TEST REPORT FOR 2022 CEMS RATA AT THE DESERT VIEW POWER MECCA PLANT

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Test Date: **February 22-23, 2022**
Production Date: **March 14, 2022**
Report Number: **W002AS-012607-RT-3302**

STAC
STACK TESTING ACCREDITATION COUNCIL

ACCREDITED
TO ASTM D7036 ONLY
CERT #3925.01

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REVIEW AND CERTIFICATION

All work, calculations, and other activities and tasks performed and presented in this document were carried out by me or under my direction and supervision. I hereby certify that, to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Management System and ASTM D7036-04 during this test project.

Signature: _____ Date: 3/14/2022

Name: Dave Wonderly Title: Client Project Manager

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

Signature: _____ Date: 3/14/2022

Name: Michael Chowsanitphon Title: Reporting Hub Manager

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1.0 INTRODUCTION

Montrose Air Quality Services, LLC (MAQS) was contracted by Desert View Power to conduct the annual Relative Accuracy Test Audit (RATA) at the Desert View Power Project located in Mecca, California. Testing was conducted on February 22-23, 2022. Testing was performed in accordance with the test plan (MAQS Document Number: W002AS-012606-PP-464) submitted to Desert View Power on December 15, 2021. The MAQS test team consisted of Dave Wonderly, Patrick Whitman, and Karen Chan. Dave Wonderly was the on-site Qualified Individual for MAQS. MAQS qualifies as an independent testing laboratory under SCAQMD Rule 304 (no conflict of interest) and is certified by the SCAQMD to conduct testing for criteria pollutants according to District Methods. Kevin Lawrence of Desert View Power coordinated plant operations and data retrieval during the test program. The South Coast Air Quality Management District (SCAQMD) was notified of the test date but did not send a representative.

RATA tests were conducted on the Unit 1 and Unit 2 Continuous Emissions Monitoring System (CEMS).

The plant CEMS met all RATA requirements of EPA 40 CFR, Appendix F.

Tables 1-1 and 1-2 present the results of the RATA tests for Unit 1 and Unit 2, respectively.

TABLE 1-1
RELATIVE ACCURACY RESULT SUMMARY UNIT 1
DESERT VIEW POWER
FEBRUARY 22, 2022

Parameter/Units	RA	Limit	Comment
NO_x			
ppm	4.59%	20%	Pass
@ 3% O_2	4.04%	20%	Pass
lb/hr	5.93%	20%	Pass
O_2, dry	0.94%	20%	Pass
CO			
ppm(1)	-0.75	<5 ppm(1)	Pass
@ 3% O_2(1)	-1.19	<5 ppm(1)	Pass
lb/hr(2)	1.04%	5%(2)	Pass
SO_2			
ppm	10.84%	20%	Pass
@ 3% O_2	9.78%	20%	Pass
lb/hr	11.25%	20%	Pass

(1) PS 4A Criteria, average difference less than 5ppm
(2) Of applicable standard

TABLE 1-2
RELATIVE ACCURACY RESULT SUMMARY UNIT 2
DESERT VIEW POWER
FEBRUARY 23, 2022

Parameter/Units	RA	Limit	Comment
NO_x			
ppm	4.67%	20%	Pass
@ 3% O_2	5.17%	20%	Pass
lb/hr	1.62%	20%	Pass
O_2, dry	1.16%	20%	Pass
CO			
ppm(1)	-0.36	<5 ppm(1)	Pass
@ 3% O_2(1)	-0.54	<5 ppm(1)	Pass
lb/hr(2)	0.95%	5%(2)	Pass
SO_2			
ppm	2.80%	20%	Pass
@ 3% O_2	2.29%	20%	Pass
lb/hr	7.36%	20%	Pass

(1) PS 4A Criteria, average difference less than 5ppm
(2) Of applicable standard

2.0 UNIT DESCRIPTION

The Desert View Power Plant consists of two 297 MMBtu/hr, circulating bed, biomass-fired boilers. The combined units are designed to produce 47 MW of net electrical output. Each unit is equipped with the following pollution control systems:

- An ammonia injection system for control of NO_x emissions
- Cyclonic mixing of injected ammonia with flue gas to provide for a minimum amount of ammonia slip (emission)
- A limestone injection system to limit emissions of SO_2
- A reverse air baghouse to control opacity and emissions of sulfates and particulate to very low levels

The plant CEMS system for each unit includes measurements of NO_x, O_2, CO, O_2 wet, SO_2, CO_2, flow and opacity. It is an extractive system with a heated line extending from the probe to the CEMS unit. Table 2-1 presents the current CEMS configuration.

TABLE 2-1
CONTINUOUS EMISSION MONITOR SYSTEM
UNITS 1 AND 2
DESERT VIEW POWER

Species	Manufacturer	Unit 1 Model/Serial Number	Unit 2 Model/Serial Number	Range
NO_x	CAI	ZRE/A3F4992T	ZRE/A3F4993T	100 and 500 ppm
CO	CAI	ZRE/A3F4992T	ZRE/A3F4993T	100 and 500 ppm
O_2 Dry	CAI	ZRE/A3F4992T	ZRE/A3F4993T	25%
SO_2	CAI	ZRE/A3F4992T	ZRE/A3F4993T	50 and 500 ppm
CO_2	CAI	ZRE/A3F4992T	ZRE/A3F4993T	20%
O_2 Wet	Thermox	WDG	WDG	25%
Flow	Dietrick Standard/Rosemont	0260938	--	Msdcfh
Opacity	Monitor Labs	Lighthawk 560	Lighthawk 560	100%
NO_2 Convertor	CAI	ZDL04001	ZDL04001	

2.1 TEST CONDITIONS

The tests were conducted at normal steady state operating conditions. Limestone injection rates, fuel combustion rate, ammonia injection rate, ash handling operations, excess air level, combustion air distribution, and combustor temperature were set to maintain stable unit operation. Pertinent operating conditions were recorded by Desert View Power personnel during the tests as presented in Table 2-2.

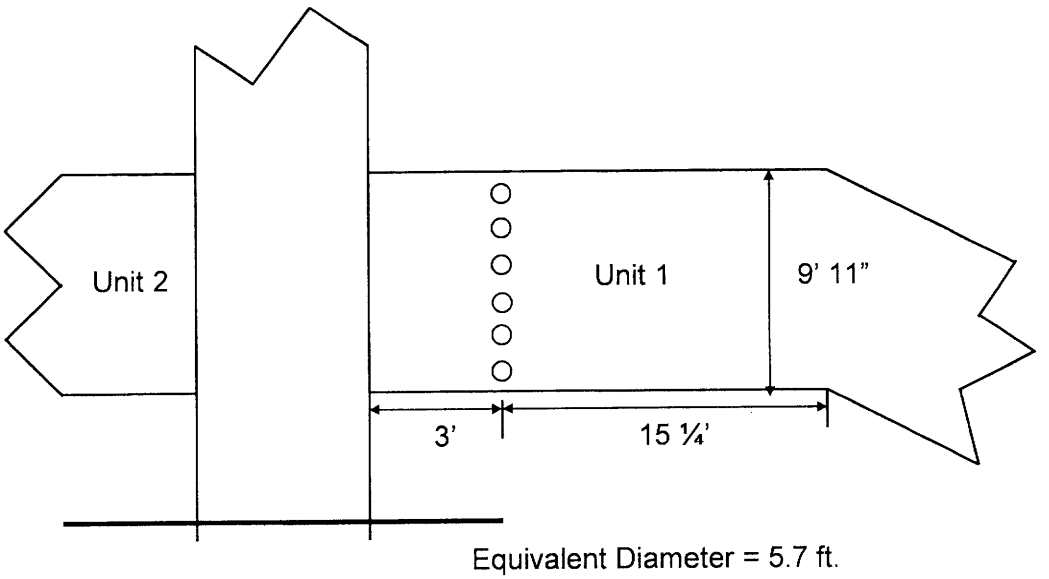
TABLE 2-2
AVERAGE DAILY UNIT DATA
DESERT VIEW POWER
FEBRUARY 22, 2022

Date	Combined	Gross MW Units 1 & 2	Steam Production
2/22/2022	Unit 1	39.3	178.6
2/23/2022	Unit 2	39.4	187.6

2.2 SAMPLE LOCATIONS

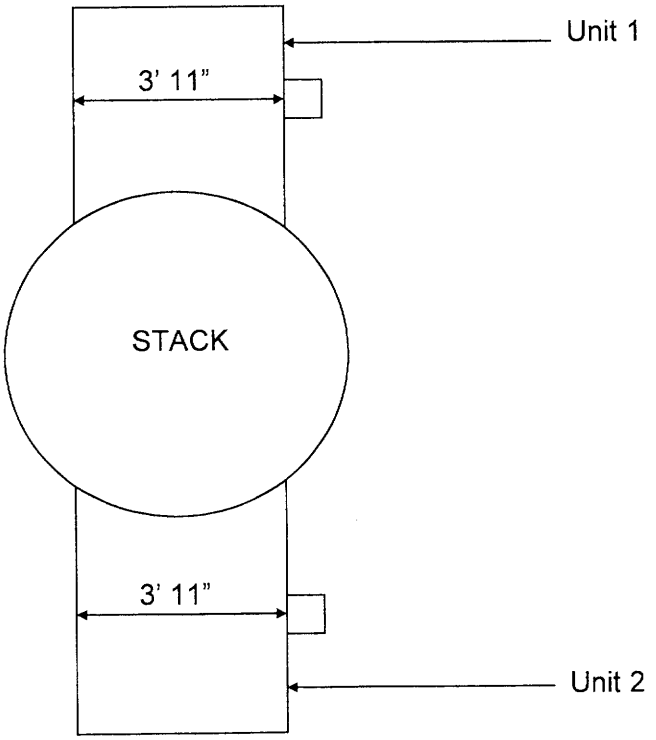
All sampling was conducted at the stack breaching ducts to the stack. Desert View Power previously conducted three-dimensional flow testing and stratification testing on the baghouse exhaust ducts on each unit. This testing was performed in accordance to SCAQMD Chapter X, Section 1 and 13 and was presented in the report titled "Stack Gas Stratification and Absence of Flow Disturbance Testing at Desert View Power," (R106E622.T) submitted to SCAQMD in October of 1994. A copy of the sample location certification report can be found in the test plan in Appendix E of this report. The sample locations meet the requirements. All testing for both Units 1 and 2 was conducted at the sample location presented in Figure 2-1.

FIGURE 2-1
SCHEMATIC OF THE DESERT VIEW POWER, SAMPLE LOCATION



Equivalent Diameter = 5.7 ft.

Note: Unit 2 is mirror image of Unit 1



3.0 TEST DESCRIPTIONS

The test procedures that were used are listed in Table 3-1. The performance test runs for gaseous plant emissions were in some cases also used for RATA test runs. A minimum of nine reference method tests are required for all gaseous species relative accuracy (RA) determinations.

TABLE 3-1
TEST MATRIX PER UNIT
DESERT VIEW POWER

Parameter	No. of Tests	Measurement Principle	Reference Method	Duration per Test
NO_x	10(1)	Chemiluminescence	EPA 7E	30 minutes
O_2	10(1)	Electrochemical	EPA 3A	30 minutes
CO_2	10(1)	Non-Dispersive Infrared	EPA 3A	30 minutes
CO	10(1)	Non-Dispersive Infrared	Modified EPA 10	30 minutes
SO_2	10(1)	Barium Thorin Titration	EPA 6	30 minutes
Stack Gas Flow Rate	--	S-Type Pitot Traverse	EPA 2	--
Moisture	--	Condensation/Gravimetric	EPA 4	--

(1) Includes compliance and RATA test runs

3.1 NO_X, O_2, CO_2, AND CO

NO_x, O_2, CO_2, and CO were measured according to EPA reference methods using MAQS' CEMS. NO_x, O_2, CO_2, and CO concentrations were determined using MAQS' mobile emission measurement laboratory. The laboratory is housed in a truck outfitted to provide a clean, quiet, environmentally controlled base for the testing operations. The laboratory has lighting, electrical distribution, air conditioning and heating to support the test instruments and provide for optimal test performance.

Concentrations of these gaseous species were measured using an extractive sampling system consisting of a stainless steel probe to minimize reactions, a heat traced Teflon sample line connected to a thermo-electrically cooled sample dryer. Following the dryer, the sample is drawn into a Teflon lined pump where it is pressurized and then filtered for delivery to the gas analysis portion of the system. Gaseous samples were collected at a single point. Three 60-minute compliance tests were performed.

NO_x concentration was determined using a California Analytical Model 600. The analyzer full scale range was 100 ppm. The analyzer is equipped with a NO_2-NO converter for the determination of total nitrogen oxides without interference from other nitrogen containing compounds.

Oxygen concentration was determined using an California Analytical Model 600 analyzer The analyzer full scale range was 20%.

CO_2 was measured using a non-dispersive infrared analyzer manufactured by Horiba (Model # PIR 2000). The analyzer full scale range was 20%.

CO was measured using a non-dispersive infrared/gas filter correlation analyzer manufactured by TECO (Model # 48i). The analyzer full scale range was 10 ppm.

The analyzers and sampling system were subjected to a variety of calibration and quality assurance procedures including leak checks, linearity and calibration error determinations before sampling, and system bias and drift determinations as part of each test run. Data are corrected for any observed bias or drift in accordance with the reference methods.

3.2 SULFUR DIOXIDE

Sulfur dioxide was measured according to EPA Method 6. A barium Thorin titration of the hydrogen peroxide impinger samples yielded SO_2 concentrations for a minimum of nine relative accuracy tests. The sample system consisted of heated glass probe and filter connected by Teflon tubing to the glass sample train consisting of a series of hydrogen peroxide filled impingers. Prior to the titrimetric analysis, all SO_x samples were passed through an ion exchange resin. This removes interferences associated with ammonium (NH_4).

3.3 VELOCITY AND MOISTURE

Stack gas velocity and moisture content were determined by EPA Methods 2 and 4 during the particulate testing. Velocity traverses were performed during each set of compliance tests (NO_x, CO, SO_2 and hydrocarbons) and RATA test runs.

3.4 RATA TEST PROCEDURES

Relative accuracy tests were performed on NO_x, SO_2, CO and CO_2 sub-systems of each unit's CEMS. Relative accuracy was determined by comparing the CEMS data to the corresponding reference method (RM) data over nine test runs. A minimum of nine - 30 minute runs were performed on Units 1 and 2 for the NO_x, SO_2, CO, and CO_2. Relative accuracy is expressed in terms of the absolute value of the mean of the difference between the monitor value and the reference method value. It is reported in terms of a percentage of the mean reference method value. The computational procedure is summarized by the following equations:

$$\overline{RM} = \frac{1}{n}\sum_{i=1}^{n} RM_i$$

$$\overline{d} = \frac{1}{n}\sum_{i=1}^{n} d_i$$

$$S_d = \left[\frac{\sum_{i=1}^{n} d_i^2 - \frac{\left[\sum_{i=1}^{n} d_i\right]^2}{n}}{n-1} \right]^{\frac{1}{2}}$$

$$CC = t_{0.975}\frac{S_d}{\sqrt{n}}$$

$$RA = \frac{|\overline{d}| + |CC|}{\overline{RM}} x100$$

Where:

$\overline{RM}$ = mean value of the reference method

$\overline{d}$ = average difference between RM and CEMS (RM – CEMS)

$|\overline{d}|$ = absolute value of the difference between RM and CEMS

S_d = sample standard deviation of the difference between RM and CEMS

RA = Relative Accuracy

$t_{0.975}$ = t value at 95% confidence interval

n = number of valid tests

4.0 TEST RESULTS

This section presents the results of the RATA tests conducted at Desert View Power during February of 2022. Test results are presented in the following sections:

- 4.1 Unit 1 RATA Results
- 4.2 Unit 2 RATA Results

All supporting data sheets, CEMS data, instrument strip charts, and calibration data are included in Appendix A. Plant operating data are contained in Appendix B. Emissions and Load calculations are presented in Appendix C. Quality assurance information is contained in Appendix D. The test plan that was submitted and is contained in Appendix E.

4.1 UNIT 1 RATA RESULTS

Tables 4-1 through 4-10 present the CEMS RATA for Unit 1. The results demonstrate that the CEMS for Unit 1 is in control as defined in EPA 40 CFR, Appendix F. The results of the RATA are presented in units of ppm dry, ppm @ 3% O_2, and lb/hr for NO_x, CO, and SO_2. O_2 results are presented in concentration units of %.

TABLE 4-1
NO_X PPM UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMARY
DESERT VIEW POWER
FEBRUARY 22, 2022

Run #	Date	Time	RM NO_x ppm dry	CEMS NO_x ppm dry	Difference NO_x ppm dry	Use Data? (Y or N)
1	2/22/2022	7:53	43.2	44.9	-1.7	Y
2	2/22/2022	8:47	43.9	45.5	-1.6	Y
3	2/22/2022	9:39	42.0	43.8	-1.8	Y
4	2/22/2022	10:25	40.3	42.0	-1.7	Y
5	2/22/2022	11:12	43.7	45.3	-1.6	Y
6	2/22/2022	11:58	43.6	44.8	-1.2	Y
7	2/22/2022	12:43	39.7	41.1	-1.4	Y
8	2/22/2022	13:28	40.4	42.4	-2.0	Y
9	2/22/2022	14:29	39.0	40.9	-2.0	Y
10	2/22/2022	15:15	37.5	39.6	-2.1	Y

Ref. Method Average:	41.34	ppm
CEMS Average:	43.04	ppm
Average Difference:	-1.70	ppm
Number of Tests:	10	
Standard Deviation:	0.27	ppm
t Value:	2.262	
Confidence Coefficient:	0.20	ppm
Relative Accuracy:	4.59	% of Reference Method

TABLE 4-2
NO_X PPM @ 3% O_2 UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMARY
DESERT VIEW POWER
FEBRUARY 22, 2022

Run #	Date	Time	RM NO_x ppmc	CEMS NO_x ppmc	Difference NO_x ppmc	Use Data? (Y or N)
1	2/22/2022	7:53	69.2	72.4	-3.2	Y
2	2/22/2022	8:47	69.2	71.8	-2.6	Y
3	2/22/2022	9:39	65.7	68.1	-2.3	Y
4	2/22/2022	10:25	63.7	65.9	-2.2	Y
5	2/22/2022	11:12	68.2	70.1	-1.9	Y
6	2/22/2022	11:58	68.6	69.9	-1.3	Y
7	2/22/2022	12:43	62.6	64.3	-1.7	Y
8	2/22/2022	13:28	64.3	66.6	-2.3	Y
9	2/22/2022	14:29	61.5	63.7	-2.3	Y
10	2/22/2022	15:15	59.5	62.2	-2.8	Y

Ref. Method Average:	65.26	ppmc
CEMS Average:	67.50	ppmc
Average Difference:	-2.25	ppmc
Number of Tests:	10	
Standard Deviation:	0.54	ppmc
t Value:	2.262	
Confidence Coefficient:	0.38	
Relative Accuracy:	4.04	% of Reference Method

TABLE 4-3
NO_X LB/HR UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 22, 2022

Run #	Date	Time	RM NO_x lb/hr	CEMS NO_x lb/hr	Difference NO_x lb/hr	Use Data? (Y or N)
1	2/22/2022	7:53	28.43	25.85	2.59	Y
2	2/22/2022	8:47	28.38	25.93	2.45	Y
3	2/22/2022	9:39	26.95	27.25	-0.30	Y
4	2/22/2022	10:25	26.66	25.70	0.96	Y
5	2/22/2022	11:12	29.64	28.49	1.15	Y
6	2/22/2022	11:58	29.12	28.26	0.86	Y
7	2/22/2022	12:43	26.92	25.79	1.14	Y
8	2/22/2022	13:28	27.15	26.61	0.53	Y
9	2/22/2022	14:29	26.22	26.27	-0.05	Y
10	2/22/2022	15:15	25.10	25.72	-0.62	Y

Ref. Method Average:	27.456	lb/hr
CEMS Average:	26.586	lb/hr
Average Difference:	0.870	lb/hr
Number of Tests:	10	
Standard Deviation:	1.061	lb/hr
t Value:	2.262	
Confidence Coefficient:	0.7588	
Relative Accuracy:	5.93	% of Reference Method

TABLE 4-4
SO_2 PPM UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 22, 2022

Run #	Date	Time	RM SO_2 ppm dry	CEMS SO_2 ppm dry	Difference SO_2 ppm dry	Use Data? (Y or N)
1	2/22/2022	7:53	7.4	6.4	1.1	Y
2	2/22/2022	8:47	9.3	8.9	0.4	Y
3	2/22/2022	9:39	9.8	10.2	-0.4	Y
4	2/22/2022	10:25	11.4	11.5	-0.1	Y
5	2/22/2022	11:12	12.9	13.6	-0.7	Y
6	2/22/2022	11:58	7.1	8.7	-1.6	Y
7	2/22/2022	12:43	6.8	8.9	-2.0	Y
8	2/22/2022	13:28	9.0	9.2	-0.2	Y
9	2/22/2022	14:29	7.7	7.5	0.2	Y
10	2/22/2022	15:15	9.1	9.0	0.1	Y

Ref. Method Average:	9.06	ppm
CEMS Average:	9.38	ppm
Average Difference:	-0.32	ppm
Number of Tests:	10	
Standard Deviation:	0.93	ppm
t Value:	2.262	
Confidence Coefficient:	0.66	ppm
Relative Accuracy:	10.84	% of Reference Method

TABLE 4-5
SO_2 PPM @ 3% O_2 UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 22, 2022

Run #	Date	Time	RM SO_2 ppm dry	CEMS SO_2 ppm dry	Difference SO_2 ppm dry	Use Data? (Y or N)
1	2/22/2022	7:53	11.9	10.3	1.6	Y
2	2/22/2022	8:47	14.6	14.0	0.7	Y
3	2/22/2022	9:39	15.3	15.8	-0.5	Y
4	2/22/2022	10:25	18.1	18.0	0.0	Y
5	2/22/2022	11:12	20.1	20.9	-0.8	Y
6	2/22/2022	11:58	11.2	13.5	-2.4	Y
7	2/22/2022	12:43	10.8	13.8	-3.1	Y
8	2/22/2022	13:28	14.4	14.5	-0.1	Y
9	2/22/2022	14:29	12.1	11.7	0.4	Y
10	2/22/2022	15:15	14.4	14.1	0.3	Y

Ref. Method Average:	14.29	ppmc
CEMS Average:	14.68	ppmc
Average Difference:	-0.39	ppmc
Number of Tests:	10	
Standard Deviation:	1.41	ppmc
t Value:	2.262	
Confidence Coefficient:	1.01	ppmc
Relative Accuracy:	9.78	% of Reference Method

TABLE 4-6
SO_2 LB/HR UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 22, 2022

Run #	Date	Time	RM SO_2 lb/hr	CEMS SO_2 lb/hr	Difference SO_2 lb/hr	Use Data? (Y or N)
1	2/22/2022	7:53	6.82	5.09	1.72	Y
2	2/22/2022	8:47	8.35	7.06	1.29	Y
3	2/22/2022	9:39	8.72	8.84	-0.12	Y
4	2/22/2022	10:25	10.52	9.78	0.74	Y
5	2/22/2022	11:12	12.16	11.95	0.21	Y
6	2/22/2022	11:58	6.60	7.59	-1.00	Y
7	2/22/2022	12:43	6.43	7.73	-1.29	Y
8	2/22/2022	13:28	8.46	8.07	0.39	Y
9	2/22/2022	14:29	7.19	6.69	0.50	Y
10	2/22/2022	15:15	8.46	8.10	0.37	Y

Ref. Method Average:	8.37	lb/hr
CEMS Average:	8.09	lb/hr
Average Difference:	0.28	lb/hr
Number of Tests:	10	
Standard Deviation:	0.92	lb/hr
t Value:	2.262	
Confidence Coefficient:	0.66	ppmc
Relative Accuracy:	11.25	% of Reference Method

TABLE 4-7
CO PPM UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 22, 2022

Run #	Date	Time	RM CO ppm dry	CEMS CO ppm dry	Difference CO ppm dry	Use Data? (Y or N)
1	2/22/2022	7:53	0.0	2.1	-2.1	Y
2	2/22/2022	8:47	0.0	1.2	-1.2	Y
3	2/22/2022	9:39	0.0	0.5	-0.5	Y
4	2/22/2022	10:25	0.0	0.1	-0.1	Y
5	2/22/2022	11:12	0.0	0.0	0.0	Y
6	2/22/2022	11:58	0.0	0.0	0.0	Y
7	2/22/2022	12:43	0.0	0.0	0.0	Y
8	2/22/2022	13:28	0.0	1.5	-1.5	Y
9	2/22/2022	14:29	0.0	1.2	-1.2	Y
10	2/22/2022	15:15	0.0	1.0	-1.0	Y

Ref. Method Average:	0.00	ppm
CEMS Average:	0.75	ppm
Average Difference:	-0.75	(PS 4A Criteria: Avg. Diff. less than 5 ppm)
Number of Tests:	10	
Standard Deviation:	0.74	ppm
t Value:	2.262	
Confidence Coefficient:	0.53	ppm
Relative Accuracy:	N/A	% of Reference Method

TABLE 4-8
CO PPM @ 3% O_2 UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 22, 2022

Run #	Date	Time	RM CO ppm @ 3% O_2	CEMS CO ppm @ 3% O_2	Difference CO ppm @ 3% O_2	Use Data? (Y or N)
1	2/22/2022	7:53	0.0	3.3	-3.3	Y
2	2/22/2022	8:47	0.0	1.9	-1.9	Y
3	2/22/2022	9:39	0.0	0.8	-0.8	Y
4	2/22/2022	10:25	0.0	0.1	-0.1	Y
5	2/22/2022	11:12	0.0	0.0	0.0	Y
6	2/22/2022	11:58	0.0	0.0	0.0	Y
7	2/22/2022	12:43	0.0	0.0	0.0	Y
8	2/22/2022	13:28	0.0	2.3	-2.3	Y
9	2/22/2022	14:29	0.0	1.9	-1.9	Y
10	2/22/2022	15:15	0.0	1.5	-1.5	Y

Ref. Method Average:	0.00	ppmc
CEMS Average:	1.19	ppmc
Average Difference:	-1.19	(PS 4A Criteria: Avg. Diff. less than 5 ppm)
Number of Tests:	10	
Standard Deviation:	1.19	ppmc
t Value:	2.262	
Confidence Coefficient:	0.85	ppmc
Relative Accuracy:	N/A	% of Reference Method

TABLE 4-9
CO LB/HR UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 22, 2022

Run #	Date	Time	RM CO lb/hr	CEMS CO lb/hr	Difference CO lb/hr	Use Data? (Y or N)
1	2/22/2022	7:53	0.00	0.72	-0.72	Y
2	2/22/2022	8:47	0.00	0.42	-0.42	Y
3	2/22/2022	9:39	0.00	0.19	-0.19	Y
4	2/22/2022	10:25	0.00	0.02	-0.02	Y
5	2/22/2022	11:12	0.00	0.00	0.00	Y
6	2/22/2022	11:58	0.00	0.00	0.00	Y
7	2/22/2022	12:43	0.00	0.00	0.00	Y
8	2/22/2022	13:28	0.00	0.56	-0.56	Y
9	2/22/2022	14:29	0.00	0.46	-0.46	Y
10	2/22/2022	15:15	0.00	0.39	-0.39	Y

Ref. Method Average:	0.00	lb/hr
CEMS Average:	0.28	lb/hr
Average Difference:	-0.28	lb/hr
Number of Tests:	10	
Standard Deviation:	0.269	
t Value:	2.262	
Confidence Coefficient:	0.192	
Applicable Standard:	45.0	lb/hr
Relative Accuracy:	N/A	% of Reference Method
Relative Accuracy:	1.04	% of Applicable Standard

TABLE 4-10
O_2 % UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 22, 2022

Run #	Date	Time	RM O_2 % dry	CEMS O_2 % dry	Difference O_2 % dry	Use Data? (Y or N)
1	2/22/2022	7:53	9.73	9.83	-0.10	Y
2	2/22/2022	8:47	9.54	9.59	-0.06	Y
3	2/22/2022	9:39	9.45	9.40	0.05	Y
4	2/22/2022	10:25	9.58	9.52	0.06	Y
5	2/22/2022	11:12	9.43	9.37	0.06	Y
6	2/22/2022	11:58	9.52	9.46	0.06	Y
7	2/22/2022	12:43	9.55	9.49	0.06	Y
8	2/22/2022	13:28	9.65	9.54	0.11	Y
9	2/22/2022	14:29	9.54	9.45	0.09	Y
10	2/22/2022	15:15	9.61	9.54	0.08	Y

Ref. Method Average:	9.56	
CEMS Average:	9.52	
Average Difference:	0.04	
Number of Tests:	10	
Standard Deviation:	0.07	
t Value:	2.262	
Confidence Coefficient:	0.05	
Relative Accuracy:	0.94	% of Reference Method

4.2 UNIT 2 RATA RESULTS

Tables 4-11 through 4-20 present the CEMS RATA results for Unit 2. The results demonstrate that the CEMS for Unit 2 is in control as defined in EPA 40 CFR, Appendix F. The results of the RATA are presented in units of ppm dry, ppm @ 3% O_2 and lb/hr for NO_x, CO and SO_2. O_2 results are presented in concentration units of %.

