.036	0.026			

EPA 5 EXAMPLE CALCULATION

TEST NUMBER: CT-4- 1-EPA 5

				Run 1
Identifier	Description	Units	Equation	Value
A	Stack O ₂	%	--	16.02
B	Stack CO ₂	%	--	4.40
C	Meter Volume	acf	--	199.991
D	Barometric Pressure	" Hg	--	28.36
E	Delta H	" H ₂ O	--	2.0
F	Reference Temperature	R	--	528
G	Meter Temperature	R	--	544.5
H	Y _d	--	--	0.992
I	Meter Volume (standard)	dscf	$1/29.92 * C * (D + E/13.6) * F/G * H$	183.286
J	Liquid Collected	grams	--	219.0
K	Water vapor volume	scf	$0.04716 * J * F/528$	10.328
L	Moisture Content	--	$T/(T + R)$	0.053
M	Molecular weight, dry	lb/lb-mole	$0.44 * B + 0.32 * A + 0.28 * (100 - A - B)$	29.35
N	Molecular weight, wet	lb/lb-mole	$M * (1 - L) + 18 * L$	28.74
O	Static Pressure	" H ₂ O	--	-0.55
P	Stack Pressure	" Hg	$D + O/13.6$	28.32
Q	Average Velocity Differential Pressure	" H ₂ O	square of the average of the square roots	1.0065
R	Stack Temperature	R	--	1163.458333
S	Pitot Tube Coefficient	--	--	0.84
T	Stack Velocity	fps	$85.49 * S * \sqrt{Q * R / P / N}$	86.14
U	Stack Area	ft ²	--	16.50
V	Stack Flow Rate	acfm	$T * U * 60$	85,268
W	Stack Flow Rate	dscfm	$V * (1 - L) * F * P / R / 29.92$	34,673
X	Sample Time	minutes	--	240.0
Y	Nozzle Diameter	inches	--	0.257
Z	Isokinetic Sampling Rate	%	$14,128 * 528 / F * R * I / X / T / 60 / (D * 13.6 + O) / Y^2$	100.9
AA	Particulate Catch	mg	--	0.7
AB	Particulate Catch	lbs	$AA / 454,000$	1.54E-06
AC	Particulate Cate	grains	$AB * 7,000$	0.011
AD	Particulate Emissions	gr/dscf	AC / I	0.000059
AE	Particulate Emissions	gr/dscf @ 15% O ₂	$AD * 5.9 / (20.9 - A)$	0.000071
AF	Particulate Emissions	gr/dscf @ 12% CO ₂	$AD * 12 / B$	0.000161
AG	Particulate Emissions	lb/hr	$AD * 60 / 7,000 * V$	0.0175

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only.

**TRACE METALS TEST RESULTS
DTE SUNSHINE
CT4 STACK**

Test No.:	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	AVERAGES
Date:	2/7/23	2/8/23	2/8/23	2/9/23	2/9/23	2/10/23	2/10/23	
Start Time:	10:50	8:10	13:05	8:05	12:40	7:50	12:15	
Stop Time:	15:00	12:20	17:15	12:15	16:50	12:00	16:25	
Flow Rate, dscfm:	34.801	34.847	34.702	34.614	34.850	34.552	34.453	34.688
Sample Volume, dscf:	178.48	179.87	178.95	181.31	177.55	173.28	171.62	177.29
O ₂ , % volume dry:	16.02	16.01	16.07	16.04	15.98	16.01	16.05	16.03
CO ₂ , % volume dry:	4.40	4.52	4.47	4.37	4.30	4.49	4.54	4.44
Moisture, % by volume:	5.03	5.07	5.13	5.04	4.90	4.94	5.09	5.03
Species								
Antimony								
mg/m3	0.0009	0.0006	< 0.0006	ND< 0.0006	ND< 0.0006	ND< 0.0006	ND< 0.0006	< 0.0007
mg/m3 @ 15% O ₂	0.0011	0.0008	< 0.0008	ND< 0.0007	ND< 0.0007	ND< 0.0007	ND< 0.0008	< 0.0008
lb/hr	1.14E-05	8.22E-06	< 8.14E-06	ND< 7.73E-06	ND< 7.86E-06	ND< 7.98E-06	ND< 8.04E-06	< 8.49E-06
Arsenic								
mg/m3	< 0.00014	< 0.00016	< 0.00015	ND< 0.00014	ND< 0.00014	ND< 0.00015	ND< 0.00015	< 0.00015
mg/m3 @ 15% O ₂	< 0.00017	< 0.00019	< 0.00018	ND< 0.00017	ND< 0.00017	ND< 0.00018	ND< 0.00018	< 0.00018
lb/hr	< 1.88E-05	< 2.03E-05	< 1.90E-05	ND< 1.84E-05	ND< 1.88E-05	ND< 1.91E-05	ND< 1.92E-05	< 1.91E-05
Beryllium								
mg/m3	0.0003	0.0004	ND< 0.0001	ND< 0.0001	ND< 0.0001	ND< 0.0001	< 0.0002	< 0.0002
mg/m3 @ 15% O ₂	0.0004	0.0004	ND< 0.0002	ND< 0.0002	ND< 0.0002	ND< 0.0002	< 0.0002	< 0.0002
lb/hr	3.81E-06	4.72E-06	ND< 1.80E-06	ND< 1.80E-06	ND< 1.83E-06	ND< 1.86E-06	< 1.97E-06	< 2.54E-06
Cadmium								
mg/m3	0.00017	0.0006	< 0.0003	< 0.0004	< 0.0002	ND< 0.0001	< 0.0001	< 0.0005
mg/m3 @ 15% O ₂	0.00021	0.0008	< 0.0004	< 0.0004	< 0.0002	ND< 0.0002	< 0.0002	< 0.0006
lb/hr	2.24E-05	8.27E-06	< 3.78E-06	< 4.67E-06	< 2.08E-06	ND< 1.91E-06	< 1.93E-06	< 6.43E-06
Chromium								
mg/m3	0.00103	0.00136	0.00099	0.00130	0.00136	0.00097	0.00135	0.00119
mg/m3 @ 15% O ₂	0.00124	0.00164	0.00121	0.00158	0.00163	0.00117	0.00184	0.00144
lb/hr	1.34E-04	1.77E-04	1.29E-04	1.69E-04	1.77E-04	1.25E-04	1.74E-04	1.55E-04
Cobalt								
mg/m3	0.00004	0.00005	0.00023	0.00002	< 0.0002	< 0.0002	< 0.0002	< 0.0006
mg/m3 @ 15% O ₂	0.00005	0.00006	0.00028	0.00003	< 0.0002	< 0.0002	< 0.0002	< 0.0007
lb/hr	5.82E-06	7.01E-06	2.98E-05	3.06E-06	< 2.42E-06	< 2.19E-06	< 2.41E-06	< 7.54E-06
Lead								
mg/m3	0.00027	0.00020	0.00011	0.00014	0.00012	0.00010	0.00010	0.00015
mg/m3 @ 15% O ₂	0.00033	0.00024	0.00013	0.00016	0.00015	0.00012	0.00012	0.00018
lb/hr	3.63E-05	2.62E-05	1.41E-05	1.75E-05	1.59E-05	1.33E-05	1.24E-05	1.92E-05
Manganese								
mg/m3	0.00044	0.00036	0.00023	0.00026	0.00027	0.00050	0.00062	0.00038
mg/m3 @ 15% O ₂	0.00054	0.00044	0.00028	0.00032	0.00033	0.00061	0.00075	0.00047
lb/hr	5.77E-05	4.73E-05	2.97E-05	3.40E-05	3.58E-05	6.51E-05	7.93E-05	4.98E-05
Mercury								
mg/m3	< 0.00015	< 0.00011	< 0.00020	< 0.00010	< 0.00009	< 0.00010	< 0.00009	< 0.00012
mg/m3 @ 15% O ₂	< 0.00018	< 0.00013	< 0.00024	< 0.00013	< 0.00010	< 0.00013	< 0.00010	< 0.00014
lb/hr	< 1.95E-05	< 1.44E-05	< 2.57E-05	< 1.33E-05	< 1.13E-05	< 1.35E-05	< 1.10E-05	< 1.55E-05
Nickel								
mg/m3	0.00071	0.00048	0.00042	0.00053	0.00041	0.00033	0.00037	0.00046
mg/m3 @ 15% O ₂	0.00086	0.00058	0.00052	0.00064	0.00049	0.00040	0.00045	0.00056
lb/hr	9.28E-05	6.29E-05	5.48E-05	6.80E-05	5.29E-05	4.26E-05	4.80E-05	6.02E-05
Selenium								
mg/m3	< 0.00028	< 0.00012	< 0.00029	< 0.00097	< 0.00029	< 0.00169	< 0.00018	< 0.00055
mg/m3 @ 15% O ₂	< 0.00034	< 0.00015	< 0.00035	< 0.00118	< 0.00035	< 0.00204	< 0.00022	< 0.00066
lb/hr	< 3.70E-05	< 1.60E-05	< 3.75E-05	< 1.26E-04	< 3.80E-05	< 2.18E-04	< 2.29E-05	< 7.08E-05

ND< - species not detected in sample, ND< ≠ BDL

< - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL

Data reported without ND< or < = ADL

FRONT HALFTRACE METALS LABORATORY SUMMARY
DTE SUNSHINE
CT4 STACK

Test No.:	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	AVERAGES
Date:	2/7/23	2/8/23	2/8/23	2/9/23	2/9/23	2/10/23	2/10/23	
Start Time:	10:50	8:10	13:05	8:05	12:40	7:50	12:15	
Stop Time:	15:00	12:20	17:15	12:15	16:50	12:00	16:25	
Flow Rate, dscfm:	34.801	34.847	34.702	34.614	34.850	34.552	34.453	34.688
Sample Volume, dscf:	178.48	179.87	178.95	181.31	177.55	173.28	171.62	177.29
O2, % volume dry:	16.02	16.01	16.07	16.04	15.98	16.01	16.05	16.03
CO2, % volume dry:	4.40	4.52	4.47	4.37	4.30	4.49	4.54	4.44
Moisture, % by volume:	5.03	5.07	5.13	5.04	4.90	4.94	5.09	5.03
Species								
Antimony F%								
mg/dscm	0.00007	0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005	< 0.00005
mg/dscm @ 15% O2	0.00008	0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	< 0.00006
lb/hr	8.84E-06	6.43E-06	ND< 6.41E-06	ND< 6.31E-06	ND< 6.49E-06	ND< 6.59E-06	ND< 6.63E-06	< 6.81E-06
Arsenic F%								
mg/dscm	ND< 0.00013	ND< 0.00013	ND< 0.00013	ND< 0.00013	ND< 0.00013	ND< 0.00014	ND< 0.00014	ND< 0.00013
mg/dscm @ 15% O2	ND< 0.00016	ND< 0.00016	ND< 0.00016	ND< 0.00016	ND< 0.00016	ND< 0.00017	ND< 0.00017	ND< 0.00016
lb/hr	ND< 1.73E-05	ND< 1.72E-05	ND< 1.72E-05	ND< 1.69E-05	ND< 1.74E-05	ND< 1.77E-05	ND< 1.78E-05	ND< 1.74E-05
Beryllium F%								
mg/dscm	0.00002	0.00003	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00002
mg/dscm @ 15% O2	0.00003	0.00004	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00002
lb/hr	2.99E-06	4.20E-06	ND< 1.36E-06	ND< 1.34E-06	ND< 1.38E-06	ND< 1.40E-06	ND< 1.41E-06	< 2.01E-06
Cadmium F%								
mg/dscm	0.00005	0.00003	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	0.00001	< 0.00002
mg/dscm @ 15% O2	0.00006	0.00004	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	0.00001	< 0.00002
lb/hr	5.98E-06	4.43E-06	ND< 1.33E-06	ND< 1.31E-06	ND< 1.35E-06	ND< 1.37E-06	1.39E-06	< 2.45E-06
Chromium F%								
mg/dscm	0.00090	0.00124	0.00089	0.00119	0.00125	0.00087	0.00126	0.00108
mg/dscm @ 15% O2	0.00108	0.00149	0.00109	0.00144	0.00150	0.00105	0.00153	0.00131
lb/hr	1.17E-04	1.61E-04	1.16E-04	1.54E-04	1.63E-04	1.12E-04	1.62E-04	1.41E-04
Cobalt F%								
mg/dscm	0.00003	0.00004	0.00022	0.00002	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00005
mg/dscm @ 15% O2	0.00003	0.00005	0.00027	0.00002	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00006
lb/hr	3.66E-06	5.15E-06	2.92E-05	1.96E-06	ND< 1.46E-06	ND< 1.48E-06	ND< 1.49E-06	< 6.34E-06
Lead F%								
mg/dscm	0.00013	0.00011	0.00007	0.00007	0.00008	0.00006	0.00007	0.00008
mg/dscm @ 15% O2	0.00015	0.00013	0.00008	0.00008	0.00010	0.00008	0.00009	0.00010
lb/hr	1.63E-05	1.40E-05	8.84E-06	8.98E-06	1.05E-05	8.20E-06	9.13E-06	1.09E-05
Manganese F%								
mg/dscm	0.00020	0.00019	0.00015	0.00015	0.00014	0.00030	0.00033	0.00021
mg/dscm @ 15% O2	0.00025	0.00023	0.00018	0.00018	0.00017	0.00036	0.00040	0.00025
lb/hr	2.65E-05	2.49E-05	1.90E-05	1.95E-05	1.88E-05	3.82E-05	4.27E-05	2.71E-05
Mercury F%								
mg/dscm	ND< 0.00000	ND< 0.00000	ND< 0.00000	ND< 0.00000	ND< 0.00000	ND< 0.00001	ND< 0.00001	ND< 0.00000
mg/dscm @ 15% O2	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
lb/hr	ND< 6.44E-07	ND< 6.40E-07	ND< 6.41E-07	ND< 6.31E-07	ND< 6.49E-07	ND< 6.59E-07	ND< 6.63E-07	ND< 6.47E-07
Nickel F%								
mg/dscm	0.00043	0.00036	0.00027	0.00038	0.00030	0.00025	0.00030	0.00033
mg/dscm @ 15% O2	0.00052	0.00044	0.00033	0.00046	0.00036	0.00031	0.00037	0.00040
lb/hr	5.57E-05	4.74E-05	3.51E-05	4.92E-05	3.87E-05	3.29E-05	3.90E-05	4.26E-05
Selenium F%								
mg/dscm	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006
mg/dscm @ 15% O2	ND< 0.00007	ND< 0.00007	ND< 0.00007	ND< 0.00007	ND< 0.00007	ND< 0.00007	ND< 0.00008	ND< 0.00007
lb/hr	ND< 7.83E-06	ND< 7.78E-06	ND< 7.79E-06	ND< 7.67E-06	ND< 7.89E-06	ND< 8.01E-06	ND< 8.07E-06	ND< 7.86E-06