TABLE 4-11
NO_X PPM UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 23, 2022

Run #	Date	Time	RM NO_x ppm dry	CEMS NO_x ppm dry	Difference NO_x ppm dry	Use Data? (Y or N)
1	2/23/2022	7:30	38.7	40.7	-2.1	Y
2	2/23/2022	8:30	39.2	41.2	-1.9	Y
3	2/23/2022	9:15	40.5	42.3	-1.8	Y
4	2/23/2022	9:58	43.0	44.8	-1.8	Y
5	2/23/2022	10:40	41.7	43.4	-1.7	Y
6	2/23/2022	11:23	40.3	42.0	-1.6	Y
7	2/23/2022	12:05	42.6	44.2	-1.7	Y
8	2/23/2022	12:49	41.5	43.2	-1.7	Y
9	2/23/2022	13:33	41.5	43.4	-1.9	Y

Ref. Method Average:	41.00	ppm
CEMS Average:	42.80	ppm
Average Difference:	-1.81	ppm
Number of Tests:	9	
Standard Deviation:	0.14	ppm
t Value:	2.306	
Confidence Coefficient:	0.11	ppm
Relative Accuracy:	4.67	% of Reference Method

TABLE 4-12
NO_X PPM @ 3% O_2 UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 23, 2022

Run #	Date	Time	RM NO_x ppmc	CEMS NO_x ppmc	Difference NO_x ppmc	Use Data? (Y or N)
1	2/23/2022	7:30	57.9	61.3	-3.4	Y
2	2/23/2022	8:30	57.9	61.1	-3.2	Y
3	2/23/2022	9:15	60.2	63.1	-3.0	Y
4	2/23/2022	9:58	63.3	66.2	-2.9	Y
5	2/23/2022	10:40	61.8	64.4	-2.6	Y
6	2/23/2022	11:23	59.9	62.6	-2.6	Y
7	2/23/2022	12:05	62.9	65.6	-2.7	Y
8	2/23/2022	12:49	61.4	64.3	-2.9	Y
9	2/23/2022	13:33	61.5	64.7	-3.1	Y

Ref. Method Average:	60.77	ppmc
CEMS Average:	63.71	ppmc
Average Difference:	-2.94	ppmc
Number of Tests:	9	
Standard Deviation:	0.27	ppmc
t Value:	2.306	
Confidence Coefficient:	0.20	
Relative Accuracy:	5.17	% of Reference Method

TABLE 4-13
NO_X LB/HR UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 23, 2022

Run #	Date	Time	RM NO_x lb/hr	CEMS NO_x lb/hr	Difference NO_x lb/hr	Use Data? (Y or N)
1	2/23/2022	7:30	24.83	25.25	-0.42	Y
2	2/23/2022	8:30	25.25	25.01	0.24	Y
3	2/23/2022	9:15	25.65	25.48	0.17	Y
4	2/23/2022	9:58	27.26	26.98	0.28	Y
5	2/23/2022	10:40	25.82	26.02	-0.20	Y
6	2/23/2022	11:23	25.69	25.05	0.64	Y
7	2/23/2022	12:05	26.81	26.32	0.49	Y
8	2/23/2022	12:49	25.75	25.62	0.13	Y
9	2/23/2022	13:33	26.04	25.83	0.21	Y

Ref. Method Average:	25.900	lb/hr
CEMS Average:	25.728	lb/hr
Average Difference:	0.172	lb/hr
Number of Tests:	9	
Standard Deviation:	0.322	lb/hr
t Value:	2.306	
Confidence Coefficient:	0.2477	
Relative Accuracy:	1.62	% of Reference Method

TABLE 4-14
SO_2 PPM UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 23, 2022

Run #	Date	Time	RM SO_2 ppm dry	CEMS SO_2 ppm dry	Difference SO_2 ppm dry	Use Data? (Y or N)
1	2/23/2022	7:30	8.8	8.9	0.0	Y
2	2/23/2022	8:30	8.3	7.6	0.7	Y
3	2/23/2022	9:15	9.2	9.2	0.1	Y
4	2/23/2022	9:58	11.6	11.7	-0.2	Y
5	2/23/2022	10:40	11.2	10.7	0.4	Y
6	2/23/2022	11:23	10.0	10.0	0.0	Y
7	2/23/2022	12:05	12.3	12.5	-0.2	Y
8	2/23/2022	12:49	13.1	13.2	-0.1	Y
9	2/23/2022	13:33	10.9	11.1	-0.2	Y

Ref. Method Average:	10.60	ppm
CEMS Average:	10.54	ppm
Average Difference:	0.06	ppm
Number of Tests:	9	
Standard Deviation:	0.31	ppm
t Value:	2.306	
Confidence Coefficient:	0.24	ppm
Relative Accuracy:	2.80	% of Reference Method

TABLE 4-15
SO_2 PPM @ 3% O_2 UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 23, 2022

Run #	Date	Time	RM SO_2 ppm dry	CEMS SO_2 ppm dry	Difference SO_2 ppm dry	Use Data? (Y or N)
1	2/23/2022	7:30	13.2	13.3	-0.1	Y
2	2/23/2022	8:30	12.2	11.3	0.9	Y
3	2/23/2022	9:15	13.7	13.6	0.1	Y
4	2/23/2022	9:58	17.1	17.3	-0.3	Y
5	2/23/2022	10:40	16.5	15.9	0.6	Y
6	2/23/2022	11:23	14.9	15.0	-0.1	Y
7	2/23/2022	12:05	18.2	18.5	-0.3	Y
8	2/23/2022	12:49	19.4	19.7	-0.3	Y
9	2/23/2022	13:33	16.1	16.5	-0.4	Y

Ref. Method Average:	15.70	ppmc
CEMS Average:	15.69	ppmc
Average Difference:	0.01	ppmc
Number of Tests:	9	
Standard Deviation:	0.45	ppmc
t Value:	2.306	
Confidence Coefficient:	0.35	ppmc
Relative Accuracy:	2.29	% of Reference Method

TABLE 4-16
SO_2 LB/HR UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 23, 2022

Run #	Date	Time	RM SO_2 lb/hr	CEMS SO_2 lb/hr	Difference SO_2 lb/hr	Use Data? (Y or N)
1	2/23/2022	7:30	7.89	7.66	0.24	Y
2	2/23/2022	8:30	7.40	6.39	1.01	Y
3	2/23/2022	9:15	8.13	7.66	0.47	Y
4	2/23/2022	9:58	10.22	9.84	0.38	Y
5	2/23/2022	10:40	9.61	8.91	0.69	Y
6	2/23/2022	11:23	8.87	8.31	0.56	Y
7	2/23/2022	12:05	10.82	10.35	0.46	Y
8	2/23/2022	12:49	11.30	10.87	0.43	Y
9	2/23/2022	13:33	9.49	9.18	0.30	Y

Ref. Method Average:	9.30	lb/hr
CEMS Average:	8.80	lb/hr
Average Difference:	0.51	lb/hr
Number of Tests:	9	
Standard Deviation:	0.23	lb/hr
t Value:	2.306	
Confidence Coefficient:	0.18	ppmc
Relative Accuracy:	7.36	% of Reference Method

TABLE 4-17
CO PPM UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 23, 2022

Run #	Date	Time	RM CO ppm dry	CEMS CO ppm dry	Difference CO ppm dry	Use Data? (Y or N)
1	2/23/2022	7:30	0.0	3.1	-3.1	Y
2	2/23/2022	8:30	0.0	0.1	-0.1	Y
3	2/23/2022	9:15	0.0	0.0	0.0	Y
4	2/23/2022	9:58	0.0	0.0	0.0	Y
5	2/23/2022	10:40	0.0	0.0	0.0	Y
6	2/23/2022	11:23	0.0	0.0	0.0	Y
7	2/23/2022	12:05	0.0	0.0	0.0	Y
8	2/23/2022	12:49	0.0	0.0	0.0	Y
9	2/23/2022	13:33	0.0	0.0	0.0	Y

Ref. Method Average:	0.00	ppm
CEMS Average:	0.36	ppm
Average Difference:	-0.36	(PS 4A Criteria: Avg. Diff. less than 5 ppm)
Number of Tests:	9	
Standard Deviation:	1.02	ppm
t Value:	2.306	
Confidence Coefficient:	0.78	ppm
Relative Accuracy:	N/A	% of Reference Method

TABLE 4-18
CO PPM @ 3% O_2 UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER,
FEBRUARY 23, 2022

Run #	Date	Time	RM CO ppm @ 3% O_2	CEMS CO ppm @ 3% O_2	Difference CO ppm @ 3% O_2	Use Data? (Y or N)
1	2/23/2022	7:30	0.0	4.6	-4.6	Y
2	2/23/2022	8:30	0.0	0.2	-0.2	Y
3	2/23/2022	9:15	0.0	0.0	0.0	Y
4	2/23/2022	9:58	0.0	0.0	0.0	Y
5	2/23/2022	10:40	0.0	0.0	0.0	Y
6	2/23/2022	11:23	0.0	0.0	0.0	Y
7	2/23/2022	12:05	0.0	0.0	0.0	Y
8	2/23/2022	12:49	0.0	0.0	0.0	Y
9	2/23/2022	13:33	0.0	0.0	0.0	Y

Ref. Method Average:	0.00	ppmc
CEMS Average:	0.54	ppmc
Average Difference:	-0.54	(PS 4A Criteria: Avg. Diff. less than 5 ppm)
Number of Tests:	9	
Standard Deviation:	1.54	ppmc
t Value:	2.306	
Confidence Coefficient:	1.18	ppmc
Applicable Standard:	231.0	ppmc
Relative Accuracy:	N/A	% of Reference Method

TABLE 4-19
CO LB/HR UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 23, 2022

Run #	Date	Time	RM CO lb/hr	CEMS CO lb/hr	Difference CO lb/hr	Use Data? (Y or N)
1	2/23/2022	7:30	0.00	1.16	-1.16	Y
2	2/23/2022	8:30	0.00	0.05	-0.05	Y
3	2/23/2022	9:15	0.00	0.00	0.00	Y
4	2/23/2022	9:58	0.00	0.00	0.00	Y
5	2/23/2022	10:40	0.00	0.00	0.00	Y
6	2/23/2022	11:23	0.00	0.00	0.00	Y
7	2/23/2022	12:05	0.00	0.00	0.00	Y
8	2/23/2022	12:49	0.00	0.00	0.00	Y
9	2/23/2022	13:33	0.00	0.00	0.00	Y

Ref. Method Average:	0.00	lb/hr
CEMS Average:	0.13	lb/hr
Average Difference:	-0.13	lb/hr
Number of Tests:	9	
Standard Deviation:	0.384	
t Value:	2.306	
Confidence Coefficient:	0.295	
Applicable Standard:	45.0	lb/hr
Relative Accuracy:	N/A	% of Reference Method
Relative Accuracy:	0.95	% of Applicable Standard

TABLE 4-20
O_2 % UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
FEBRUARY 23, 2022

Run #	Date	Time	RM O_2 % dry	CEMS O_2 % dry	Difference O_2 % dry	Use Data? (Y or N)
1	2/23/2022	7:30	8.95	9.03	-0.08	Y
2	2/23/2022	8:30	8.77	8.87	-0.10	Y
3	2/23/2022	9:15	8.84	8.93	-0.09	Y
4	2/23/2022	9:58	8.74	8.83	-0.09	Y
5	2/23/2022	10:40	8.82	8.91	-0.10	Y
6	2/23/2022	11:23	8.86	8.97	-0.11	Y
7	2/23/2022	12:05	8.79	8.89	-0.10	Y
8	2/23/2022	12:49	8.81	8.91	-0.10	Y
9	2/23/2022	13:33	8.83	8.93	-0.10	Y

Ref. Method Average:	8.82	
CEMS Average:	8.92	
Average Difference:	-0.10	
Number of Tests:	9	
Standard Deviation:	0.01	
t Value:	2.306	
Confidence Coefficient:	0.01	
Relative Accuracy:	1.16	% of Reference Method

APPENDIX A
TEST DATA

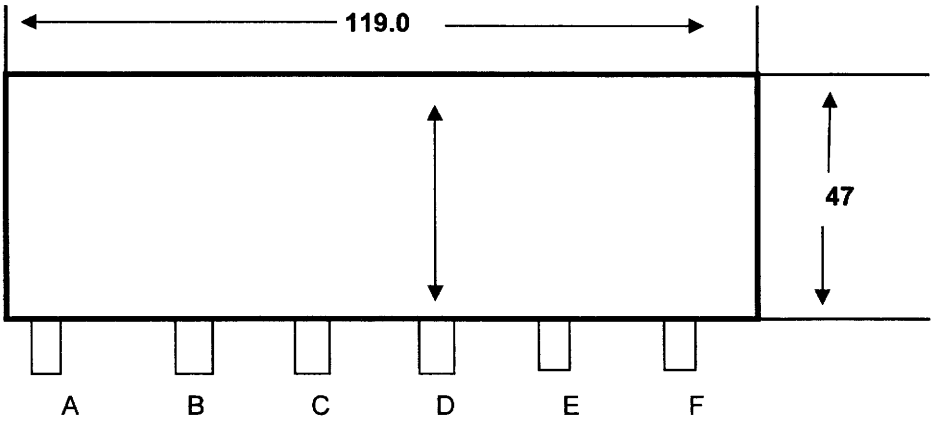
Appendix A.1
Unit 1 Reference Method Data

Appendix A.1.1
Unit 1 Sample Location

Method 1

Client: Desert View Power Date: 2/22/2022

Sample Location: Unit 1-2 Prepared By: Dave Wonderly



H (in.)	**119.0**
W (in.)	**47.0**
Nipple length	**13.0**
Distance between points	**9.40**
Stack Area (ft^2)	**38.84**

Point No.	Sample Point Inches from nozzle	
1	4.7	17.7
2	14.1	27.1
3	23.5	36.5
4	32.9	45.9
5	42.3	55.3

Appendix A.1.2
Unit 1 CEMS Data

Date	Time	O2 %	CO2 %	NOx ppm	CO ppm	
2/22/2022	7:04	19.012	18.962	95.081	8.37	
2/22/2022	7:05	19.011	18.936	94.673	8.373	
2/22/2022	7:06	19.01	18.954	94.656	8.37	High
2/22/2022	7:07	13.529	12.663	55.571	7.298	
2/22/2022	7:08	10.539	10.616	48.355	4.507	
2/22/2022	7:09	10.537	10.617	48.389	4.45	Mid
2/22/2022	7:10	5.621	5.361	18.488	3.843	
2/22/2022	7:11	0.012	0.064	0.031	0.25	
2/22/2022	7:12	0.011	0.052	0.02	-0.004	Zero
2/22/2022	7:13	10.682	0.08	-0.015	-0.008	NO Mode Zero
2/22/2022	7:14	20.883	0.125	78.273	0.115	
2/22/2022	7:15	20.886	0.126	94.016	0.108	NO Mode High
2/22/2022	7:16	20.881	0.133	66.983	0.095	
2/22/2022	7:17	20.888	0.126	-0.009	0.098	NO2 Gas NO Mode
2/22/2022	7:18	20.837	0.169	-0.003	0.12	
2/22/2022	7:19	20.839	0.184	36.678	0.188	
2/22/2022	7:20	20.801	0.212	43.272	0.224	
2/22/2022	7:21	20.867	0.141	43.279	0.236	NO2 Gas NOx Mode
2/22/2022	7:22	20.525	0.341	6.166	0.217	
2/22/2022	7:23	9.807	10.321	40.559	0.119	
2/22/2022	7:24	9.625	11.091	41.329	-0.129	
2/22/2022	7:25	9.446	11.107	45.616	-0.158	
2/22/2022	7:26	9.756	10.883	42.126	-0.161	
2/22/2022	7:27	9.333	11.33	48.962	-0.147	
2/22/2022	7:28	9.592	11.069	42.808	-0.14	
2/22/2022	7:29	9.533	11.172	43.291	-0.13	
2/22/2022	7:30	10.068	10.585	39.007	-0.132	
2/22/2022	7:31	9.415	11.141	48.853	-0.133	
2/22/2022	7:32	9.339	11.264	52.08	-0.158	
2/22/2022	7:33	9.863	10.825	38.942	-0.168	
2/22/2022	7:34	9.926	10.718	40.437	-0.161	
2/22/2022	7:35	9.859	10.708	45.841	-0.165	
2/22/2022	7:36	9.64	11.089	44.887	-0.163	
2/22/2022	7:37	9.701	10.878	44.968	-0.157	
2/22/2022	7:38	9.685	10.92	44.908	-0.172	
2/22/2022	7:39	10.164	10.551	39.744	-0.176	
2/22/2022	7:40	9.79	10.746	44.85	-0.168	
2/22/2022	7:41	8.245	12.402	58.555	-0.181	
2/22/2022	7:42	8.949	11.65	55.921	-0.194	
2/22/2022	7:43	2.058	1.829	2.497	1.07	
2/22/2022	7:44	0.035	0.108	0.009	4.293	
2/22/2022	7:45	0.03	0.096	-0.01	4.463	CO Bias
2/22/2022	7:46	0.029	0.095	30.302	3.898	
2/22/2022	7:47	0.03	0.08	48.556	0.364	
2/22/2022	7:48	0.028	0.089	48.569	0.067	NOx Bias
2/22/2022	7:49	3.498	2.893	30.851	0.047	

2/22/2022	7:50	10.493	10.551	0.05	-0.146	O2 CO2 Bias
2/22/2022	7:51	9.884	10.961	17.393	-0.282	
2/22/2022	7:52	9.561	11.159	44.684	-0.2	
2/22/2022	7:53	9.97	10.521	45.696	-0.205	
2/22/2022	7:54	8.719	11.915	55.643	-0.177	
2/22/2022	7:55	10.032	10.509	42.573	-0.199	
2/22/2022	7:56	9.684	10.905	40.305	-0.184	
2/22/2022	7:57	10.263	10.362	35.653	-0.207	
2/22/2022	7:58	10.325	10.199	37.994	-0.177	
2/22/2022	7:59	9.335	11.295	43.352	-0.173	
2/22/2022	8:00	10.197	10.44	35.721	-0.192	
2/22/2022	8:01	9.088	11.365	50.636	-0.154	
2/22/2022	8:02	9.469	11.198	40.855	-0.183	
2/22/2022	8:03	9.659	10.887	41.807	-0.198	
2/22/2022	8:04	9.251	11.365	46.229	-0.182	
2/22/2022	8:05	9.625	10.942	46.644	-0.175	
2/22/2022	8:06	9.782	10.811	47.453	-0.18	
2/22/2022	8:07	9.746	10.881	42.078	-0.181	
2/22/2022	8:08	10.108	10.495	39.24	-0.169	
2/22/2022	8:09	9.816	10.723	42.615	-0.141	
2/22/2022	8:10	9.982	10.617	44.3	-0.177	
2/22/2022	8:11	10.24	10.403	37.155	-0.193	
2/22/2022	8:12	9.959	10.673	39.325	-0.186	
2/22/2022	8:13	9.237	11.243	48.633	-0.17	
2/22/2022	8:14	9.896	10.685	43.494	-0.191	
2/22/2022	8:15	9.986	10.66	41.953	-0.198	
2/22/2022	8:16	9.427	11.11	48.296	-0.193	
2/22/2022	8:17	9.434	11.139	50.483	-0.203	
2/22/2022	8:18	9.693	10.933	43.936	-0.18	
2/22/2022	8:19	8.341	12.144	59.096	-0.157	
2/22/2022	8:20	9.444	11.268	48.377	-0.201	
2/22/2022	8:21	9.609	10.92	45.148	-0.179	
2/22/2022	8:22	10.106	10.604	34.05	-0.196	
2/22/2022	8:23	10.594	9.95	34.383	-0.175	
Run 1 Average		9.70	10.89	43.58	-0.18	
2/22/2022	8:24	9.72	10.867	37.978	-0.137	
2/22/2022	8:25	9.47	11.17	44.285	-0.155	
2/22/2022	8:26	3.582	4.471	43.633	-0.171	
2/22/2022	8:27	0.039	0.139	48.271	-0.039	
2/22/2022	8:28	0.034	0.118	48.476	0.049	NOx Bias
2/22/2022	8:29	0.029	0.112	15.495	0.62	
2/22/2022	8:30	0.026	0.107	0.02	4.156	
2/22/2022	8:31	0.024	0.105	-0.001	4.436	CO Bias
2/22/2022	8:32	6.469	5.886	-0.014	3.75	
2/22/2022	8:33	10.494	10.6	-0.009	0.054	O2 CO2 Bias
2/22/2022	8:34	1.991	4.237	-0.016	-0.252	
2/22/2022	8:35	-0.11	0.058	-0.019	-0.051	
2/22/2022	8:36	-0.007	0.053	-0.019	-0.034	Zero
2/22/2022	8:37	7.976	8.813	45.333	1.633	

2/22/2022	8:38	10.527	10.622	49.043	4.399	
2/22/2022	8:39	10.529	10.624	48.974	4.394	Span
2/22/2022	8:40	9.547	11.102	47.633	2.825	
2/22/2022	8:41	7.548	12.977	66.313	-0.146	
2/22/2022	8:42	8.365	12.285	55.868	-0.238	
2/22/2022	8:43	9.668	10.913	46.914	-0.215	
2/22/2022	8:44	9.683	10.928	44.864	-0.218	
2/22/2022	8:45	9.109	11.437	48.484	-0.237	
2/22/2022	8:46	9.501	11.042	42.503	-0.237	
2/22/2022	8:47	9.694	10.965	42.08	-0.2	
2/22/2022	8:48	8.956	11.582	54.924	-0.213	
2/22/2022	8:49	9.755	10.914	41.169	-0.221	
2/22/2022	8:50	9.004	11.572	46.618	-0.232	
2/22/2022	8:51	9.802	10.698	35.739	-0.22	
2/22/2022	8:52	9.069	11.515	45.366	-0.211	
2/22/2022	8:53	9.46	11.19	44.326	-0.208	
2/22/2022	8:54	9.155	11.39	48.439	-0.236	
2/22/2022	8:55	9.649	10.903	40.841	-0.23	
2/22/2022	8:56	9.692	10.961	38.646	-0.202	
2/22/2022	8:57	10.17	10.426	32.94	-0.226	
2/22/2022	8:58	9.894	10.658	38.476	-0.22	
2/22/2022	8:59	10.192	10.319	38.293	-0.214	
2/22/2022	9:00	8.79	11.708	53.768	-0.197	
2/22/2022	9:01	9.672	11.025	40.396	-0.217	
2/22/2022	9:02	8.937	11.617	49.103	-0.227	
2/22/2022	9:03	9.503	11.101	42.021	-0.24	
2/22/2022	9:04	8.92	11.466	52.694	-0.202	
2/22/2022	9:05	9.588	11.101	44.747	-0.217	
2/22/2022	9:06	9.403	11.105	49.308	-0.237	
2/22/2022	9:07	10.401	10.189	38.236	-0.233	
2/22/2022	9:08	9.772	10.854	38.833	-0.207	
2/22/2022	9:09	9.373	10.964	48.277	-0.221	
2/22/2022	9:10	9.904	10.753	40.056	-0.191	
2/22/2022	9:11	7.99	12.392	62.617	-0.195	
2/22/2022	9:12	9.086	11.714	49.064	-0.203	
2/22/2022	9:13	10.33	10.326	38.366	-0.213	
2/22/2022	9:14	10.057	10.352	39.231	-0.213	
2/22/2022	9:15	9.686	10.866	42.203	-0.211	
2/22/2022	9:16	9.638	10.977	43.941	-0.226	
2/22/2022	9:17	9.036	11.462	52.307	-0.228	
Run 2 Average		9.50	11.07	44.36	-0.22	
2/22/2022	9:18	10.127	10.856	11.718	-0.251	
2/22/2022	9:19	10.474	10.598	0.656	-0.304	O2 CO2 Bias
2/22/2022	9:20	2.8	3.878	37.183	-0.272	
2/22/2022	9:21	0.03	0.107	48.389	-0.026	
2/22/2022	9:22	0.023	0.087	48.578	0.057	NOx Bias
2/22/2022	9:23	0.021	0.079	13.03	0.774	
2/22/2022	9:24	0.019	0.076	0.048	4.262	
2/22/2022	9:25	0.018	0.072	0.014	4.434	CO Bias

2/22/2022	9:26	-0.076	0.035	-0.001	2.923	
2/22/2022	9:27	-0.002	0.016	-0.019	0.038	
2/22/2022	9:28	-0.003	0.017	-0.019	-0.011	Zero
2/22/2022	9:29	9.371	8.222	47.629	1.699	
2/22/2022	9:30	10.527	10.576	48.97	4.385	
2/22/2022	9:31	10.528	10.574	48.771	4.433	Span
2/22/2022	9:32	10.1	10.6	40.539	2.906	
2/22/2022	9:33	9.202	11.207	46.916	-0.079	
2/22/2022	9:34	9.505	11.154	41.041	-0.232	
2/22/2022	9:35	9.526	10.933	41.303	-0.235	
2/22/2022	9:36	10.206	10.37	34.303	-0.226	
2/22/2022	9:37	9.552	10.88	41.816	-0.218	
2/22/2022	9:38	9.065	11.532	47.46	-0.159	
2/22/2022	9:39	9.346	11.162	44.358	-0.211	
2/22/2022	9:40	10.01	10.601	39.793	-0.196	
2/22/2022	9:41	9.342	11.279	41.931	-0.177	
2/22/2022	9:42	9.223	11.153	49.913	-0.195	
2/22/2022	9:43	9.664	11.093	39.263	-0.21	
2/22/2022	9:44	10.162	10.378	37.669	-0.181	
2/22/2022	9:45	9.314	11.092	47.304	-0.218	
2/22/2022	9:46	8.456	12.158	50.837	-0.22	
2/22/2022	9:47	9.323	11.394	45.768	-0.24	
2/22/2022	9:48	10.22	10.243	40.754	-0.219	
2/22/2022	9:49	9.8	10.689	41.342	-0.196	
2/22/2022	9:50	9.204	11.428	44.444	-0.198	
2/22/2022	9:51	8.532	11.921	52.704	-0.213	
2/22/2022	9:52	9.769	10.901	41.984	-0.212	
2/22/2022	9:53	9.132	11.353	47.729	-0.206	
2/22/2022	9:54	9.169	11.478	44.297	-0.202	
2/22/2022	9:55	9.074	11.432	49.483	-0.186	
2/22/2022	9:56	8.954	11.562	46.107	-0.178	
2/22/2022	9:57	8.934	11.55	49.394	-0.188	
2/22/2022	9:58	9.327	11.289	41.303	-0.205	
2/22/2022	9:59	9.123	11.433	40.775	-0.196	
2/22/2022	10:00	9.434	11.09	38.878	-0.198	
2/22/2022	10:01	9.217	11.326	40.294	-0.206	
2/22/2022	10:02	9.802	10.821	36.094	-0.218	
2/22/2022	10:03	9.642	10.856	37.137	-0.232	
2/22/2022	10:04	9.238	11.361	43.539	-0.274	
2/22/2022	10:05	9.767	10.755	37.444	-0.28	
2/22/2022	10:06	9.161	11.505	38.73	-0.264	
2/22/2022	10:07	9.744	10.75	36.461	-0.276	
2/22/2022	10:08	9.4	11.12	43.377	-0.266	
2/22/2022	10:09	10.173	10.464	30.607	-0.279	
Run 3 Average		9.41	11.15	42.51	-0.22	
2/22/2022	10:10	9.831	9.716	10.494	-0.155	
2/22/2022	10:11	10.485	10.601	0.021	-0.25	O2 CO2 Bias
2/22/2022	10:12	4.099	5.057	30.658	-0.326	
2/22/2022	10:13	0.026	0.123	48.468	-0.091	

2/22/2022	10:14	0.022	0.101	48.604	-0.028	NOx Bias
2/22/2022	10:15	0.021	0.095	14.336	0.58	
2/22/2022	10:16	0.017	0.092	0.044	4.06	
2/22/2022	10:17	0.016	0.086	0.009	4.309	CO Bias
2/22/2022	10:18	0.003	0.057	-0.006	2.902	
2/22/2022	10:19	0.004	0.039	-0.02	-0.036	
2/22/2022	10:20	0.004	0.039	-0.017	-0.036	Zero
2/22/2022	10:21	6.409	5.495	35.019	0.766	
2/22/2022	10:22	10.519	10.592	48.707	4.289	
2/22/2022	10:23	10.522	10.59	48.83	4.476	Span
2/22/2022	10:24	9.134	11.417	51.351	2.996	
2/22/2022	10:25	8.974	11.575	52.649	-0.103	
2/22/2022	10:26	8.88	11.653	50.289	-0.235	
2/22/2022	10:27	8.874	11.727	52.292	-0.224	
2/22/2022	10:28	9.008	11.43	51.617	-0.192	
2/22/2022	10:29	9.699	10.943	38.459	-0.197	
2/22/2022	10:30	10.16	10.415	33.139	-0.199	
2/22/2022	10:31	9.918	10.68	35.812	-0.203	
2/22/2022	10:32	10.099	10.441	34.615	-0.213	
2/22/2022	10:33	9.568	10.893	42.321	-0.195	
2/22/2022	10:34	9.427	11.112	42.667	-0.211	
2/22/2022	10:35	9.321	11.296	40.154	-0.205	
2/22/2022	10:36	9.457	11.191	37.872	-0.211	
2/22/2022	10:37	9.386	11.117	41.173	-0.2	
2/22/2022	10:38	9.089	11.452	44.122	-0.217	
2/22/2022	10:39	9.54	11.023	40.001	-0.216	
2/22/2022	10:40	9.925	10.619	36.638	-0.206	
2/22/2022	10:41	9.211	11.36	45.224	-0.185	
2/22/2022	10:42	9.193	11.294	42.987	-0.208	
2/22/2022	10:43	10.251	10.434	32.609	-0.199	
2/22/2022	10:44	10.258	10.227	32.235	-0.172	
2/22/2022	10:45	9.152	11.293	41.696	-0.187	
2/22/2022	10:46	9.447	11.165	38.658	-0.196	
2/22/2022	10:47	9.637	10.919	38.55	-0.19	
2/22/2022	10:48	9.868	10.643	36.735	-0.179	
2/22/2022	10:49	9.794	10.719	36.595	-0.19	
2/22/2022	10:50	9.632	10.863	40.368	-0.203	
2/22/2022	10:51	9.431	11.124	42.66	-0.21	
2/22/2022	10:52	10.037	10.489	38.513	-0.194	
2/22/2022	10:53	8.853	11.591	50.965	-0.202	
2/22/2022	10:54	9.595	11.02	39.333	-0.202	
2/22/2022	10:55	9.743	10.69	42.167	-0.192	
Run 4 Average		9.55	10.99	40.68	-0.20	
2/22/2022	10:56	9.132	10.479	15.923	-0.077	
2/22/2022	10:57	10.49	10.567	0.034	-0.218	O2 CO2 Bias
2/22/2022	10:58	5.659	6.602	24.401	-0.299	
2/22/2022	10:59	0.037	0.114	48.509	-0.101	
2/22/2022	11:00	0.029	0.083	48.522	0.068	NOx Bias
2/22/2022	11:01	0.028	0.071	48.479	0.059	

2/22/2022	11:02	0.025	0.069	14.373	0.683	
2/22/2022	11:03	0.022	0.063	0.045	4.2	
2/22/2022	11:04	0.022	0.064	0.02	4.448	CO Bias
2/22/2022	11:05	-0.015	0.047	-0.006	3.544	
2/22/2022	11:06	-0.007	0.04	-0.02	0.123	
2/22/2022	11:07	-0.006	0.037	-0.02	-0.014	Zero
2/22/2022	11:08	8.483	8.82	46.243	1.578	
2/22/2022	11:09	10.523	10.586	48.973	4.395	
2/22/2022	11:10	10.527	10.591	48.935	4.41	Span
2/22/2022	11:11	10.074	10.777	44.359	4.141	
2/22/2022	11:12	10.006	10.576	38.775	0.48	
2/22/2022	11:13	8.977	11.52	46.807	-0.234	
2/22/2022	11:14	9.147	11.444	46.625	-0.236	
2/22/2022	11:15	9.582	11.04	39.259	-0.22	
2/22/2022	11:16	9.215	11.411	46.521	-0.218	
2/22/2022	11:17	9.694	10.934	39.299	-0.208	
2/22/2022	11:18	10.117	10.403	37.072	-0.205	
2/22/2022	11:19	9.922	10.708	37.501	-0.213	
2/22/2022	11:20	10.444	10.14	34.287	-0.193	
2/22/2022	11:21	10.068	10.579	35.834	-0.189	
2/22/2022	11:22	9.69	10.866	40.091	-0.172	
2/22/2022	11:23	10.127	10.572	35.614	-0.185	
2/22/2022	11:24	9.592	10.887	42.088	-0.189	
2/22/2022	11:25	8.98	11.488	52.828	-0.211	
2/22/2022	11:26	9.21	11.522	47.561	-0.219	
2/22/2022	11:27	9.261	11.254	47.901	-0.199	
2/22/2022	11:28	9.082	11.503	51.029	-0.205	
2/22/2022	11:29	8.616	12.051	50.976	-0.212	
2/22/2022	11:30	9.565	10.994	44.511	-0.213	
2/22/2022	11:31	9.48	11.197	43.032	-0.215	
2/22/2022	11:32	9.914	10.649	38.273	-0.203	
2/22/2022	11:33	10.013	10.748	43.198	-0.211	
2/22/2022	11:34	10.208	10.253	39.18	-0.206	
2/22/2022	11:35	8.039	12.414	56.865	-0.207	
2/22/2022	11:36	9.473	11.217	40.374	-0.215	
2/22/2022	11:37	9.261	11.378	43.119	-0.202	
2/22/2022	11:38	9.229	11.329	47.353	-0.202	
2/22/2022	11:39	8.338	12.127	55.319	-0.199	
2/22/2022	11:40	8.602	12.056	49.245	-0.208	
2/22/2022	11:41	9.033	11.632	44.729	-0.232	
2/22/2022	11:42	9.079	11.541	43.28	-0.235	
Run 5 Average		9.40	11.20	43.99	-0.21	
2/22/2022	11:43	9.236	10.353	14.231	-0.134	
2/22/2022	11:44	10.496	10.614	0.031	-0.206	O2 CO2 Bias
2/22/2022	11:45	3.348	4.266	35.619	-0.301	
2/22/2022	11:46	0.045	0.138	48.243	-0.048	
2/22/2022	11:47	0.04	0.111	48.286	0.023	NOx Bias
2/22/2022	11:48	0.035	0.103	16.986	0.489	
2/22/2022	11:49	0.034	0.097	0.035	4.072	

2/22/2022	11:50	0.031	0.095	0.009	4.375	CO Bias
2/22/2022	11:51	0	0.051	-0.015	2.849	
2/22/2022	11:52	-0.007	0.034	-0.021	0.001	
2/22/2022	11:53	-0.007	0.033	-0.02	-0.036	Zero
2/22/2022	11:54	8.094	8.616	44.044	1.752	
2/22/2022	11:55	10.512	10.589	48.836	4.368	
2/22/2022	11:56	10.514	10.585	48.708	4.374	Span
2/22/2022	11:57	9.574	11.024	45.768	3.317	
2/22/2022	11:58	8.736	11.887	55.24	-0.033	
2/22/2022	11:59	9.11	11.459	54.692	-0.242	
2/22/2022	12:00	9.575	11.137	38.957	-0.25	
2/22/2022	12:01	10.324	10.287	32.265	-0.25	
2/22/2022	12:02	10.577	10.024	27.762	-0.213	
2/22/2022	12:03	9.093	11.476	46.718	-0.241	
2/22/2022	12:04	9.442	11.128	46.539	-0.235	
2/22/2022	12:05	8.889	11.662	52.334	-0.242	
2/22/2022	12:06	9.633	10.938	46.459	-0.238	
2/22/2022	12:07	10.022	10.558	39.784	-0.233	
2/22/2022	12:08	9.58	11.025	42.991	-0.2	
2/22/2022	12:09	9.306	11.307	44.798	-0.221	
2/22/2022	12:10	10.288	10.33	31.966	-0.223	
2/22/2022	12:11	10.098	10.476	40.889	-0.216	
2/22/2022	12:12	9.676	10.932	38.166	-0.227	
2/22/2022	12:13	9.405	11.091	46.614	-0.213	
2/22/2022	12:14	9.532	11.216	45.653	-0.223	
2/22/2022	12:15	9.606	10.867	45.653	-0.221	
2/22/2022	12:16	9.253	11.323	47.559	-0.217	
2/22/2022	12:17	10.186	10.384	36.8	-0.223	
2/22/2022	12:18	9.236	11.335	46.597	-0.204	
2/22/2022	12:19	9.211	11.355	49.172	-0.226	
2/22/2022	12:20	9.493	11.085	41.7	-0.223	
2/22/2022	12:21	9.633	10.924	38.068	-0.232	
2/22/2022	12:22	9.523	11.09	40.372	-0.235	
2/22/2022	12:23	8.654	11.882	56.487	-0.22	
2/22/2022	12:24	9.14	11.483	49.682	-0.248	
2/22/2022	12:25	8.884	11.687	55.036	-0.225	
2/22/2022	12:26	8.967	11.64	45.213	-0.226	
2/22/2022	12:27	8.529	12.036	49.351	-0.229	
2/22/2022	12:28	9.778	10.813	34.554	-0.225	
Run 6 Average		9.49	11.10	43.76	-0.23	
2/22/2022	12:29	1.904	2.854	5.064	0.794	
2/22/2022	12:30	0.045	0.106	0.012	4.187	
2/22/2022	12:31	0.04	0.089	0.008	4.413	CO Bias
2/22/2022	12:32	0.034	0.083	37.582	3.436	
2/22/2022	12:33	0.028	0.077	48.426	0.12	
2/22/2022	12:34	0.028	0.073	48.237	-0.005	NOx Bias
2/22/2022	12:35	7.048	6.394	13.794	-0.023	
2/22/2022	12:36	10.485	10.548	0.062	-0.004	O2 CO2 Bias
2/22/2022	12:37	7.899	8.106	0.024	-0.008	