ND< = species not detected in sample. ND< = BDL
 < = species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL
 Data reported without ND< or < = ADL

BACK HALF TRACE METALS LABORATORY SUMMARY
DTE SUNSHINE
CT4 STACK

Test No.:	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	AVERAGES
Date:	2/7/23	2/8/23	2/8/23	2/8/23	2/9/23	2/10/23	2/10/23	
Start Time:	10:50	8:10	13:05	8:05	12:40	7:50	12:15	
Stop Time:	15:00	12:20	17:15	12:15	16:50	12:00	16:25	
Flow Rate, dscfm:	34.801	34.847	34.702	34.614	34.850	34.552	34.453	34.688
Sample Volume, dscf:	178.48	179.87	178.95	181.31	177.55	173.28	171.62	177.29
O ₂ , % volume dry:	16.02	16.01	16.07	16.04	15.98	16.01	16.05	16.03
CO ₂ , % volume dry:	4.40	4.52	4.47	4.37	4.30	4.49	4.54	4.44
Moisture, % by volume:	5.03	5.07	5.13	5.04	4.90	4.94	5.09	5.03
Species								
Antimony B½								
mg/dscm	0.00002	0.00001	0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00001
mg/dscm @ 15% O ₂	0.00002	0.00002	0.00002	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00002
lb/hr	2.60E-06	1.80E-06	1.73E-06	ND< 1.42E-06	ND< 1.37E-06	ND< 1.40E-06	ND< 1.41E-06	< 1.68E-06
Arsenic B½								
mg/dscm	0.00001	0.00002	0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00001
mg/dscm @ 15% O ₂	0.00001	0.00003	0.00002	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00002
lb/hr	1.53E-06	3.07E-06	1.79E-06	ND< 1.42E-06	ND< 1.37E-06	ND< 1.40E-06	ND< 1.41E-06	< 1.71E-06
Beryllium B½								
mg/dscm	0.000006	0.000004	ND< 0.000003	ND< 0.000004	ND< 0.000003	ND< 0.000004	0.000004	< 0.000004
mg/dscm @ 15% O ₂	0.000008	0.000005	ND< 0.000004	ND< 0.000004	ND< 0.000004	ND< 0.000004	0.000005	< 0.000005
lb/hr	8.22E-07	5.25E-07	ND< 4.41E-07	ND< 4.59E-07	ND< 4.48E-07	ND< 4.53E-07	5.60E-07	< 5.29E-07
Cadmium B½								
mg/dscm	0.00013	0.00003	0.00002	0.00003	0.00001	ND< 0.00000	ND< 0.00000	< 0.00003
mg/dscm @ 15% O ₂	0.00015	0.00004	0.00002	0.00003	0.00001	ND< 0.00001	ND< 0.00001	< 0.00004
lb/hr	1.64E-05	3.84E-06	2.44E-06	3.36E-06	7.29E-07	ND< 5.40E-07	ND< 5.44E-07	< 3.98E-06
Chromium B½								
mg/dscm	0.00013	0.00012	0.00010	0.00011	0.00011	0.00010	0.00009	0.00011
mg/dscm @ 15% O ₂	0.00016	0.00014	0.00012	0.00014	0.00013	0.00013	0.00011	0.00013
lb/hr	1.70E-05	1.55E-05	1.26E-05	1.47E-05	1.45E-05	1.35E-05	1.19E-05	1.42E-05
Cobalt B½								
mg/dscm	0.00002	0.00001	0.00000	0.00001	0.00001	0.00001	0.00001	0.00001
mg/dscm @ 15% O ₂	0.00002	0.00002	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
lb/hr	2.16E-06	1.87E-06	6.18E-07	1.10E-06	9.60E-07	7.11E-07	9.23E-07	1.19E-06
Lead B½								
mg/dscm	0.00015	0.00009	0.00004	0.00007	0.00004	0.00004	0.00003	0.00006
mg/dscm @ 15% O ₂	0.00018	0.00011	0.00005	0.00008	0.00005	0.00005	0.00003	0.00008
lb/hr	1.90E-05	1.22E-05	5.25E-06	8.53E-06	5.40E-06	5.06E-06	3.24E-06	8.38E-06
Manganese B½								
mg/dscm	0.00024	0.00017	0.00008	0.00011	0.00013	0.00021	0.00028	0.00018
mg/dscm @ 15% O ₂	0.00029	0.00021	0.00010	0.00014	0.00016	0.00025	0.00035	0.00021
lb/hr	3.12E-05	2.23E-05	1.07E-05	1.45E-05	1.70E-05	2.69E-05	3.66E-05	2.27E-05
Mercury B½								
mg/dscm	< 0.00014	< 0.00011	< 0.00019	< 0.00010	< 0.00008	< 0.00010	< 0.00008	< 0.00011
mg/dscm @ 15% O ₂	< 0.00017	< 0.00013	< 0.00024	< 0.00012	< 0.00010	< 0.00012	< 0.00010	< 0.00014
lb/hr	< 1.88E-05	< 1.37E-05	< 2.51E-05	< 1.27E-05	< 1.07E-05	< 1.28E-05	< 1.04E-05	< 1.49E-05
Nickel B½								
mg/dscm	0.00028	0.00012	0.00015	0.00015	0.00011	0.00007	0.00007	0.00014
mg/dscm @ 15% O ₂	0.00034	0.00014	0.00019	0.00018	0.00013	0.00009	0.00009	0.00016
lb/hr	3.71E-05	1.51E-05	1.97E-05	1.88E-05	1.43E-05	9.62E-06	9.02E-06	1.77E-05
Selenium B½								
mg/dscm	0.00022	0.00006	0.00023	0.00091	0.00023	0.00163	0.00011	0.00049
mg/dscm @ 15% O ₂	0.00027	0.00008	0.00028	0.00111	0.00028	0.00196	0.00014	0.00059
lb/hr	2.91E-05	8.24E-06	2.97E-05	1.18E-04	3.01E-05	2.10E-04	1.48E-05	6.29E-05

ND< - species not detected in sample. ND< = BDL
 < - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL
 Data reported without ND< or < = ADL

EPA 29 - TRACE METALS EXAMPLE CALCULATION

TEST NUMBER: CT-4-1-EPA 29

Example For Antimony (Sb)

Identifier	Description	Units	Equation	Value
A	Stack O ₂	%	--	16.02
B	Stack CO ₂	%	--	4.40
C	Meter Volume	acf	--	189.103
D	Barometric Pressure	" Hg	--	28.36
E	Delta H	" H ₂ O	--	2.0
F	Reference Temperature	R	--	528
G	Meter Temperature	R	--	540.4
H	Y _d	--	--	1.014
I	Meter Volume (standard)	dscf	$1/29.92 * C * (D + E/13.6) * F/G * H$	178.482
J	Liquid Collected	grams	--	200.4
K	Water vapor volume	scf	$0.04716 * J * F/528$	9.451
L	Moisture Content	--	$T/(T + R)$	0.050
M	Molecular weight, dry	lb/lb-mole	$0.44 * B + 0.32 * A + 0.28 * (100 - A - B)$	29.35
N	Molecular weight, wet	lb/lb-mole	$M * (1 - L) + 18 * L$	28.77
O	Static Pressure	" H ₂ O	--	-0.55
P	Stack Pressure	" Hg	$D + O/13.6$	28.32
Q	Average Velocity Differential Pressure	" H ₂ O	square of the average of the square roots	1.0087
R	Stack Temperature	R	--	1163.54
S	Pitot Tube Coefficient	--	--	0.84
T	Stack Velocity	fps	$85.49 * S * \text{sqrt}(Q * R / P / N)$	86.18
U	Stack Area	ft ²	--	16.50
V	Stack Flow Rate	acfm	$T * U * 60$	85,314
W	Stack Flow Rate	dscfm	$V * (1 - L) * F * P / R / 29.92$	34,801
X	Sample Time	minutes	--	240.0
Y	Nozzle Diameter	inches	--	0.254
Z	Isokinetic Sampling Rate	%	$14,128 * 528 / F * R * I / X / T / 60 / (D * 13.6 + O) / Y^2$	100.2
AA	Antimony Catch	ug	--	0.44
AB	Antimony Concentration	ug/dscf	AA / I	0.0025
AC	Antimony Concentration	mg/dscm	$AB * 35.31/10^3$	0.000088
AD	Antimony Concentration	mg/dscfm @15%O ₂	$AC * 5.9 / (20.9 - A)$	0.000106
AE	Antimony Emissions	lb/hr	$W * 60 * AB / 454 * 10^6$	1.14E-05

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only.