2/22/2022	12:38	0.004	0.047	-0.016	-0.002	Zero
2/22/2022	12:39	7.764	7.881	41.252	1.148	
2/22/2022	12:40	10.51	10.58	48.96	4.369	
2/22/2022	12:41	10.51	10.585	48.989	4.416	Span
2/22/2022	12:42	9.318	11.361	49.799	2.936	
2/22/2022	12:43	9.834	10.76	36.262	-0.074	
2/22/2022	12:44	9.144	11.455	47.447	-0.177	
2/22/2022	12:45	10.194	10.388	33.961	-0.168	
2/22/2022	12:46	9.636	10.961	35.278	-0.129	
2/22/2022	12:47	9.507	11.113	37.176	-0.176	
2/22/2022	12:48	9.738	10.834	33.343	-0.188	
2/22/2022	12:49	9.572	11.04	34.708	-0.173	
2/22/2022	12:50	9.276	11.264	44.501	-0.185	
2/22/2022	12:51	9.458	11.248	41.565	-0.196	
2/22/2022	12:52	9.501	11.042	43.84	-0.18	
2/22/2022	12:53	8.582	11.969	52.624	-0.194	
2/22/2022	12:54	8.979	11.558	49.698	-0.201	
2/22/2022	12:55	9.319	11.293	44.04	-0.207	
2/22/2022	12:56	9.549	11.068	40.956	-0.179	
2/22/2022	12:57	9.643	10.952	35.472	-0.165	
2/22/2022	12:58	9.517	11.072	38.057	-0.18	
2/22/2022	12:59	9.699	10.882	35.492	-0.167	
2/22/2022	13:00	10.102	10.5	28.649	-0.169	
2/22/2022	13:01	9.968	10.657	33.772	-0.152	
2/22/2022	13:02	8.97	11.581	47.885	-0.166	
2/22/2022	13:03	9.47	11.089	40.388	-0.185	
2/22/2022	13:04	9.1	11.481	47.413	-0.16	
2/22/2022	13:05	9.779	10.79	41.711	-0.169	
2/22/2022	13:06	9.812	10.812	38.842	-0.152	
2/22/2022	13:07	10.057	10.519	38.123	-0.182	
2/22/2022	13:08	9.304	11.287	42.494	-0.151	
2/22/2022	13:09	9.478	11.119	38.852	-0.167	
2/22/2022	13:10	8.667	11.912	50.315	-0.167	
2/22/2022	13:11	10.182	10.453	31.882	-0.181	
2/22/2022	13:12	10.063	10.523	30.717	-0.166	
2/22/2022	13:13	9.419	11.168	39.077	-0.167	
Run 7 Average		9.52	11.07	39.94	-0.17	
2/22/2022	13:14	10.373	10.532	5.379	-0.217	
2/22/2022	13:15	10.498	10.608	0.032	-0.254	O2 CO2 Bias
2/22/2022	13:16	4.73	5.396	29.253	-0.259	
2/22/2022	13:17	0.046	0.126	48.303	-0.006	
2/22/2022	13:18	0.039	0.102	48.595	0.103	NOx Bias
2/22/2022	13:19	0.036	0.096	10.142	1.017	
2/22/2022	13:20	0.034	0.09	0.042	4.37	
2/22/2022	13:21	0.033	0.085	0.012	4.502	CO Bias
2/22/2022	13:22	-0.029	0.048	0.006	3.161	
2/22/2022	13:23	-0.007	0.017	-0.008	0.101	
2/22/2022	13:24	-0.007	0.015	0.002	0.056	Zero
2/22/2022	13:25	7.978	8.629	44.782	2.152	

2/22/2022	13:26	10.504	10.566	48.695	4.517	Span
2/22/2022	13:27	9.976	10.682	42.784	4.11	
2/22/2022	13:28	9.313	11.245	43.142	0.457	
2/22/2022	13:29	10.267	10.278	37.819	-0.157	
2/22/2022	13:30	9.314	11.269	42.961	-0.164	
2/22/2022	13:31	9.453	11.089	43.318	-0.164	
2/22/2022	13:32	9.281	11.208	48.644	-0.151	
2/22/2022	13:33	9.783	10.807	43.661	-0.148	
2/22/2022	13:34	9.044	11.532	50.095	-0.138	
2/22/2022	13:35	9.669	10.882	41.933	-0.159	
2/22/2022	13:36	8.948	11.575	48.823	-0.157	
2/22/2022	13:37	9.276	11.275	41.724	-0.172	
2/22/2022	13:38	9.298	11.261	41.905	-0.163	
2/22/2022	13:39	10.073	10.486	38.723	-0.163	
2/22/2022	13:40	9.124	11.478	42.798	-0.15	
2/22/2022	13:41	10.267	10.32	28.397	-0.164	
2/22/2022	13:42	9.584	11.039	38.054	-0.16	
2/22/2022	13:43	9.262	11.327	39.046	-0.16	
2/22/2022	13:44	9.509	11.037	41.361	-0.163	
2/22/2022	13:45	9.62	11.024	39.551	-0.17	
2/22/2022	13:46	9.42	11.127	42.199	-0.159	
2/22/2022	13:47	9.388	11.222	44.774	-0.165	
2/22/2022	13:48	8.756	11.837	55.19	-0.175	
2/22/2022	13:49	10.142	10.439	37.355	-0.151	
2/22/2022	13:50	9.301	11.257	49.224	-0.155	
2/22/2022	13:51	10.09	10.555	34.915	-0.174	
2/22/2022	13:52	10.226	10.358	31.18	-0.159	
2/22/2022	13:53	9.781	10.819	34.506	-0.148	
2/22/2022	13:54	9.973	10.568	37.654	-0.131	
2/22/2022	13:55	9.796	10.827	38.168	-0.135	
2/22/2022	13:56	10.209	10.378	35.786	-0.156	
2/22/2022	13:57	9.767	10.838	40.523	-0.149	
2/22/2022	13:58	10.137	10.485	33.708	-0.155	
Run 8 Average		9.63	10.95	40.80	-0.16	
2/22/2022	13:59	9.6	10.073	6.895	-0.001	
2/22/2022	14:00	10.493	10.614	0.036	-0.205	O2 CO2 Bias
2/22/2022	14:01	6.11	6.813	22.387	-0.251	
2/22/2022	14:02	0.047	0.137	48.489	-0.034	
2/22/2022	14:03	0.04	0.106	48.57	0.107	NOx Bias
2/22/2022	14:04	0.04	0.093	25.716	0.284	
2/22/2022	14:05	0.034	0.085	0.061	3.795	
2/22/2022	14:06	0.034	0.081	0.018	4.512	CO Bias
2/22/2022	14:07	0.013	0.061	-0.003	3.254	
2/22/2022	14:08	-0.001	0.036	-0.016	0.127	
2/22/2022	14:09	-0.001	0.035	-0.017	0.063	Zero
2/22/2022	14:10	6.393	6.602	35.658	0.835	
2/22/2022	14:11	10.52	10.589	49.006	4.313	
2/22/2022	14:12	10.522	10.595	49.141	4.491	Span
2/22/2022	14:13	9.916	10.722	35.995	3.422	

2/22/2022	14:14	9.95	10.521	35.522	0.068
2/22/2022	14:15	8.469	12.041	54.98	-0.179
2/22/2022	14:16	9.249	11.434	40.324	-0.176
2/22/2022	14:17	9.758	10.852	38.37	-0.175
2/22/2022	14:18	9.784	10.834	37.899	-0.144
2/22/2022	14:19	8.957	11.501	48.436	-0.15
2/22/2022	14:20	9.624	11.101	33.964	-0.172
2/22/2022	14:21	9.801	10.752	38.638	-0.163
2/22/2022	14:22	8.866	11.669	45.463	-0.143
2/22/2022	14:23	9.294	11.387	42.036	-0.183
2/22/2022	14:24	9.893	10.772	38.027	-0.167
2/22/2022	14:25	10.306	10.265	31.057	-0.167
2/22/2022	14:26	9.786	10.717	37.116	-0.168
2/22/2022	14:27	8.631	11.956	50.993	-0.182
2/22/2022	14:28	9.09	11.423	47.385	-0.163
2/22/2022	14:29	9.227	11.368	47.902	-0.166
2/22/2022	14:30	9.891	10.852	39.956	-0.172
2/22/2022	14:31	10.03	10.571	37.39	-0.174
2/22/2022	14:32	9.478	10.905	47.642	-0.163
2/22/2022	14:33	9.28	11.383	39.994	-0.167
2/22/2022	14:34	9.156	11.415	40.916	-0.166
2/22/2022	14:35	8.563	11.86	50.243	-0.17
2/22/2022	14:36	8.983	11.678	46.906	-0.186
2/22/2022	14:37	9.577	11.11	36.35	-0.207
2/22/2022	14:38	9.225	11.305	44.719	-0.17
2/22/2022	14:39	10.316	10.347	31.903	-0.173
2/22/2022	14:40	10.126	10.441	29.728	-0.152
2/22/2022	14:41	10.059	10.498	33.837	-0.155
2/22/2022	14:42	9.238	11.2	43.847	-0.154
2/22/2022	14:43	8.637	11.859	49.592	-0.178
2/22/2022	14:44	9.383	11.172	43.05	-0.165
2/22/2022	14:45	8.775	11.832	48.638	-0.159
2/22/2022	14:46	9.824	10.887	34.732	-0.14
2/22/2022	14:47	9.897	10.68	33.501	-0.142
2/22/2022	14:48	9.714	10.711	37.876	-0.152
2/22/2022	14:49	9.203	11.405	42.31	-0.169
2/22/2022	14:50	9.715	10.948	34.326	-0.172
2/22/2022	14:51	9.928	10.548	32.313	-0.178
2/22/2022	14:52	9.966	10.585	34.06	-0.178
2/22/2022	14:53	9.646	10.997	35.464	-0.164
2/22/2022	14:54	8.23	12.264	57.181	-0.162
2/22/2022	14:55	10.443	10.274	25.804	-0.181
2/22/2022	14:56	10.277	10.266	30.058	-0.156
2/22/2022	14:57	9.422	11.132	36.562	-0.148
2/22/2022	14:58	8.806	11.618	44.997	-0.178
2/22/2022	14:59	9.594	11.162	36.37	-0.171
Run 9 Average		9.51	11.06	39.34	-0.17
2/22/2022	15:00	9.562	9.98	11.462	-0.059
2/22/2022	15:01	10.492	10.615	0.028	-0.188

2/22/2022	15:02	8.379	9.432	11.614	-0.281	
2/22/2022	15:03	0.049	0.179	48.573	-0.132	
2/22/2022	15:04	0.035	0.124	48.488	0.067	NOx Bias
2/22/2022	15:05	0.034	0.108	35.156	0.123	
2/22/2022	15:06	0.029	0.102	0.085	3.034	
2/22/2022	15:07	0.028	0.097	0.028	4.479	CO Bias
2/22/2022	15:08	0.014	0.07	-0.011	3.212	
2/22/2022	15:09	0.004	0.043	-0.013	0.083	
2/22/2022	15:10	0.004	0.041	-0.02	0.03	Zero
2/22/2022	15:11	8.312	8.481	45.185	1.499	
2/22/2022	15:12	10.519	10.605	49.153	4.428	
2/22/2022	15:13	10.522	10.613	49.019	4.482	Span
2/22/2022	15:14	9.19	11.297	43.154	2.64	
2/22/2022	15:15	9.065	11.494	42.924	-0.132	
2/22/2022	15:16	9.241	11.37	37.008	-0.201	
2/22/2022	15:17	9.522	11.128	35.402	-0.206	
2/22/2022	15:18	9.77	10.83	29.814	-0.206	
2/22/2022	15:19	9.281	11.269	36.703	-0.199	
2/22/2022	15:20	9.722	10.911	32.027	-0.192	
2/22/2022	15:21	9.857	10.786	30.212	-0.159	
2/22/2022	15:22	9.374	11.201	38.683	-0.196	
2/22/2022	15:23	9.668	11.048	33.902	-0.19	
2/22/2022	15:24	10.099	10.413	35.062	-0.176	
2/22/2022	15:25	10.228	10.47	30.787	-0.191	
2/22/2022	15:26	9.764	10.778	38.475	-0.176	
2/22/2022	15:27	9.056	11.551	43.183	-0.183	
2/22/2022	15:28	9.475	11.146	45.701	-0.192	
2/22/2022	15:29	9.144	11.426	45.58	-0.192	
2/22/2022	15:30	9.691	10.822	39.295	-0.175	
2/22/2022	15:31	9.508	11.072	41.207	-0.205	
2/22/2022	15:32	10.412	10.326	27.705	-0.199	
2/22/2022	15:33	10.191	10.385	28.765	-0.18	
2/22/2022	15:34	10.482	10.224	24.528	-0.193	
2/22/2022	15:35	8.999	11.401	39.834	-0.143	
2/22/2022	15:36	9.881	10.834	32.277	-0.153	
2/22/2022	15:37	9.567	10.883	41.819	-0.146	
2/22/2022	15:38	9.243	11.403	43.829	-0.153	
2/22/2022	15:39	9.511	11.138	42.582	-0.124	
2/22/2022	15:40	9.59	11.026	42.376	-0.128	
2/22/2022	15:41	9.949	10.771	36.472	-0.172	
2/22/2022	15:42	9.333	11.135	46.091	-0.184	
2/22/2022	15:43	9.013	11.494	49.048	-0.176	
2/22/2022	15:44	8.893	11.725	49.714	-0.192	
2/22/2022	15:45	9.372	11.294	42.36	-0.181	
Run 10 Average		9.59	11.01	38.01	-0.18	
2/22/2022	15:46	9.643	9.996	6.06	-0.058	
2/22/2022	15:47	10.49	10.617	0.043	-0.241	O2 CO2 Bias
2/22/2022	15:48	10.49	10.626	0.018	-0.269	
2/22/2022	15:49	0.958	2.287	45.768	-0.214	

2/22/2022	15:50	0.034	0.136	48.748	0.044	NOx Bias
2/22/2022	15:51	0.028	0.121	48.815	0.082	
2/22/2022	15:52	0.026	0.113	1.643	1.672	
2/22/2022	15:53	0.022	0.107	0.038	4.443	CO Bias
2/22/2022	15:54	0.011	0.088	0.013	4.037	
2/22/2022	15:55	-0.002	0.051	-0.008	0.394	
2/22/2022	15:56	-0.002	0.052	-0.02	0.011	Zero
2/22/2022	15:57	4.245	4.674	27.802	0.408	
2/22/2022	15:58	10.52	10.614	49.056	4.047	
2/22/2022	15:59	10.524	10.609	48.946	4.482	Span
2/22/2022	16:00	15.96	15.519	60.338	5.396	
2/22/2022	16:01	18.995	18.922	92.199	8.28	
2/22/2022	16:02	18.997	18.926	93.227	8.406	High

Appendix A.1.3
Unit 1 Instrument Strip Chart Data

Montrose AQS
EPA SPAN GAS RECORD

CLIENT/LOCATION: Desert View Power

DATE: 2/22/2022
BY: DW

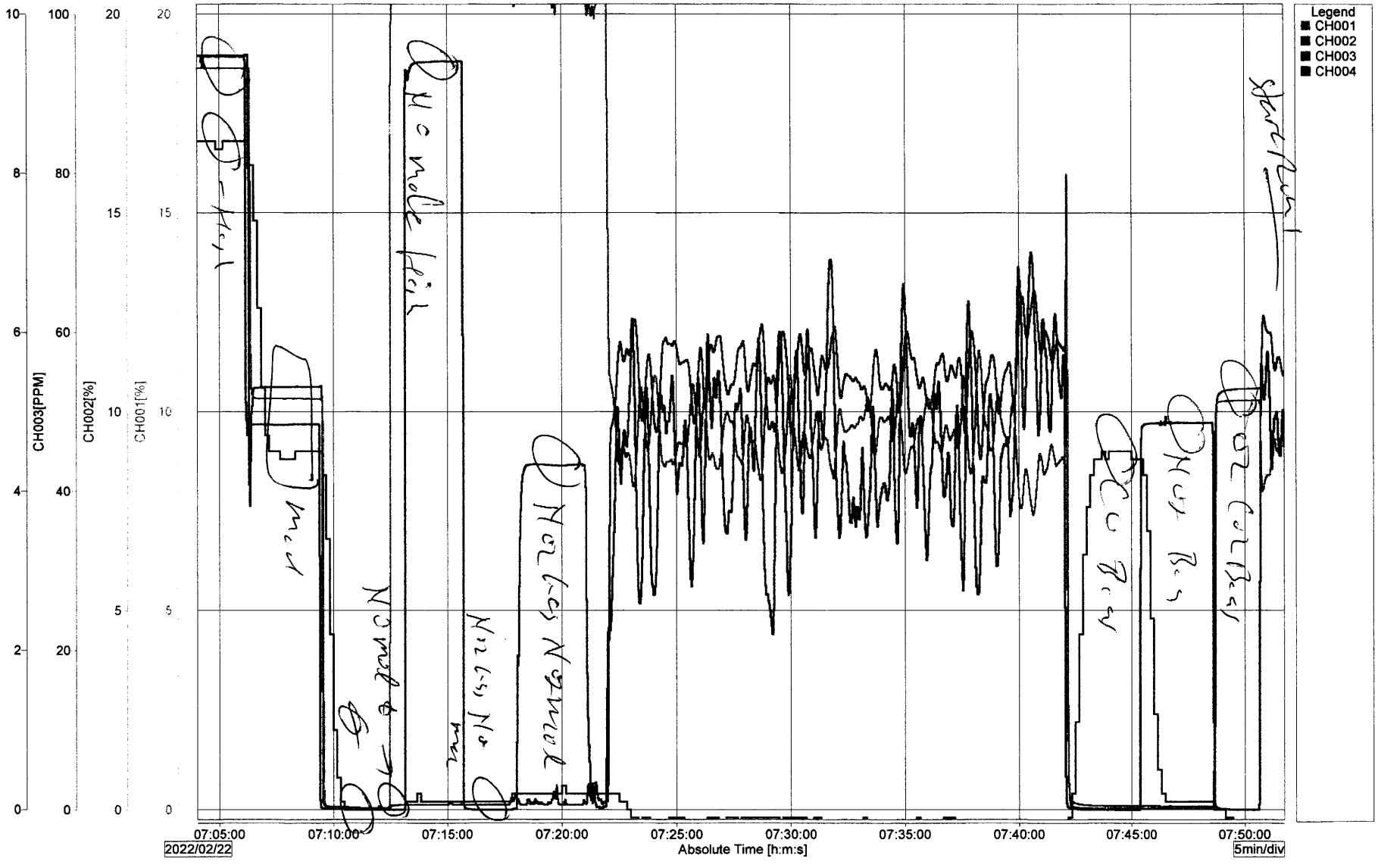
	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	CC49556	0		
O_2	CC700690	10.53	CC106486	19.02
CO_2	CC700690	10.58	CC106486	18.94
NO_x	CC327320	48.1	CC218831	94.7
CO	CC73153	4.46	EB0058229	8.37

NO2 to NO Converter Efficiency Test

				Cylinder #
Analyzer Manufacturer:	CAI	NO Cal Gas Value:	94.7	CC218831
Analyzer Model:	600 Series	NO2 Cal Gas Value:	44	ALFS15760
Analyzer Serial Number:	D05005	Performed By:	DW	
Date:	2/22/2022	CEMS ID#:	3-CEMS	

Signature1 : No Sig.
Signature2 : No Sig.
Signature3 : No Sig.

Print Groups : GROUP 1
Print Range : 2022/02/22 07:04:02.000 - 2022/02/22 16:02:48.000



Report Here Unit 1 Mark

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Signature3 : No Sig.

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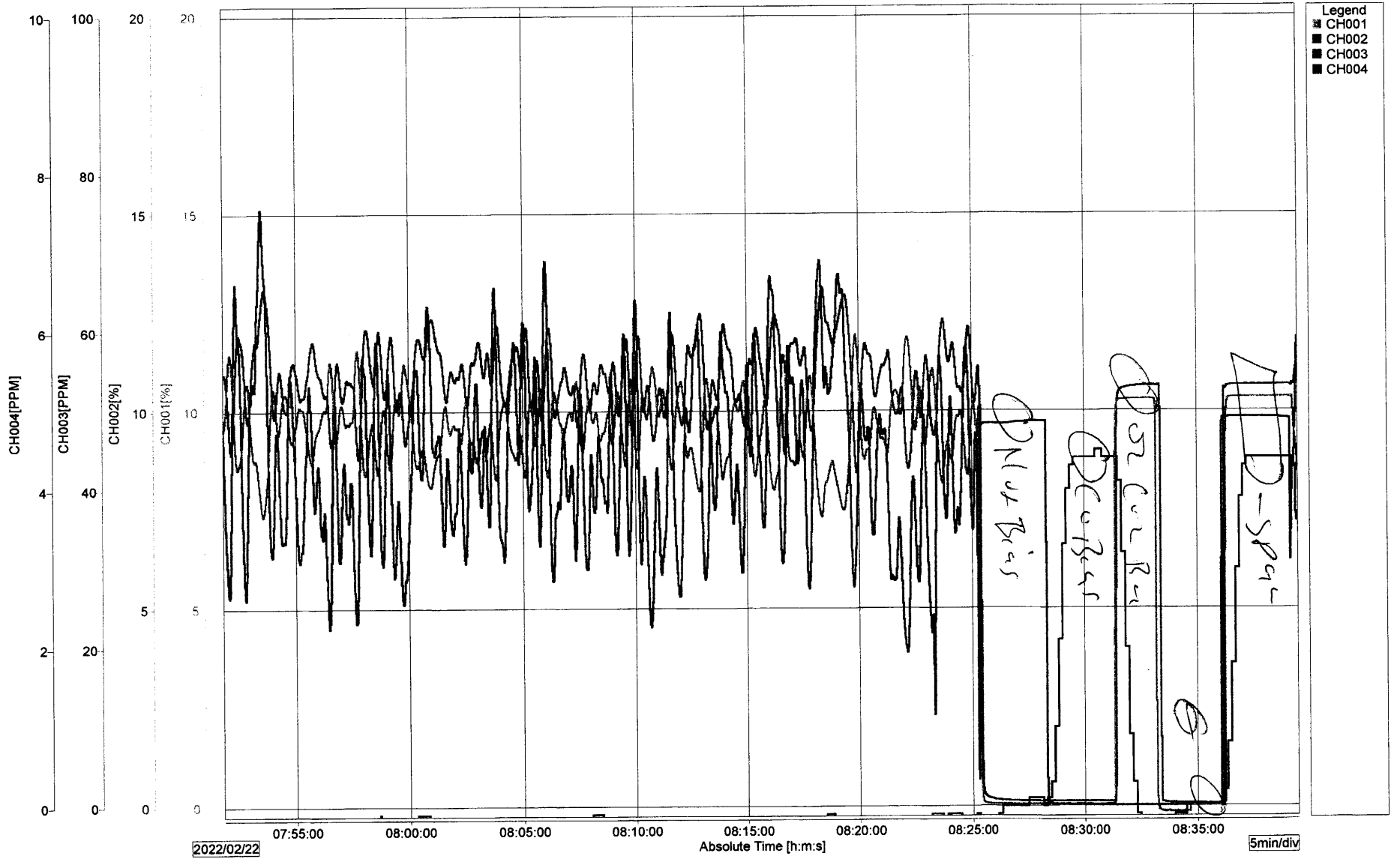

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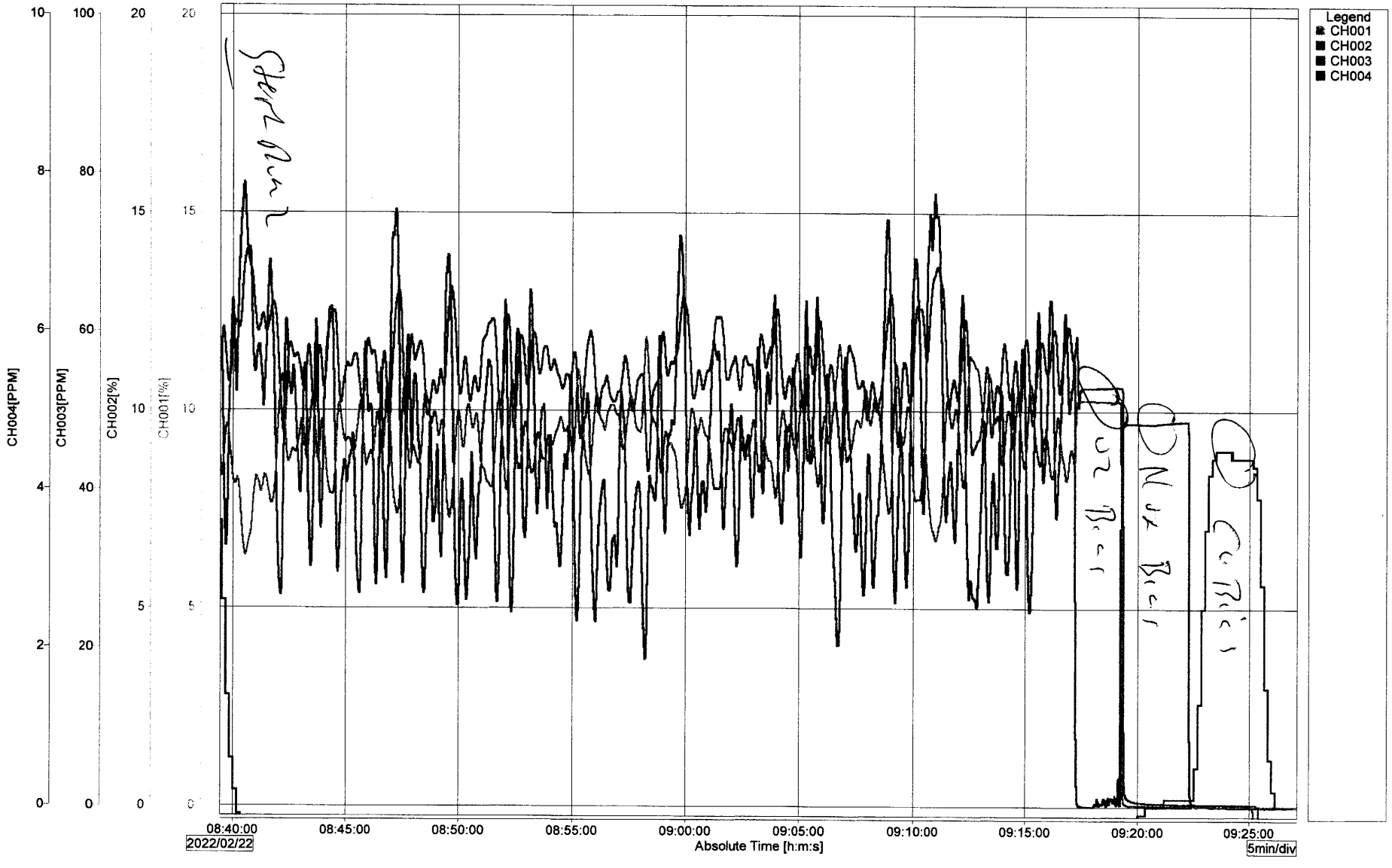

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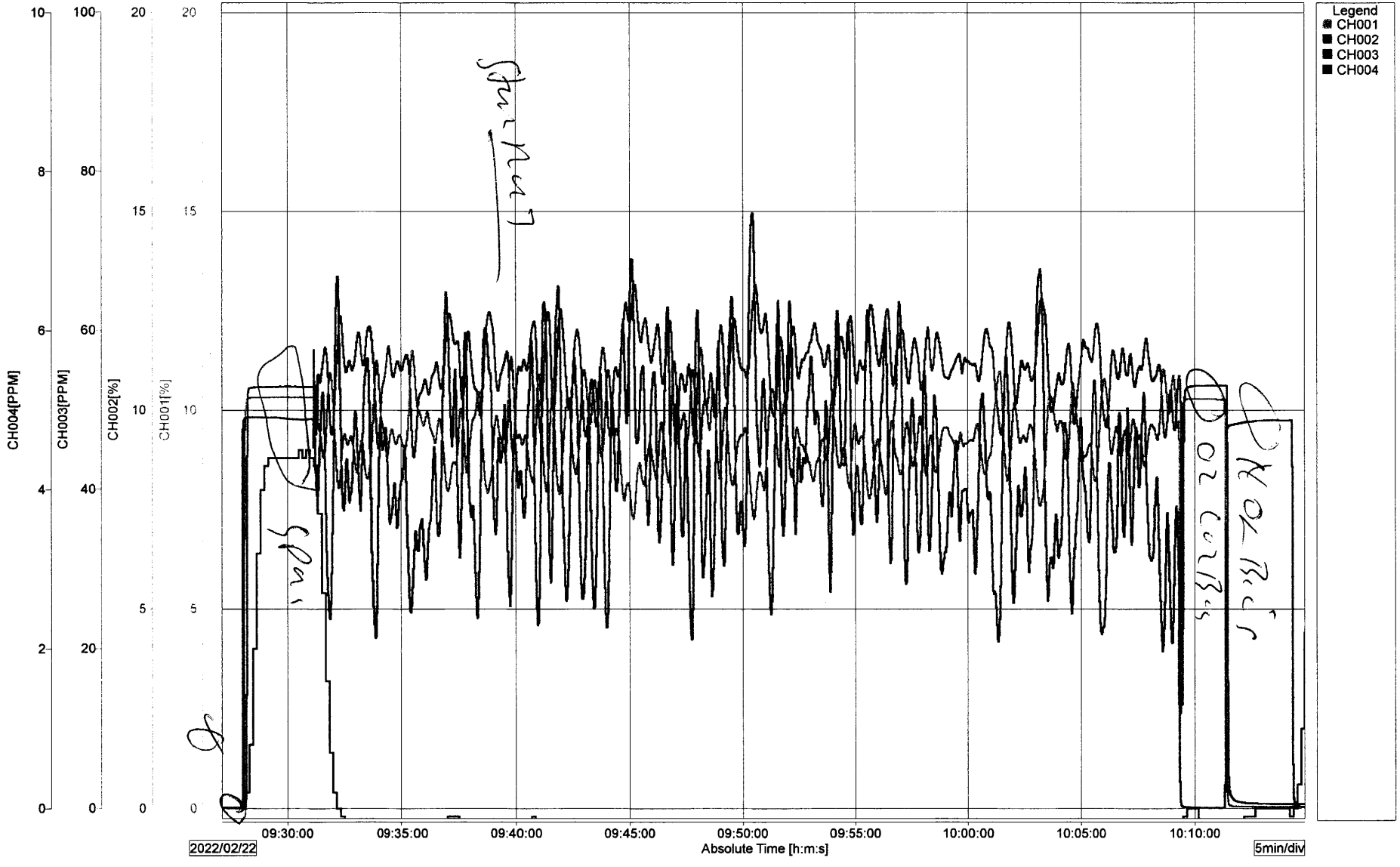

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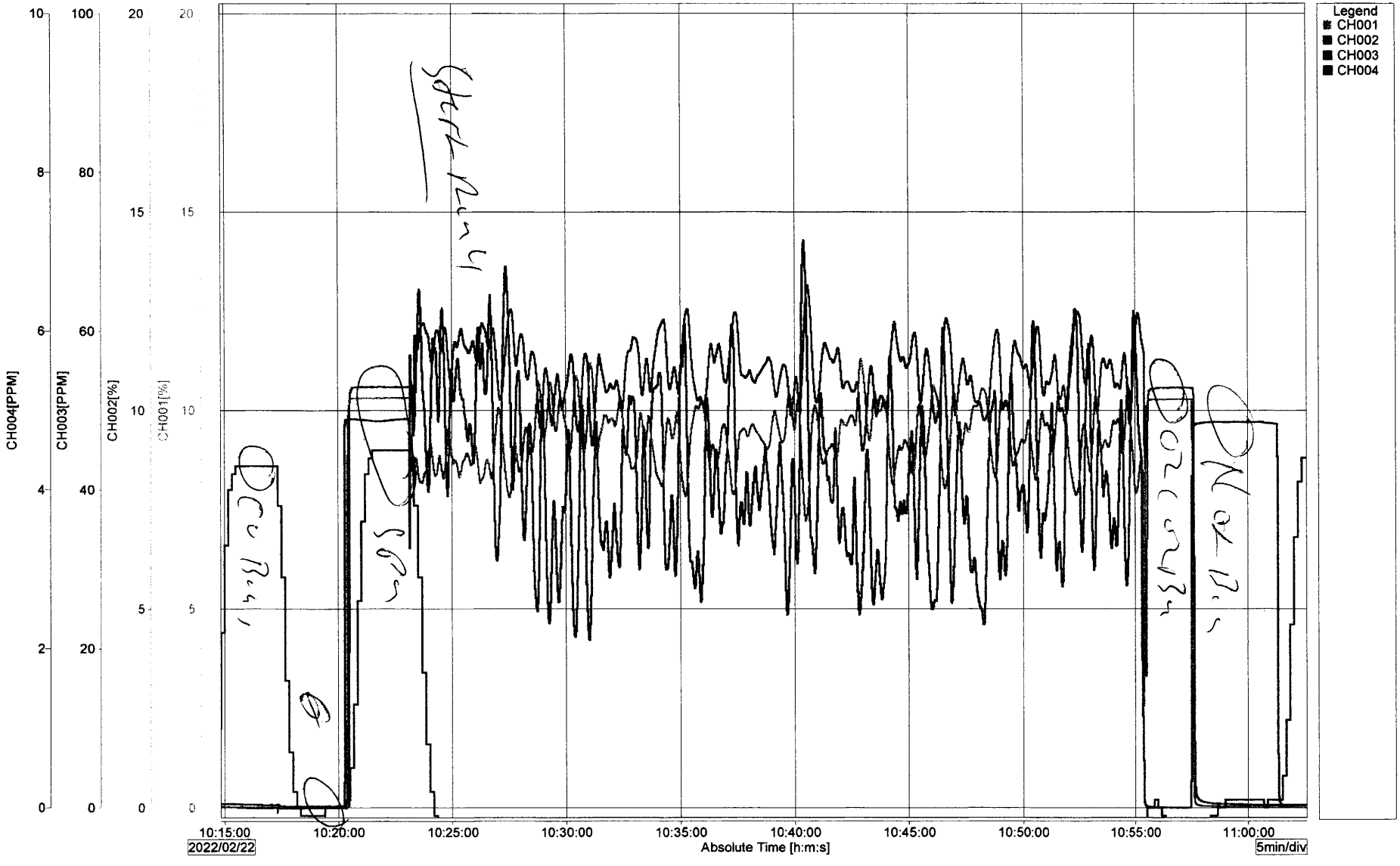