Gaseous Emissions Test Summary
SUNSHINE GAS CT 4

Test Number	1-EPA320	2-EPA320	3-EPA320	4-EPA320	5-EPA320	6-EPA320	7-EPA320	
Date	2/7/2023	2/7/2023	2/7/2023	2/8/2023	2/8/2023	2/8/2023	2/8/2023	Averages
Start Time	10:50	12:00	13:15	9:06	10:19	11:23	13:05	
Stop Time	11:50	13:08	14:15	10:06	11:19	12:32	14:05	

Pre-Test Information:

Reference Temperature, °F	68	68	68	68	68	68	68	
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Diluent Emissions and Stack Flow Rate:

O ₂ , % vol. dry	16.02	16.02	16.02	16.01	16.01	16.01	16.07	16.03
CO ₂ , % vol. dry	4.40	4.40	4.40	4.52	4.52	4.52	4.47	4.46
Stack Flow Rate, dscfm	34,673	34,673	34,673	34,670	34,670	34,670	34,381	34,630

Pollutant Emissions:

Hydrochloric Acid (HCl)

ppm vol. dry	0.54	0.49	0.50	0.45	0.51	0.56	0.60	0.52
ppmc vol. dry @ 15% O ₂	0.65	0.59	0.61	0.54	0.61	0.68	0.73	0.63
lb/hr	0.11	0.10	0.10	0.09	0.10	0.11	0.12	0.10

Hydrogen Fluoride (HF)

ppm vol. dry	1.72	1.67	1.79	1.62	1.81	1.90	2.00	1.79
ppmc vol. dry @ 15% O ₂	2.08	2.02	2.16	1.95	2.19	2.30	2.44	2.16
lb/hr	0.19	0.18	0.19	0.17	0.20	0.21	0.21	0.19

Formaldehyde (CH₂O)

ppm vol. dry	0.021	0.021	0.028	0.035	0.026	0.028	0.030	0.027
ppmc vol. dry @ 15% O ₂	0.026	0.025	0.034	0.042	0.032	0.034	0.037	0.033
lb/hr	0.003	0.003	0.005	0.006	0.004	0.005	0.005	0.004

EPA 320 EXAMPLE CALCULATION

TEST NUMBER: CT-4- 1-EPA 320

Run 1

Identifier	Description	Units	Equation	Value
Using Data from Run 1:				
A	Formaldehyde (from FTIR)	ppmvw	--	0.02
B	Formaldehyde (from FTIR)	ppmvd	--	0.02
C	HCL (from FTIR)	ppmvw	--	0.51
D	HCL (from FTIR)	ppmvd	--	0.54
E	HF (from FTIR)	ppmvw	--	1.62
F	HF (from FTIR)	ppmvd	--	1.72
G	Formaldehyde	ppmvd@15%O2	$B * 5.9 / (20.9 - J)$	0.03
H	HCL	ppmvd@15%O2	$D * 5.9 / (20.9 - J)$	0.65
I	HF	ppmvd@15%O2	$F * 5.9 / (20.9 - J)$	2.08
J	Drift/Bias Corrected O ₂	%	--	16.02
K	Drift/Bias Corrected CO ₂	%	--	4.40
L	Meter Volume	acf	--	199.991
M	Barometric Pressure	" Hg	--	28.36
N	Delta H	" H ₂ O	--	2.0125
O	Reference Temperature	R	--	528
P	Meter Temperature	R	--	544.5
Q	Y _d	--	--	0.992
R	Meter Volume (standard)	dscf	$1/29.92 * C * (D + E/13.6) * F/G * H$	183.286
S	Liquid Collected	grams	--	219
T	Water vapor volume	scf	$0.04716 * S * F/528$	10.328
U	Moisture Content	--	$T/(T + R)$	0.053
V	Molecular weight, dry	lb/lb-mole	$0.44 * K + 0.32 * J + 0.28 * (100 - J - K)$	29.35
W	Molecular weight, wet	lb/lb-mole	$V * (1 - U) + 18 * U$	28.74
X	Static Pressure	" H ₂ O	--	-0.55
Y	Stack Pressure	" Hg	$M + X/13.6$	28.32
Z	Average Velocity Differential Pressure	" H ₂ O	square of the average of the square roots	1.0065
AA	Stack Temperature	R	--	1163.458
AB	Pitot Tube Coeficient	--	--	0.84
AC	Stack Velocity	fps	$85.49 * AB * \sqrt{Z * AA / Y / W}$	86.14
AD	Stack Area	ft ²	--	16.50
AE	Stack Flow Rate	acfm	$AC * AD * 60$	85,268
AF	Stack Flow Rate	dscfm	$AE * (1 - U) * O * Y / AA / 29.92$	34,673
AG	Specific Molar Volume	SCF/lb-mole	$385.3 * O / 528$	385.3
AH	Formaldehyde Emission Rate	lb/hr	$B * 30.031 * AF * 60 / AG / 10^6$	0.003
AI	HCL Emission Rate	lb/hr	$D * 36.458 * AF * 60 / AG / 10^6$	0.106
AJ	HF Emission Rate	lb/hr	$F * 20.01 * AF * 60 / AG / 10^6$	0.185

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only. Stack gas velocity and moisture content was reported from EPA Method 5, R1.

Appendix C.2.2

CT-5 Data

Gaseous Emissions Test Summary
SUNSHINE GAS CT 5

Test Number	RUN 1-CT5	RUN 2-CT5	RUN 3-CT5	RUN 4-CT5	RUN 5-CT5	RUN 6-CT5	RUN 7-CT5	
Date	2/14/2023	2/14/2023	2/15/2023	2/15/2023	2/16/2023	2/16/2023	2/17/2023	Averages
Start Time	8:01	12:21	7:36	12:01	7:36	12:01	7:31	
Stop Time	12:10	16:30	11:46	16:11	11:45	16:10	11:40	
Pre-Test Information:								
Reference Temperature, °F	68	68	68	68	68	68	68	
Diluent Emissions and Stack Flow Rate:								
O ₂ , % vol. dry	16.08	16.08	16.11	16.15	16.20	16.22	16.17	16.15
CO ₂ , % vol. dry	4.3	4.3	4.2	4.2	4.2	4.1	4.3	4.2
Stack Flow Rate, dscfm	33,956	33,815	34,017	33,819	34,037	34,235	33,840	33,960
Pollutant Emissions:								
Carbon Monoxide (CO)								
ppm vol. dry	0.39	0.08	0.14	0.12	0.15	0.08	0.26	0.18
ppmc vol. dry @ 15% O ₂	0.48	0.09	0.17	0.15	0.19	0.10	0.33	0.22
lb/hr	0.06	0.01	0.02	0.02	0.02	0.01	0.04	0.03

EPA 10 EXAMPLE CALCULATION

TEST NUMBER: CT-5- 1-EPA 10

Run 1

Identifier	Description	Units	Equation	Value
Using Data from Run 1:				
A	CO Pre-Test Zero Bias Response	ppm	--	-0.03
B	CO Post-Test Zero Bias Response	ppm	--	0.02
C	CO Pre-Test Span Bias Response	ppm	--	4.61
D	CO Post-Test Span Bias Response	ppm	--	4.68
E	Avg. Pre-Test Zero Bias Response	ppm	$(A+B)/2$	-0.01
F	Avg. Post-Test Span Bias Response	ppm	$(C+D)/2$	4.64
G	CO Span Gas Value	ppm	--	4.68
H	CO Average (raw)	ppm	--	0.38
I	Drift/Bias Corrected CO:	ppm	$(H-E)/(F-E)*G$	0.39
J	Drift/Bias Corrected O ₂ :	%	--	16.08
K	Drift/Bias Corrected CO ₂ :	%	--	4.29
L	Meter Volume	acf	--	189.534
M	Barometric Pressure	" Hg	--	27.98
N	Delta H	" H ₂ O	--	1.991667
O	Reference Temperature	R	--	528
P	Meter Temperature	R	--	528.6
Q	Y _d	--	--	0.992
R	Meter Volume (standard)	dscf	$1/29.92 * C * (D + E/13.6) * F/G * H$	176.538
S	Liquid Collected	grams	--	227.8
T	Water vapor volume	scf	$0.04716 * S * F/528$	10.743
U	Moisture Content	--	$T/(T + R)$	0.057
V	Molecular weight, dry	lb/lb-mole	$0.44 * K + 0.32 * J + 0.28 * (100 - J - K)$	29.33
W	Molecular weight, wet	lb/lb-mole	$V * (1 - U) + 18 * U$	28.68
X	Static Pressure	" H ₂ O	--	-0.58
Y	Stack Pressure	" Hg	$M + X/13.6$	27.94
Z	Average Velocity Differential Pressure	" H ₂ O	square of the average of the square roots	0.9831
AA	Stack Temperature	R	--	1161.458
AB	Pitot Tube Coefficient	--	--	0.84
AC	Stack Velocity	fps	$85.49 * AB * \sqrt{Z * AA / Y / W}$	85.73
AD	Stack Area	ft ²	--	16.50
AE	Stack Flow Rate	acfm	$AC * AD * 60$	84,863
AF	Stack Flow Rate	dscfm	$AE * (1 - U) * O * Y / AA / 29.92$	33,956
AG	Specific Molar Volume	SCF/lb-mole	$385.3 * O / 528$	385.3
AH	CO emission rate	lb/hr	$I * 28 * AF * 60 / AG / 10^6$	0.06
AI	CO concentration, corrected	ppm@15%O ₂	$I * 5.9 / (20.9 - J)$	0.48

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only. Stack gas velocity and moisture content was reported from EPA Method 5, R1.

Montrose
Particulate Matter Test Summary

Client/Location.....	DTE Sunshine	Reference Temp (F):	68
Sample Location.....	CT5	Fuel.....	Landfill
Test No.....	1-EPA 5	Data By.....	DH/AD
Date.....	February 14, 2023	February 15, 2023	February 16, 2023
Start Time.....	8:00	7:35	7:30
Stop Time.....	12:10	11:45	11:40
Bar Press (in Hg).....	27.98	28.33	28.14
Test Method.....	EPA M5	EPA M5	EPA M5
Sample Time (Min).....	240	240	240
Sample Train.....	42 WCS	42 WCS	42 WCS
Meter Cal Factor.....	0.992	0.992	0.992
Pilot Factor.....	0.84	0.84	0.84
Nozzle Diam (in).....	0.257	0.257	0.257
Stack Area (sq ft).....	16.50	16.50	16.50
Stack O2 (%).....	16.08	16.15	16.17
Stack CO2 (%).....	4.29	4.19	4.14
Stack Press (iwg).....	-0.58	-0.49	-0.49
Stack Temp (F).....	701.5	709.1	704.7
Vel Head (iwg).....	0.9831	0.9739	0.9665
Meter Temp (F).....	68.6	61.7	68.3
Meter Press (iwg).....	1.992	1.971	1.954
Meter Vol (act).....	189.534	191.308	190.937
Liquid Vol (ml).....	227.8	218.5	213.9
Std Sample Vol (SCF).....	176.538	182.502	177.555
Moisture Fraction.....	0.05736	0.055	0.044
Stack Gas Mol Wt.....	28.68	28.70	28.81
Stack Gas Velocity (ft/sec).....	85.73	85.03	84.56
Isokinetic Ratio (%).....	99.2	102.4	99.0
Stack Flow Rate (wacfm).....	84,863	84,176	83,710
Stack Flow Rate (dscfm).....	33,956	34,017	34,235
Stack Flow Rate (scfm).....	36,022	35,998	35,812
Heated Filter, mg.....	0.6	0.6	0.5
Probe Wash, mg.....	0.0	0.1	0.2
Total Weight Gain, mg.....	0.6	0.7	0.7
Particulate Emissions			
Grain Loading, gr/dscf.....	0.00005	0.00006	0.00006
Grain Loading @ 15% O ₂	0.00006	0.00008	0.00008
Mass Emissions, lb/hr.....	0.015	0.018	0.017
Average.....			

EPA 5 EXAMPLE CALCULATION

TEST NUMBER: CT-5- 1-EPA 5

				Run 1
Identifier	Description	Units	Equation	Value
A	Stack O ₂	%	--	16.08
B	Stack CO ₂	%	--	4.29
C	Meter Volume	acf	--	189.534
D	Barometric Pressure	" Hg	--	27.98
E	Delta H	" H ₂ O	--	2.0
F	Reference Temperature	R	--	528
G	Meter Temperature	R	--	528.6
H	Y _d	--	--	0.992
I	Meter Volume (standard)	dscf	$1/29.92 * C * (D + E/13.6) * F/G * H$	176.538
J	Liquid Collected	grams	--	227.8
K	Water vapor volume	scf	$0.04716 * J * F/528$	10.743
L	Moisture Content	--	$T/(T + R)$	0.057
M	Molecular weight, dry	lb/lb-mole	$0.44 * B + 0.32 * A + 0.28 * (100 - A - B)$	29.33
N	Molecular weight, wet	lb/lb-mole	$M * (1 - L) + 18 * L$	28.68
O	Static Pressure	" H ₂ O	--	-0.58
P	Stack Pressure	" Hg	$D + O/13.6$	27.94
Q	Average Velocity Differential Pressure	" H ₂ O	square of the average of the square roots	0.9831
R	Stack Temperature	R	--	1161.458333
S	Pitot Tube Coefficient	--	--	0.84
T	Stack Velocity	fps	$85.49 * S * \sqrt{Q * R / P / N}$	85.73
U	Stack Area	ft ²	--	16.50
V	Stack Flow Rate	acfm	$T * U * 60$	84,863
W	Stack Flow Rate	dscfm	$V * (1 - L) * F * P / R / 29.92$	33,956
X	Sample Time	minutes	--	240.0
Y	Nozzle Diameter	inches	--	0.257
Z	Isokinetic Sampling Rate	%	$14,128 * 528 / F * R * I / X / T / 60 / (D * 13.6 + O) / Y^2$	99.2
AA	Particulate Catch	mg	--	0.6
AB	Particulate Catch	lbs	$AA / 454,000$	1.32E-06
AC	Particulate Cate	grains	$AB * 7,000$	0.009
AD	Particulate Emissions	gr/dscf	AC / I	0.000052
AE	Particulate Emissions	gr/dscf @ 15% O ₂	$AD * 5.9 / (20.9 - A)$	0.000064
AF	Particulate Emissions	gr/dscf @ 12% CO ₂	$AD * 12 / B$	0.000147
AG	Particulate Emissions	lb/hr	$AD * 60 / 7,000 * V$	0.0153

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only.