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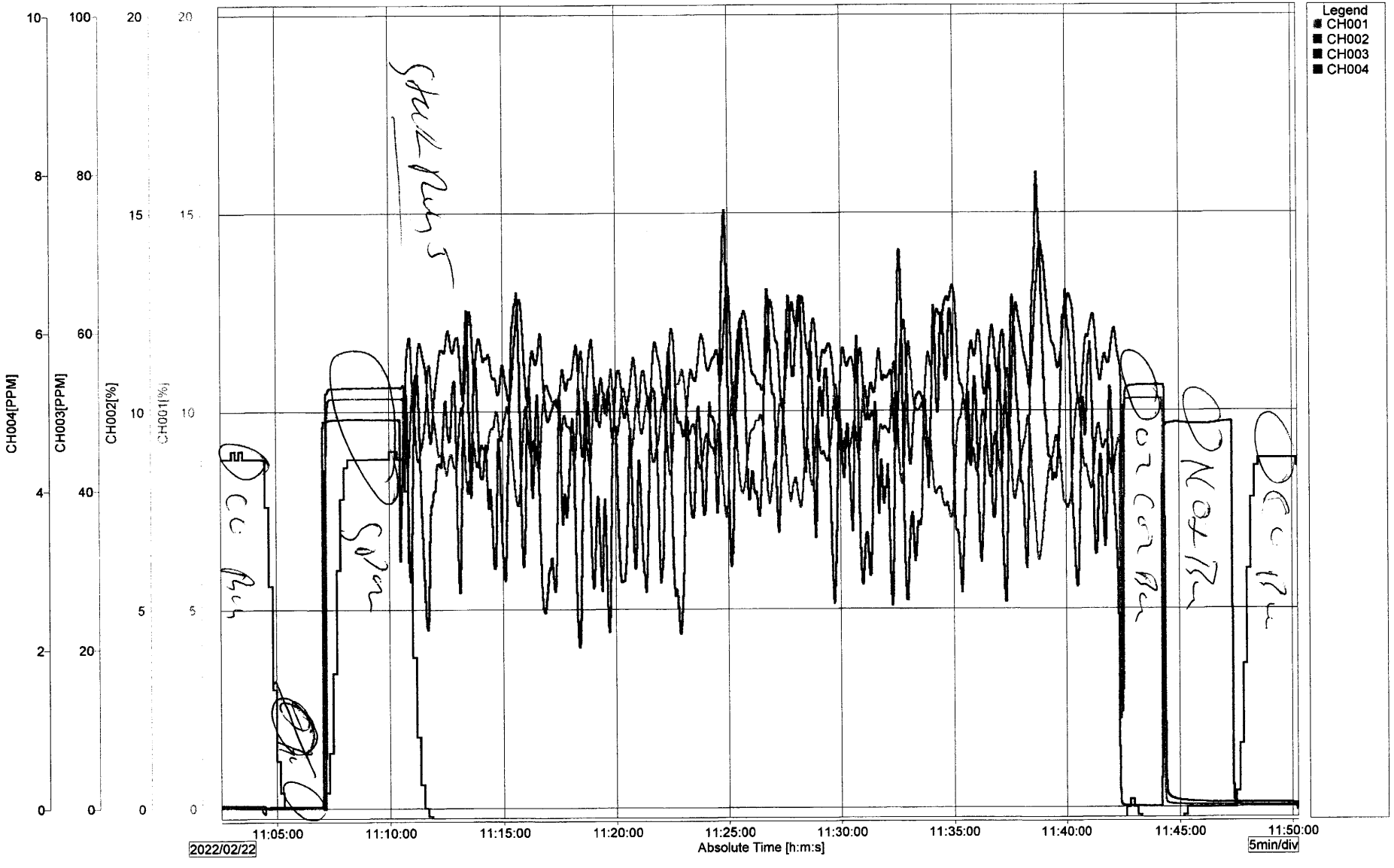

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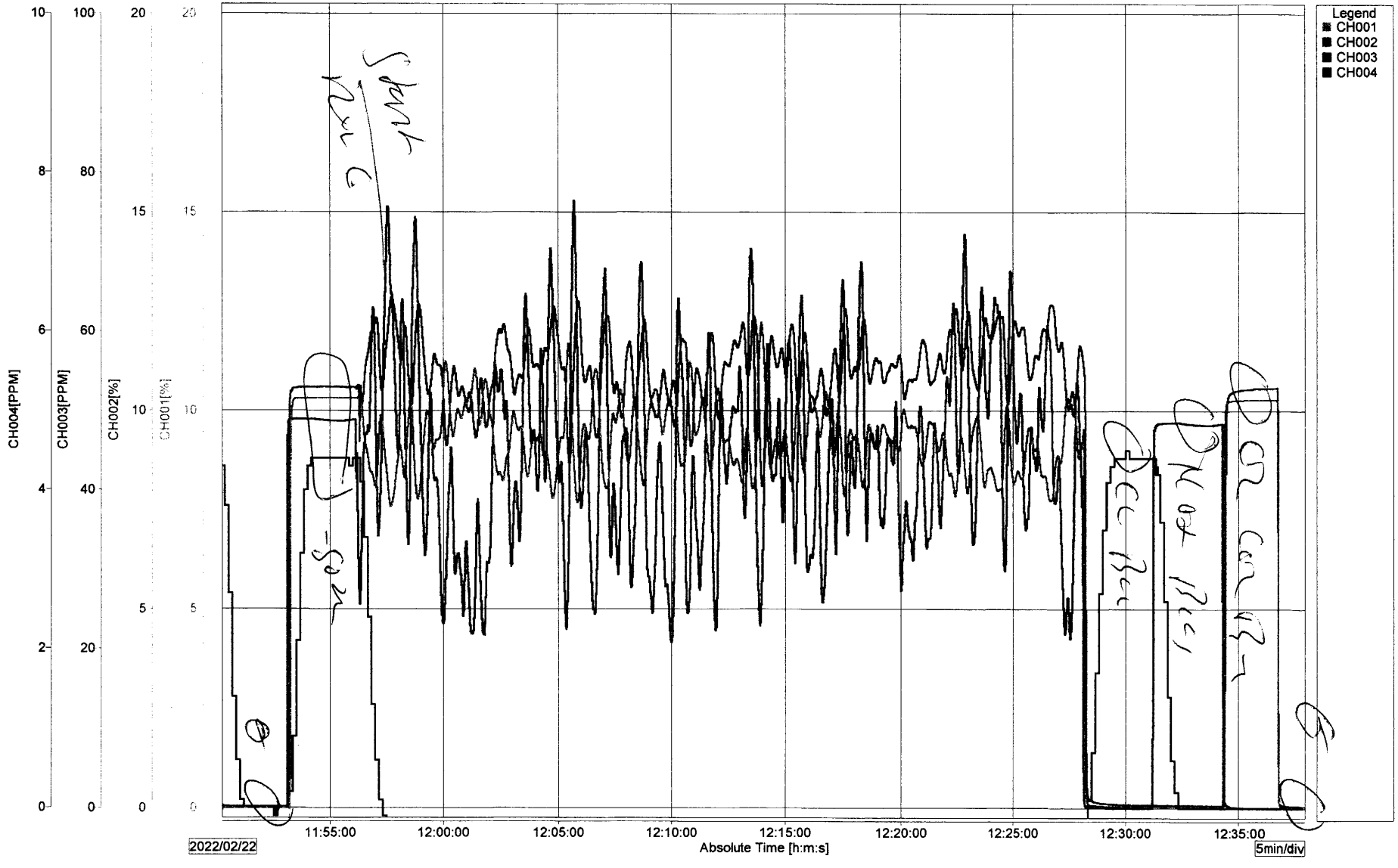

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Print Groups : GROUP 1
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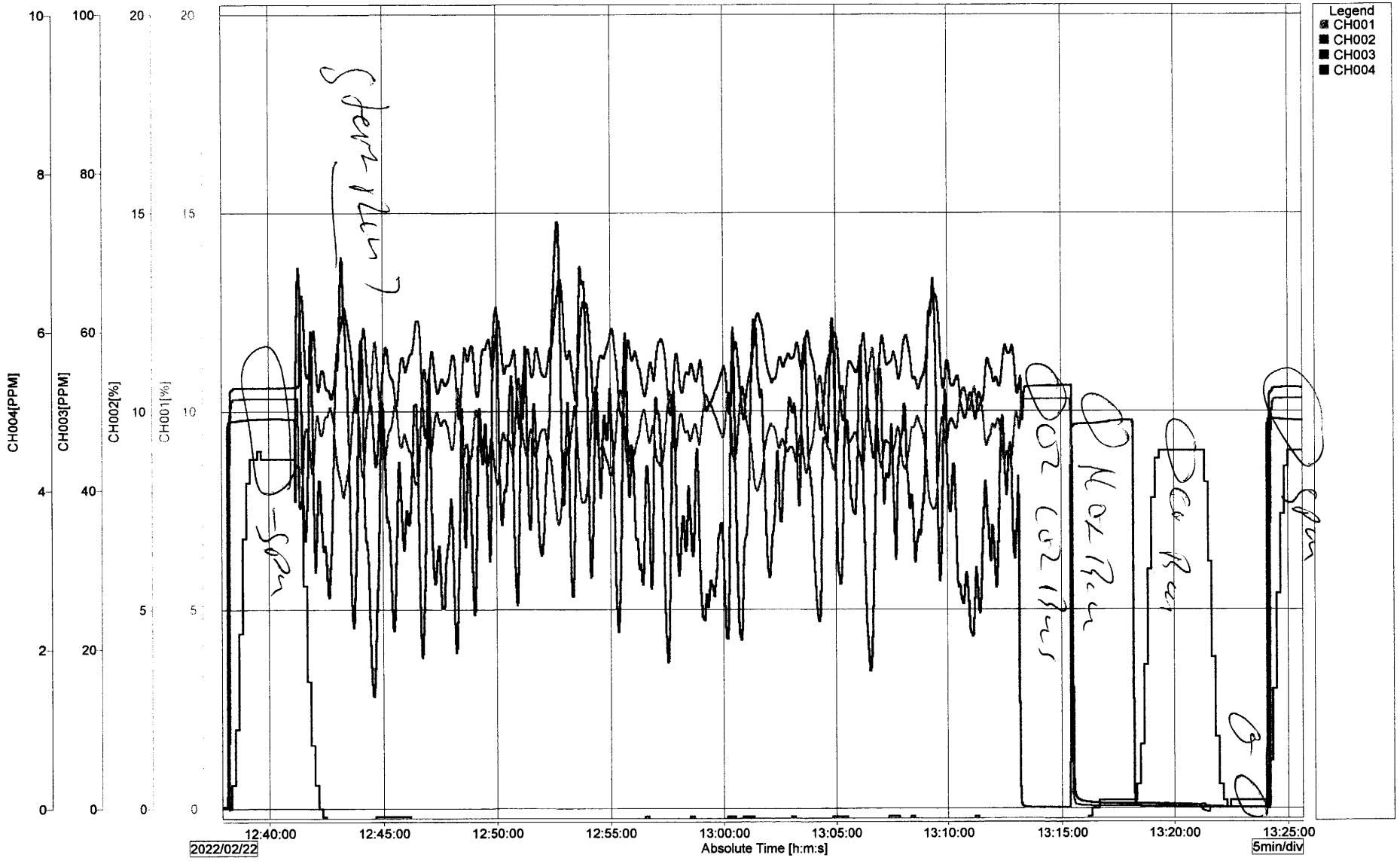

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Print Groups : GROUP 1
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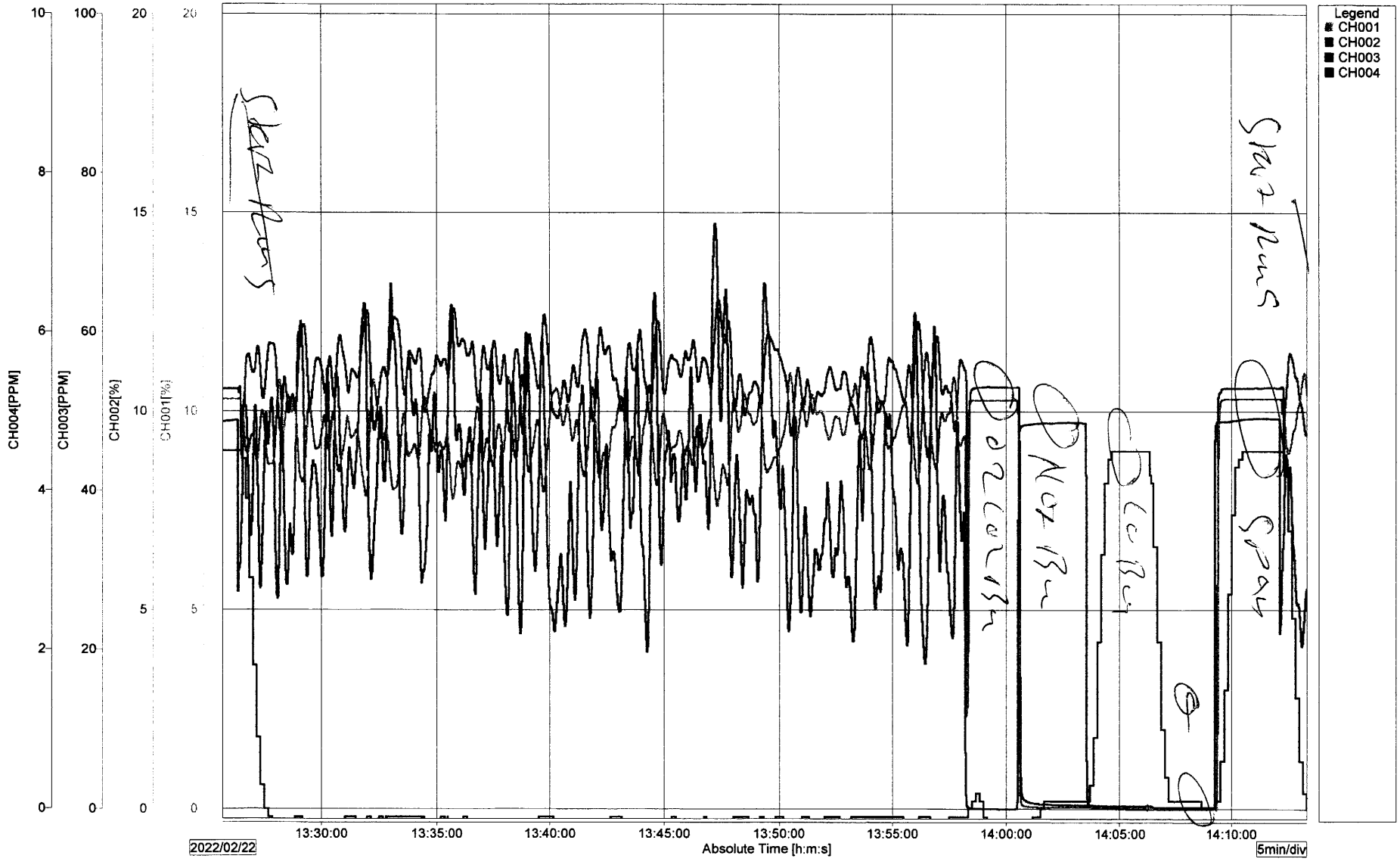

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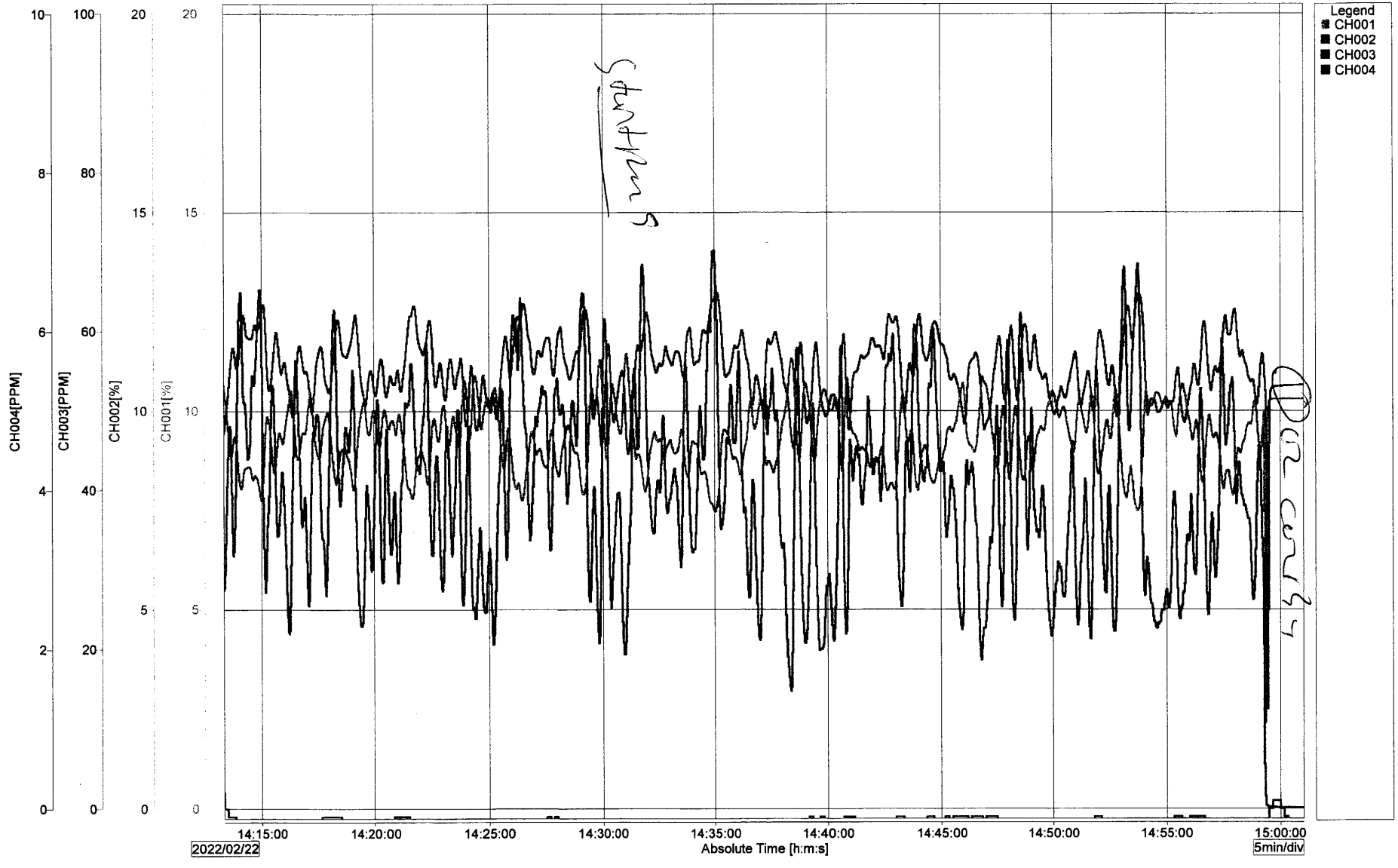
Signature3 : No Sig.

Print Groups : GROUP 1
Print Range : 2022/02/22 07:04:02.000 - 2022/02/22 16:02:48.000



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Signature3 : No Sig.

Print Groups : GROUP 1
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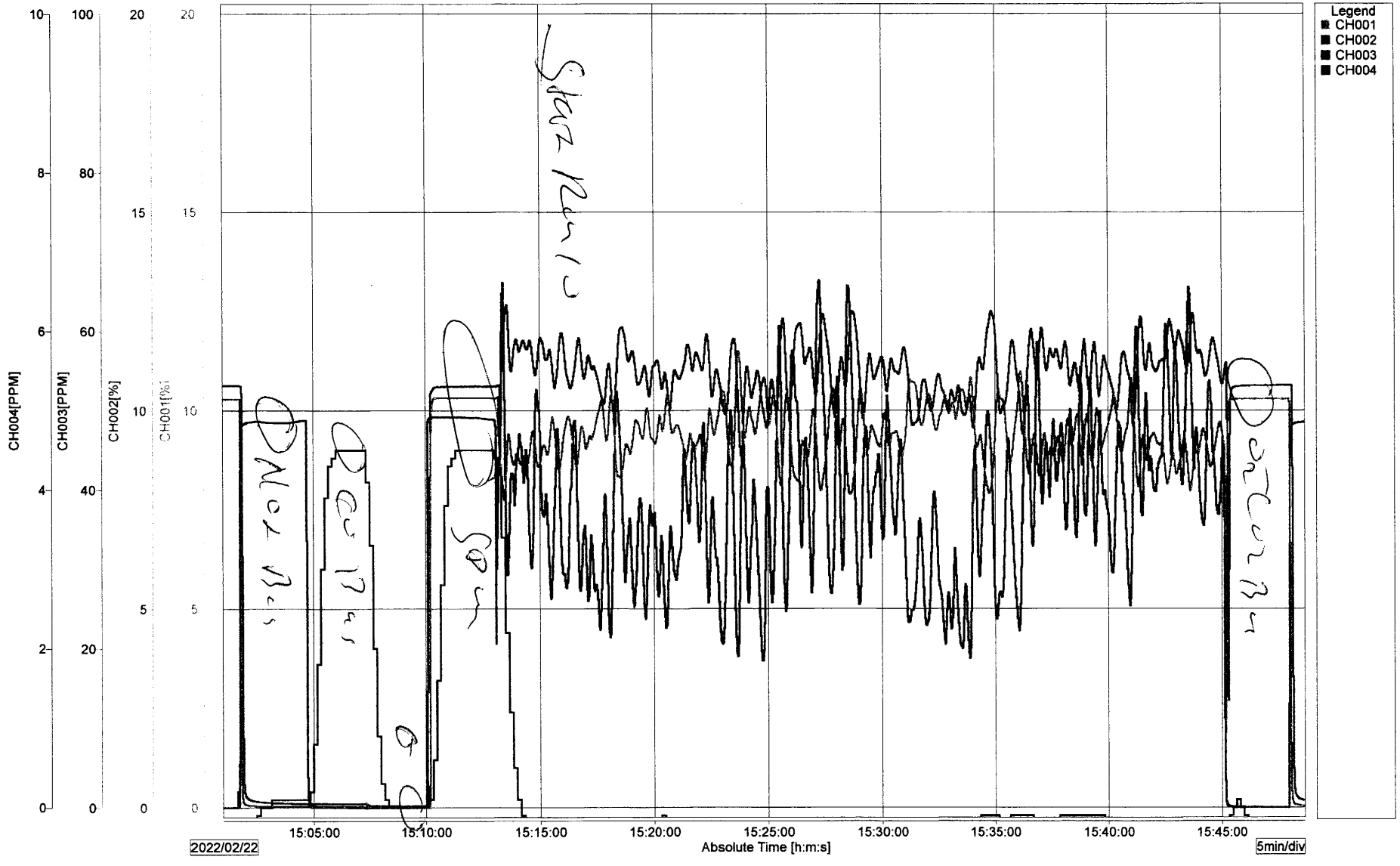

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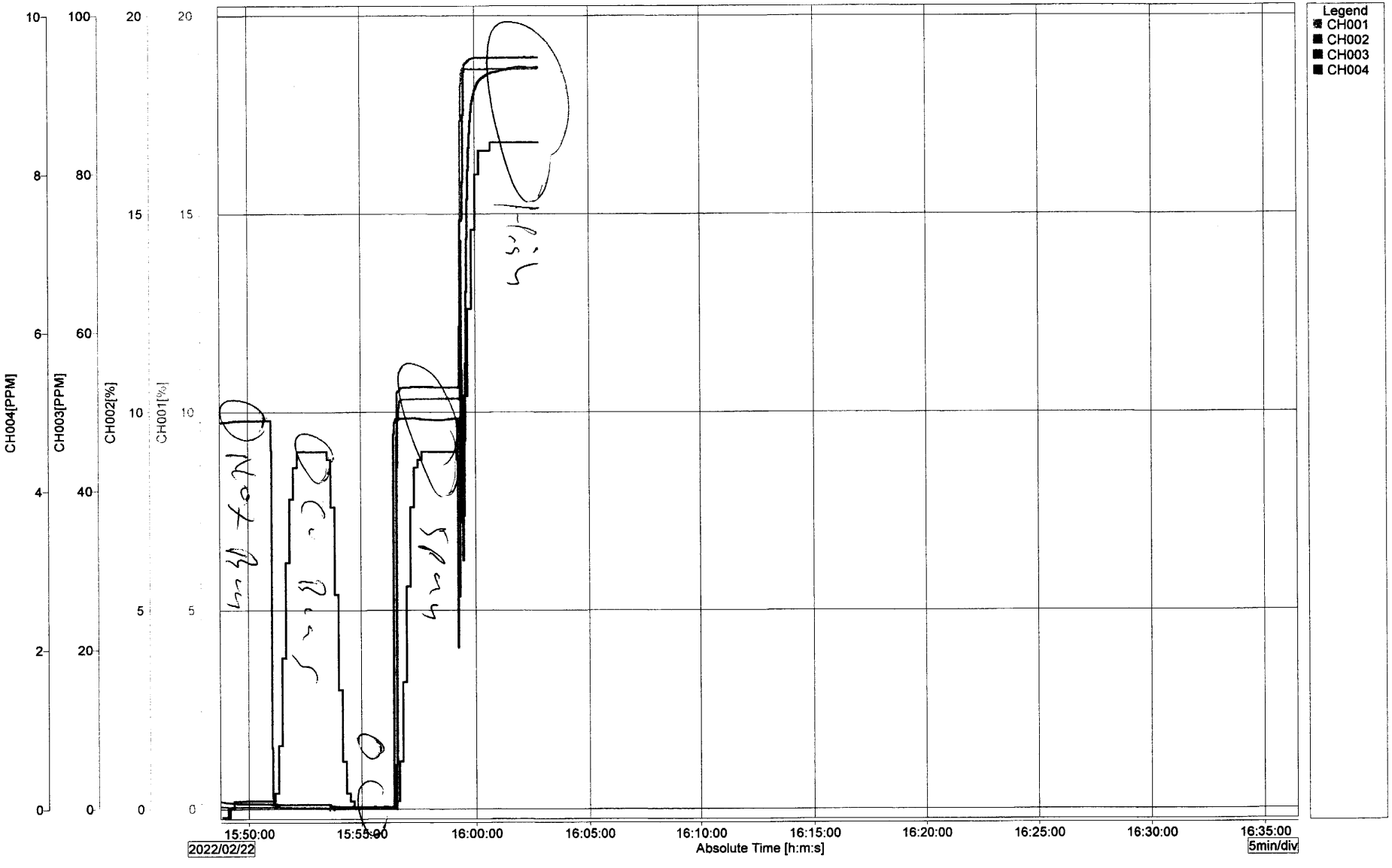
Print Groups : GROUP 1
Print Range : 2022/02/22 07:04:02.000 - 2022/02/22 16:02:48.000



Appendix A.1.4
Unit 1 SO_2 Data and Velocity Data

MONTROSE

SULFATE TITRATION

Project # PROJ- ~~012609~~ 012607
Client/Location Desert View Power
Sample Location Unit 1
Titrant Used 0.01N BaCl2

Sample Date 2/22/22
Analysis Date 2/22/22
Analyst Initials KC

Test Number	Sample Description	Total Vol (ml) (TV)	V_{recon}	V_{evap}	Aliquot Vol (ml) (Va)	Titrant Volume (ml) (Vt)	X-Blank Vol (ml)	Comments	mg/Sample
Blank (V_b): 20 mL 3% H_2O_2 + 80 mL IPA					20	0.01 0.01	0.01		
Blank (V_b): 20 mL DI H_2O + 80 mL IPA					20	0.00 0.00	0.00	N = (0.02*Va)/Vt	
Standardization: 15 ml DI H_2O + 5 ml 0.0200 N H_2SO_4 + 80 mL IPA					5	10.13 10.12	10.13	N= 0.00987167	
Audit Sample: 5 ml 1000 ppm SO_4 + 15 DI H_2O + 80 mL IPA					5	10.42 10.43	10.43	99	% recovery
1-SOx	Impingers	539.4			20ml	1.81 1.83	1.81	subtract 3% H_2O_2 blank	
2-SOx		521.9			20ml	2.30 2.28	2.28		
3-SOx		518.1			20ml	2.40 2.42	2.40		
4-SOx		542.0			20ml	2.68 2.70	2.68		
5-SOx		499.1			20ml	3.30 3.28	3.28		
6-SOx		546.6			20ml	1.68 1.70	1.68		
7-SOx		528.2			20ml	1.62 1.62	1.61		
8-SOx		546.8			20ml	2.09 2.10	2.09		
9-SOx		506.7			20ml	1.89 1.90	1.89		
10-SOx		539.1			20ml	2.18 2.19	2.18		
					mg $H_2SO_4 \cdot 2H_2O$ = (Vt-Vbl) (N) (67) (TV/V_{evap}) (V_{recon}/Va)				

Method of Sample Prep/Analysis Notes

IPA LOT # 214508
% Recovery = 10.43 x N x 48 / 5 x100

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman TEST DATE: 2/22/2022
BAR. PRESSURE: 30.09 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: PW 2/22/22 ~~#013~~ #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: ~~#013~~ #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 1-5 pr Ps: 4.48
Start: 0753 Stop: 0823

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.4	342	5	1.2	346	5	1.2	345
4, 45.9"	1.5	343	4	1.0	344	4	1.0	346
3, 36.5"	1.2	344	3	.91	345	3	.81	348
2, 27.1"	1.0	343	2	.83	346	2	.72	347
1, 17.7	1.0	344	1	.77	344	1	.66	344
5	1.3	343	5	.84	345	5	.97	345
4	1.2	344	4	.81	346	4	.85	346
3	1.1	345	3	.79	348	3	.83	345
2	1.2	346	2	.87	345	2	.92	344
1	1.1	344	1	.91	346	1	.98	343
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	252	254		307	002.6			
2	256	257						
3	255	259						

MOISTURE DATA FOR TEST RUNS 1 THROUGH 1

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
0753	94.000	2.5	54	56	44	10"	#1	H_2O_2	869.1	744.9	
0803	102.850	2.5	58	62	48	10"	#2	H_2O_2	766.3	761.8	
0813	111.635	2.5	64	69	53	10"	#3	Empty	601.6	599.7	
0823	120.373						#4	Silica Gel	1002.9	993.7	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.003 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power
LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman
TEST DATE: 2/22/2022
BAR. PRESSURE: 30.09
TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2
TC ID: RPV Probe ~~#013~~ #058
DP INDICATOR TYPE: 0-10" Manometer
PITOT TUBE ID: ~~#013~~ #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 2-Sox Ps: 8.48
Start: 0847 Stop: 0917

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.4	343	5	.98	342	5	1.1	343
4, 45.9"	1.4	343	4	1.0	345	4	1.0	344
3, 36.5"	1.2	344	3	.87	344	3	.82	345
2, 27.1"	1.1	345	2	.84	342	2	.64	345
1, 17.7	.97	344	1	.76	341	1	.62	345
5	1.3	344	5	.84	343	5	.96	344
4	1.1	342	4	.78	344	4	.87	345
3	1.0	343	3	.73	345	3	.82	346
2	1.0	345	2	.83	344	2	.85	345
1	.99	344	1	.88	343	1	1.0	343
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	251	257		308	03.5			
2	256	253						
3	254	258						

MOISTURE DATA FOR TEST RUNS 2 THROUGH 2

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
0847	123.300	2.5	67	70	50	10"	#1	H_2O	751.3	631.7	
0857	132.145	2.5	68	72	48	10"	#2	H_2O	719.1	715.4	
0907	140.820	2.5	70	74	49	10"	#3	Empty	642.5	640.0	
0917	149.516						#4	Silica Gel	1063.3	1052.9	
							Total	Line rinse		50	

Pre-Test Leak Check: <2005 CFM @ 25 in. Hg., Post-Test Leak Check: <2005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power
LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman
TEST DATE: 2/22/2022
BAR. PRESSURE: 30.09
TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2
TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer
PITOT TUBE ID: #058
Cp: 0.84
ZERO: √ LEVEL: √
LEAK CHECK PRE- √ POST- √

Run #: 3-Sox Ps: +.48
Start: 0939 Stop: 1009

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.1	342	5	1.3	342	5	1.2	342
4, 45.9"	1.3	343	4	1.1	343	4	.88	341
3, 36.5"	1.3	344	3	.97	344	3	.74	345
2, 27.1"	1.1	345	2	.90	345	2	.63	346
1, 17.7	.96	343	1	.82	341	1	.60	344
5	1.2	344	5	.94	343	5	.97	342
4	1.1	345	4	.82	344	4	.86	343
3	1.0	345	3	.78	345	3	.90	344
2	1.2	344	2	.85	343	2	.98	345
1	1.0	343	1	.94	342	1	1.0	344
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	250		303	22.6			
2	253	252						
3	258	251						

MOISTURE DATA FOR TEST RUNS 3 THROUGH 3

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
0939	151.300	2.5	72	75	46	10"	#1	H_2O	871.1	746.3	
0949	160.225	2.5	73	76	48	10"	#2	H_2O	758.1	754.1	
0959	168.840	2.5	74	76	49	10"	#3	Empty	606.3	605.0	
1009	177.568						#4	Silica Gel	1010.3	1002.9	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman TEST DATE: 2/22/2022
BAR. PRESSURE: 30.09 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 4-Sm Ps: 1.46
Start: 1025 Stop: 1055

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.5	343	5	1.2	342	5	1.3	342
4, 45.9"	1.4	344	4	1.0	342	4	1.0	343
3, 36.5"	1.2	345	3	.95	343	3	.74	344
2, 27.1"	1.0	345	2	.87	344	2	.66	345
1, 17.7	.96	343	1	.77	345	1	.63	344
5	1.3	342	5	.84	345	5	1.0	344
4	1.2	344	4	.82	346	4	.87	345
3	1.1	345	3	.78	346	3	.90	346
2	1.0	344	2	.88	344	2	.99	345
1	1.0	343	1	.92	342	1	1.1	343
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	253	254		308	00.7			
2	255	257						
3	256	255						

MOISTURE DATA FOR TEST RUNS 4 THROUGH 4

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1025	179.000	2.5	74	77	50	10"	#1	H_2O	743.7	623.7	
1035	188.040	2.5	75	78	48	10"	#2	H_2O	729.7	726.7	
1045	196.635	2.5	76	78	47	10"	#3	Empty	642.8	642.7	
1055	205.347						#4	Silica Gel	1073.4	1063.3	
							Total	Line rinse		50	

Pre-Test Leak Check: <0.005 CFM @ 25 in. Hg., Post-Test Leak Check: <0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman TEST DATE: 2/22/2022
BAR. PRESSURE: 30.09 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 5-Sor Ps: 1.48
Start: 1112 Stop: 1142

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.5	344	5	1.3	346	5	1.3	346
4, 45.9"	1.4	345	4	1.2	347	4	1.1	347
3, 36.5"	1.3	346	3	.97	347	3	.84	348
2, 27.1"	1.2	344	2	.83	345	2	.64	347
1, 17.7	.97	345	1	.77	344	1	.62	344
5	1.4	345	5	1.1	343	5	1.2	345
4	1.3	346	4	.88	344	4	.90	346
3	1.2	347	3	.83	345	3	.93	347
2	1.1	342	2	.95	344	2	1.0	348
1	1.1	344	1	.86	344	1	1.1	347
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	254		311	02.6			
2	257	256						
3	254	255						

MOISTURE DATA FOR TEST RUNS 5 THROUGH 5

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1112	206.800	2.5	75	77	51	10"	#1	H_2O	876.3	753.4	
1122	215.685	2.5	76	78	53	10"	#2	H_2O	737.7	733.0	
1132	224.555	2.5	76	79	52	10"	#3	Empty	605.9	604.0	
1142	233.148						#4	Silica Gel	1017.5	1010.3	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.003 CFM @ 25 in. Hg., Post-Test Leak Check: 0.003 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman TEST DATE: 2/22/2022
BAR. PRESSURE: 30.09 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 6-Sox Ps: 1.48
Start: 1158 Stop: 1228

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.4	346	5	1.4	346	5	1.3	346
4, 45.9"	1.3	347	4	1.2	347	4	1.1	347
3, 36.5"	1.2	348	3	1.1	347	3	.80	347
2, 27.1"	1.2	346	2	1.2	348	2	.64	348
1, 17.7	1.0	345	1	.98	346	1	.62	346
5	.85	345	5	1.3	346	5	1.0	345
4	.83	346	4	1.3	347	4	.89	344
3	.88	347	3	.96	348	3	.88	346
2	.96	348	2	.88	346	2	1.0	347
1	.92	346	1	.74	348	1	1.0	347
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	251	256		308	027			
2	257	253						
3	251	255						

MOISTURE DATA FOR TEST RUNS 6 THROUGH 6

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1158	234.600	2.5	76	78	49	10"	#1	H_2O	749.8	627.6	
1208	243.600	2.5	77	79	52	10"	#2	H_2O	739.9	735.8	
1218	252.550	2.5	77	79	53	10"	#3	Empty	643.3	641.1	
1228	261.473						#4	Silica Gel	1083.2	1073.4	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.000 CFM @ 25 in. Hg., Post-Test Leak Check: 0.000 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman TEST DATE: 2/22/2022
BAR. PRESSURE: 30.09 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 7-502 Ps: 1.246
Start: 1243 Stop: 1313

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.5	344	5	1.4	346	5	1.3	346
4, 45.9"	1.3	345	4	1.1	344	4	1.2	345
3, 36.5"	1.2	346	3	.95	345	3	.77	346
2, 27.1"	1.1	347	2	.88	346	2	.63	346
1, 17.7	1.0	346	1	.77	344	1	.65	344
5	1.4	344	5	.84	343	5	1.0	345
4	1.2	345	4	.81	345	4	.93	346
3	1.0	346	3	.79	346	3	.90	347
2	1.0	347	2	.88	346	2	.96	347
1	.98	346	1	.97	344	1	1.0	345
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	257		310	00.7			
2	258	256						
3	257	255						

MOISTURE DATA FOR TEST RUNS 7 THROUGH 7

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1243	262.700	2.5	77	79	50	10"	#1	H_2O	866.0	757.4	
1253	271.485	2.5	78	81	52	10"	#2	H_2O	765.0	763.1	
1303	280.860	2.5	77	80	53	10"	#3	Empty	603.9	603.5	
1313	288.677						#4	Silica Gel	1024.4	1017.5	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.0005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.0005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman TEST DATE: 2/22/2022
BAR. PRESSURE: 30.09 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 8-Sox Ps: 1.46
Start: 1328 Stop: 1358

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.5	345	5	1.2	344	5	1.3	344
4, 45.9"	1.4	346	4	1.1	345	4	1.2	345
3, 36.5"	1.2	347	3	.96	346	3	.74	345
2, 27.1"	1.2	346	2	.86	341	2	.65	345
1, 17.7	1.0	344	1	.82	345	1	.61	345
5	1.4	344	5	.88	346	5	1.0	344
4	1.2	345	4	.84	345	4	.97	344
3	1.1	346	3	.78	345	3	.95	345
2	1.1	346	2	.86	346	2	.93	344
1	1.1	344	1	.94	346	1	1.1	343
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	256	254		309	02.8			
2	257	253						
3	255	254						

MOISTURE DATA FOR TEST RUNS 8 THROUGH 8

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1328	290.400	2.5	80	82	48	10"	#1	H_2O	758.8	640.2	
1338	299.755	2.5	79	82	50	10"	#2	H_2O	743.5	741.9	
1348	308.180	2.5	79	82	51	10"	#3	Empty	642.6	641.7	
1358	316.808						#4	Silica Gel	961.2	949.6	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman TEST DATE: 2/22/2022
BAR. PRESSURE: 30.09 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 9-5 Ps: 1.48
Start: 1429 Stop: 1459

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.5	344	5	1.2	345	5	1.3	346
4, 45.9"	1.4	345	4	1.0	346	4	1.1	346
3, 36.5"	1.3	346	3	.94	347	3	.77	347
2, 27.1"	1.2	347	2	.87	346	2	.65	345
1, 17.7	1.0	346	1	.77	345	1	.62	341
5	1.3	345	5	.83	345	5	1.2	343
4	1.2	346	4	.81	346	4	.97	343
3	1.1	346	3	.79	347	3	.91	344
2	1.1	347	2	.88	347	2	.98	345
1	1.0	345	1	.94	346	1	1.2	345
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	256		310	027			
2	258	254						
3	255	252						

MOISTURE DATA FOR TEST RUNS 9 THROUGH 9

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1429	321.000	2.5	81	83	50	10"	#1	H_2O	866.2	747.0	
1439	329.885	2.5	80	84	52	10"	#2	H_2O	753.8	750.2	
1449	338.940	2.5	81	84	54	10"	#3	Empty	604.8	604.8	
1459	347.113						#4	Silica Gel	1031.7	1024.5	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman TEST DATE: 2/22/2022
BAR. PRESSURE: 30.09 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: √ LEVEL: √ LEAK CHECK PRE- √ POST- √

Run #: 10-5a Ps: 1.48
Start: 1515 Stop: 1545

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.4	345	5	1.3	346	5	1.4	343
4, 45.9"	1.3	346	4	1.0	347	4	1.3	346
3, 36.5"	1.2	346	3	1.0	348	3	.75	347
2, 27.1"	1.1	347	2	.98	348	2	.67	347
1, 17.7	.98	346	1	.77	346	1	.63	345
5	1.3	347	5	.89	345	5	.98	344
4	1.1	348	4	.78	346	4	.90	344
3	1.1	348	3	.80	347	3	1.0	345
2	1.1	347	2	.88	347	2	1.1	345
1	1.0	345	1	.95	345	1	1.2	343
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	253	254		308	028			
2	255	252						
3	258	254						

MOISTURE DATA FOR TEST RUNS 10 THROUGH 10

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T imp	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1515	348.800	2.5	80	84	53	10"	#1	H_2O	745.5	621.9	
1525	357.720	2.5	78	84	52	10"	#2	H_2O	745.0	741.1	
1535	366.880	2.5	77	83	52	10"	#3	Empty	642.1	640.7	
1545	375.838						#4	Silica Gel	969.5	961.2	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.000 CFM @ 25 in. Hg., Post-Test Leak Check: 0.003 CFM @ 25 in. Hg

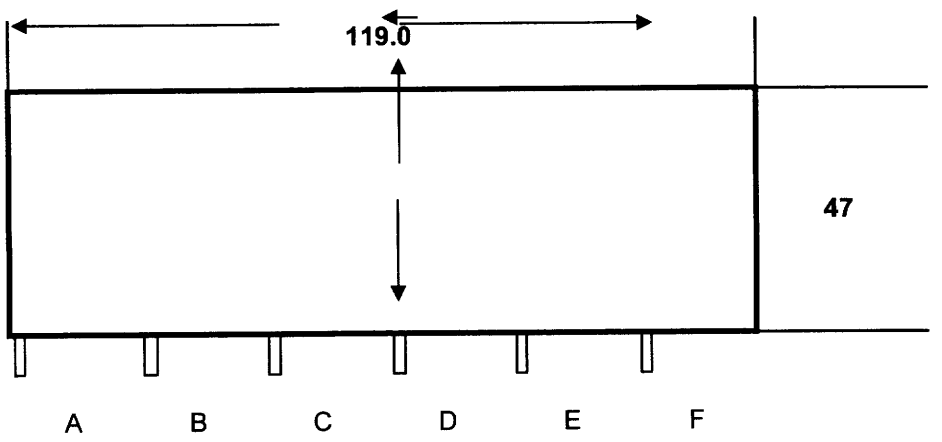
Appendix A.2
Unit 2 Reference Method Data

Appendix A.2.1
Unit 2 Sample Location

Method 1

Client: Desert View Power Date: 2/23/2022

Sample Location: Unit 1-2 Prepared By: Dave Wonderly



H (in.)	**119.0**
W (in.)	**47.0**
Nipple length	**13.0**
Distance between points	**9.40**
Stack Area (ft^2)	**38.84**

Point No.	Sample Point	Inches from nozzle
1	4.7	17.7
2	14.1	27.1
3	23.5	36.5
4	32.9	45.9
5	42.3	55.3

Appendix A.2.2
Unit 2 CEMS Data

Date	Time	O2 %	CO2 %	NOx ppm	CO ppm	
2/23/2022	7:03	19.027	18.929	94.79	8.372	
2/23/2022	7:04	19.032	18.929	94.746	8.374	High
2/23/2022	7:05	15.616	14.871	61.554	7.97	
2/23/2022	7:06	10.551	10.62	48.254	4.773	
2/23/2022	7:07	10.546	10.617	48.859	4.43	Mid
2/23/2022	7:08	3.32	3.187	8.345	3.138	
2/23/2022	7:09	0.019	0.034	0	0.05	
2/23/2022	7:10	0.017	0.028	-0.017	0.001	Zero
2/23/2022	7:11	0.016	0.012	-0.015	0.01	
2/23/2022	7:12	0.018	0.019	-0.02	0.01	NO Mode Zero
2/23/2022	7:13	0.015	0.017	85.839	0.019	
2/23/2022	7:14	0.016	0.017	94.269	0.003	NO Mode High
2/23/2022	7:15	0.017	0.017	23.05	-0.005	
2/23/2022	7:16	0.016	0.021	0.076	0.004	NO2 Gas NO Mode
2/23/2022	7:17	0.012	0.023	39.135	-0.012	
2/23/2022	7:18	0.011	0.023	42.796	-0.009	NO2 Gas NOx Mode
2/23/2022	7:19	7.663	9.545	53.509	-0.063	
2/23/2022	7:20	8.222	12.477	52.994	-0.221	
2/23/2022	7:21	0.613	1.491	0.852	1.3	
2/23/2022	7:22	0.039	0.112	0.542	4.316	
2/23/2022	7:23	0.034	0.099	0.431	4.478	CO Bias
2/23/2022	7:24	0.035	0.092	11.023	4.446	
2/23/2022	7:25	0.034	0.089	48.784	1.582	
2/23/2022	7:26	0.034	0.084	48.77	0.076	NOx Bias
2/23/2022	7:27	6.335	5.587	17.294	0.037	
2/23/2022	7:28	10.512	10.606	0.241	-0.209	O2 CO2 Bias
2/23/2022	7:29	10.02	10.867	12.714	-0.279	
2/23/2022	7:30	7.813	12.823	48.465	-0.212	
2/23/2022	7:31	9.01	11.619	36.59	-0.209	
2/23/2022	7:32	9.76	10.798	36.508	-0.22	
2/23/2022	7:33	8.487	12.003	49.367	-0.203	
2/23/2022	7:34	8.002	12.775	50.326	-0.221	
2/23/2022	7:35	8.567	11.987	45.784	-0.215	
2/23/2022	7:36	9.167	11.588	36.394	-0.214	
2/23/2022	7:37	9.02	11.514	42.3	-0.208	
2/23/2022	7:38	8.979	11.663	39.436	-0.2	
2/23/2022	7:39	8.404	12.138	43.899	-0.194	
2/23/2022	7:40	9.009	11.686	34.961	-0.2	
2/23/2022	7:41	9.334	11.326	34.156	-0.218	
2/23/2022	7:42	9.357	11.287	41.089	-0.191	
2/23/2022	7:43	8.729	11.911	37.169	-0.192	
2/23/2022	7:44	9.254	11.361	33.289	-0.204	
2/23/2022	7:45	9.598	11.005	27.129	-0.208	
2/23/2022	7:46	8.818	11.816	36.044	-0.192	
2/23/2022	7:47	8.736	11.924	37.465	-0.198	
2/23/2022	7:48	8.54	12.06	43.854	-0.199	
2/23/2022	7:49	8.861	11.784	35.916	-0.187	

2/23/2022	7:50	8.765	11.839	38.63	-0.216	
2/23/2022	7:51	8.831	11.845	38.191	-0.213	
2/23/2022	7:52	8.437	12.054	48.575	-0.22	
2/23/2022	7:53	8.845	11.899	41.705	-0.214	
2/23/2022	7:54	8.71	11.933	44.094	-0.227	
2/23/2022	7:55	9.323	11.289	35.849	-0.224	
2/23/2022	7:56	8.817	11.75	38.805	-0.216	
2/23/2022	7:57	9.026	11.656	41.598	-0.22	
2/23/2022	7:58	9.102	11.618	37.553	-0.221	
2/23/2022	7:59	10.11	10.469	30.565	-0.209	
2/23/2022	8:00	8.628	12.021	38.827	-0.193	
Run 1 Average		8.94	11.69	39.20	-0.21	
2/23/2022	8:01	10.094	10.924	8.236	-0.232	
2/23/2022	8:02	10.522	10.659	0.063	-0.279	O2 CO2 Bias
2/23/2022	8:03	6.943	7.881	18.982	-0.27	
2/23/2022	8:04	0.053	0.167	48.552	-0.097	
2/23/2022	8:05	0.043	0.135	48.609	0.092	NOx Bias
2/23/2022	8:06	0.041	0.128	12.091	0.845	
2/23/2022	8:07	0.038	0.121	0.072	4.311	
2/23/2022	8:08	0.04	0.113	0.043	4.495	CO Bias
2/23/2022	8:09	0.032	0.102	0.041	4.207	
2/23/2022	8:10	0.023	0.066	0.007	0.552	
2/23/2022	8:11	0.022	0.065	0.002	0.026	Zero
2/23/2022	8:12	7.184	7.619	38.802	1.067	
2/23/2022	8:13	10.534	10.645	48.913	4.385	
2/23/2022	8:14	10.538	10.651	48.947	4.482	Span
2/23/2022	8:15	8.999	11.813	52.627	3.958	
2/23/2022	8:16	8.553	12.062	44.128	0.313	
2/23/2022	8:17	9.399	11.394	32.269	-0.248	
2/23/2022	8:18	9.564	10.882	33.112	-0.225	
2/23/2022	8:19	8.079	12.663	41.505	-0.223	
2/23/2022	8:20	8.679	11.919	38.681	-0.232	
2/23/2022	8:21	9.074	11.535	35.485	-0.232	
2/23/2022	8:22	8.663	12.113	37.155	-0.232	
2/23/2022	8:23	9.563	11.003	26.389	-0.237	
2/23/2022	8:24	8.815	11.804	32.043	-0.227	
2/23/2022	8:25	9.052	11.529	29.561	-0.221	
2/23/2022	8:26	8.972	11.806	34.181	-0.21	
2/23/2022	8:27	9.088	11.356	31.261	-0.213	
2/23/2022	8:28	8.876	11.901	36.581	-0.221	
2/23/2022	8:29	8.983	11.598	34.054	-0.222	
2/23/2022	8:30	9.203	11.477	26.181	-0.219	
2/23/2022	8:31	9.005	11.643	32.78	-0.222	
2/23/2022	8:32	9.47	11.203	28.527	-0.236	
2/23/2022	8:33	9.077	11.532	26.336	-0.216	
2/23/2022	8:34	8.392	12.192	37.683	-0.213	
2/23/2022	8:35	8.376	12.251	39.811	-0.228	
2/23/2022	8:36	8.506	12.109	40.286	-0.236	
2/23/2022	8:37	8.106	12.514	46.096	-0.238	

2/23/2022	8:38	8.043	12.61	49.394	-0.252	
2/23/2022	8:39	8.137	12.561	49.819	-0.227	
2/23/2022	8:40	8.298	12.324	54.039	-0.235	
2/23/2022	8:41	9.347	11.323	42.745	-0.254	
2/23/2022	8:42	8.779	11.932	41.443	-0.234	
2/23/2022	8:43	9.224	11.361	37.132	-0.239	
2/23/2022	8:44	8.781	11.827	39.106	-0.235	
2/23/2022	8:45	8.626	11.99	41.278	-0.234	
2/23/2022	8:46	8.891	11.73	36.059	-0.246	
2/23/2022	8:47	8.702	11.864	41.425	-0.235	
2/23/2022	8:48	8.698	11.939	34.395	-0.241	
2/23/2022	8:49	9.196	11.497	29.862	-0.252	
2/23/2022	8:50	8.266	12.201	43.492	-0.229	
2/23/2022	8:51	9.254	11.409	34.58	-0.221	
2/23/2022	8:52	8.699	11.908	41.063	-0.23	
2/23/2022	8:53	8.863	11.8	39.359	-0.211	
2/23/2022	8:54	8.481	11.905	46.906	-0.239	
2/23/2022	8:55	8.625	11.992	40.098	-0.234	
2/23/2022	8:56	8.617	11.943	47.07	-0.24	
2/23/2022	8:57	9.226	11.417	36.5	-0.246	
2/23/2022	8:58	9.15	11.4	35.565	-0.216	
2/23/2022	8:59	9.109	11.46	35.593	-0.228	
2/23/2022	9:00	9.025	11.522	38.83	-0.22	
Run 2 Average		8.77	11.85	39.58	-0.23	
2/23/2022	9:01	9.302	10.459	10.502	-0.122	
2/23/2022	9:02	10.508	10.605	0.053	-0.238	O2 CO2 Bias
2/23/2022	9:03	2.573	3.676	38.114	-0.198	
2/23/2022	9:04	0.04	0.106	48.401	0.034	NOx Bias
2/23/2022	9:05	0.036	0.086	5.454	1.307	
2/23/2022	9:06	0.033	0.077	0.048	4.362	
2/23/2022	9:07	0.029	0.077	0.032	4.475	CO Bias
2/23/2022	9:08	0.008	0.042	0.011	2.579	
2/23/2022	9:09	0.008	0.023	0.004	0.021	
2/23/2022	9:10	0.004	0.023	0.011	0.01	Zero
2/23/2022	9:11	7.438	7.712	40.638	1.193	
2/23/2022	9:12	10.539	10.594	48.728	4.369	
2/23/2022	9:13	10.544	10.597	48.862	4.453	Span
2/23/2022	9:14	9.659	10.979	33.416	2.751	
2/23/2022	9:15	8.546	11.867	45.398	-0.154	
2/23/2022	9:16	8.782	11.795	45.941	-0.239	
2/23/2022	9:17	8.303	12.298	46.159	-0.243	
2/23/2022	9:18	8.582	12.026	39.435	-0.237	
2/23/2022	9:19	8.892	11.757	33.703	-0.239	
2/23/2022	9:20	9.138	11.373	35.694	-0.227	
2/23/2022	9:21	8.541	12.063	37.903	-0.231	
2/23/2022	9:22	8.669	11.957	36.772	-0.23	
2/23/2022	9:23	8.64	11.935	37.602	-0.244	
2/23/2022	9:24	8.136	12.321	50.263	-0.236	
2/23/2022	9:25	8.176	12.5	49.397	-0.234	

2/23/2022	9:26	9.46	11.183	35.247	-0.226	
2/23/2022	9:27	9.346	11.275	35.76	-0.236	
2/23/2022	9:28	9.065	11.419	38.47	-0.241	
2/23/2022	9:29	8.899	11.759	38.235	-0.236	
2/23/2022	9:30	8.605	12.03	40.543	-0.223	
2/23/2022	9:31	9.531	11.121	32.41	-0.238	
2/23/2022	9:32	9.86	10.908	31.486	-0.224	
2/23/2022	9:33	9.455	11.044	33.32	-0.212	
2/23/2022	9:34	8.454	12.11	42.074	-0.208	
2/23/2022	9:35	8.552	12.084	43.678	-0.224	
2/23/2022	9:36	9.045	11.634	41.719	-0.249	
2/23/2022	9:37	8.905	11.604	48.071	-0.223	
2/23/2022	9:38	8.256	12.445	50.16	-0.234	
2/23/2022	9:39	7.878	12.74	57.072	-0.246	
2/23/2022	9:40	8.444	12.136	47.25	-0.24	
2/23/2022	9:41	8.808	11.806	42.807	-0.222	
2/23/2022	9:42	8.89	11.758	41.839	-0.231	
2/23/2022	9:43	9.294	11.399	36.146	-0.23	
2/23/2022	9:44	9.19	11.373	37.794	-0.219	
2/23/2022	9:45	9.026	11.535	39.877	-0.235	
Run 3 Average		8.83	11.78	40.89	-0.23	
2/23/2022	9:46	9.301	10.475	8.389	-0.227	
2/23/2022	9:47	10.504	10.646	0.051	-0.033	O2 CO2 Bias
2/23/2022	9:48	2.361	3.396	39.417	0.012	
2/23/2022	9:49	0.047	0.14	48.608	0.056	NOx Bias
2/23/2022	9:50	0.045	0.129	6.346	1.256	
2/23/2022	9:51	0.039	0.121	0.039	4.379	
2/23/2022	9:52	0.036	0.119	0.012	4.442	CO Bias
2/23/2022	9:53	0.005	0.085	0.001	2.044	
2/23/2022	9:54	-0.005	0.064	-0.018	-0.004	Zero
2/23/2022	9:55	8.213	8.554	44.642	1.915	
2/23/2022	9:56	10.539	10.641	48.95	4.448	Span
2/23/2022	9:57	10.026	10.714	36.001	3.504	
2/23/2022	9:58	8.907	11.56	41.78	-0.039	
2/23/2022	9:59	8.743	11.86	44.586	-0.238	
2/23/2022	10:00	8.769	11.979	44.867	-0.246	
2/23/2022	10:01	8.716	11.805	48.8	-0.225	
2/23/2022	10:02	8.418	12.117	48.601	-0.223	
2/23/2022	10:03	8.989	11.647	41.43	-0.229	
2/23/2022	10:04	9.205	11.523	38.907	-0.225	
2/23/2022	10:05	8.874	11.669	38.495	-0.237	
2/23/2022	10:06	8.679	11.881	48.284	-0.226	
2/23/2022	10:07	8.468	12.174	49.455	-0.239	
2/23/2022	10:08	9.173	11.499	37.749	-0.241	
2/23/2022	10:09	8.75	11.838	37.841	-0.245	
2/23/2022	10:10	8.874	11.756	34.281	-0.241	
2/23/2022	10:11	8.56	12.012	42.007	-0.234	
2/23/2022	10:12	9.842	10.747	31.883	-0.213	
2/23/2022	10:13	8.78	11.808	40.25	-0.242	

2/23/2022	10:14	8.988	11.642	37.018	-0.222	
2/23/2022	10:15	9.459	11.158	33.952	-0.243	
2/23/2022	10:16	9.31	11.228	36.898	-0.223	
2/23/2022	10:17	9.085	11.525	41.591	-0.224	
2/23/2022	10:18	8.993	11.677	37.402	-0.224	
2/23/2022	10:19	8.26	12.27	46.769	-0.241	
2/23/2022	10:20	9.099	11.597	40.564	-0.258	
2/23/2022	10:21	8.241	12.189	54.925	-0.237	
2/23/2022	10:22	7.816	12.825	54.635	-0.236	
2/23/2022	10:23	7.949	12.572	55.446	-0.232	
2/23/2022	10:24	7.496	13.086	56.947	-0.239	
2/23/2022	10:25	8.179	12.507	49.163	-0.249	
2/23/2022	10:26	8.587	12.025	43.257	-0.253	
2/23/2022	10:27	8.339	12.238	47.595	-0.237	
2/23/2022	10:28	8.896	11.73	39.388	-0.223	
Run 4 Average		8.72	11.89	43.43	-0.23	
2/23/2022	10:29	9.297	10.333	13.405	-0.094	
2/23/2022	10:30	10.478	10.632	0.054	-0.151	O2 CO2 Bias
2/23/2022	10:31	2.575	3.619	37.926	-0.126	
2/23/2022	10:32	0.026	0.137	48.527	0.05	NOx Bias
2/23/2022	10:33	0.023	0.12	28.704	0.205	
2/23/2022	10:34	0.022	0.111	0.07	3.772	
2/23/2022	10:35	0.021	0.107	0.029	4.438	CO Bias
2/23/2022	10:36	-0.003	0.067	0.017	1.907	
2/23/2022	10:37	-0.006	0.047	-0.017	-0.009	Zero
2/23/2022	10:38	8.558	8.924	45.257	2.29	
2/23/2022	10:39	10.533	10.614	49.008	4.44	Span
2/23/2022	10:40	8.984	11.599	40.303	2.14	
2/23/2022	10:41	8.107	12.354	53.649	-0.229	
2/23/2022	10:42	8.941	11.706	40.882	-0.264	
2/23/2022	10:43	9.603	11.036	28.713	-0.257	
2/23/2022	10:44	8.902	11.503	40.641	-0.262	
2/23/2022	10:45	9.038	11.473	41.658	-0.234	
2/23/2022	10:46	8.823	11.764	43.914	-0.224	
2/23/2022	10:47	8.334	12.159	50.677	-0.232	
2/23/2022	10:48	8.251	12.338	44.29	-0.242	
2/23/2022	10:49	8.84	11.709	37.241	-0.259	
2/23/2022	10:50	9.546	11.114	30.501	-0.257	
2/23/2022	10:51	10.142	10.499	23.443	-0.248	
2/23/2022	10:52	8.646	11.755	43.32	-0.244	
2/23/2022	10:53	9.14	11.449	38.564	-0.258	
2/23/2022	10:54	9.897	10.738	31.078	-0.28	
2/23/2022	10:55	9.327	11.168	34.712	-0.237	
2/23/2022	10:56	8.808	11.706	37.178	-0.229	
2/23/2022	10:57	7.845	12.614	51.64	-0.212	
2/23/2022	10:58	7.394	13.152	63.402	-0.271	
2/23/2022	10:59	8.127	12.511	54.878	-0.271	
2/23/2022	11:00	8.866	11.726	42.147	-0.277	
2/23/2022	11:01	8.864	11.656	41.904	-0.262	

2/23/2022	11:02	8.685	11.857	42.976	-0.27	
2/23/2022	11:03	8.048	12.499	50.403	-0.267	
2/23/2022	11:04	8.895	11.688	41.625	-0.287	
2/23/2022	11:05	8.247	12.368	48.496	-0.276	
2/23/2022	11:06	8.924	11.661	37.253	-0.271	
2/23/2022	11:07	8.448	12.104	43.114	-0.271	
2/23/2022	11:08	9.152	11.494	35.845	-0.264	
2/23/2022	11:09	8.595	11.978	46.068	-0.251	
2/23/2022	11:10	9.119	11.424	41.889	-0.258	
Run 5 Average		8.79	11.77	42.07	-0.26	
2/23/2022	11:11	9.658	10.029	7.12	-0.119	
2/23/2022	11:12	10.492	10.629	0.04	-0.278	O2 CO2 Bias
2/23/2022	11:13	2.458	3.386	38.823	-0.117	
2/23/2022	11:14	0.038	0.133	48.524	0.008	NOx Bias
2/23/2022	11:15	0.032	0.115	5.671	1.56	
2/23/2022	11:16	0.028	0.107	0.04	4.369	
2/23/2022	11:17	0.028	0.102	0.018	4.38	CO Bias
2/23/2022	11:18	0.005	0.066	-0.007	2.085	
2/23/2022	11:19	0.004	0.052	-0.019	-0.027	Zero
2/23/2022	11:20	8.318	8.717	44.551	2.25	
2/23/2022	11:21	10.536	10.612	48.986	4.385	Span
2/23/2022	11:22	9.272	11.35	40.788	2.97	
2/23/2022	11:23	7.66	12.838	57.258	-0.177	
2/23/2022	11:24	8.548	12.095	42.177	-0.298	
2/23/2022	11:25	9.512	11.069	31.079	-0.263	
2/23/2022	11:26	9.853	10.758	29.273	-0.252	
2/23/2022	11:27	9.24	11.396	35.833	-0.234	
2/23/2022	11:28	10.291	10.301	25.29	-0.246	
2/23/2022	11:29	9.279	11.21	34.183	-0.244	
2/23/2022	11:30	7.953	12.71	48.62	-0.262	
2/23/2022	11:31	8.714	11.845	47.983	-0.271	
2/23/2022	11:32	8.739	11.851	46.271	-0.28	
2/23/2022	11:33	9.354	11.17	42.406	-0.256	
2/23/2022	11:34	7.757	12.78	58.221	-0.251	
2/23/2022	11:35	8.051	12.469	55.032	-0.254	
2/23/2022	11:36	8.183	12.37	54.628	-0.265	
2/23/2022	11:37	8.198	12.519	50.941	-0.263	
2/23/2022	11:38	10.039	10.581	34.569	-0.254	
2/23/2022	11:39	9.295	11.251	34.899	-0.258	
2/23/2022	11:40	9.182	11.374	33.788	-0.254	
2/23/2022	11:41	8.69	11.89	36.428	-0.251	
2/23/2022	11:42	8.253	12.283	41.945	-0.26	
2/23/2022	11:43	8.046	12.452	51.616	-0.267	
2/23/2022	11:44	8.169	12.458	39.901	-0.287	
2/23/2022	11:45	9.217	11.383	37.563	-0.261	
2/23/2022	11:46	9.126	11.433	35.212	-0.247	
2/23/2022	11:47	8.687	11.84	37.402	-0.267	
2/23/2022	11:48	8.831	11.771	35.21	-0.279	
2/23/2022	11:49	8.859	11.677	41.441	-0.263	

2/23/2022	11:50	8.173	12.442	46.688	-0.253	
2/23/2022	11:51	9.229	11.401	33.889	-0.257	
2/23/2022	11:52	8.693	11.738	42.656	-0.251	
2/23/2022	11:53	8.927	11.767	36.82	-0.24	
Run 6 Average		8.84	11.74	40.73	-0.26	
2/23/2022	11:54	9.843	9.854	3.209	-0.099	
2/23/2022	11:55	10.498	10.628	0.021	-0.258	O2 CO2 Bias
2/23/2022	11:56	4.652	5.436	29.418	-0.045	
2/23/2022	11:57	0.053	0.144	48.626	-0.011	NOx Bias
2/23/2022	11:58	0.044	0.113	8.604	1.311	
2/23/2022	11:59	0.04	0.1	0.035	4.311	
2/23/2022	12:00	0.04	0.095	0.01	4.362	CO Bias
2/23/2022	12:01	0.011	0.06	-0.004	2.609	
2/23/2022	12:02	-0.003	0.031	-0.019	-0.018	Zero
2/23/2022	12:03	8.731	8.966	46.24	1.955	
2/23/2022	12:04	10.527	10.586	49.063	4.42	Span
2/23/2022	12:05	9.654	11.037	41.235	3.186	
2/23/2022	12:06	9.603	10.926	33.852	-0.094	
2/23/2022	12:07	9.508	10.961	36.37	-0.242	
2/23/2022	12:08	8.644	11.937	46.958	-0.244	
2/23/2022	12:09	8.238	12.24	52.612	-0.245	
2/23/2022	12:10	9.064	11.457	46.628	-0.258	
2/23/2022	12:11	8.557	11.949	51.29	-0.229	
2/23/2022	12:12	8.523	12.069	50.564	-0.24	
2/23/2022	12:13	8.797	11.762	43.796	-0.236	
2/23/2022	12:14	7.932	12.572	48.688	-0.216	
2/23/2022	12:15	8.879	11.695	43.863	-0.244	
2/23/2022	12:16	8.221	12.316	50.479	-0.234	
2/23/2022	12:17	8.474	12.009	45.992	-0.258	
2/23/2022	12:18	8.586	11.921	45.983	-0.234	
2/23/2022	12:19	7.84	12.71	53.23	-0.214	
2/23/2022	12:20	8.988	11.669	43.626	-0.25	
2/23/2022	12:21	8.487	12.036	43.678	-0.237	
2/23/2022	12:22	7.885	12.567	51.233	-0.236	
2/23/2022	12:23	8.231	12.395	45.379	-0.259	
2/23/2022	12:24	8.651	11.865	45.741	-0.264	
2/23/2022	12:25	8.788	11.77	44.337	-0.254	
2/23/2022	12:26	8.995	11.532	38.698	-0.242	
2/23/2022	12:27	8.185	12.392	48.55	-0.236	
2/23/2022	12:28	9.146	11.339	43.44	-0.231	
2/23/2022	12:29	8.901	11.678	38.552	-0.23	
2/23/2022	12:30	8.674	11.803	39.131	-0.238	
2/23/2022	12:31	9.214	11.529	28.963	-0.231	
2/23/2022	12:32	10.089	10.533	27.005	-0.243	
2/23/2022	12:33	10.404	10.304	21.102	-0.223	
2/23/2022	12:34	9.517	10.94	31.806	-0.21	
2/23/2022	12:35	8.192	12.322	46.235	-0.232	
Run 7 Average		8.77	11.77	42.93	-0.23	
2/23/2022	12:36	9.445	10.331	5.533	-0.082	