TOTAL TRACE METALS LABORATORY SUMMARY
DTE SUNSHINE
CT5 STACK

Test No.:	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	AVERAGES
Date:	2/14/23	2/14/23	2/15/23	2/15/23	2/16/23	2/16/23	2/17/23	
Start Time:	8:00	12:20	7:35	12:00	7:35	12:00	7:30	
Stop Time:	12:10	16:30	12:45	16:10	11:45	16:10	11:40	
Flow Rate, dscfm:	33.749	33.854	33.920	33.742	33.727	33.795	33.652	33.777
Sample Volume, dscf:	175.69	171.57	178.69	174.82	179.16	173.04	174.67	175.38
O ₂ , % volume dry:	16.08	16.08	16.11	16.15	16.20	16.22	16.17	16.15
CO ₂ , % volume dry:	4.29	4.25	4.23	4.18	4.19	4.14	4.27	4.22
Moisture, % by volume:	5.09	4.79	4.95	4.97	4.76	4.81	4.91	4.90
Species								
Antimony								
mg/m3	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006
mg/m3 @ 15% O ₂	ND< 0.00007	ND< 0.00008	ND< 0.00007	ND< 0.00008	ND< 0.00007	ND< 0.00008	ND< 0.00008	ND< 0.00008
lb/hr	ND< 7.69E-06	ND< 7.90E-06	ND< 7.68E-06	ND< 7.73E-06	ND< 7.54E-06	ND< 7.82E-06	ND< 7.71E-06	ND< 7.73E-06
Arsenic								
mg/m3	ND< 0.00015	ND< 0.00015	ND< 0.00014	ND< 0.00015	ND< 0.00014	ND< 0.00015	ND< 0.00015	ND< 0.00015
mg/m3 @ 15% O ₂	ND< 0.00018	ND< 0.00018	ND< 0.00018	ND< 0.00018	ND< 0.00018	ND< 0.00019	ND< 0.00018	ND< 0.00018
lb/hr	ND< 1.84E-05	ND< 1.89E-05	ND< 1.82E-05	ND< 1.85E-05	ND< 1.80E-05	ND< 1.87E-05	ND< 1.84E-05	ND< 1.84E-05
Beryllium								
mg/m3	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00002	< 0.00001
mg/m3 @ 15% O ₂	ND< 0.00002	ND< 0.00002	ND< 0.00002	ND< 0.00002	ND< 0.00002	ND< 0.00002	< 0.00002	< 0.00002
lb/hr	ND< 1.79E-06	ND< 1.84E-06	ND< 1.79E-06	ND< 1.80E-06	ND< 1.75E-06	ND< 1.82E-06	< 2.17E-06	< 1.85E-06
Cadmium								
mg/m3	ND< 0.00001	< 0.00003	< 0.00002	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00001	< 0.00002
mg/m3 @ 15% O ₂	ND< 0.00002	< 0.00003	< 0.00002	ND< 0.00002	ND< 0.00002	ND< 0.00002	< 0.00002	< 0.00002
lb/hr	ND< 1.84E-06	< 3.17E-06	< 2.20E-06	ND< 1.85E-06	ND< 1.80E-06	ND< 1.87E-06	< 1.85E-06	< 2.08E-06
Chromium								
mg/m3	0.00102	0.00136	0.00104	0.00101	0.00100	0.00082	0.00111	0.00105
mg/m3 @ 15% O ₂	0.00125	0.00166	0.00128	0.00126	0.00125	0.00103	0.00139	0.00130
lb/hr	1.29E-04	1.72E-04	1.32E-04	1.28E-04	1.26E-04	1.03E-04	1.40E-04	1.33E-04
Cobalt								
mg/m3	ND< 0.00001	ND< 0.00001	< 0.00002	< 0.00001	< 0.00002	ND< 0.00001	< 0.00002	< 0.00002
mg/m3 @ 15% O ₂	ND< 0.00002	ND< 0.00002	< 0.00002	< 0.00002	< 0.00002	ND< 0.00002	< 0.00002	< 0.00002
lb/hr	ND< 1.84E-06	ND< 1.89E-06	< 1.96E-06	< 1.87E-06	< 2.00E-06	ND< 1.87E-06	< 2.10E-06	< 1.93E-06
Lead								
mg/m3	0.00008	0.00009	0.00009	0.00008	0.00009	0.00008	0.00009	0.00008
mg/m3 @ 15% O ₂	0.00010	0.00011	0.00011	0.00010	0.00011	0.00010	0.00011	0.00011
lb/hr	1.07E-05	1.11E-05	1.11E-05	9.85E-06	1.10E-05	1.02E-05	1.12E-05	1.07E-05
Manganese								
mg/m3	0.00323	0.00057	0.00049	0.00023	0.00031	0.00066	0.00059	0.00087
mg/m3 @ 15% O ₂	0.00395	0.00070	0.00060	0.00028	0.00039	0.00084	0.00074	0.00107
lb/hr	4.07E-04	7.27E-05	6.19E-05	2.86E-05	3.94E-05	8.38E-05	7.43E-05	1.10E-04
Mercury								
mg/m3	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
mg/m3 @ 15% O ₂	< 0.00010	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00012	< 0.00011	< 0.00011
lb/hr	< 1.08E-05	< 1.16E-05	< 1.10E-05	< 1.11E-05	< 1.10E-05	< 1.18E-05	< 1.11E-05	< 1.12E-05
Nickel								
mg/m3	0.00036	0.00043	0.00037	0.00039	0.00051	0.00036	0.00040	0.00040
mg/m3 @ 15% O ₂	0.00044	0.00052	0.00045	0.00049	0.00064	0.00045	0.00050	0.00050
lb/hr	4.56E-05	5.39E-05	4.68E-05	4.95E-05	6.42E-05	4.54E-05	5.04E-05	5.08E-05
Selenium								
mg/m3	< 0.00175	< 0.00053	< 0.00405	< 0.00013	< 0.00022	< 0.00011	< 0.00025	< 0.00101
mg/m3 @ 15% O ₂	< 0.00214	< 0.00065	< 0.00499	< 0.00016	< 0.00028	< 0.00014	< 0.00031	< 0.00124
lb/hr	< 2.20E-04	< 6.78E-05	< 5.14E-04	< 1.61E-05	< 2.79E-05	< 1.40E-05	< 3.13E-05	< 1.27E-04

ND< - species not detected in sample. ND< = BDL

< - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL
Data reported without ND< or < = ADL

FRONT HALF TRACE METALS LABORATORY SUMMARY DTE SUNSHINE CT5 STACK

Test No.:	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	AVERAGES
Date:	2/14/23	2/14/23	2/15/23	2/15/23	2/16/23	2/16/23	2/17/23	
Start Time:	8:00	12:20	7:35	12:00	7:35	12:00	7:30	
Stop Time:	12:10	16:30	12:45	16:10	11:45	16:10	11:40	
Flow Rate, dscfm:	33.749	33.854	33.920	33.742	33.727	33.795	33.652	33.777
Sample Volume, dscf:	175.69	171.57	178.69	174.82	179.16	173.04	174.67	175.38
O ₂ , % volume dry:	16.08	16.08	16.11	16.15	16.20	16.22	16.17	16.15
CO ₂ , % volume dry:	4.29	4.25	4.23	4.18	4.19	4.14	4.27	4.22
Moisture, % by volume:	5.09	4.79	4.95	4.97	4.76	4.81	4.91	4.90
Species								
Antimony F_{1/2}								
mg/dscm	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005	ND< 0.00005
mg/dscm @ 15% O ₂	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006
lb/hr	ND< 6.35E-06	ND< 6.52E-06	ND< 6.27E-06	ND< 6.38E-06	ND< 6.22E-06	ND< 6.45E-06	ND< 6.37E-06	ND< 6.36E-06
Arsenic F_{1/2}								
mg/dscm	ND< 0.00013	ND< 0.00014	ND< 0.00013	ND< 0.00014	ND< 0.00013	ND< 0.00014	ND< 0.00014	ND< 0.00014
mg/dscm @ 15% O ₂	ND< 0.00017	ND< 0.00017	ND< 0.00016	ND< 0.00017	ND< 0.00017	ND< 0.00017	ND< 0.00017	ND< 0.00017
lb/hr	ND< 1.70E-05	ND< 1.75E-05	ND< 1.68E-05	ND< 1.71E-05	ND< 1.67E-05	ND< 1.73E-05	ND< 1.71E-05	ND< 1.71E-05
Beryllium F_{1/2}								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
lb/hr	ND< 1.35E-06	ND< 1.39E-06	ND< 1.33E-06	ND< 1.36E-06	ND< 1.32E-06	ND< 1.37E-06	ND< 1.35E-06	ND< 1.41E-06
Cadmium F_{1/2}								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
lb/hr	ND< 1.32E-06	ND< 1.35E-06	ND< 1.30E-06	ND< 1.32E-06	ND< 1.29E-06	ND< 1.34E-06	ND< 1.33E-06	ND< 1.32E-06
Chromium F_{1/2}								
mg/dscm	0.00092	0.00126	0.00091	0.00089	0.00089	0.00072	0.00093	0.00093
mg/dscm @ 15% O ₂	0.00112	0.00154	0.00112	0.00111	0.00112	0.00091	0.00116	0.00115
lb/hr	1.16E-04	1.60E-04	1.15E-04	1.13E-04	1.13E-04	9.14E-05	1.17E-04	1.18E-04
Cobalt F_{1/2}								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
lb/hr	ND< 1.43E-06	ND< 1.47E-06	ND< 1.41E-06	ND< 1.43E-06	ND< 1.40E-06	ND< 1.45E-06	ND< 1.43E-06	ND< 1.43E-06
Lead F_{1/2}								
mg/dscm	0.00006	0.00006	0.00006	0.00006	0.00007	0.00007	0.00007	0.00006
mg/dscm @ 15% O ₂	0.00008	0.00008	0.00007	0.00007	0.00009	0.00009	0.00009	0.00008
lb/hr	8.15E-06	8.19E-06	7.40E-06	7.12E-06	8.66E-06	8.60E-06	8.76E-06	8.12E-06
Manganese F_{1/2}								
mg/dscm	0.00013	0.00047	0.00014	0.00014	0.00013	0.00053	0.00025	0.00026
mg/dscm @ 15% O ₂	0.00016	0.00057	0.00017	0.00017	0.00017	0.00067	0.00031	0.00032
lb/hr	1.65E-05	5.95E-05	1.72E-05	1.78E-05	1.67E-05	6.69E-05	3.13E-05	3.23E-05
Mercury F_{1/2}								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00000	ND< 0.00001	ND< 0.00000	ND< 0.00001	ND< 0.00001	ND< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
lb/hr	ND< 6.35E-07	ND< 6.52E-07	ND< 6.27E-07	ND< 6.38E-07	ND< 6.22E-07	ND< 6.45E-07	ND< 6.37E-07	ND< 6.36E-07
Nickel F_{1/2}								
mg/dscm	0.00028	0.00034	0.00028	0.00028	0.00038	0.00028	0.00025	0.00030
mg/dscm @ 15% O ₂	0.00035	0.00042	0.00035	0.00035	0.00048	0.00035	0.00031	0.00037
lb/hr	3.58E-05	4.33E-05	3.59E-05	3.57E-05	4.83E-05	3.54E-05	3.16E-05	3.80E-05
Selenium F_{1/2}								
mg/dscm	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006	ND< 0.00006
mg/dscm @ 15% O ₂	ND< 0.00007	ND< 0.00008	ND< 0.00007	ND< 0.00008	ND< 0.00008	ND< 0.00008	ND< 0.00008	ND< 0.00008
lb/hr	ND< 7.72E-06	ND< 7.93E-06	ND< 7.63E-06	ND< 7.75E-06	ND< 7.56E-06	ND< 7.85E-06	ND< 7.74E-06	ND< 7.74E-06

ND< - species not detected in sample. ND< = BDL
 < - species detected in at least one sample or one sample fraction but not in all samples or fractions. < = DLL
 Data reported without ND< or < = ADL

BACK HALF TRACE METALS LABORATORY SUMMARY
DTE SUNSHINE
CT5 STACK

Test No.:	1-EPA 29	2-EPA 29	3-EPA 29	4-EPA 29	5-EPA 29	6-EPA 29	7-EPA 29	AVERAGES
Date:	2/14/23	2/14/23	2/15/23	2/15/23	2/16/23	2/16/23	2/17/23	
Start Time:	8:00	12:20	7:35	12:00	7:35	12:00	7:30	
Stop Time:	12:10	16:30	12:45	16:10	11:45	11:40	11:40	
Flow Rate, dscfm:	33,749	33,854	33,920	33,742	33,727	33,795	33,652	33,777
Sample Volume, dscf:	175.69	171.57	178.69	174.82	179.16	173.04	174.67	175.38
O ₂ , % volume dry:	16.08	16.08	16.11	16.15	16.20	16.22	16.17	16.15
CO ₂ , % volume dry:	4.29	4.25	4.23	4.18	4.19	4.27	4.22	4.22
Moisture, % by volume:	5.09	4.79	4.95	4.97	4.76	4.81	4.91	4.90
Species								
Antimony B₁								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
lb/hr	ND< 1.35E-06	ND< 1.38E-06	ND< 1.41E-06	ND< 1.39E-06	ND< 1.32E-06	ND< 1.37E-06	ND< 1.36E-06	ND< 1.36E-06
Arsenic B₁								
mg/dscm	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001
lb/hr	ND< 1.35E-06	ND< 1.38E-06	ND< 1.41E-06	ND< 1.35E-06	ND< 1.32E-06	ND< 1.37E-06	ND< 1.35E-06	ND< 1.36E-06
Beryllium B₁								
mg/dscm	ND< 0.000003	ND< 0.000004	ND< 0.000004	ND< 0.000003	ND< 0.000003	ND< 0.000004	ND< 0.000003	ND< 0.000003
mg/dscm @ 15% O ₂	ND< 0.000004	ND< 0.000004	ND< 0.000004	ND< 0.000004	ND< 0.000004	ND< 0.000004	ND< 0.000004	ND< 0.000004
lb/hr	ND< 4.37E-07	ND< 4.49E-07	ND< 4.57E-07	ND< 4.39E-07	ND< 4.28E-07	ND< 4.44E-07	ND< 4.38E-07	ND< 4.41E-07
Cadmium B₁								
mg/dscm	ND< 0.00000	0.00001	0.00001	ND< 0.00000	ND< 0.00000	ND< 0.00000	ND< 0.00000	< 0.00001
mg/dscm @ 15% O ₂	ND< 0.00001	0.00002	0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	ND< 0.00001	< 0.00001
lb/hr	ND< 5.20E-07	1.82E-06	8.96E-07	ND< 5.23E-07	ND< 5.10E-07	ND< 5.29E-07	ND< 5.22E-07	< 7.60E-07
Chromium B₁								
mg/dscm	0.00011	0.00010	0.00013	0.00012	0.00010	0.00010	0.00019	0.00012
mg/dscm @ 15% O ₂	0.00013	0.00012	0.00016	0.00015	0.00015	0.00012	0.00023	0.00015
lb/hr	1.35E-05	1.25E-05	1.67E-05	1.53E-05	1.30E-05	1.21E-05	2.36E-05	1.52E-05
Cobalt B₁								
mg/dscm	ND< 0.00000	ND< 0.00000	ND< 0.00000	ND< 0.00000	ND< 0.00000	ND< 0.00000	0.00001	< 0.00000
mg/dscm @ 15% O ₂	ND< 0.00000	ND< 0.00000	ND< 0.00000	ND< 0.00000	ND< 0.00001	ND< 0.00000	0.00001	< 0.00000
lb/hr	ND< 4.16E-07	ND< 4.28E-07	5.52E-07	4.34E-07	6.00E-07	ND< 4.23E-07	6.70E-07	< 5.03E-07
Lead B₁								
mg/dscm	0.00002	0.00002	0.00003	0.00002	0.00002	0.00001	0.00002	0.00002
mg/dscm @ 15% O ₂	0.00002	0.00003	0.00004	0.00003	0.00002	0.00002	0.00002	0.00003
lb/hr	2.51E-06	2.92E-06	3.69E-06	2.73E-06	2.36E-06	1.59E-06	2.49E-06	2.61E-06
Manganese B₁								
mg/dscm	0.00310	0.00010	0.00035	0.00009	0.00018	0.00013	0.00034	0.00061
mg/dscm @ 15% O ₂	0.00379	0.00013	0.00043	0.00011	0.00023	0.00017	0.00043	0.00075
lb/hr	3.91E-04	1.33E-05	4.47E-05	1.08E-05	2.26E-05	1.70E-05	4.30E-05	7.75E-05
Mercury B₁								
mg/dscm	< 0.00008	< 0.00009	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
mg/dscm @ 15% O ₂	< 0.00010	< 0.00011	< 0.00010	< 0.00010	< 0.00010	< 0.00011	< 0.00010	< 0.00010
lb/hr	< 1.02E-05	< 1.10E-05	< 1.04E-05	< 1.09E-05	< 1.04E-05	< 1.11E-05	< 1.04E-05	< 1.06E-05
Nickel B₁								
mg/dscm	0.00008	0.00008	0.00009	0.00011	0.00013	0.00008	0.00015	0.00010
mg/dscm @ 15% O ₂	0.00010	0.00010	0.00011	0.00014	0.00016	0.00010	0.00019	0.00013
lb/hr	9.85E-06	1.08E-05	1.09E-05	1.37E-05	1.59E-05	1.01E-05	1.88E-05	1.29E-05
Selenium B₁								
mg/dscm	0.00168	0.00047	0.00399	0.00007	0.00016	0.00005	0.00019	0.00094
mg/dscm @ 15% O ₂	0.00206	0.00058	0.00492	0.00008	0.00020	0.00006	0.00023	0.00115
lb/hr	2.13E-04	5.97E-05	5.07E-04	8.32E-06	2.03E-05	6.17E-06	2.36E-05	1.20E-04

ND< - species not detected in sample, ND< = BDL
 < - species detected in at least one sample or one sample fraction but not in all samples or fractions, < = DLL
 Data reported without ND< or < = ADL

EPA 29 - TRACE METALS EXAMPLE CALCULATION

TEST NUMBER: CT-5-1-EPA 29

Example For Chromium (Cr)

Identifier	Description	Units	Equation	Value
A	Stack O ₂	%	--	16.08
B	Stack CO ₂	%	--	4.29
C	Meter Volume	acf	--	182.643
D	Barometric Pressure	" Hg	--	27.98
E	Delta H	" H ₂ O	--	2.0
F	Reference Temperature	R	--	528
G	Meter Temperature	R	--	523.2
H	Y _d	--	--	1.014
I	Meter Volume (standard)	dscf	$1/29.92 * C * (D + E/13.6) * F/G * H$	175.689
J	Liquid Collected	grams	--	199.9
K	Water vapor volume	scf	$0.04716 * J * F/528$	9.427
L	Moisture Content	--	$T/(T + R)$	0.051
M	Molecular weight, dry	lb/lb-mole	$0.44 * B + 0.32 * A + 0.28 * (100 - A - B)$	29.33
N	Molecular weight, wet	lb/lb-mole	$M * (1 - L) + 18 * L$	28.75
O	Static Pressure	" H ₂ O	--	-0.58
P	Stack Pressure	" Hg	$D + O/13.6$	27.94
Q	Average Velocity Differential Pressure	" H ₂ O	square of the average of the square roots	0.9604
R	Stack Temperature	R	--	1161.46
S	Pitot Tube Coefficient	--	--	0.84
T	Stack Velocity	fps	$85.49 * S * \sqrt{Q * R / P / N}$	84.63
U	Stack Area	ft ²	--	16.50
V	Stack Flow Rate	acfm	$T * U * 60$	83,773
W	Stack Flow Rate	dscfm	$V * (1 - L) * F * P / R / 29.92$	33,749
X	Sample Time	minutes	--	240.0
Y	Nozzle Diameter	inches	--	0.254
Z	Isokinetic Sampling Rate	%	$14,128 * 528 / F * R * I / X / T / 60 / (D * 13.6 + O) / Y^2$	101.7
AA	Antimony Catch	ug	--	5.09
AB	Antimony Concentration	ug/dscf	AA / I	0.0290
AC	Antimony Concentration	mg/dscm	$AB * 35.31/10^3$	0.001023
AD	Antimony Concentration	mg/dscfm @15%O ₂	$AC * 5.9 / (20.9 - A)$	0.001252
AE	Antimony Emissions	lb/hr	$W * 60 * AB / 454 * 10^6$	1.29E-04

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only.

Gaseous Emissions Test Summary
SUNSHINE GAS CT 5

Test Number	1-EPA320	2-EPA320	3-EPA320	4-EPA320	5-EPA320	6-EPA320	7-EPA320	
Date	2/14/2023	2/14/2023	2/14/2023	2/14/2023	2/15/2023	2/15/2023	2/15/2023	Averages
Start Time	9:15	10:20	11:25	12:40	9:05	10:10	11:15	
Stop Time	10:15	11:20	12:34	13:40	10:05	11:10	12:30	

Pre-Test Information:

Reference Temperature, °F	68	68	68	68	68	68	68	
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Diluent Emissions and Stack Flow Rate:

O ₂ , % vol. dry	16.08	16.08	16.08	16.08	16.11	16.11	16.11	16.09
CO ₂ , % vol. dry	4.29	4.29	4.29	4.25	4.23	4.23	4.23	4.26
Stack Flow Rate, dscfm	33,956	33,956	33,956	33,815	34,017	34,017	34,017	33,962

Pollutant Emissions:

Hydrochloric Acid (HCl)

ppm vol. dry	0.29	0.31	0.35	0.38	0.29	0.33	0.39	0.34
ppmc vol. dry @ 15% O ₂	0.35	0.38	0.43	0.47	0.35	0.41	0.49	0.41
lb/hr	0.06	0.06	0.07	0.07	0.06	0.06	0.08	0.06

Hydrogen Fluoride (HF)

ppm vol. dry	1.26	1.34	1.40	1.45	1.21	1.52	1.64	1.40
ppmc vol. dry @ 15% O ₂	1.54	1.64	1.72	1.77	1.49	1.87	2.02	1.72
lb/hr	0.13	0.14	0.15	0.15	0.13	0.16	0.17	0.15

Formaldehyde (CH₂O)

ppm vol. dry	0.096	0.081	0.092	0.077	0.051	0.054	0.040	0.070
ppmc vol. dry @ 15% O ₂	0.118	0.100	0.112	0.094	0.063	0.066	0.049	0.086
lb/hr	0.015	0.013	0.015	0.012	0.008	0.009	0.006	0.011