2/23/2022	12:37	10.499	10.622	0.027	-0.254	O2 CO2 Bias
2/23/2022	12:38	2.582	3.552	38.571	-0.055	
2/23/2022	12:39	0.043	0.138	48.416	0.028	NOx Bias
2/23/2022	12:40	0.037	0.119	7.855	1.417	
2/23/2022	12:41	0.034	0.113	0.028	4.387	
2/23/2022	12:42	0.034	0.113	0.011	4.457	CO Bias
2/23/2022	12:43	0.017	0.077	0	1.993	
2/23/2022	12:44	0.009	0.062	-0.019	-0.012	Zero
2/23/2022	12:45	8.256	8.526	43.541	1.757	
2/23/2022	12:46	10.511	10.621	48.929	4.421	
2/23/2022	12:47	10.51	10.626	48.955	4.404	Span
2/23/2022	12:48	10.51	10.628	48.727	4.417	
2/23/2022	12:49	8.608	11.859	47.792	2.286	
2/23/2022	12:50	9.121	11.498	40.38	-0.227	
2/23/2022	12:51	8.528	12.071	46.503	-0.246	
2/23/2022	12:52	8.561	12.01	44.535	-0.254	
2/23/2022	12:53	8.836	11.765	43.655	-0.239	
2/23/2022	12:54	8.597	12.02	43.348	-0.226	
2/23/2022	12:55	8.508	12.013	49.048	-0.24	
2/23/2022	12:56	8.034	12.584	50.221	-0.248	
2/23/2022	12:57	9.326	11.302	39.086	-0.254	
2/23/2022	12:58	8.979	11.63	37.915	-0.228	
2/23/2022	12:59	8.049	12.434	51.381	-0.243	
2/23/2022	13:00	8.642	12.023	39.981	-0.26	
2/23/2022	13:01	9.294	11.324	31.649	-0.235	
2/23/2022	13:02	8.658	11.957	40.495	-0.239	
2/23/2022	13:03	8.234	12.34	46.09	-0.254	
2/23/2022	13:04	8.796	11.836	38.24	-0.228	
2/23/2022	13:05	8.652	11.879	41.455	-0.237	
2/23/2022	13:06	9.613	11.109	29.962	-0.24	
2/23/2022	13:07	9.459	11.06	45.032	-0.23	
2/23/2022	13:08	9.031	11.515	41.426	-0.225	
2/23/2022	13:09	8.699	11.946	39.763	-0.231	
2/23/2022	13:10	9.042	11.546	36.318	-0.238	
2/23/2022	13:11	8.724	11.894	36.677	-0.225	
2/23/2022	13:12	8.366	12.24	45.422	-0.217	
2/23/2022	13:13	9.044	11.535	43.166	-0.24	
2/23/2022	13:14	7.528	13.02	57.207	-0.242	
2/23/2022	13:15	8.367	12.252	47.765	-0.261	
2/23/2022	13:16	9.691	10.944	33.23	-0.255	
2/23/2022	13:17	9.426	11.196	34.791	-0.241	
2/23/2022	13:18	8.755	11.786	40.267	-0.254	
2/23/2022	13:19	9.109	11.534	40.15	-0.251	
Run 8 Average		8.79	11.81	41.84	-0.24	
2/23/2022	13:20	9.42	10.256	8.754	-0.097	
2/23/2022	13:21	10.501	10.62	0.038	-0.252	O2 CO2 Bias
2/23/2022	13:22	8.445	9.236	11.714	-0.095	
2/23/2022	13:23	0.056	0.177	48.545	0	
2/23/2022	13:24	0.044	0.128	48.638	0.036	NOx Bias

2/23/2022	13:25	0.041	0.116	6.419	1.554	
2/23/2022	13:26	0.04	0.11	0.037	4.408	
2/23/2022	13:27	0.039	0.102	0.011	4.42	CO Bias
2/23/2022	13:28	0.007	0.058	0.006	2.031	
2/23/2022	13:29	-0.001	0.05	-0.017	-0.007	Zero
2/23/2022	13:30	8.407	9.067	45.259	2.203	
2/23/2022	13:31	10.504	10.617	48.972	4.434	Span
2/23/2022	13:32	10.094	10.695	40.157	3.662	
2/23/2022	13:33	8.968	11.646	38.337	0.019	
2/23/2022	13:34	8.362	12.165	48.678	-0.243	
2/23/2022	13:35	8.771	11.789	46.768	-0.258	
2/23/2022	13:36	8.548	11.954	50.437	-0.254	
2/23/2022	13:37	7.844	12.812	53.669	-0.235	
2/23/2022	13:38	9.137	11.445	40.537	-0.265	
2/23/2022	13:39	8.979	11.575	40.031	-0.247	
2/23/2022	13:40	8.495	12.136	43.521	-0.242	
2/23/2022	13:41	8.722	11.903	43.339	-0.204	
2/23/2022	13:42	8.323	12.237	50.181	-0.13	
2/23/2022	13:43	8.292	12.222	48.972	-0.232	
2/23/2022	13:44	8.234	12.445	44.767	-0.258	
2/23/2022	13:45	9.516	11.135	33.986	-0.234	
2/23/2022	13:46	10.116	10.543	27.01	-0.257	
2/23/2022	13:47	9.659	10.869	31.358	-0.253	
2/23/2022	13:48	8.531	12.037	39.738	-0.255	
2/23/2022	13:49	7.955	12.675	46.5	-0.262	
2/23/2022	13:50	8.631	11.963	41.253	-0.273	
2/23/2022	13:51	7.65	12.941	52.053	-0.281	
2/23/2022	13:52	9.006	11.64	39.759	-0.278	
2/23/2022	13:53	8.74	11.834	39.525	-0.284	
2/23/2022	13:54	9.187	11.478	35.024	-0.276	
2/23/2022	13:55	9.224	11.336	36.325	-0.279	
2/23/2022	13:56	8.769	11.791	42.303	-0.263	
2/23/2022	13:57	8.832	11.754	40.062	-0.275	
2/23/2022	13:58	9.85	10.798	31.767	-0.264	
2/23/2022	13:59	9.196	11.366	35.037	-0.255	
2/23/2022	14:00	8.18	12.372	49.087	-0.284	
2/23/2022	14:01	9.353	11.213	40.793	-0.268	
2/23/2022	14:02	9.229	11.448	41.735	-0.266	
2/23/2022	14:03	9.021	11.502	42.672	-0.27	
Run 9 Average		8.81	11.78	41.90	-0.25	
2/23/2022	14:04	9.306	10.414	9.747	-0.105	
2/23/2022	14:05	10.489	10.59	0.027	-0.147	O2 CO2 Bias
2/23/2022	14:06	2.474	3.356	38.929	-0.027	
2/23/2022	14:07	0.043	0.115	48.497	0.025	NOx Bias
2/23/2022	14:08	0.024	0.098	8.223	1.391	
2/23/2022	14:09	0.02	0.089	0.022	4.373	
2/23/2022	14:10	0.017	0.081	0.01	4.379	CO Bias
2/23/2022	14:11	-0.005	0.041	-0.007	2.02	
2/23/2022	14:12	-0.002	0.025	-0.018	-0.01	Zero

2/23/2022	14:13	8.385	9.124	46.106	2.136	
2/23/2022	14:14	10.531	10.576	48.95	4.438	Span
2/23/2022	14:15	15.391	15.404	80.013	5.276	
2/23/2022	14:16	19.009	18.879	95.172	8.285	
2/23/2022	14:17	19.014	18.886	95.134	8.368	High
2/23/2022	14:18	17.485	16.854	82.15	8.365	

Appendix A.2.3
Unit 2 Instrument Strip Chart Data

Montrose
EPA SPAN GAS RECORD

CLIENT/LOCATION: Desert View Power
Unit 2

DATE: 2/23/2022
BY: DW

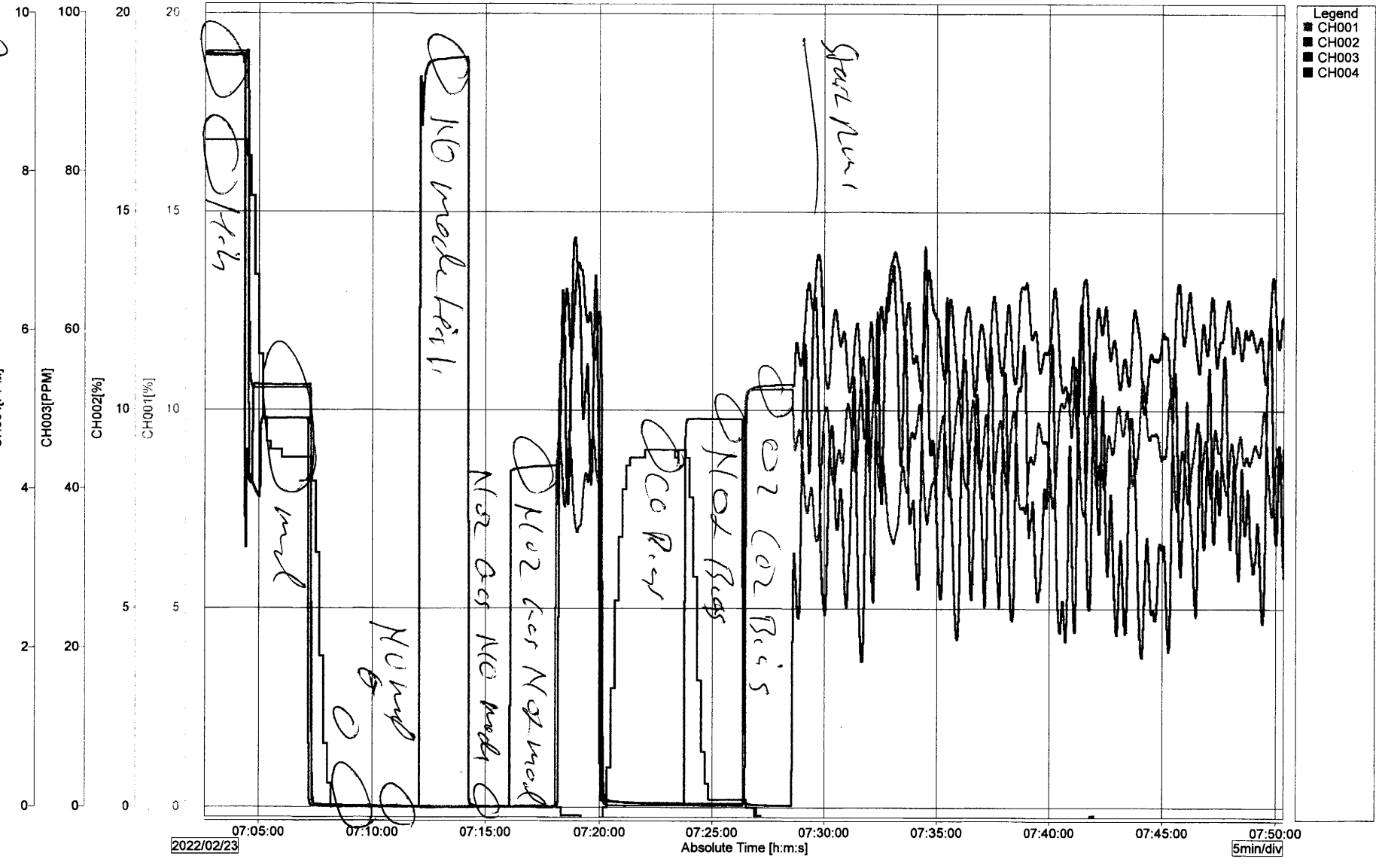
	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	CC49556	0		
O_2	CC700690	10.53	CC106486	19.02
CO_2	CC700690	10.58	CC106486	18.94
NO_x	CC327320	48.1	CC218831	94.7
CO	CC73153	4.46	EB0058229	8.37

NO2 to NO Converter Efficiency Test

				Cylinder #
Analyzer Manufacturer:	CAI	NO Cal Gas Value:	94.7	CC218831
Analyzer Model:	600 Series	NO2 Cal Gas Value:	44	ALFS1576(
Analyzer Serial Number:	S03003	Performed By:	DW	
Date:	2/23/2022	CEMS ID#:	3-CEMS	

Signature1 : No Sig.
Signature2 : No Sig.
Signature3 : No Sig.

Print Groups : GROUP 1
Print Range : 2022/02/23 07:02:38.000 - 2022/02/23 14:24:54.000



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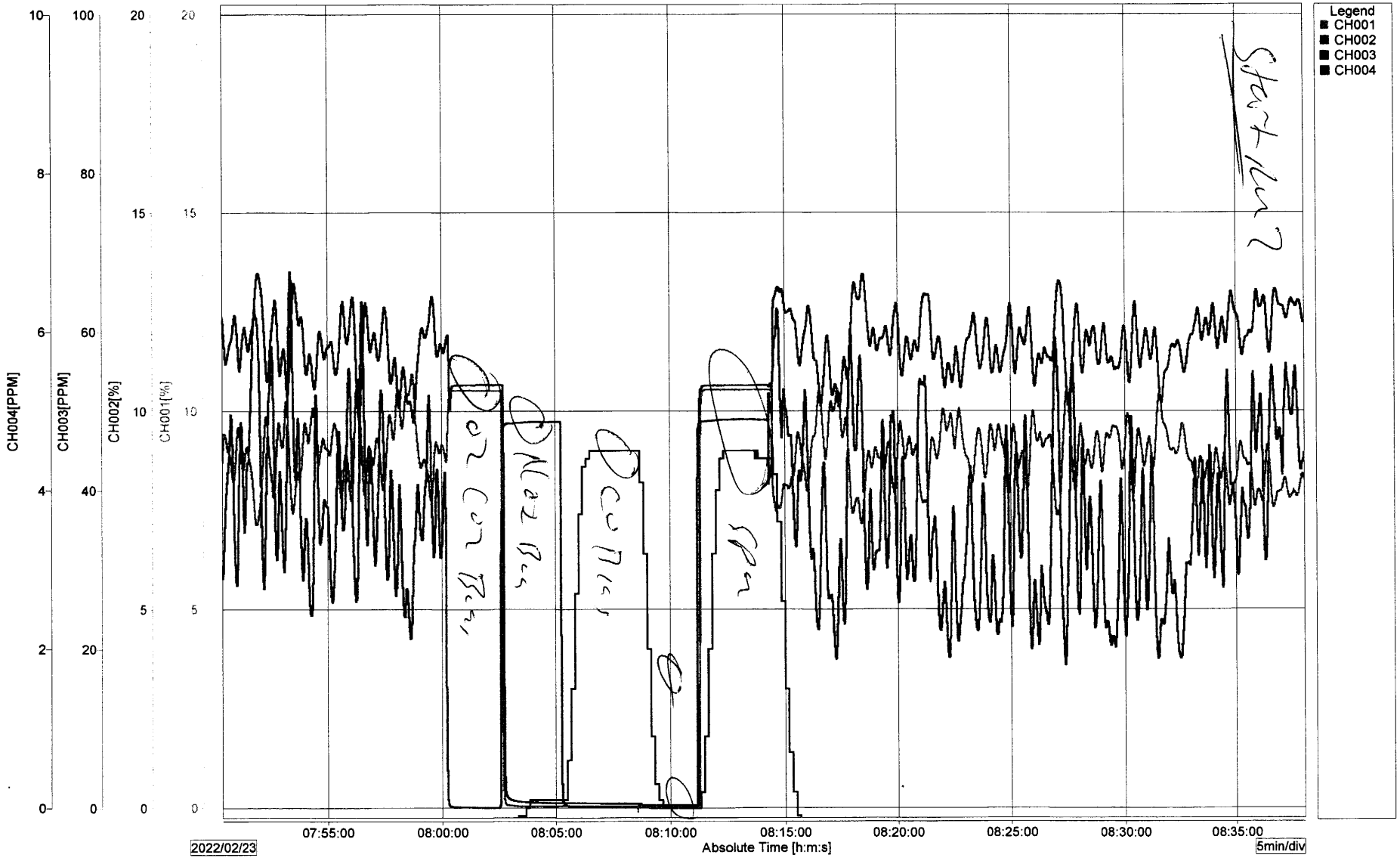
Signature2 : No Sig.
Signature3 : No Sig.

Print Groups : GROUP 1
Print Range : 2022/02/23 07:02:38.000 - 2022/02/23 14:24:54.000



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Print Groups : GROUP 1
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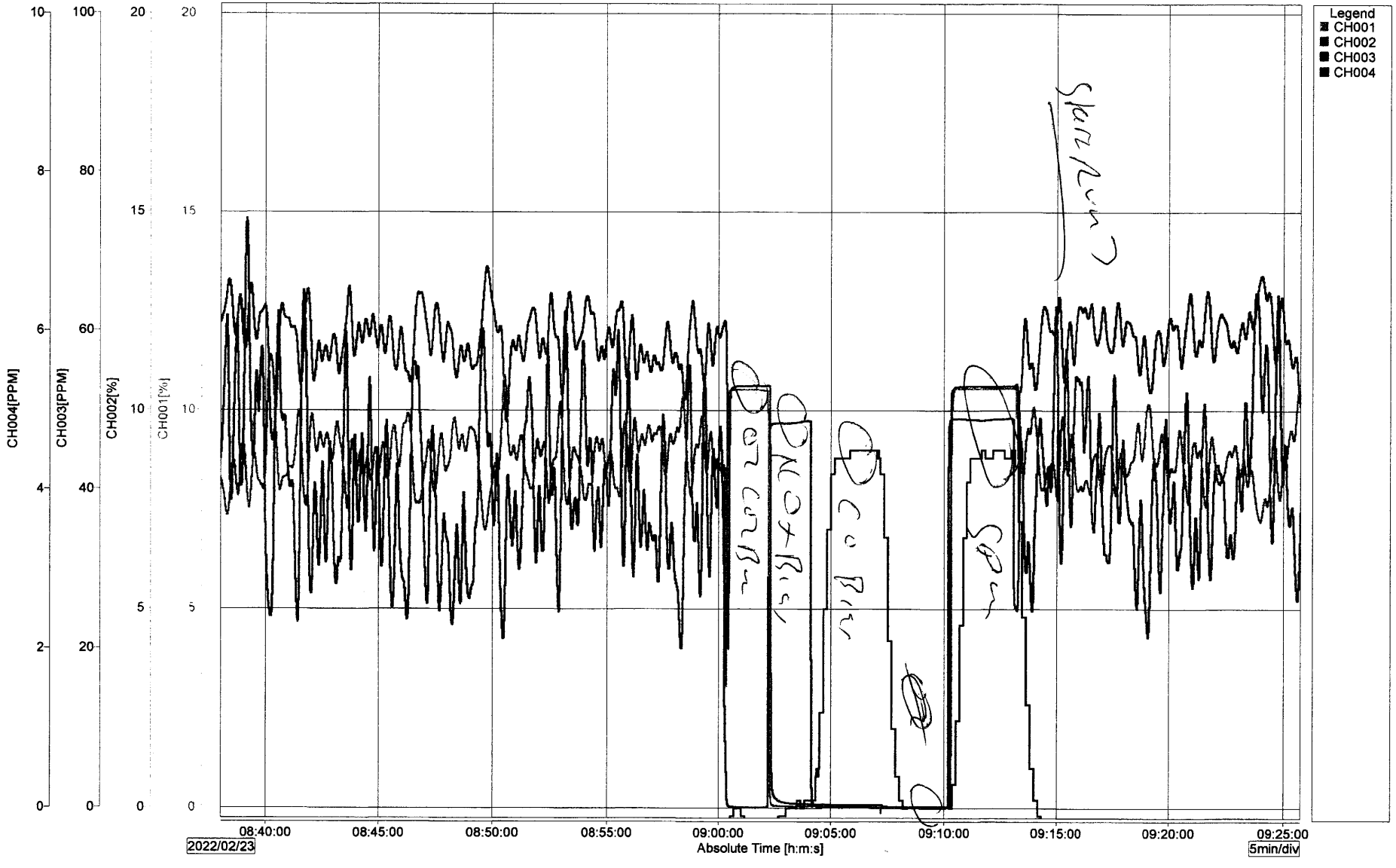

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Signature3 : No Sig.

Print Groups : GROUP 1
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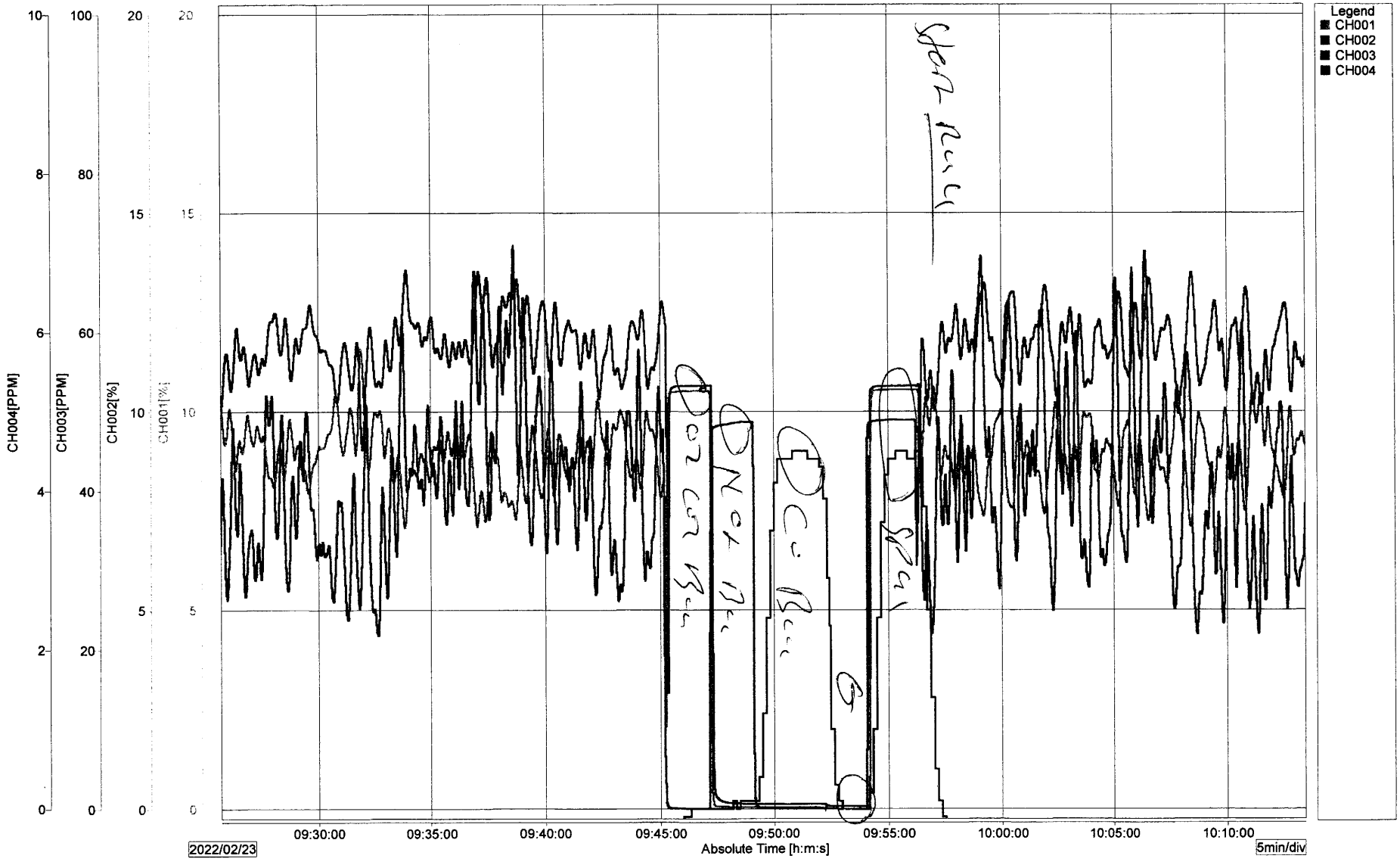

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Signature3 : No Sig.

Print Groups : GROUP 1
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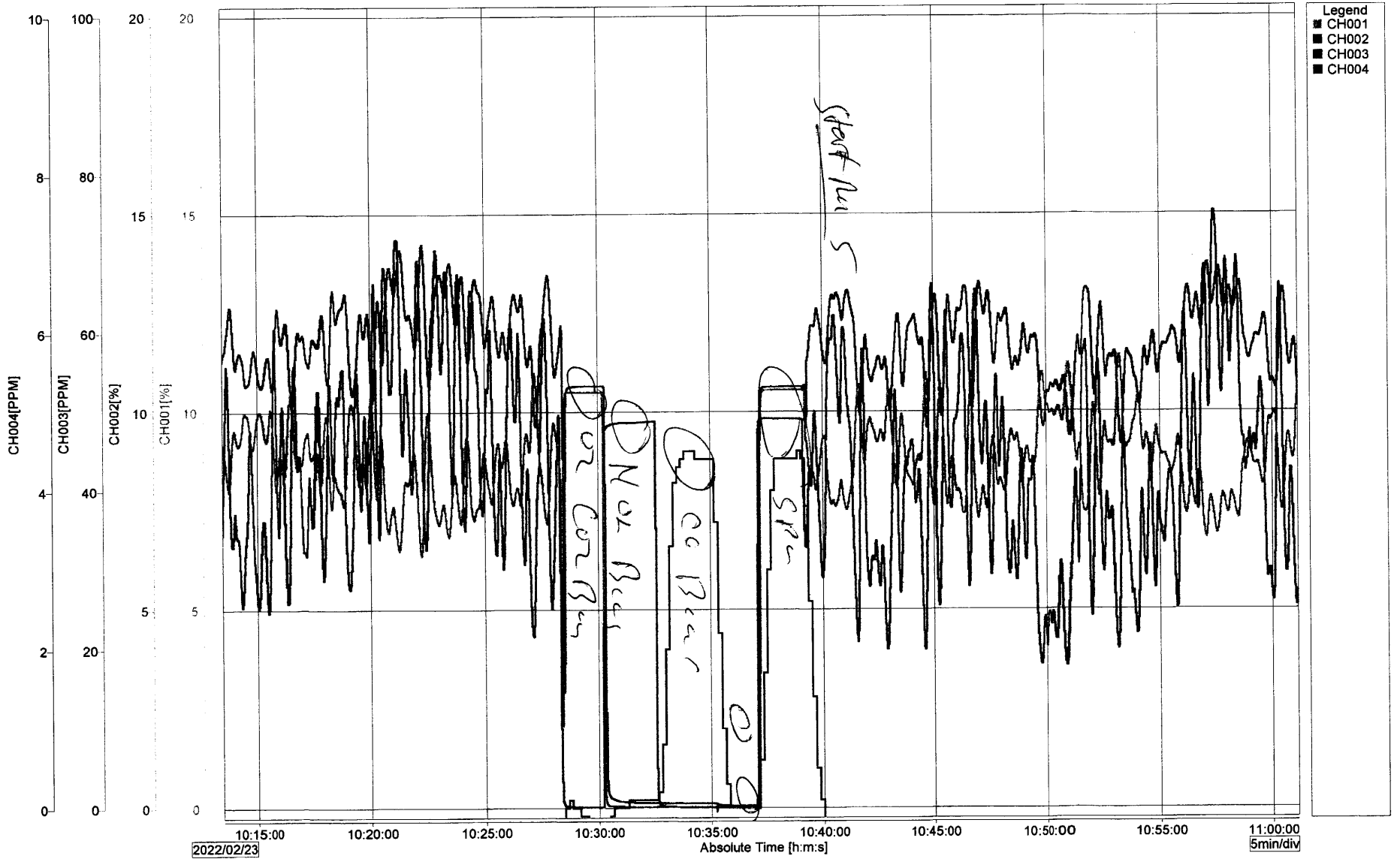

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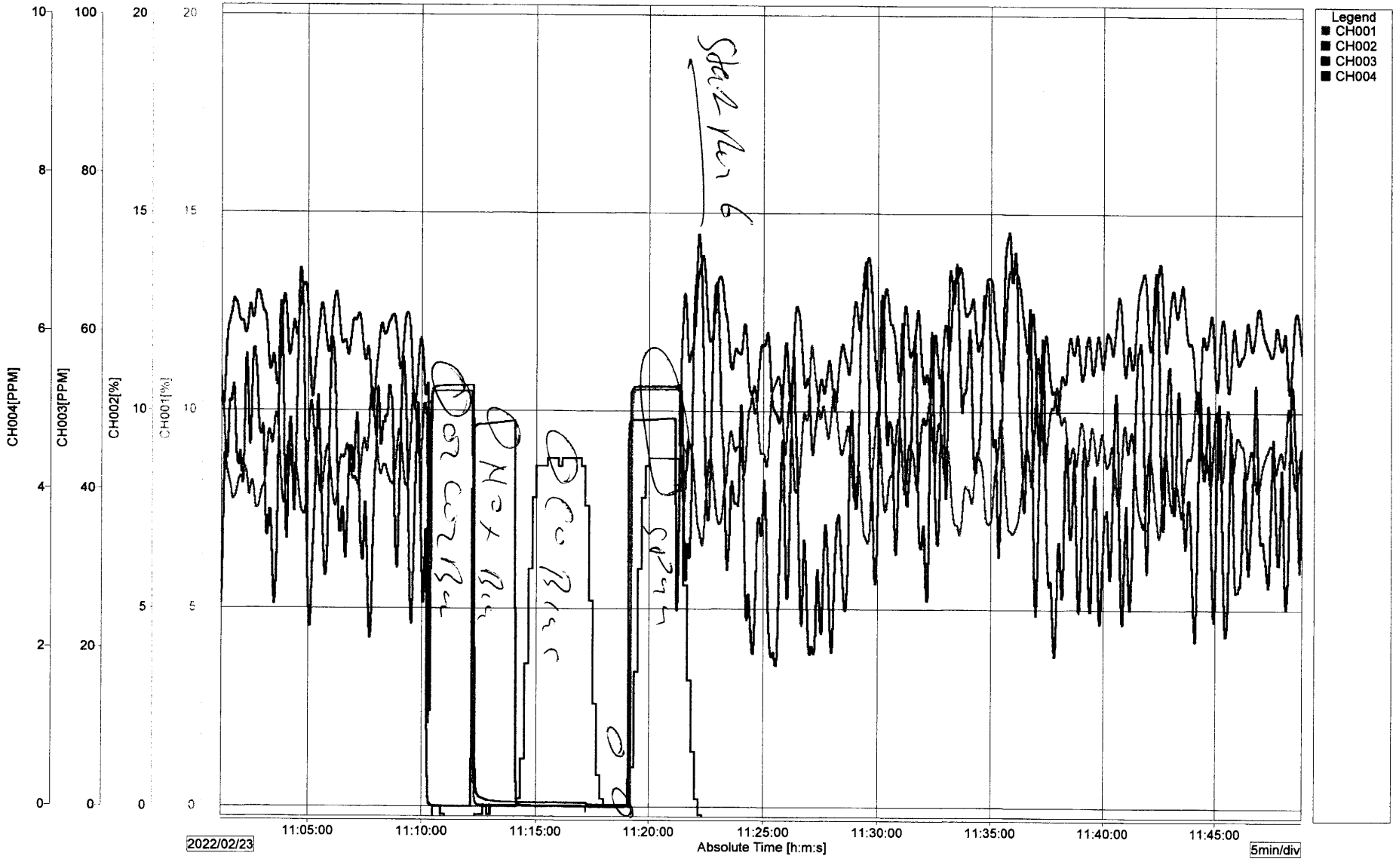
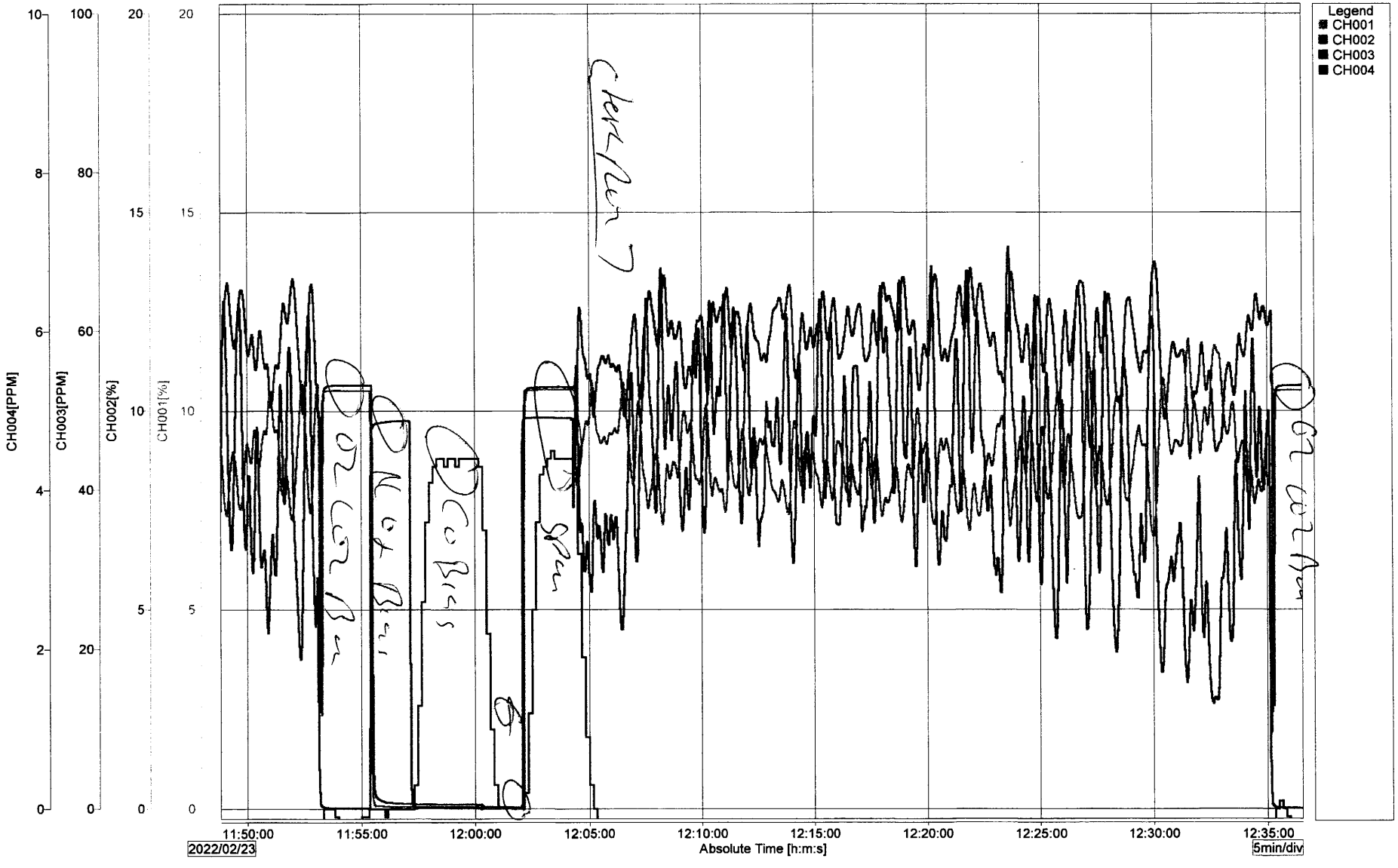
Signature2 : No Sig.
Signature3 : No Sig.