EPA 320 EXAMPLE CALCULATION

TEST NUMBER: CT-5- 1-EPA 320

				Run 1
Identifier	Description	Units	Equation	Value
Using Data from Run 1:				
A	Formaldehyde (from FTIR)	ppmvw	--	0.09
B	Formaldehyde (from FTIR)	ppmvd	--	0.10
C	HCL (from FTIR)	ppmvw	--	0.27
D	HCL (from FTIR)	ppmvd	--	0.29
E	HF (from FTIR)	ppmvw	--	1.19
F	HF (from FTIR)	ppmvd	--	1.26
G	Formaldehyde	ppmvd@15%O2	$B * 5.9 / (20.9 - J)$	0.12
H	HCL	ppmvd@15%O2	$D * 5.9 / (20.9 - J)$	0.35
I	HF	ppmvd@15%O2	$F * 5.9 / (20.9 - J)$	1.54
J	Drift/Bias Corrected O ₂ :	%	--	16.08
K	Drift/Bias Corrected CO ₂ :	%	--	4.29
L	Meter Volume	acf	--	189.534
M	Barometric Pressure	" Hg	--	27.98
N	Delta H	" H ₂ O	--	1.991667
O	Reference Temperature	R	--	528
P	Meter Temperature	R	--	528.6
Q	Y _d	--	--	0.992
R	Meter Volume (standard)	dscf	$1/29.92 * C * (D + E/13.6) * F/G * H$	176.538
S	Liquid Collected	grams	--	227.8
T	Water vapor volume	scf	$0.04716 * S * F/528$	10.743
U	Moisture Content	--	$T/(T + R)$	0.057
V	Molecular weight, dry	lb/lb-mole	$0.44 * K + 0.32 * J + 0.28 * (100 - J - K)$	29.33
W	Molecular weight, wet	lb/lb-mole	$V * (1 - U) + 18 * U$	28.68
X	Static Pressure	" H ₂ O	--	-0.58
Y	Stack Pressure	" Hg	$M + X/13.6$	27.94
Z	Average Velocity Differential Pressure	" H ₂ O	square of the average of the square roots	0.9831
AA	Stack Temperature	R	--	1161.458
AB	Pitot Tube Coeficient	--	--	0.84
AC	Stack Velocity	fps	$85.49 * AB * \text{sqrt}(Z * AA / Y / W)$	85.73
AD	Stack Area	ft ²	--	16.50
AE	Stack Flow Rate	acfm	$AC * AD * 60$	84,863
AF	Stack Flow Rate	dscfm	$AE * (1 - U) * O * Y / AA / 29.92$	33,956
AG	Specific Molar Volume	SCF/lb-mole	$385.3 * O / 528$	385.3
AH	Formaldehyde Emission Rate	lb/hr	$B * 30.031 * AF * 60 / AG / 10^6$	0.015
AI	HCL Emission Rate	lb/hr	$D * 36.458 * AF * 60 / AG / 10^6$	0.055
AJ	HF Emission Rate	lb/hr	$F * 20.01 * AF * 60 / AG / 10^6$	0.133

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only. Stack gas velocity and moisture content was reported from EPA Method 5, R1.

APPENDIX D

QUALITY ASSURANCE INFORMATION

Appendix D.1

Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (Montrose) ASTM D7036-04 certification, Montrose is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. Montrose quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements of each test method for each of these items. The quality assurance program consists of the following items:

- Assignment of an Internal QA Officer
- Development and use of an internal QA Manual
- Personnel training
- Equipment maintenance and calibration
- Knowledge of current test methods
- Chain-of-custody
- QA reviews of test programs

Assignment of an Internal QA Officer: Montrose has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: Montrose has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of Montrose's QA efforts. The manual is revised upon periodic review and as Montrose adds capabilities. The QA manual provides details on the items provided in this summary.

Personnel Testing and Training: Personnel testing and training is essential to the production of high quality test results. Montrose training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the Montrose QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of Montrose's emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. In addition to routine maintenance, calibrations are performed on all sampling equipment according to the procedures outlined in the applicable test method. The calibration intervals and techniques for major equipment components is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

Knowledge of Current Test Methods: Montrose maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: Montrose maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to Montrose source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to Montrose office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

ASTM D7036-04 Required Information

Uncertainty Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

Performance Data

Performance data are available for review.

Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, is present on each test event.

Plant Entry and Safety Requirements

Plant Entry

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.

Safety Requirements

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)
- Flame Resistant Clothing (if required)

The following safety measures are followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.

TABLE 1
EQUIPMENT MAINTENANCE SCHEDULE

Equipment	Acceptance Limits	Frequency of Service	Methods of Service
Pumps	1. Absence of leaks 2. Ability to draw manufacturers required vacuum and flow	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	1. Absence of malfunction 2. Proper response to zero span gas	As recommended by manufacturer	As recommended by manufacturer
Integrated Sampling Tanks	1. Absence of leaks	Depends on nature of use	1. Steam clean 2. Leak check
Mobile Van Sampling System	1. Absence of leaks	Depends on nature of use	1. Change filters 2. Change gas dryer 3. Leak check 4. Check for system contamination
Sampling Lines	1. Sample degradation less than 2%	After each test series	1. Blow dry, inert gas through line until dry

TABLE 2
MAJOR SAMPLING EQUIPMENT CALIBRATION REQUIREMENTS

Sampling Equipment	Calibration Frequency	Calibration Procedure	Acceptable Calibration Criteria
Continuous Analyzers	Before and After Each Test Day	3-point calibration error test	< 2% of analyzer range
Continuous Analyzers	Before and After Each Test Run	2-point sample system bias check	< 5% of analyzer range
Continuous Analyzers	After Each Test Run	2-point analyzer drift determination	< 3% of analyzer range
CEMS System	Beginning of Each Day	leak check	< 1 in. Hg decrease in 5 min. at > 20 in. Hg
Continuous Analyzers	Semi-Annually	3-point linearity	< 1% of analyzer range
NO _x Analyzer	Daily	NO ₂ -> NO converter efficiency	> 90%
Differential Pressure Gauges (except for manometers)	Semi-Annually	Correction factor based on 5-point comparison to standard	± 5%
Differential Pressure Gauges (except for manometers)	Bi-Monthly	3-point comparison to standard, no correction factor	± 5%
Barometer	Semi-Annually	Adjusted to mercury-in-glass or National Weather Service Station	± 0.1 inches Hg
Dry Gas Meter	Semi-Annually	Calibration check at 4 flow rates using a NIST traceable standard	± 2%
Dry Gas Meter	Bi-Monthly	Calibration check at 2 flow rates using a NIST traceable standard	± 2% of semi-annual factor
Dry Gas Meter Orifice	Annually	4-point calibration for ΔH@	--
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	± 1.5%

Note: Calibration requirements that meet applicable regulatory agency requirements are used.

Appendix D.2

CARB and STAC Certifications



Gavin Newsom, Governor
Jared Blumenfeld, CalEPA Secretary
Liane M. Randolph, Chair

June 30, 2022

Mr. Matt McCune
Montrose Air Quality Services, LLC
1631 East Saint Andrew Place
Santa Ana, California 92705
mmccune@montrose-env.com

Dear Mr. McCune:

I am pleased to inform you that the California Air Resources Board (CARB) has renewed Montrose Air Quality Services, LLC as an Independent Contractor, by means of the enclosed Executive Order I-22-003. This approval will allow Montrose Air Quality Services, LLC to perform CARB Test Methods 1, 2, 3, 4, 5, 6, 8, 17, 20, and 100 (CO, CO₂, NO_x, O₂, SO₂, THC), Visible Emission Evaluation (VEE), and U.S. Environmental Protection Agency (U.S. EPA) Test Methods 201A, 202, and 205. The approval is valid through June 30, 2024, during which time additional audits of Montrose Air Quality Services, LLC's testing ability may be performed.

If you have questions or need further assistance, please contact Kathryn Gugeler at kathryn.gugeler@arb.ca.gov or Daniel Moore at Daniel.Moore@arb.ca.gov.

Sincerely,

Catherine
Dunwoody

Digitally signed by Catherine
Dunwoody
Date: 2022.06.30 14:05:25 -0700

Catherine Dunwoody, Chief, Monitoring and Laboratory Division

Enclosure

cc: (via email)

Kathryn M. Gugeler, Monitoring and Laboratory Division

Daniel Moore, Monitoring and Laboratory Division



American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 4th day of February 2022.



Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 29, 2024

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

Appendix D.3

Individual QI Certificates

CERTIFICATE OF COMPLETION

James F Navarrete

This document certifies that this individual has passed a comprehensive examination and is now a
Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

**Source Evaluation Society Group 1: EPA Manual Gas Volume and Flow Measurements and Isokinetic
Particulate Sampling Methods**

Certificate Number: 002-2021-1

DATE OF ISSUE: 1/4/21

DATE OF
EXPIRATION: 1/4/26

Tate Strickler
Tate Strickler, VP – Quality Systems



CERTIFICATE OF COMPLETION	
James F Navarrete	
This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):	
Source Evaluation Society Group 3: EPA Gaseous Pollutants Instrumental Sampling Methods	
Certificate Number: <u>002-2021-13</u>	
	DATE OF ISSUE: <u>2/11/21</u>
Tate Strickler, VP – Quality Systems	DATE OF EXPIRATION: <u>2/10/26</u>
	

CERTIFICATE OF COMPLETION	
James F Navarrete	
This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):	
Source Evaluation Society Group 4: EPA Hazardous Metals Measurement Methods	
Certificate Number: <u>002-2021-12</u>	
	DATE OF ISSUE: <u>1/19/21</u>
Tate Strickler, VP – Quality Systems	DATE OF EXPIRATION: <u>1/18/26</u>
 MONTROSE ENVIRONMENTAL	

CERTIFICATE OF COMPLETION	
Pedro SanJuan	
This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):	
EPA Method 306	
Certificate Number: <u>002-2022-53</u>	
 Tate Strickler, VP – Quality Systems	DATE OF ISSUE: <u>03/04/2022</u>
	DATE OF EXPIRATION: <u>03/03/2027</u>
 MONTROSE ENVIRONMENTAL	

CERTIFICATE OF COMPLETION

Phil Kauppi

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

EPA Methods 318, 320, 321 & FTIR Protocol

Certificate Number: PRISM-2018-2

Tate Strickler

Tate Strickler, Accreditation Director

DATE OF ISSUE: 11/1/18

DATE OF
EXPIRATION: 11/1/23



CERTIFICATE OF COMPLETION

Phil Kauppi

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

ASTM Method D6348-12

Certificate Number: PRISM-2021-1

Tate Strickler

Tate Strickler, VP – Quality Systems

DATE OF ISSUE: 1/27/21

DATE OF
EXPIRATION: 1/27/26



APPENDIX E

STATIONARY COMBUSTION TURBINES EMISSIONS INFORMATION COLLECTION DOCUMENT

STATIONARY COMBUSTION TURBINES EMISSIONS INFORMATION COLLECTION

Test Procedures, Methods and Reporting Requirements for the Section 114 Request for Stationary Combustion Turbines

This document provides an overview of the required testing, approved sampling and analysis methods, target pollutants and units of measure, and reporting requirements for stationary combustion turbines that are required to provide emission test data to the U.S. Environmental Protection Agency (EPA) under Clean Air Act (CAA) section 114 (42 U.S.C. 7414). The purpose for this testing is to gather data on air pollutant emissions from stationary combustion turbines in this source category to inform the EPA's decision-making process for regulation of these sources. All recipients must complete and submit test results no later than 6 months after receipt of this request. The document is organized as follows:

- 1.0 Testing Procedures and Methods**
- 2.0 How to Report Data**
- 3.0 How to Submit Data**
- 4.0 Contact Information for Questions on Test Plan and Reporting**

1.0 Testing Procedures and Methods

The EPA requires emissions and other test data for several pollutants, including specific hazardous air pollutants (HAP), criteria pollutants, and potential surrogate groups. If the EPA is requesting that you complete emissions testing, the cover letter of this CAA section 114 request will include a list of emissions sources selected for testing at your facility. For stationary combustion turbines as specified in Enclosure 1 of your section 114 cover letter, you must perform an emissions test for some combination of pollutants (*i.e.*, simultaneous measurements per group) and diluents according to the test protocols and test methods for air emissions presented in Section 1.1 of this document.

You may have conducted tests for some of these pollutants already. If you have conducted any of the requested groups of tests (*i.e.*, any complete set of tests required to be conducted simultaneously as described in Footnote 2 to Table 1) in the past 5 years, these test data may be submitted for this section 114 request according to the procedures in Section 2 and no additional testing for those pollutants is required, provided the test data you submit is representative of your operations and the previous testing met the testing requirements specified in this document (*e.g.*, test method, sample volume) and contains all required data elements.

Please refer to the Stationary Combustion Turbines website (<https://www.epa.gov/stationary-sources-air-pollution/stationary-combustion-turbines-national-emission-standards>) for additional

testing information. Please note that you do not have to submit a test plan to the EPA for approval prior to testing; however, we recommend that you prepare a test plan for your own use to assist in the planning of the test program and to verify that you address all of the testing and reporting requirements specified in this document. Please note that you also must report your process and emissions testing data using the EPA's Electronic Reporting Tool (ERT), where applicable. You are directed to the ERT website (<https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert>) for a more complete and interactive description of the ERT, list of methods currently supported by the ERT, and a link to download the ERT. Some of the emissions test methods listed in this document are supported in the ERT while others are not (e.g., U.S. EPA Method 320).

You must follow all of the procedures as specified in the test methods, including the quality assurance and quality control measures, and document the results in the ERT and in any test report provided to the EPA. For this program, you do not need to obtain audit materials from your state or local agency or from the EPA. You may apply any third-party audit materials you have on hand and document the results, but you are not required to do so.

If Enclosure 1 of your section 114 cover letter is missing any stationary combustion turbines subject to 40 CFR part 63, subpart YYYY, or if any of the stationary combustion turbines included in Enclosure 1 are misclassified (e.g., units are not in the appropriate test group or are not subject to subpart YYYY), please contact Melanie King (see Section 4.0 of this document). If a facility has units that are required to be tested according to your section 114 cover letter but you are unable to respond to an item exactly as requested and you are unable to test another similar unit, please explain why you cannot respond and/or provide any information you believe may be related in a submission to Melanie King (see Section 4.0 of this document) within **35 days** of postmark date of your section 114 cover letter. *NOTE:* The EPA reserves all of its enforcement rights provided by CAA section 113, including the right to bring a claim in the U.S. District Court to enforce the CAA section 114 obligation to comply with all the requests described in this document.

1.1 Stack Test Methods

You must follow the stack test method procedures described in this section for each stationary combustion turbine that you are required to test.

The owner/operator of the stationary combustion turbine must certify that the unit tested was operating in a normal and representative manner during the performance test. The owner/operator must also certify that it operated the air pollution control device (APCD), if any, on the unit tested in accordance with manufacturers' specifications and requirements for proper operation during the emissions testing.

1.1.1 Sample Location

You should collect emissions samples for the identified pollutants downstream of the last relevant APCD (*i.e.*, stack or other point representing the composition of the flue gases at the exit to the atmosphere), unless otherwise indicated. You must use U.S. EPA Method 1 or 1A of Appendix A-1 to 40 CFR Part 60, as applicable, to select the locations and number of traverse

points for sampling for the tests in this section. See <https://www.epa.gov/emc/method-1-sample-velocity-traverses> and <https://www.epa.gov/emc/method-1a-small-ducts> for copies of the methods and guidance information for sampling situations not meeting Method 1 criteria.

1.1.2 Emissions Measurement Methods

Table 1 summarizes the testing required to be performed for each type of stationary combustion turbine. When possible, testing for each of the pollutants listed in Table 1 should be conducted simultaneously for your stationary combustion turbine. However, if simultaneous testing is not possible, then you must at least conduct the tests for formaldehyde and carbon monoxide simultaneously and conduct the tests for filterable particulate matter (PM) and HAP metals testing simultaneously. It is not necessary to test the different pollutants in any particular order.

The primary reason for concurrent testing is to obtain a clear understanding about the overall HAP emissions profile from each emission process point. A second reason is to gather information that will help us evaluate the correlations of emissions of one pollutant to another pollutant, to potentially establish surrogate relationships. For example, the metal HAP tests and PM tests from the APCD or main stack are required to be done at the same time. Where a predictable relationship between metal HAP and PM exists, a surrogate relationship can be established for compliance purposes. ***Tests that are required to be concurrent under this test request that are not done in this manner may be considered invalid and may need to be repeated.***

Table 1 also presents a list of the test methods to use for completing the required tests. For copies of the U.S. EPA test methods and additional information, please refer to the EPA's Emission Measurement Center (EMC) website, <https://www.epa.gov/emc>.

Report all pollutant emission data as indicated in Table 1. Report the results of your emissions tests according to the directions provided in Section 2.0 of this document.

Unless otherwise specified, each pollutant emissions test should consist of at least seven test runs for the sampling duration and/or volume indicated for each specified unit.

Table 1. Summary of Test Methods¹

Pollutant²	Method	Alternative Procedure	Target Reported Units of Measure
Formaldehyde (50000)	U.S. EPA Method 320. Minimum sample time of 1 hour per run. Validate according to Section 13.0 of Method 320. ^{3,4}	ASTM D-6348-12e1 ^{3,4,5}	lb/hr, ppmvd, and ppmvd @ 15% O ₂
Carbon monoxide	U.S. EPA Method 10.* Minimum sample time of 1 hour per run.	CEMS ⁶ (if installed).	lb/hr, ppmvd, and ppmvd @ 15% O ₂
Acid gases (Hydrochloric acid and Hydrogen fluoride)	U.S. EPA Method 320. Minimum sample time of 1 hour per run. Validate according to Section 13.0 of Method 320. ^{3,4}	ASTM D-6348-12e1 ^{3,4,5}	lb/hr, ppmvd, and ppmvd @ 15% O ₂
Metals ⁷ and PM (filterable)	U.S. EPA Method 29.* Collect a minimum volume of 141 dscf (4 dscm) per run. Use inductively coupled (argon) plasma with mass spectrometry (ICAP/MS) for the analytical finish with the exception of mercury analysis, which should be conducted by cold vapor atomic absorption spectroscopy (CVAAS). Analyze front and back half samples separately. Report results for front half and back half analyses for individual metals separately. Determine filterable PM emissions according to section 8.3.1.1. Maintain a filter temperature of 248°F ± 25°F.	You may opt to conduct a separate EPA Method 5* test with a filter temperature of 248°F ± 25°F in lieu of measuring PM with the Method 29 train.	lb/hr and concentration (for metals, mg/dscm and mg/dscm @ 15% O ₂ and for PM, gr/dscf and gr/dscf @ 15% O ₂)
Gas flow rate	U.S. EPA Method 2*, 2A, 2B, 2C*, 2D, 2F, or 2G, as appropriate, simultaneous with each pollutant test run.		acfm, scfm, and dscfm
O ₂ /CO ₂	U.S. EPA Method 3A* or 3B, as appropriate, simultaneous with each pollutant test run.		percent volume, dry
Moisture	U.S. EPA Method 4* or Method 320, simultaneous with each pollutant test run.	ASTM D-6348-12e1 ⁴	percent volume

¹ lb/hr = pounds per hour; ppmvd = parts per million by volume, dry basis; % = percent; O₂ = oxygen; dscf = dry standard cubic feet; dscm = dry standard cubic meters; °F = degrees Fahrenheit; mg/dscm = milligrams per dry standard cubic meter; gr/dscf = grains per dry standard cubic foot; acfm = actual cubic feet per minute; scfm = standard cubic feet per minute; dscfm = dry standard cubic feet per minute.

² For each turbine, at a minimum, conduct simultaneous sampling for formaldehyde and carbon monoxide and simultaneous sampling for metals and PM

³ Method detection limit for FTIR measurements is considered to be the Minimum Analyte Uncertainty (MAU) and should be calculated per the method. Alternatively, if the FTIR measurements are performed according to ASTM D6348 the method detection limit is considered to be the Minimum Detection Concentration #3 (MDC#3) and should be calculated per the method.

⁴ For analyte spiking, you must use the analyte(s) of interest, the use of surrogate compound(s) is prohibited for the purpose of this section 114 request.

⁵ The test plan preparation and implementation in the Annexes to ASTM D6348-03, Sections A1 through A8 are mandatory; (2) For ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be determined for each target analyte (A5.8) and be within 30%; (3) The percent R value for each target analyte must be reported in the test report; and (4) the analytical accuracy of the algorithm (A7.6) must be documented and reported in the test report.

⁶ If you provide data from a plant Continuous Emissions Monitoring System (CEMS), your CEMS must be certified according to the appropriate performance specification in 40 CFR part 60 Appendix B, and you must perform the continuing quality assurance/control measures outlined in 40 CFR part 60 Appendix F.

⁷ Metals to be tested include antimony (Sb), arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr), cobalt (Co), lead (Pb), manganese (Mn), mercury (Hg), nickel (Ni), and selenium (Se).

* Methods supported by ERT.

During testing, you should monitor, record and report process data for each test run. For process data that you record during testing, make clear the correlation between emissions measurements and process data (*e.g.*, identify Method 5, run 1 for the associated process data on the process data details tab of the ERT or be sure to enter the process data on the correct row of the Stationary Combustion Turbines Testing Supplement, as applicable; see Section 2.2 for more information on the Stationary Combustion Turbines Testing Supplement).

The process data to be documented during each test run (as applicable) include:

- Fuel type (*e.g.*, natural gas, propane, fuel oil), and heat input (British thermal units per hour (Btu/hr)).
- Actual fuel feed rate during test (based on HHV) and permitted fuel feed rate (based on HHV) (MMBtu/hr). You must explain the procedure that you used (*e.g.*, EPA Method 19) to determine the actual fuel feed rate and provide the calculation in the notes field for this data element in the Microsoft® Excel template that is used to report results to the EPA.
- Turbine load (percent).
- Emission unit operating temperature (°F).
- Operating parameters relevant for the APCD, including, for example, oxidation catalyst inlet temperature.

You must keep the following records for 3 years:

- Documentation that each emissions test was conducted in accordance with the enclosed sampling protocol; and
- The results of each emissions test.

1.2 Ensuring Data Quality of the Source Tests Performed

While in most cases we are not specifying numerical minimum detection levels for the tests to be performed, we have specified the testing conditions and methods required, including minimum test run sample volumes or times when appropriate, which we believe will provide data of a quality sufficient for decision making.

We remind source owners and testers of the CAA section 114(a)(1) requirement to provide information requested for the development of emissions standards using methods that provide data necessary for the decisions. This information includes data of quality sufficient to support those decisions. For the most part, we can identify test methods and procedures that will satisfy those decision-making needs (*e.g.*, minimum sampling times). In other cases, we recognize that the source owner's or tester's selection of test procedures or equipment could bear significantly on the quality of the data. See Appendix A of this document for information regarding guidance for calculating and reporting values measured below method detection levels.

We believe that the CAA is clear that it is incumbent on the source owner/operator and the tester to apply methods and procedures that result in data quality necessary for our decisions, including providing for the lowest possible detection limits considering practical and reasonable limitations. For example, source owners/operators and testers should not automatically choose to

use low or medium quality equipment for testing (e.g., for cost reasons) if high quality equipment is reasonably available. We will review test reports in light of this expectation and will be particularly mindful of whether the testing procedures applied are representative of the highest reasonably expected capabilities (e.g., comparing reported minimum measurement detection levels between tests and testers).

On completion of your required tests, please provide a complete test report, including appendices. A complete test report includes the following information, at a minimum:

- General identification information for facility including a mailing address; the actual facility address; the owner or operator, responsible official, or an appropriate representative (where applicable) and an email address for this person; and the appropriate Federal Registry System (FRS) number for the facility);
- A brief process description, including a flow diagram clearly showing the turbine and the sampling site;
- A complete unit description, including the unit ID, the stationary combustion turbine subcategory, the appropriate source classification code (SCC), the latitude and longitude of the emission point being tested (decimal degrees to five decimal points), and the maximum permitted process rate (where applicable);
- Emissions control measures in use during the test, including:
 - APCD description and APCD ID (if applicable)
 - A description of any pollution prevention or other HAP emission reduction approaches being implemented during the test program;
- Any process data and control device monitoring data required in this document;
- Sampling site description; description of sampling and analysis procedures and any modifications to standard procedures; quality assurance procedures;
- Description of any deviations from the test methods or other anomalies that occurred with the process or APCD operations during the test;
- Run-by-run emission data in the units of measure specified in Table 1;
- Stack or exhaust gas flow rate (as determined using U.S. EPA Method 2 or alternatives) at the time of and during the emissions test, as appropriate;
- Example calculations of all applicable stack gas parameters, emission rates and analytical results, as applicable;
- Raw field sampling data sheets and notes;
- Laboratory data and analysis reports, including instrument calibrations and raw analytical data;
- Chain-of-custody documentation;
- Explanation of laboratory data qualifiers;
- Quality assurance and quality control activities performed;
- Identification information for the company conducting the performance test, including a contact person and his/her email address; and
- Any other information required by the test method, a relevant standard, or the Administrator.

If we believe that a source owner/operator or tester has failed to meet the requirement of the CAA to provide data of sufficient quality or quantity for our decisions, we can and will request

additional measurements that require the use of improved testing procedures. The permitted facility representative and the testing company representative must complete the Final Verification form of the ERT certifying that the report is accurate and complete.

2.0 How to Report Data

The method for reporting the results of any testing and monitoring requests depend on the type of tests and the type of methods used to complete the test requirements. This section discusses the requirements for reporting the data.