Print Groups : GROUP 1
Print Range : 2022/02/23 07:02:38.000 - 2022/02/23 14:24:54.000



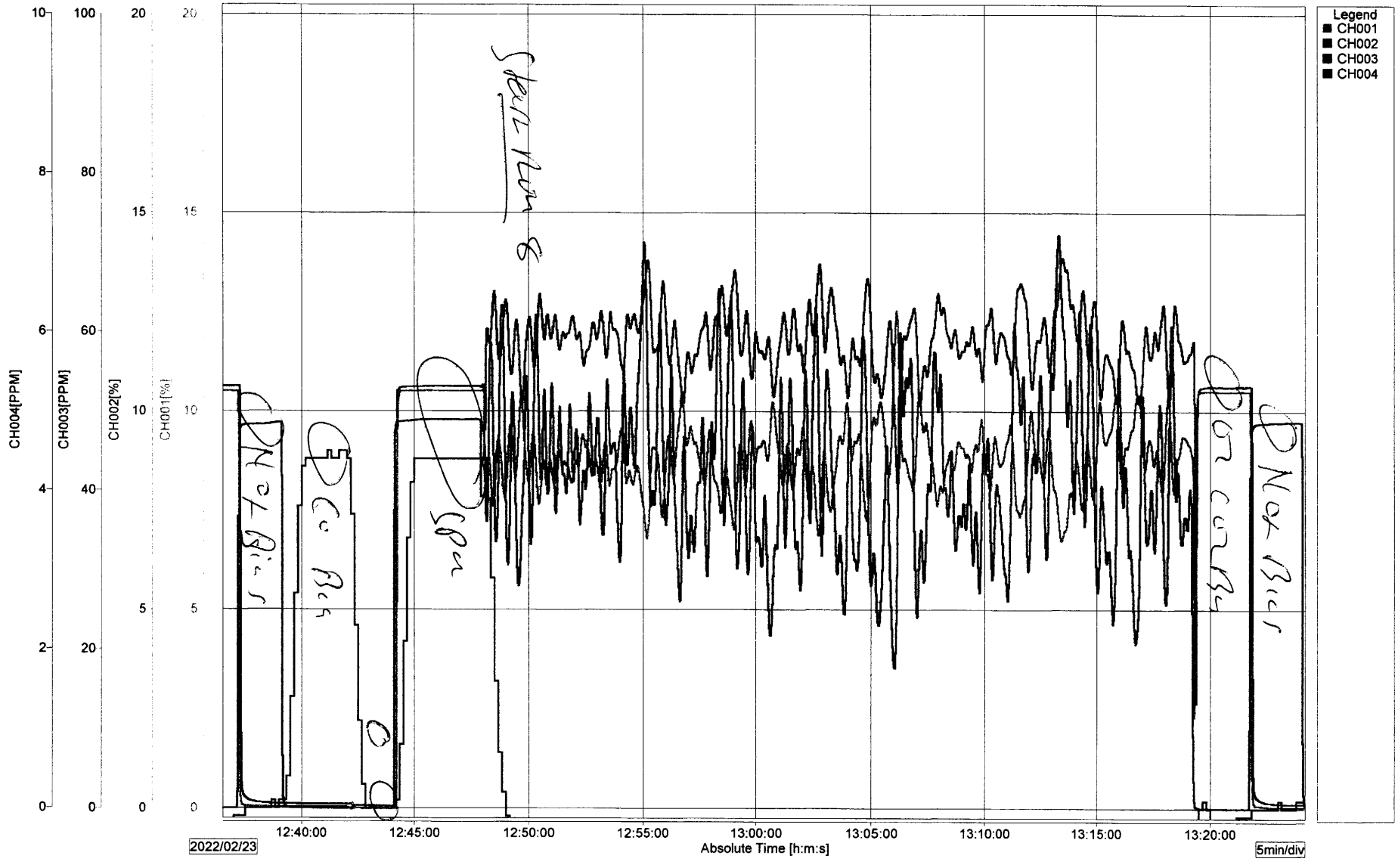
Signature1 : No Sig.
Signature2 : No Sig.
Signature3 : No Sig.

Print Groups : GROUP 1
Print Range : 2022/02/23 07:02:38.000 - 2022/02/23 14:24:54.000



Signature1 : No Sig.
Signature2 : No Sig.
Signature3 : No Sig.

Print Groups : GROUP 1
Print Range : 2022/02/23 07:02:38.000 - 2022/02/23 14:24:54.000



Signature1 : No Sig.
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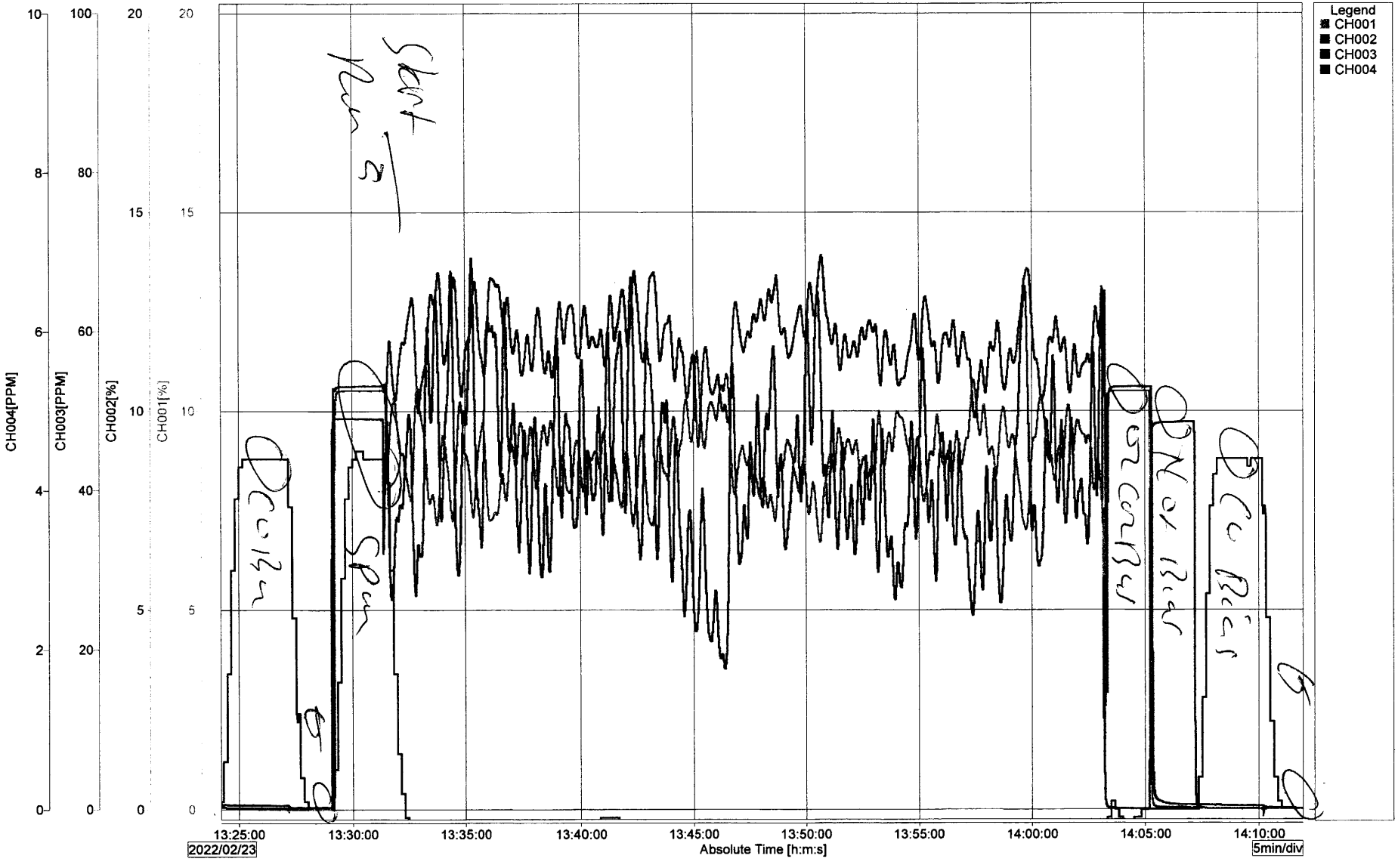
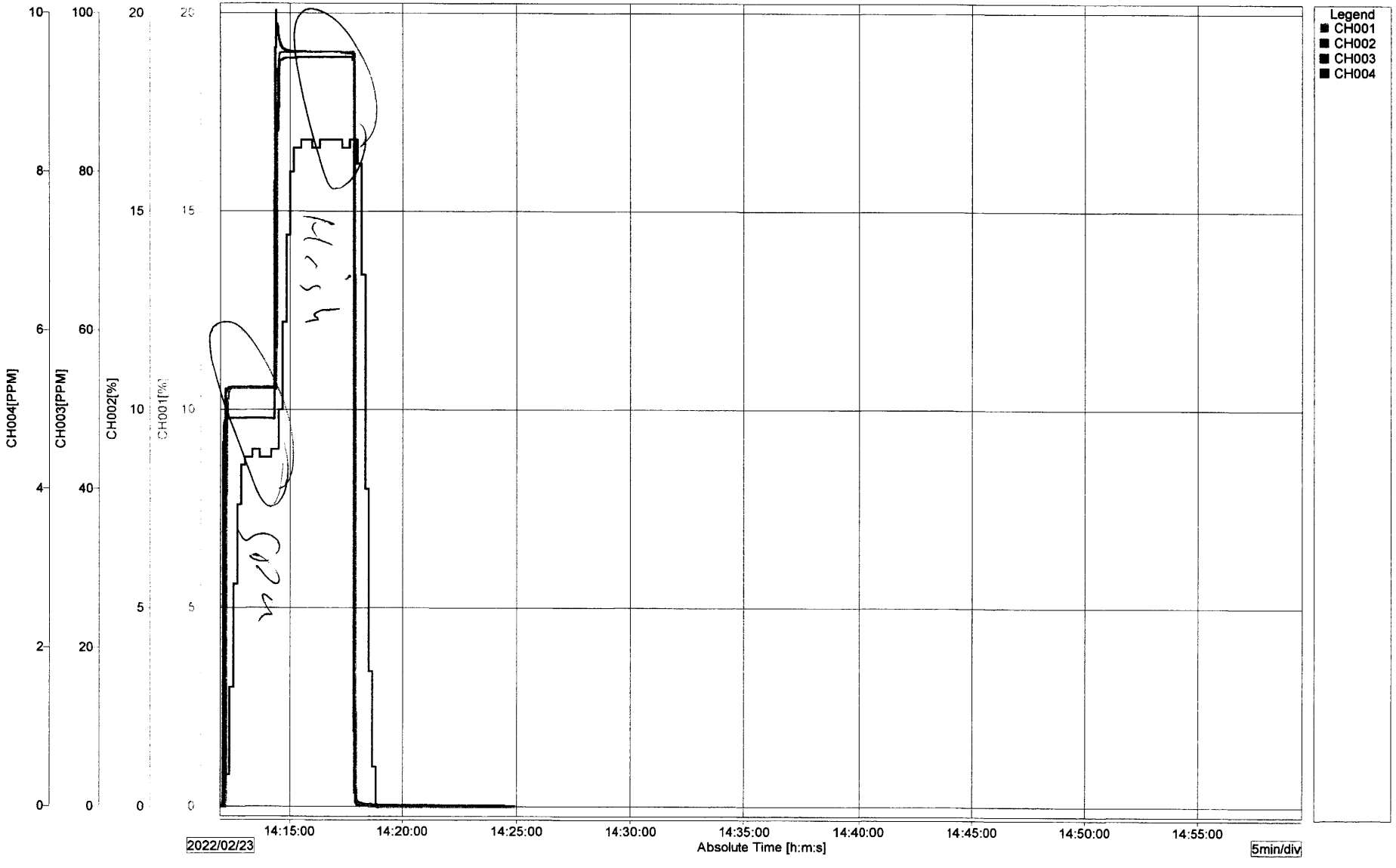
Signature3 : No Sig.

Print Groups : GROUP 1
Print Range : 2022/02/23 07:02:38.000 - 2022/02/23 14:24:54.000



Signature1 : No Sig.
Signature2 : No Sig.
Signature3 : No Sig.

Print Groups : GROUP 1
Print Range : 2022/02/23 07:02:38.000 - 2022/02/23 14:24:54.000



Appendix A.2.4
Unit 2 SO_2 Data and Velocity Data

MONTROSE

SULFATE TITRATION

Project # PROJ-012607
Client/Location Desertview Power
Sample Location Unit 2 stack
Titrant Used 0.01N $BaCl_2$

Sample Date 2/23/2022
Analysis Date 2/23/2022
Analyst Initials KS

Test Number	Sample Description	Total Vol (ml) (TV)	V_{recon}	V_{evap}	Aliquot Vol (ml) (Va)	Titrant Volume (ml) (Vt)	X-Blank Vol (ml)	Comments	mg/Sample
Blank (V_b): 20 mL 3% H_2O_2 + 80 mL IPA					20	0.01 0.01	0.01		
Blank (V_b): 20 mL DI H_2O + 80 mL IPA					20	0.00 0.00	0.00	N = (0.02*Va)/Vt	
Standardization: 15 ml DI H_2O + 5 ml 0.0200 N H_2SO_4 + 80 mL IPA					5	10.19 10.18	10.19	N= 0.00981354	
Audit Sample: 5 ml 1000 ppm SO_4 + 15 DI H_2O + 80 mL IPA					5	10.60 10.64	10.62	100	% recovery
1-SOx	Impingers	536.6			20	2.15 2.16	2.15	subtract 3% H_2O_2 blank	
2-SOx		500.9			20	2.16 2.15	2.15		
3-SOx		552.9			20	2.15 2.19	2.16		
4-SOx		555.6			20	2.70 2.75	2.72		
5-SOx		545.3			20	2.62 2.60	2.60		
6-SOx		554.5			20	2.33 2.30	2.31		
7-SOx		549.9			20	2.89 2.90	2.89		
8-SOx		517.6			20	3.35 3.30	3.32		
9-SOx		529.0			20	2.72 2.70	2.70		
					mg $H_2SO_4 \cdot 2H_2O$ = (Vt-Vbl) (N) (67) (TV/V_{evap}) (V_{recon}/Va)				

Method of Sample Prep/Analysis Notes

IPA LOT # 214508
% Recovery = 10.62 x N x 48/5 x100

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 2
PERFORMED BY: Patrick Whitman TEST DATE: 2/23/2022
BAR. PRESSURE: 30.05 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 1-Sox Ps: 1.42
Start: 0730 Stop: 0800

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.4	316	5	1.0	319	5	1.3	321
4, 45.9"	1.2	319	4	.90	320	4	1.0	322
3, 36.5"	1.1	320	3	.81	321	3	.94	322
2, 27.1"	1.1	321	2	.73	321	2	.62	321
1, 17.7	1.2	321	1	.61	319	1	.55	320
5	1.4	321	5	.73	318	5	.88	319
4	1.2	321	4	.76	319	4	.79	320
3	1.1	322	3	.68	320	3	.73	321
2	1.0	321	2	.74	321	2	.80	321
1	.99	320	1	.77	321	1	.84	320
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	252		308	028			
2	257	253						
3	255	254						

MOISTURE DATA FOR TEST RUNS 1 THROUGH 1

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T imp	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
0730	384.400	2.5	50	53	44	10"	#1	H_2O	762.6	631.2	
0740	393.155	2.5	52	54	45	10"	#2	H_2O	742.3	741.7	
0750	401.885	2.5	55	57	47	10"	#3	Empty	642.7	640.8	
0800	410.618						#4	Silica Gel	976.6	969.5	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 2
PERFORMED BY: Patrick Whitman TEST DATE: 2/23/2022
BAR. PRESSURE: 30.05 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 2-Sox Ps: 1.42
Start: 0830 Stop: 0900

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.3	317	5	.96	319	5	1.3	318
4, 45.9"	1.1	318	4	.90	319	4	1.1	319
3, 36.5"	1.1	320	3	.85	320	3	.83	320
2, 27.1"	1.3	320	2	.77	321	2	.68	321
1, 17.7	1.3	320	1	.68	319	1	.60	320
5	1.2	319	5	.74	318	5	.93	318
4	1.1	320	4	.71	319	4	.72	318
3	1.0	321	3	.69	321	3	.79	319
2	1.2	321	2	.68	320	2	.89	319
1	1.0	320	1	.66	320	1	1.0	318
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	253	257		311	20.7			
2	255	254						
3	256	258						

MOISTURE DATA FOR TEST RUNS 2 THROUGH 2

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
0830	412.600	2.5	54	56	44	10"	#1	H_2O	874.6	745.3	
0840	421.485	2.5	55	58	47	10"	#2	H_2O	739.2	738.0	
0850	429.875	2.5	57	59	48	10"	#3	Empty	605.9	604.4	
0900	438.482						#4	Silica Gel	951.7	942.7	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.000 CFM @ 25 in. Hg., Post-Test Leak Check: 0.003 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 2
PERFORMED BY: Patrick Whitman TEST DATE: 2/23/2022
BAR. PRESSURE: 30.05 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 3-Sox Ps: 4.42
Start: 0915 Stop: 0945

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.4	318	5	.86	319	5	1.2	318
4, 45.9"	1.1	319	4	.82	319	4	1.0	320
3, 36.5"	1.2	320	3	.80	320	3	.87	321
2, 27.1"	1.2	320	2	.79	320	2	.64	322
1, 17.7	1.3	321	1	.66	318	1	.56	321
5	1.2	318	5	.69	318	5	.88	320
4	1.1	319	4	.62	319	4	.74	321
3	1.0	320	3	.68	319	3	.72	322
2	1.0	320	2	.74	320	2	.75	321
1	.97	319	1	.71	318	1	.94	318
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	257		308	027			
2	258	255						
3	257	253						

MOISTURE DATA FOR TEST RUNS 3 THROUGH 3

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
0915	439.700	2.5	57	60	44	10"	#1	H_2O	747.7	616.8	
0925	448.315	2.5	58	60	45	10"	#2	H_2O	738.4	736.2	
0935	456.985	2.5	58	61	47	10"	#3	Empty	640.6	639.8	
0945	465.517						#4	Silica Gel	983.2	976.6	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 2
PERFORMED BY: Patrick Whitman TEST DATE: 2/23/2022
BAR. PRESSURE: 30.05 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 ✓ Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 4-5α Ps: 7.42
Start: 0958 Stop: 1028

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.3	318	5	.82	318	5	1.3	317
4, 45.9"	1.2	320	4	.80	319	4	1.0	319
3, 36.5"	1.2	321	3	.78	318	3	.74	318
2, 27.1"	1.1	319	2	.76	319	2	.63	319
1, 17.7	1.3	318	1	.64	320	1	.57	318
5	1.2	317	5	.68	317	5	.88	318
4	1.0	318	4	.65	318	4	.70	319
3	1.1	319	3	.64	319	3	.74	320
2	1.2	320	2	.73	318	2	.76	321
1	1.2	318	1	.76	318	1	.98	320
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	253	254		310	02.7			
2	256	257						
3	255	255						

MOISTURE DATA FOR TEST RUNS 4 THROUGH 4

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
0958	467.000	2.5	57	61	47	10"	#1	H_2O	859.5	730.6	
1008	476.835	2.5	59	62	48	10"	#2	H_2O	769.1	764.9	
1018	486.370	2.5	60	63	50	10"	#3	Empty	604.3	602.6	
1028	493.116						#4	Silica Gel	959.5	951.7	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 2
PERFORMED BY: Patrick Whitman TEST DATE: 2/23/2022
BAR. PRESSURE: 30.05 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 5-Sox Ps: 1.42
Start: 1010 Stop: 1110

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.2	317	5	.78	318	5	1.2	318
4, 45.9"	1.0	318	4	.82	318	4	.96	319
3, 36.5"	.98	319	3	.75	319	3	.80	318
2, 27.1"	1.1	320	2	.73	319	2	.64	319
1, 17.7	1.2	318	1	.63	318	1	.57	318
5	1.1	317	5	.68	317	5	.83	318
4	1.2	317	4	.66	318	4	.78	320
3	1.2	318	3	.64	319	3	.72	320
2	1.1	319	2	.70	318	2	.75	320
1	1.2	318	1	.68	318	1	.97	318
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	256	252		308	00.7			
2	255	256						
3	254	257						

MOISTURE DATA FOR TEST RUNS 5 THROUGH 5

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T imp	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1040	494.500	2.5	60	64	48	10"	#1	H_2O	767.1	633.5	
1050	503.415	2.5	60	64	50	10"	#2	H_2O	727.2	724.1	
1100	512.770	2.5	61	65	51	10"	#3	Empty	642.7	640.2	
1110	520.047						#4	Silica Gel	991.1	983.2	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 2
PERFORMED BY: Patrick Whitman TEST DATE: 2/23/2022
BAR. PRESSURE: 30.05 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 6-S02 Ps: 1.42
Start: 1123 Stop: 1153

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.3	318	5	.80	318	5	1.3	317
4, 45.9"	1.2	319	4	.81	319	4	.98	318
3, 36.5"	.96	320	3	.78	319	3	.92	319
2, 27.1"	1.2	320	2	.76	318	2	.66	318
1, 17.7	1.0	318	1	.64	317	1	.58	318
5	1.1	318	5	.68	318	5	1.0	317
4	1.0	319	4	.62	319	4	.72	318
3	1.2	320	3	.68	320	3	.66	317
2	1.3	318	2	.72	320	2	.81	318
1	1.3	317	1	.74	319	1	.96	318
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	255		309	02.46			
2	254	256						
3	257	256						

MOISTURE DATA FOR TEST RUNS 6 THROUGH 6

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1123	523.500	2.5	60	64	48	10"	#1	H_2O	882.0	751.2	
1133	532.440	2.5	61	65	46	10"	#2	H_2O	767.4	765.0	
1143	541.135	2.5	61	65	45	10"	#3	Empty	603.3	603.5	
1153	549.247						#4	Silica Gel	964.7	959.5	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 2
PERFORMED BY: Patrick Whitman TEST DATE: 2/23/2022
BAR. PRESSURE: 30.05 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 1-5ox	Ps: 4.42							
Start: 1205	Stop: 1235							
Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.1	318	5	1.0	316	5	1.0	318
4, 45.9"	.98	319	4	.92	319	4	1.2	319
3, 36.5"	1.0	320	3	.80	320	3	.88	319
2, 27.1"	1.1	320	2	.77	321	2	.64	320
1, 17.7	1.2	318	1	.63	320	1	.56	319
5	1.2	318	5	.74	321	5	.83	318
4	1.2	319	4	.63	322	4	.70	318
3	1.1	320	3	.66	322	3	.68	319
2	1.3	321	2	.74	321	2	.74	318
1	1.3	320	1	.73	319	1	.87	318
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	253		309	02.8			
2	257	254						
3	255	256						

MOISTURE DATA FOR TEST RUNS 1 THROUGH 3

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T imp	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1205	550.300	2.5	63	66	48	10"	#1	H_2O	757.0	624.7	
1215	559.865	2.5	63	67	47	10"	#2	H_2O	741.3	738.2	
1225	567.680	2.5	64	68	46	10"	#3	Empty	641.5	640.4	
1235	576.318						#4	Silica Gel	950.7	942.3	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 2
PERFORMED BY: Patrick Whitman TEST DATE: 2/23/2022
BAR. PRESSURE: 30.05 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 8-SOx Ps: 1.42
Start: 1249 Stop: 1319

Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.3	317	5	.83	320	5	.98	318
4, 45.9"	.97	318	4	.82	321	4	1.1	319
3, 36.5"	.99	319	3	.76	320	3	.80	319
2, 27.1"	1.2	318	2	.78	318	2	.63	318
1, 17.7	1.0	318	1	.67	317	1	.56	318
5	1.2	317	5	.66	317	5	.78	318
4	1.0	318	4	.64	318	4	.76	319
3	1.1	319	3	.65	319	3	.73	319
2	1.3	319	2	.70	318	2	.84	318
1	1.1	320	1	.73	319	1	.91	318
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	257	256		357	00.5			
2	255	258						
3	259	254						

MOISTURE DATA FOR TEST RUNS 8 THROUGH 8

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1249	577.800	2.5	62	66	49	10"	#1	H_2O	883.2	749.0	
1259	586.655	2.5	63	66	50	10"	#2	H_2O	745.7	742.2	
1309	595.515	2.5	64	69	52	10"	#3	Empty	608.0	605.5	
1319	604.322						#4	Silica Gel	972.9	964.7	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 2
PERFORMED BY: Patrick Whitman TEST DATE: 2/23/2022
BAR. PRESSURE: 30.05 TC READOUT ID: TRC-42
DP INDICATOR ID: CC-2 TC ID: #058
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #058 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 9-Sox	Ps: 1.42							
Start: 1333	Stop: 1403							
Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F	Sample Point	Velocity Head inches H_2O	Temp, °F
5, 55.3"	1.2	318	5	.86	316	5	1.1	316
4, 45.9"	1.1	319	4	.82	319	4	.97	317
3, 36.5"	1.0	320	3	.80	320	3	.88	318
2, 27.1"	1.2	320	2	.76	318	2	.64	319
1, 17.7	1.2	319	1	.65	318	1	.57	318
5	1.0	318	5	.72	318	5	.94	318
4	1.2	319	4	.68	319	4	.76	319
3	1.2	320	3	.65	319	3	.72	318
2	1.3	319	2	.70	318	2	.74	318
1	1.1	320	1	.72	318	1	.86	317
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	257		307	028			
2	254	256						
3	258	252						

MOISTURE DATA FOR TEST RUNS 9 THROUGH 9

METER ID: 1-P&M METER Yd: 1.015 BALANCE CHECK WEIGHT: 500.0/ 500

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1333	605.720	2.5	64	68	48	10"	#1	H_2O	759.8	625.2	
1343	614.685	2.5	66	68	49	10"	#2	H_2O	735.7	732.5	
1353	623.470	2.5	66	69	51	10"	#3	Empty	642.0	640.0	
1403	632.346						#4	Silica Gel	959.1	950.7	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 25 in. Hg., Post-Test Leak Check: 0.005 CFM @ 25 in. Hg

Appendix A.3
Reference Method Calibration Data

NO2 to NO Converter Efficiency Test

				Cylinder #
Analyzer Manufacturer:	CAI	NO Cal Gas Value:	94.7	CC218831
Analyzer Model:	600 Series	NO2 Cal Gas Value:	44	ALFS15760
Analyzer Serial Number:	D05005	Performed By:	DW	
Date:	2/22/2022	CEMS ID#:	3-CEMS	

GAS	ANALYZER MODE	ANALYZER RESPONSE	CAL CORRECTED	LABEL
Zero	NOx	0.0	--	--
Zero	NO	0.0	--	--
NO	NO	94.0	--	--
NO	NOx	94.7	--	--
NO2	NO	0.0	0.0	C_1
NO2	NOx	43.3	43.3	C_2

		Label	Requirement
Abs. Value C_o-C_1:	44.0	D_1	--
Abs. Value C_2-C_1:	43.3	D_2	--
C_1/C_2	0%	D_3	< 5%
CE = D_2/D_1 * 100%:	98.4%	--	> 90%

Montrose AQS
SPAN GAS RECORD

CLIENT/LOCATION: Desert View Power
Unit 1

DATE: 2/22/2022
BY: DW

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	CC49556	0		
O_2	CC700690	10.53	CC106486	19.02
CO_2	CC700690	10.58	CC106486	18.94
NO_x	CC327320	48.1	CC218831	94.7
CO	CC73153	4.46	EB0058229	8.37

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Range	20	20	100	10		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	0.01	0.05	0.02	0.00		--
Error (% of scale)	0.1%	0.3%	0.0%	0.0%		PASS
High Gas Value	19.02	18.94	94.7	8.37		--
Analyzer Reads	19.01	18.95	94.66	8.37		--
Error (% of scale)	0.0%	0.1%	0.0%	0.0%		PASS
Mid Gas Value	10.53	10.58	48.1	4.46		--
Analyzer Reads	10.54	10.62	48.39	4.45		--
Error (% of scale)	0.0%	0.2%	0.3%	-0.1%		PASS
Linearity at Mid Point	0.0%	0.0%	0.3%	-0.08%		

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Range	20	20	100	10		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	0.00	0.05	-0.02	0.01		--
Error (% of scale)	0.0%	0.3%	0.0%	0.1%		PASS
High Gas Value	19.02	18.94	94.7	8.37		--
Analyzer Reads	19.00	18.93	93.23	8.41		--
Error (% of scale)	-0.1%	-0.1%	-1.5%	0.4%		PASS
Mid Gas Value	10.53	10.58	48.1	4.46		--
Analyzer Reads	10.52	10.61	48.95	4.48		--
Error (% of scale)	0.0%	0.1%	0.8%	0.2%		PASS
Linearity at Mid Point	0.0%	0.1%	1.6%	0.0%		

% ERROR CALCULATION:
(AS FOUND - ACTUAL VALUE OF SPAN)/RANGE * 100%
ALLOWABLE DEVIATION IS 2% OF FULL SCALE (2 SQUARES ON STRIPCHART)

Montrose AQS
EPA SPAN GAS RECORD

CLIENT/LOCATION: Desert View Power

DATE: 2/22/2022
BY: DW

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	CC49556	0		
O_2	CC700690	10.53	CC106486	19.02
CO_2	CC700690	10.58	CC106486	18.94
NO_x	CC327320	48.1	CC218831	94.7
CO	CC73153	4.46	EB0058229	8.37

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Span	19.02	18.94	94.7	8.37		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	0.011	0.052	0.02	-0.004		--
Error (% of cal span)	0.1%	0.3%	0.0%	0.0%		PASS
High Gas Value	19.02	18.94	94.7	8.37		--
Analyzer Reads	19.01	18.954	94.656	8.37		--
Error (% of cal span)	-0.1%	0.1%	0.0%	0.0%		PASS
Mid Gas Value	10.53	10.58	48.1	4.46		--
Analyzer Reads	10.537	10.617	48.389	4.45		--
Error (% of cal span)	0.0%	0.2%	0.3%	-0.1%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Span	19.02	18.94	94.7	8.37		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	-0.002	0.052	-0.02	0.011		--
Error (% of cal span)	0.0%	0.3%	0.0%	0.1%		PASS
High Gas Value	19.02	18.94	94.7	8.37		--
Analyzer Reads	18.997	18.926	93.227	8.406		--
Error (% of cal span)	-0.1%	-0.1%	-1.6%	0.4%		PASS
Mid Gas Value	10.53	10.58	48.1	4.46		--
Analyzer Reads	10.524	10.609	48.946	4.482		--
Error (% of cal span)	0.0%	0.2%	0.9%	0.3%		PASS

% ERROR CALCULATION:
(AS FOUND - ACTUAL VALUE)/HIGH SPAN * 100%
ALLOWABLE DEVIATION IS 2% OF HIGH SPAN

Barometric Pressure Determination

Date: 02/22/22

Time: Current Time: Feb 22 7:25 am PST

Data By: RD

Reference: http://forecast.weather.gov/MapClick.php?