2.1 Reporting Stack Test Data within ERT

For testing conducted using one of the methods listed in Table 2, you must report your data using the EPA's ERT Version 6.0 or newer. ERT is a Microsoft Access® database application available at <https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert>. If you are not a registered owner of Microsoft Access®, you can install the runtime version of Microsoft Access® from the link on the ERT website in order to run the ERT Application. The ERT must be downloaded onto your computer prior to data entry. A series of Microsoft Excel®-based templates can be used to assist with the upload of the field sampling data. These templates are also available on the ERT website. After completing the data entry into the ERT, you will also need to attach supporting documentation to the Attachments module of the ERT. The supporting documentation should include: complete lab reports, chain of custodies, field data and sample/moisture recovery sheets, CEMS raw data, calibrations of equipment, gases and instruments, QA/QA data, audit sample results (if applicable), and field notes. If a full test report is attached in the ERT, any of the preceding supporting documentation included in the full test report does not need to also be individually attached. The ERT database file should be transmitted to EPA using one of the options described in Section 3.0 of this document.

The list of fields within the ERT with notes explaining whether the field is required or optional can be found on the Stationary Combustion Turbines website (<https://www.epa.gov/stationary-sources-air-pollution/stationary-combustion-turbines-national-emission-standards>).

Table 2: List of ICR Test Methods Supported by ERT

EPA Test Methods (40 CFR parts 60 and 61; EMC website, https://www.epa.gov/emc)
Methods 1 through 4 (testing locations, velocity, moisture, dilution gases)
Method 3A (O ₂ and CO ₂)
Method 5 (filterable PM)
Method 10 (Carbon Monoxide)
Method 29 (metals and filterable PM)

*For data entry purposes- if PM is collected by Method 29, the data entry is only performed once by selecting PM as a compound/analyte under Method 29.

2.2 *Reporting Other Test Data Not Listed in ERT*

At present, of the methods required by this request, only the methods shown in Table 2 are supported by the ERT. For testing you conducted using a method not currently supported by the ERT (including the use of a plant CEMS), you must report the results of this test in the Stationary Combustion Turbines Testing Supplement. The Stationary Combustion Turbines Testing Supplement can be downloaded from the Stationary Combustion Turbines website (<https://www.epa.gov/stationary-sources-air-pollution/stationary-combustion-turbines-national-emission-standards>).

You must report the results of each test on the appropriately labeled form corresponding to the specific tests requested at your emissions source. If you conducted testing at more than one source at a facility using methods not currently supported by the ERT, follow the instructions in the Stationary Combustion Turbines Testing Supplement, found on the Stationary Combustion Turbines website. For plant CEMS data used in lieu of EPA Method 10, the test run average is calculated as the average of the one-minute averages collected over the duration of the test run.

After completing the Stationary Combustion Turbines Testing Supplement, you must also submit an electronic copy of the emission test report (PDF format preferred) for air sampling. If the complete emission test report is attached to the ERT file containing the associated flow rate measurements, a second copy does not need to be submitted. Both the completed Stationary Combustion Turbines Testing Supplement and the emission test report(s) should be included as attachments to the ERT file for simultaneous tests done using methods supported by the ERT (at a minimum, EPA Methods 1 through 3) and transmitted to the EPA as described in Section 3.0 of this document. For plant CEMS data used in lieu of EPA Method 10, the one-minute averages during each of the seven test runs must be included as an attachment in the ERT and the test run averages reported in the testing supplement.

2.3 *Guidance for Calculating and Reporting Measurements Less Than In-Stack Method Detection Levels for Emissions Data Submitted in Response to CAA Section 114 Requests*

See Appendix A to this document for guidance on calculating and reporting measurements less than detection levels for emissions data collection programs.

3.0 *How to Submit Data*

As explained in the previous section, where applicable, you must report your data using the ERT. If the ERT does not support a particular pollutant or method, you must report your data using the data reporting tools we provide and include the additional file as an attachment to your ERT submittal. When you are ready to submit your data to the EPA, compile electronic copies of all ***nonconfidential**** requested files (including files that do not contain any Confidential Business Information (CBI) as well as files that have been redacted to remove CBI) and email the files to the address shown in your section 114 cover letter.

* **Please Note:** The EPA's procedures for handling CBI are described in Enclosure 4 of the letter accompanying the section 114 request. If you claim that some of the information being submitted is CBI,¹ **DO NOT** use the method described above to submit your CBI. You must create a separate submission containing all files associated with this request (*i.e.*, all information claimed to be CBI and non-CBI portions combined). Clearly mark the materials submitted with the words "Confidential Business Information." Send these files under separate cover *only* to Ms. Tiffany Purifoy at one of the CBI addresses shown in your section 114 cover letter.

For the security of your data, the EPA recommends sending your confidential files to the EPA's CBI Office as described in Section 6 of Enclosure 4 of your section 114 cover letter. If you compile the materials onto a CD, DVD, or USB flash drive to mail to the CBI office, the EPA recommends sending it via *registered* U.S. Mail using *return receipt requested*, Federal Express, or other method for which someone must provide a signature upon receipt.

4.0 Contact Information for Questions on Test Plan and Reporting

For questions on how to report data using the ERT, contact:

Theresa Lowe
U.S. EPA
(919) 541-4786
lowe.theresa@epa.gov

For questions on the test methods, contact:

David Nash
U.S. EPA
(919) 541-9425
nash.david@epa.gov

OR

Ned Shappley
U.S. EPA
(919) 541-7903
shappley.ned@epa.gov

OR

Kevin McGinn
U.S. EPA
(919) 541-3796
mcginn.kevin@epa.gov

¹ Under CAA section 114(c), emissions data is not entitled to confidential treatment.

For other questions on the required testing in your section 114 cover letter or this document, including emissions sources selected for testing, contact:

Melanie King
U.S. EPA
(919) 541-2469
King.Melanie@epa.gov

Appendix A

Guidance for Calculating and Reporting Measurements Less Than In-Stack Method Detection Levels for Emissions Data Submitted in Response to Section 114 Requests

Please identify the status of measured values relative to detection levels in the Stationary Combustion Turbines Testing Supplement or in the ERT using the descriptions below. For each reported emissions value, insert the appropriate flag (BDL, DLL, or ADL) in the **Flag** line of the ERT or in the **Flag** column of the Stationary Combustion Turbines Testing Supplement for the row that corresponds to that run.

- **BDL** (below detection level) – all analytical values used to calculate and report an in-stack emissions value are less than the laboratory's reported detection level(s);
- **DLL** (detection level limited) – at least one but not all values used to calculate and report an in-stack emissions value are less than the laboratory's reported detection level(s); or
- **ADL** (above detection level) – all analytical values used to calculate and report an in-stack emissions value are greater than the laboratory's reported detection level(s).

When reporting and calculating individual test run data:

- You must use the approach specified in the test method for calculation and determination of the analytical method detection level (MDL). If the method does not specify the approach and calculation of the MDL, you must determine the MDL in accordance with the procedures specified in Section 15 of Method 301 (located in Appendix A of 40 CFR part 63).
- For analytical data reported from the laboratory as above the MDL, include the ADL flag in the **Outlet Detect Flag** column of the Stationary Combustion Turbines Testing Supplement as appropriate or in the **Comments** line in the ERT.
- For analytical data reported from the lab as BDL, “non-detect” or “below detection level”:
 - Include a brief description of the procedures used to determine the analytical detection and in-stack detection level:
 - In the **Analytical Comments** column of the Stationary Combustion Turbines Testing Supplement; or
 - In the **Comments** line of Lab Data tab in the Run Data Details in the **ERT**.
 - Describe these procedures completely in the complete test report, including the measurements made, the standards used, and the statistical procedures applied.
 - Calculate the in-stack emissions rate for any analytical result reported as BDL using the relevant MDL, sampling volumes, and other relevant run-specific parameters (such as O₂ or flow rate). The reported value must assume that the analyte is present at the full MDL value.
 - Report the calculated emissions concentration or rate result:

- As a numerical value (*i.e.*, no brackets or < symbol) in the Stationary Combustion Turbines Testing Supplement, columns **Outlet Mass** and/or **Outlet Concentration** as appropriate; select the appropriate flag in the **Outlet Detect Flag** column as appropriate; or
 - As a numerical value in the **ERT** with the appropriate flag in the **Comments** line.
- Report as numerical values (*i.e.*, no brackets or < symbol) any analytical data measured above the MDL, including any data between the MDL and a laboratory-specific reporting or quantification level (*i.e.*, flag as ADL).
- For pollutant measurements composed of multiple components or fractions (*e.g.*, mercury and other metals sampling trains), when the result for the value for any component is measured below the MDL:
 - Calculate in-stack emissions rate or concentrations as outlined above for each component or fraction;
 - Sum the measured values and/or calculated values (using the MDL as outlined above) for all of the components or fractions; and
 - Report the sum of all components or fractions:
 - As a numerical value (*i.e.*, no brackets or < symbol) in the Stationary Combustion Turbines Testing Supplement; columns **Outlet Mass** and/or **Outlet Concentration** as appropriate and select the appropriate flag in the **Outlet Detect Flag** column as appropriate; or
 - As a numerical value in the **ERT** with the appropriate flag in the **Comments** line.
 - If all components or fractions are BDL, the appropriate flag is BDL. If the components or fractions are a mix of BDL, DLL, and ADL, then the appropriate flag is DLL. [Note: If all components or fractions are above the MDL, the appropriate flag is ADL.]
 - In addition to reporting the sum of the components or fractions, report the individual component or fraction values for each run if the Stationary Combustion Turbines Testing Supplement or ERT format allows. If the Stationary Combustion Turbines Testing Supplement or ERT format does not allow reporting of the individual components or fractions (*i.e.*, the format allows reporting only a single sum value):
 - For the Stationary Combustion Turbines Testing Supplement, for each applicable run, report the appropriate flag in the **Outlet Detect Flag** column and report the values for the measured or MDL value for each component or fraction as used in the calculations (*e.g.*, 0.036, [<0.069], 1.239, [<0.945] for a four-fraction sample) in the **Analytical Comments** column; or
 - For the **ERT**, next to the sum reported as above, report on the **Comments** line the appropriate flag and the measured or MDL value for each component or fraction as used in the calculations (*e.g.*, 0.036, [<0.069], 1.239, [<0.945] for a four-fraction sample).

- For measurements conducted using the instrumental test methods (*e.g.*, Methods 3A):
 - Record gaseous concentration values as measured including negative values and flag as ADL; do not report as BDL.
 - Calculate and report in-stack emissions rates using these measured values.
 - Include relevant information relative to calibration gas values or other technical qualifiers for measured values in the ***Comments*** line in the **ERT** or ***Method*** ***Comments*** line column of the Stationary Combustion Turbines Testing Supplement.

Enclosure 1

Table 1. Known Facilities with Stationary Combustion Turbines Subject to 40 CFR part 63, subpart YYYYY

Facility Name ¹	Street Address	City	State
Sunshine Gas Producers	14747 San Fernando Rd	Sylmar	CA

- Information should be provided for the listed facilities as well as any additional facilities wholly owned by Sunshine Gas Producers that are not included on this list and have units subject to 40 CFR part 63, subpart YYYYY. If there is a facility on this list not wholly owned by Sunshine Gas Producers, please indicate that in the response letter. A completed survey is not required for that facility.

Table 2. Stationary Combustion Turbines Selected for Emissions Testing

Test Group	No. of Tests to Be Performed ¹	Fuel(s) To Be Used During Testing	General Unit Description	Facility Name	Select from These Unit ID(s) ²
A	2	Landfill Gas	Landfill gas-fired stationary combustion turbines	Sunshine Gas Producers	Turbine Engine #1 Turbine Engine #2 Turbine Engine #3 Turbine Engine #4 Turbine Engine #5

- Tests run on units that fire only a single fuel are required to be performed on different units within the same test group. If you are required to test using two different fuels, you may elect to conduct each test on a different unit from the unit IDs provided or you may elect to conduct tests on the same unit(s) using multiple fuels.
- If this table is missing any stationary combustion turbines subject to 40 CFR part 63, subpart YYYYY, or if any of the stationary combustion turbines included in this table are misclassified (e.g., units are not in the appropriate test group or are not subject to subpart YYYYY), please contact Melanie King (see section 114 cover letter).

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If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. Pete San Juan
Title: Field Project Manager
Region: West
Email: PSanjuan@montrose-env.com
Phone: (714) 279-6777

Name: Mr. Matt McCune
Title: Regional Vice President
Region: West
Email: MMccune@montrose-env.com
Phone: (714) 279-6777