Reference Barometer ID	**Palm Springs, Jacqueline Cochran Regional Airport (KTRM)**
Reference Barometer Location	**Lat: 33.62667°NLon: 116.15944°WElev: -125ft.**
Reference Barometer Other Info.	Current Time: Feb 22 7:25 am PST
Reference Barometer Indication, corrected to sea level	29.98
Reference Barometer Reference Elevation	**-125**
Reference Barometer Actual Pressure	30.11
Test Barometer Location/Site	
Location/Site Elevation	**-127**
Location/Site Barometric Pressure	30.11
Sampling Location Height (above/below site elevation)	**20**
Sampling Location Barometric Pressure	**30.09**

NO2 to NO Converter Efficiency Test

				Cylinder #
Analyzer Manufacturer:	CAI	NO Cal Gas Value:	94.7	CC218831
Analyzer Model:	600 Series	NO2 Cal Gas Value:	44	ALFS1576(
Analyzer Serial Number:	S03003	Performed By:	DW	
Date:	2/23/2022	CEMS ID#:	3-CEMS	

GAS	ANALYZER MODE	ANALYZER RESPONSE	CAL CORRECTED	LABEL
Zero	NOx	0.0	--	--
Zero	NO	0.0	--	--
NO	NO	94.3	--	--
NO	NOx	94.7	--	--
NO2	NO	0.1	0.1	C_1
NO2	NOx	42.8	42.8	C_2

		Label	Requirement
Abs. Value C_o-C_1:	43.9	D_1	--
Abs. Value C_2-C_1:	42.7	D_2	--
C_1/C_2	0%	D_3	< 5%
CE = D_2/D_1 * 100%:	97.2%	--	> 90%

Montrose

SPAN GAS RECORD

CLIENT/LOCATION: Desert View Power
Unit 2

DATE: 2/23/2022
BY: DW

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	CC49556	0		
O_2	CC700690	10.53	CC106486	19.02
CO_2	CC700690	10.58	CC106486	18.94
NO_x	CC327320	48.1	CC218831	94.7
CO	CC73153	4.46	EB0058229	8.37

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Range	20	20	100	10		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	0.02	0.03	-0.02	0.00		--
Error (% of scale)	0.1%	0.1%	0.0%	0.0%		PASS
High Gas Value	19.02	18.94	94.7	8.37		--
Analyzer Reads	19.03	18.93	94.75	8.37		--
Error (% of scale)	0.1%	-0.1%	0.0%	0.0%		PASS
Mid Gas Value	10.53	10.58	48.1	4.46		--
Analyzer Reads	10.55	10.62	48.86	4.43		--
Error (% of scale)	0.1%	0.2%	0.8%	-0.3%		PASS
Linearity at Mid Point	0.0%	0.2%	0.7%	-0.33%		

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Range	20	20	100	10		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	0.00	0.03	-0.02	-0.01		--
Error (% of scale)	0.0%	0.1%	0.0%	-0.1%		PASS
High Gas Value	19.02	18.94	94.7	8.37		--
Analyzer Reads	19.01	18.89	95.13	8.37		--
Error (% of scale)	0.0%	-0.3%	0.4%	0.0%		PASS
Mid Gas Value	10.53	10.58	48.1	4.46		--
Analyzer Reads	10.53	10.58	48.95	4.44		--
Error (% of scale)	0.0%	0.0%	0.9%	-0.2%		PASS
Linearity at Mid Point	0.0%	0.1%	0.6%	-0.2%		

% ERROR CALCULATION:
(AS FOUND - ACTUAL VALUE OF SPAN)/RANGE * 100%
ALLOWABLE DEVIATION IS 2% OF FULL SCALE (2 SQUARES ON STRIPCHART)

Montrose

EPA SPAN GAS RECORD

CLIENT/LOCATION: Desert View Power
Unit 2

DATE: 2/23/2022
BY: DW

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	CC49556	0		
O_2	CC700690	10.53	CC106486	19.02
CO_2	CC700690	10.58	CC106486	18.94
NO_x	CC327320	48.1	CC218831	94.7
CO	CC73153	4.46	EB0058229	8.37

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Span	19.02	18.94	94.7	8.37		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	0.017	0.028	-0.017	0.001		--
Error (% of cal span)	0.1%	0.1%	0.0%	0.0%		PASS
High Gas Value	19.02	18.94	94.7	8.37		--
Analyzer Reads	19.032	18.929	94.746	8.374		--
Error (% of cal span)	0.1%	-0.1%	0.0%	0.0%		PASS
Mid Gas Value	10.53	10.58	48.1	4.46		--
Analyzer Reads	10.546	10.617	48.859	4.43		--
Error (% of cal span)	0.1%	0.2%	0.8%	-0.4%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Span	19.02	18.94	94.7	8.37		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	-0.002	0.025	-0.018	-0.01		--
Error (% of cal span)	0.0%	0.1%	0.0%	-0.1%		PASS
High Gas Value	19.02	18.94	94.7	8.37		--
Analyzer Reads	19.014	18.886	95.134	8.368		--
Error (% of cal span)	0.0%	-0.3%	0.5%	0.0%		PASS
Mid Gas Value	10.53	10.58	48.1	4.46		--
Analyzer Reads	10.531	10.576	48.95	4.438		--
Error (% of cal span)	0.0%	0.0%	0.9%	-0.3%		PASS

% ERROR CALCULATION:
(AS FOUND - ACTUAL VALUE)/HIGH SPAN * 100%
ALLOWABLE DEVIATION IS 2% OF HIGH SPAN

Date: 02/23/22

Time: 23 Feb 07:00 AM PST

Data By: RD

Reference: http://forecast.weather.gov/MapClick.php?City

Reference Barometer ID	Palm Springs, Jacqueline Cochran Regional Airport (KTRM)
Reference Barometer Location	Lat: 33.62667°NLon: 116.15944°WElev: -125ft.
Reference Barometer Other Info.	23 Feb 07:00 AM PST
Reference Barometer Indication, corrected to sea level	29.94
Reference Barometer Reference Elevation	**-125**
Reference Barometer Actual Pressure	30.07
	0.00
Test Barometer Location/Site	**0.00**
Location/Site Elevation	**-127**
Location/Site Barometric Pressure	30.07
Sampling Location Height (above/below site elevation)	**20**
Sampling Location Barometric Pressure	**30.05**

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1631 E. St. Andrew Pl.
Santa Ana, CA 92705

Certificate Issuance Date: **5/25/2021**

Certification Date: **5/25/2021**
Lot Number: **N70086113904**
Part Number: **NI 5.5CE-AS**
DocNumber: **401509**

CERTIFICATE OF ANALYSIS

Nitrogen, 5.5 Continuous Emission Monitoring Zero

N2 CC49556
F.D. 5-19-2021

Analytes	Specification	Analytical Results	Analytical Reference	Analytical Uncertainty
Nitrogen	**≥ 99.9995 %**	**≥ 99.9995 %**	**4**	**N/A**
Carbon Dioxide	**≤ 1 ppm**	**≤ 0.5 ppm**	**2**	**± 10%**
Carbon Monoxide	**≤ 0.5 ppm**	**≤ 0.1 ppm**	**2**	**± 15%**
Total Hydrocarbons	**≤ 0.1 ppm**	**≤ 0.1 ppm**	**5**	**± 15%**
Oxides of Nitrogen	**≤ 0.1 ppm**	**≤ 0.1 ppm**	**7**	**± 15%**
Oxygen	**≤ 0.5 ppm**	**≤ 0.5 ppm**	**6**	**± 15%**
Sulfur Dioxide	**≤ 0.1 ppm**	**≤ 0.1 ppm**	**1**	**± 15%**
Water	**≤ 2 ppm**	**≤ 0.6 ppm**	**3**	**± 10%**

Cylinder Style: **AS**
Fill Date: **5/19/2021**
Filling Method: **Pressure/Temperature**
Cylinder Pressure @ 70 F: **2000 psig**
Analysis Date: **5/20/2021**
Cylinder Volume: **142 ft3**
Valve Outlet Connection: **CGA 580**
Cylinder Number(s): **CC317279, DT0018491, CC29081, CC80468, CC319951, CC132240, CC174419, DT0028992, CC333599, CC443912, CC259683, DT0027425, CC259760, CC49556, CC28395**
Analyzed Cylinder Number(s): **CC317279**

Analyst: **Amalia 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	Horiba Instruments Inc. GA-360E - NDIR
3	Meeco Aquavolt PLUS - Specific Water Analyzer
4	N/A - By Difference of Typical Impurities
5	Rosemount/Beckman 400A - FID Total Hydrocarbon Analyzer
6	Servomex DF310E SN# PT-25457-V6 - Electrolytic Cell/Electrochemical
7	Thermo Electron 42i-LS S/N 1030645077 - Chemiluminescence

LO 6-22-21

This analysis of the product described herein was prepared by Praxair Distribution, Inc. using instruments whose calibration is certified using Praxair Distribution, 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 Praxair Distribution, 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 Praxair Distribution, Inc. arising out of the use of the information contained herein exceed the fee established for providing such information.

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DocNumber: 294952

Praxair Distribution, Inc.
5700 S. Alameda Street
Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22019

MONTROSE AIR QUALITY SERVICES
1631 E. St Andrew Pl.
Santa Ana, CA 92705

OF ANALYSIS / EPA PROTOCOL GAS

Certificate Issuance Date: 12/05/2019
Praxair Order Number: 71170626
Part Number: NI CD10.5O6E-AS
Customer PO Number: 79157676

Fill Date: 11/26/2019
Lot Number: 70086933009
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure and Volume: 2000 psig 140 ft3

O_2 10.53
CO_2 10.58
CC700690
EXP. 12-5-27
F22019

Certified Concentration

ProSpec EZ Cert

Expiration Date:	12/05/2027	NIST Traceable Expanded Uncertainty
Cylinder Number:	CC700690	
10.58 %	Carbon dioxide	± 0.5 %
10.53 %	Oxygen	± 0.2 %
Balance	Nitrogen	

Certification Information:

Certification Date: 12/05/2019 Term: 96 Months Expiration Date: 12/05/2027

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1.

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: 10.5 %
Certified Concentration: 10.58 %
Instrument Used: Horiba VIA-510 S/N 20C194WK
Analytical Method: NDIR
Last Multipoint Calibration: 11/22/2019

First Analysis Data:				Date	12/05/2019
Z: 0	R: 14	C: 10.56	Conc: 10.56		
R: 14	Z: 0	C: 10.59	Conc: 10.59		
Z: 0	C: 10.59	R: 14	Conc: 10.59		
UOM: %		Mean Test Assay:	10.58 %		

Reference Standard: Type / Cylinder #: GMIS / CC164230
Concentration / Uncertainty: 14.00 % ±0.265%
Expiration Date: 04/16/2027
Traceable to: SRM # / Sample # / Cylinder #: SRM 1675b / 6-F-51 / CAL014538
SRM Concentration / Uncertainty: 13.963% / ±0.034%
SRM Expiration Date: 05/16/2022

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:	%		

2. **Component:** Oxygen

Requested Concentration: 10.5 %
Certified Concentration: 10.53 %
Instrument Used: OXYMAT 5E
Analytical Method: Paramagnetic
Last Multipoint Calibration: 11/22/2019

First Analysis Data:				Date	12/05/2019
Z: 0	R: 20.88	C: 10.54	Conc: 10.53		
R: 20.88	Z: 0	C: 10.53	Conc: 10.52		
Z: 0	C: 10.54	R: 20.88	Conc: 10.53		
UOM: %		Mean Test Assay:	10.53 %		

Reference Standard: Type / Cylinder #: GMIS / CC506521
Concentration / Uncertainty: 20.87 % ±0.108%
Expiration Date: 12/14/2026
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	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 Jenna Lockman

Certified By Jose Vasquez

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, 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 Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

LO 2/10/20

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DocNumber: 311011

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, CA 92705

Praxair Distribution, Inc.
5700 S. Alameda Street
Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22020

OF ANALYSIS / EPA PROTOCOL GAS

Certificate Issuance Date: 08/03/2020
Praxair Order Number: 20623349
Part Number: NI CD19O2E-AS
Customer PO Number: VERBAL: MIKE M.

Fill Date: 07/29/2020
Lot Number: 70086021102
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure and Volume: 2000 psig 156 ft3

O_2 19.02
CO_2 18.94
CC106486
EXP. 8/3/28
F22020

Certified Concentration

ProSpec EZ Cert

Expiration Date:	08/03/2028	NIST Traceable
Cylinder Number:	CC106486	Expanded Uncertainty
18.94 %	Carbon dioxide	± 0.4 %
19.02 %	Oxygen	± 0.2 %
Balance	Nitrogen	

Certification Information:

Certification Date: 08/03/2020 Term: 96 Months Expiration Date: 08/03/2028

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1.

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: 19 %
Certified Concentration: 18.94 %
Instrument Used: Horiba VIA-510 S/N 20C194WK
Analytical Method: NDIR
Last Multipoint Calibration: 07/23/2020

Reference Standard: Type / Cylinder #: GMIS / CC188344
Concentration / Uncertainty: 19.92 % ±0.298%
Expiration Date: 02/20/2028
Traceable to: SRM # / Sample # / Cylinder #: RGM#CC28033 / N/A / RGM#CC28033
SRM Concentration / Uncertainty: 19.67% / ±0.04%
SRM Expiration Date: 07/15/2021

First Analysis Data:				Date	08/03/2020
Z: 0	R: 19.92	C: 18.94	Conc: 18.94		
R: 19.92	Z: 0	C: 18.94	Conc: 18.94		
Z: 0	C: 18.94	R: 19.92	Conc: 18.94		
UOM: %		Mean Test Assay:	18.94 %		

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: 19 %
Certified Concentration: 19.02 %
Instrument Used: OXYMAT 5E
Analytical Method: Paramagnetic
Last Multipoint Calibration: 07/23/2020

Reference Standard: Type / Cylinder #: GMIS / CC188476
Concentration / Uncertainty: 25.01 % ±0.122%
Expiration Date: 01/03/2026
Traceable to: SRM # / Sample # / Cylinder #: SRM 2659a / 71-E-19 / FF22331
SRM Concentration / Uncertainty: 20.863% / ±0.021%
SRM Expiration Date: 08/23/2021

First Analysis Data:				Date	08/03/2020
Z: 0	R: 25.02	C: 19.03	Conc: 19.02		
R: 25.02	Z: 0	C: 19.03	Conc: 19.02		
Z: 0	C: 19.03	R: 25.02	Conc: 19.02		
UOM: %		Mean Test Assay:	19.02 %		

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 Jenna Lockman

Certified By Jose Vasquez

LO 8/10/20

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, 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 Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

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DocNumber: 311954

Praxair Distribution, Inc.
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Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22020

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

MONTROSE AIR QUALITY

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, CA 92705

Certificate Issuance Date: 08/26/2020
Praxair Order Number: 71392033
Part Number: NI NO48MZE-AS
Customer PO Number: 79383957

Fill Date: 08/14/2020
Lot Number: 70086022706
Cylinder Style & Outlet: AS CGA 660
Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

ProSpec EZ Cert

Expiration Date:	**08/26/2023**	NIST Traceable
Cylinder Number:	**CC327320**	Expanded Uncertainty
48.1 ppm	**Nitric oxide (as NOx)**	**± 0.7 %**
Balance	**Nitrogen**	

For Reference Only: *NO 47.8 ppm*

Certification Information: *Certification Date:* 08/26/2020 *Term:* 36 Months *Expiration Date:* 08/26/2023

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1.
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:*** **Nitric oxide (as NOx)**

Requested Concentration: 48 ppm
Certified Concentration: 48.1 ppm
Instrument Used: Thermo Electron 42i-LS S/N 1030645077
Analytical Method: Chemiluminescence
Last Multipoint Calibration: 07/27/2020

Reference Standard: Type / Cylinder #: GMIS / CC506196
Concentration / Uncertainty: 49.43 ppm ±0.714%
Expiration Date: 08/08/2023
Traceable to: SRM # / Sample # / Cylinder #: SRM#1683b / 45-V-37 / CAL017868
SRM Concentration / Uncertainty: 48.79 ppm / 0.34 ppm
SRM Expiration Date: 03/25/2019

First Analysis Data:								**Date**	08/19/2020
Z:	0	**R:**	49.4	**C:**	48	**Conc:**	48.1		
R:	49.4	**Z:**	0	**C:**	48.1	**Conc:**	48.2		
Z:	0	**C:**	48.1	**R:**	49.3	**Conc:**	48.2		
UOM:	ppm					**Mean Test Assay:**	48.1	ppm	

Second Analysis Data:								**Date**	08/26/2020
Z:	0	**R:**	49.4	**C:**	48.1	**Conc:**	48.1		
R:	49.4	**Z:**	0	**C:**	48	**Conc:**	48		
Z:	0	**C:**	48.1	**R:**	49.5	**Conc:**	48.1		
UOM:	ppm					**Mean Test Assay:**	48.1	ppm	

Analyzed By **Henry Koung**

Certified By **Leeanna Flores**

NOX 48.1
CC327320
EXP. 8-26-23
F22020

LO 7-21-21

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, 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 Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

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DocNumber: 224051

Praxair Distribution, Inc.
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Fax: 714-542-6689
PGVP ID: F22018

MONTROSE AIR QUALITY SERVICES

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, CA 92705

OF ANALYSIS / EPA PROTOCOL GAS

Certificate Modification Date: 09/14/2018
Praxair Order Number: 70710636
Part Number: Ni NO94MZE-AS

Fill Date: 08/30/2018
Lot Number: 70086824207
Cylinder Style & Outlet: AS CGA 660
Cylinder Pressure and Volume: 2000 psig 140 ft3

NOx 94.7
CC218831
EXP. 9/14/2026
F22018

Certified Concentration

Expiration Date:	09/14/2026		NIST Traceable
Cylinder Number:	CC218831		Expanded Uncertainty
94.7 ppm	Nitric oxide (as NOx)		± 0.6 %
Balance	Nitrogen		

ProSpec EZ Cert

For Reference Only: *NO 93.7 ppm*

Certification Information: *Certification Date:* 09/14/2018 *Term:* 96 Months *Expiration Date:* 09/14/2026

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1.

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:*** **Nitric oxide (as NOx)**

Requested Concentration: 94 ppm
Certified Concentration: 94.7 ppm
Instrument Used: Thermo Electron 42i S/N 0726024326
Analytical Method: Chemiluminescence
Last Multipoint Calibration: 08/31/2018

Reference Standard: Type / Cylinder #: GMIS / CC335716
Concentration / Uncertainty: 100.5 ppm ±0.52%
Expiration Date: 06/25/2025
Traceable to: SRM # / Sample # / Cylinder #: 1684b / 44-T-83 / FF9258
SRM Concentration / Uncertainty: 99.75 ppm / 0.5 ppm
SRM Expiration Date: 08/02/2018

First Analysis Data:				Date	09/07/2018
Z: 0	R: 100.5	C: 94.3	Conc: 94.3		
R: 100.5	Z: 0	C: 94.6	Conc: 94.6		
Z: 0	C: 94.7	R: 100.5	Conc: 94.7		
UOM: ppm		Mean Test Assay:	94.5 ppm		

Second Analysis Data:				Date	09/14/2018
Z: 0	R: 100.5	C: 94.8	Conc: 94.7		
R: 100.6	Z: 0	C: 94.9	Conc: 94.8		
Z: 0	C: 94.9	R: 100.6	Conc: 94.8		
UOM: ppm		Mean Test Assay:	94.8 ppm		

Analyzed By **Quinn Halles**

Certified By **Leeanna Rodriguez**

Lo 9-24-2020

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, 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 Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

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DocNumber: 314103

Praxair Distribution, Inc.
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PGVP ID: F22020

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

MONTROSE AIR QUALITY SERVICES

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, CA 92705

Certificate Issuance Date: 09/23/2020
Praxair Order Number: 71446763
Part Number: NI CO4.4ME-AS
Customer PO Number: 79440093

Fill Date: 09/17/2020
Lot Number: 70086026101
Cylinder Style & Outlet: AS CGA 350
Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

Expiration Date:	**09/23/2028**	NIST Traceable
Cylinder Number:	**CC73153**	Expanded Uncertainty
4.46 ppm	**Carbon monoxide**	**± 0.7 %**
Balance	**Nitrogen**	

ProSpec EZ Cert

Certification Information:

Certification Date: 09/23/2020 *Term:* 96 Months *Expiration Date:* 09/23/2028

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 relative 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: 4.4 ppm
Certified Concentration: 4.46 ppm
Instrument Used: Horiba VIA-510 S/N 43627990042
Analytical Method: NDIR
Last Multipoint Calibration: 08/28/2020

Reference Standard: Type / Cylinder #: GMIS / SA13564
Concentration / Uncertainty: 5.055 ppm ±0.553%
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**	09/23/2020
Z:	0	**R:**	49.8	**C:**	44	**Conc:**	4.46		
R:	50	**Z:**	0	**C:**	44.1	**Conc:**	4.47		
Z:	0	**C:**	44	**R:**	49.8	**Conc:**	4.46		
UOM:	mV					**Mean Test Assay:**	4.46	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 **Jenna Lockman**

Certified By **Jose Vasquez**

CO 4.46
CC 73153
EXP 9-23-2028
F22020

LO 4-22-2021

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, 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 Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

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DocNumber: 405772

Praxair Distribution, Inc.
5700 S. Alameda Street
Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22021

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

MONTROSE AIR QUALITY SERVICES

Certificate Issuance Date: 03/15/2021
Praxair Order Number: 36221225
Part Number: NI CO8ME-AS
Customer PO Number: verbal: Luis

Fill Date: 03/09/2021
Lot Number: 70086106807
Cylinder Style & Outlet: AS CGA 350
Cylinder Pressure and Volume: 2000 psig 140 ft3

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, CA 92705

Certified Concentration

ProSpec EZ Cert

Expiration Date:	03/15/2029	NIST Traceable
Cylinder Number:	EB0058229	Expanded Uncertainty
8.37 ppm	Carbon monoxide	± 0.05 ppm
Balance	Nitrogen	

Certification Information:

Certification Date: 03/15/2021 *Term:* 96 Months *Expiration Date:* 03/15/2029

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: 8 ppm
Certified Concentration: 8.37 ppm
Instrument Used: Horiba VIA-510 S/N 43627990042
Analytical Method: NDIR
Last Multipoint Calibration: 02/26/2021

Reference Standard: Type / Cylinder #: GMIS / CC70274
Concentration / Uncertainty: 9.914 ppm ±0.050 ppm
Expiration Date: 09/05/2026
Traceable to: SRM # / Sample # / Cylinder #: SRM 1677c / 5-J-42 / CAL015337
SRM Concentration (enter with units) / 9.825 ppm / ±0.047 ppm
SRM Expiration Date: 06/24/2024

First Analysis Data:							**Date**	03/15/2021
Z:	0	R:	95.1	C:	80.5		Conc:	8.39
R:	95.1	Z:	0	C:	80.3		Conc:	8.37
Z:	0	C:	80.3	R:	95.3		Conc:	8.37
UOM:	mV						Mean Test Assay:	8.37 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 Jose Vasquez

Certified By Amalia Real

CO 8.37
EB0058229
EXP. 3-15-2029
F22021

LO 3-29-21

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, 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 Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

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DocNumber: 424276

Praxair Distribution, Inc.
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Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22021

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

MONTROSE

Certificate Issuance Date: 07/27/2021
Praxair Order Number: 71763224
Part Number: AI NX45MZ1E-AS
Customer PO Number: 79762279

Fill Date: 07/16/2021
Lot Number: 70086119701
Cylinder Style & Outlet: AS CGA 660
Cylinder Pressure and Volume: 2000 psig 140 ft3

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, CA 92705

Certified Concentration

ProSpec EZ Cert

Expiration Date:	07/27/2022	NIST Traceable
Cylinder Number:	ALFS15760	Expanded Uncertainty
44.0 ppm	Nitrogen dioxide (as NOx)	± 0.5 ppm
Balance	Air	

For Reference Only: HNO3 0.71 ppm

Certification Information: Certification Date: 07/27/2021 Term: 12 Months Expiration Date: 07/27/2022

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.

The above certified concentration of Total Oxides of Nitrogen (NOx) excludes HNO3.

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. **Component:** Nitrogen dioxide (as NOx)

Requested Concentration: 45 ppm
Certified Concentration: 44.0 ppm
Instrument Used: MKS Multigas 2031 FTIR
Analytical Method: FTIR
Last Multipoint Calibration: 07/12/2021

Reference Standard: Type / Cylinder #: GMIS / GN0009634
Concentration / Uncertainty: 51.53 ppm ±0.52 ppm
Expiration Date: 07/20/2021
Traceable to: SRM # / Sample # / Cylinder #: PRM / C1795710.03 / D791124
SRM Concentration (enter with units) / Uncertainty: 50.0 ppm / ±0.5 ppm
SRM Expiration Date: 12/30/2020

First Analysis Data:								Date	07/20/2021
Z:	0	R:	51.4	C:	43.9	Conc:	44		
R:	51.4	Z:	0	C:	43.8	Conc:	43.9		
Z:	0	C:	44	R:	51.6	Conc:	44.1		
UOM:	ppm					Mean Test Assay:	44	ppm	

Second Analysis Data:								Date	07/27/2021
Z:	0	R:	51.2	C:	44	Conc:	44.1		
R:	51.5	Z:	0	C:	44	Conc:	44.1		
Z:	0	C:	44.2	R:	51.6	Conc:	44.3		
UOM:	ppm					Mean Test Assay:	44.1	ppm	

Analyzed By Leeanna Flores

Certified By Henry Koung

NO_2 44.0
ALFS15760
Exp. 7-27-2022
F22021

Lo 9-1-21

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SEMI-ANNUAL DRY GAS METER/ORIFICE CALIBRATION

Orifice Method - Triplicate Runs/Four Calibration Points
English Meter Box Units, English K' Factor
Filename: C:\Users\dwonderly\Information\Calibrations\Dry Gas Meters\1-P&M\2022\[1P&M Semi Annual Cal 1-5-2022.xls]WCS
File Modified From: APEX 522 Series Meter box Calibration
Revised: 4/8/2005

Model #: Rockwell International S-275
ID #: 1 P&M
Date: 1/5/2022
Bar. Pressure: 29.96 (in. Hg)
Performed By: L.Olivares
Reviewed By: M.Chowsanitphon

DRY GAS METER READINGS									CRITICAL ORIFICE READINGS					
					Initial Temps.		Final Temps.					Ambient Temperature		
dH (in H2O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)	Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.12	26.00	909.300	914.535	5.235	66.0	64.0	65.0	64.0	AA-33	0.1574	18.0	64.0	64.0	64.0
0.12	26.00	914.535	919.770	5.235	65.0	64.0	65.0	64.0	AA-33	0.1574	18.0	64.0	64.0	64.0
0.12	26.00	919.770	925.010	5.240	65.0	64.0	65.0	64.0	AA-33	0.1574	18.0	64.0	64.0	64.0
0.62	12.00	892.300	897.610	5.310	69.0	63.0	68.0	64.0	QI-48	0.3434	18.0	64.0	64.0	64.0
0.62	12.00	897.610	902.920	5.310	68.0	64.0	68.0	64.0	QI-48	0.3434	18.0	64.0	64.0	64.0
0.62	12.00	902.920	908.235	5.315	68.0	64.0	68.0	64.0	QI-48	0.3434	18.0	64.0	64.0	64.0
1.90	7.00	874.300	879.680	5.380	72.0	62.0	73.0	63.0	QI-63	0.5994	16.0	63.0	63.0	63.0
1.90	7.00	879.680	885.060	5.380	73.0	63.0	74.0	63.0	QI-63	0.5994	16.0	63.0	64.0	63.5
1.90	7.00	885.060	890.440	5.380	74.0	63.0	74.0	63.0	QI-63	0.5994	16.0	64.0	64.0	64.0
3.50	5.00	856.000	861.160	5.160	70.0	60.0	73.0	61.0	AA-73	0.8121	15.0	62.0	62.0	62.0
3.50	5.00	861.160	866.330	5.170	73.0	61.0	75.0	61.0	AA-73	0.8121	15.0	62.0	62.0	62.0
3.50	5.00	866.330	871.505	5.175	75.0	61.0	76.0	62.0	AA-73	0.8121	15.0	62.0	62.0	62.0

DRY GAS METER		ORIFICE				DRY GAS METER CALIBRATION FACTOR	ORIFICE CALIBRATION FACTOR	Individual Run	Individual Orifice	Orifice Average	Orifice Average
VOLUME CORRECTED Vm(std) (cu ft)	VOLUME CORRECTED Vm(std) (liters)	VOLUME CORRECTED Vcr(std) (cu ft)	VOLUME CORRECTED Vcr(std) (liters)	VOLUME NOMINAL Vcr (cu ft)		Y Value (number)	dH@ Value (in H2O)	0.95 < Y < 1.05?	Ymax - Ymin < 0.010?	0.98 < Y/Yd < 1.02?	dH@ - dH@ av < 0.155?
5.274	149.4	5.356	151.7	5.311		1.016	1.605	**Pass**			
5.276	149.4	5.356	151.7	5.311		1.015	1.605	**Pass**			
5.281	149.6	5.356	151.7	5.311		1.014	1.605	**Pass**			
					Average	**1.015**	**1.605**		**Pass**	**Pass**	**Pass**
5.343	151.3	5.393	152.7	5.347		1.009	1.744	**Pass**			
5.343	151.3	5.393	152.7	5.347		1.009	1.742	**Pass**			
5.348	151.5	5.393	152.7	5.347		1.008	1.742	**Pass**			
					Average	**1.009**	**1.743**		**Pass**	**Pass**	**Pass**
5.415	153.4	5.497	155.7	5.440		1.015	1.754	**Pass**			
5.408	153.1	5.494	155.6	5.442		1.016	1.754	**Pass**			
5.405	153.1	5.491	155.5	5.445		1.016	1.755	**Pass**			
					Average	**1.016**	**1.754**		**Pass**	**Pass**	**Pass**
5.229	148.1	5.325	150.8	5.259		1.018	1.763	**Pass**			
5.224	148.0	5.325	150.8	5.259		1.019	1.762	**Pass**			
5.219	147.8	5.325	150.8	5.259		[redacted]	1.760	**Pass**			
					Average	**1.019**	**1.762**		**Pass**	**Pass**	**Pass**

Average Yd: 1.015 **dH@: 1.716**

Q @ dH = 1: 0.573

SIGNED: Signature on File

Date: 1/5/2022

MONTROSE
AIR QUALITY SERVICES

THERMOCOUPLE CALIBRATION

Thermocouple ID: 58
Date: 1/5/2022
Performed By: JG, NG, RM, DA, A

Calibrated Digital Temperature Readout ID: PTC -79
T1 Reference Thermometer ID: 661731
T2 Reference Thermometer ID: 805002770
T3 Reference Thermometer ID: 805002770

T/C I.D. 58	Readout I.D.	T/C - Readout °F Reading 1	Reading 2	Reading 3	Average	Reference Thermometer °F Reading 1	Reading 2	Reading 3	Average	Difference °F	%, (°R)	
T3 (OIL)	PTC -79	345	346	346	346	348	348	348	348	2.3	0.3%	Pass
T2 (Boiling H_2O)	PTC -79	212	212	212	212	212	212	212	212	0.0	0.0%	Pass
T1 (Ice/Water)	PTC -79	35	35	35	35	32	32	32	32	3.0	0.6%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
2) Pass if all Differences are less than 1.5% (°R)

MONTROSE
AIR QUALITY SERVICES

DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: PTC-42
Readout Description: Handheld
Date: 1/5/2022
Performed By: JG, NG, RM, DA, AS

Calibrated Thermocouple ID: TC-CAL
T1 Reference Thermometer ID: 661731
T2 Reference Thermometer ID: 805002770
T3 Reference Thermometer ID: 805002770

T/C I.D. TC-CAL	Readout I.D.	T/C - Readout °F Reading 1	Reading 2	Reading 3	Average	Reference Thermometer °F Reading 1	Reading 2	Reading 3	Average	Difference °F	%, (°R)	
T3 (OIL)	PTC-42	354	354	354	354	354	354	354	354	0.0	0.0%	Pass
T2 (Boiling H_2O)	PTC-42	212	212	212	212	212	212	212	212	0.0	0.0%	Pass
T1 (Ice/Water)	PTC-42	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)

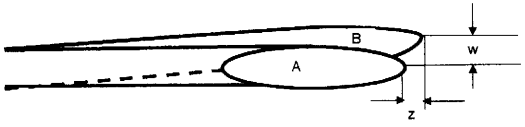
Thermocouple Source Readings

	T/C Source S/N	T/C - Readout °F Reading 1	Reading 2	Reading 3	Average	T/C Source °F Reading 1	Reading 2	Reading 3	Average	Difference °F	%, (°R)	
T4 (~650 F)	129103	650	650	650	650	650	650	650	650	0.0	0.0%	Pass
T3 (~370 F)	129103	370	370	370	370	370	370	370	370	0.0	0.0%	Pass
T2 (~212 F)	129103	212	212	212	212	212	212	212	212	0.0	0.0%	Pass
T1 (~32 F)	129103	38	38	38	38	32	32	32	32	6.0	1.2%	Pass

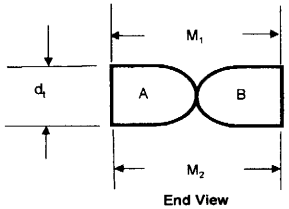
1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
2) Pass if all Differences are less than 1.5% (°R)

MONTROSE

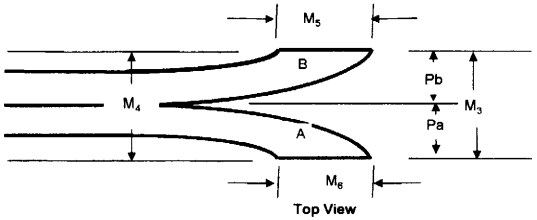
S Type Pitot Tube Dimensional Calibration Record



Side View



End View



Top View

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	
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
058	1/5/22	NG	Y	Y	Y	0.373	0.837	0.835	0.828	0.837	0.425	0.425	0.2	-0.6	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

APPENDIX B
PLANT CEMS AND PROCESS DATA

Appendix B.1
Unit 1 CEMS and Process Data

Appendix B.1.1
Unit 1 Plant CEMS Data

CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	Stack Flow kdscf/hr 1-Min		
2/22/2022 7:53	48.43	78.81	26.34	6.71	10.92	5.08	1.89	16.27 <56>	3.31 <56>	11.32	9.9	4555	3.08	0.63
2/22/2022 7:54	55.57	84.3	33.82	8.94	13.56	7.57	2.1	15.17 <56>	3.70 <56>	11.42	9.1	5098	3.19	0.78
2/22/2022 7:55	42.97	71.35	23.63	6.11	10.15	4.68	1.95	16.60 <56>	3.35 <56>	10.74	10.12	4607	3.24	0.65
2/22/2022 7:56	42.21	68.25	24.32	5.68	9.18	4.55	1.98	16.17 <56>	3.51 <56>	11.06	9.83	4827	3.20	0.69
2/22/2022 7:57	37.85	63.86	21.26	4.48	8.44	3.5	1.99	16.87 <56>	3.42 <56>	10.57	10.29	4705	3.36	0.68
2/22/2022 7:58	40.47	68.02	22.29	4.18	8.4	3.2	1.91	16.81 <56>	3.35 <56>	10.79	10.25	4613	3.21	0.64
2/22/2022 7:59	44.97	71.17	27.08	5.6	8.86	4.69	2.14	15.83 <56>	3.66 <56>	11.28	9.59	5043	3.39	0.78
2/22/2022 8:00	36.58	61.25	20.18	4.74	8.37	3.64	2.09	16.74 <56>	3.36 <56>	10.53	10.21	4620	3.50	0.70
2/22/2022 8:01	51.76	80.36	30.82	5.44	8.45	4.51	2.09	15.52 <56>	3.62 <56>	11.89	9.37	4988	3.24	0.76
2/22/2022 8:02	42.01	66.08	24.84	5.41	8.51	4.45	2.04	15.73 <56>	3.60 <56>	10.98	9.52	4953	3.21	0.73
2/22/2022 8:03	43.64	70.31	24.77	4.75	8.06	3.75	2.08	16.11 <56>	3.46 <56>	11.24	9.79	4755	3.35	0.72
2/22/2022 8:04	46.59	73.28	27.23	5.77	9.08	4.69	2.01	15.73 <56>	3.56 <56>	11.16	9.52	4896	3.16	0.72
2/22/2022 8:05	50.56	80.02	29.41	5.54	8.77	4.48	2.04	15.83 <56>	3.54 <56>	11.37	9.59	4872	3.23	0.72
2/22/2022 8:06	48.85	78.78	28.02	5.77	9.3	4.6	2.01	16.13 <56>	3.49 <56>	10.97	9.8	4804	3.24	0.70
2/22/2022 8:07	41.87	69.01	23.8	5.35	8.82	4.23	2.16	16.48 <56>	3.46 <56>	10.66	10.04	4761	3.56	0.75
2/22/2022 8:08	41	68.27	22.96	5.1	8.49	3.97	2.09	16.65 <56>	3.41 <56>	10.8	10.15	4691	3.48	0.71
2/22/2022 8:09	43.76	71.8	24.87	5.35	8.78	4.23	2.07	16.41 <56>	3.46 <56>	10.87	9.99	4760	3.40	0.72
2/22/2022 8:10	47.3	77.39	27.61	5.72	9.36	4.65	2.08	16.36 <56>	3.55 <56>	10.93	9.96	4889	3.40	0.74
2/22/2022 8:11	36.98	62.98	20.8	5.36	9.13	4.19	1.99	17.03 <56>	3.42 <56>	10.27	10.39	4711	3.39	0.68
2/22/2022 8:12	41.26	68.89	23.01	4.97	8.35	3.86	2.18	16.70 <56>	3.40 <56>	10.91	10.18	4672	3.64	0.74
2/22/2022 8:13	48.87	77.35	28.87	6.44	10.19	5.29	2.3	15.83 <56>	3.60 <56>	11.3	9.59	4948	3.64	0.83
2/22/2022 8:14	46.83	75.45	27.37	6.42	10.34	5.22	2.2	16.11 <56>	3.56 <56>	11.27	9.79	4895	3.54	0.78
2/22/2022 8:15	43.26	70.46	24.69	6.5	10.59	5.16	2.07	16.29 <56>	3.47 <56>	10.86	9.91	4781	3.37	0.72
2/22/2022 8:16	50.8	80.05	29.89	7.46	11.75	6.11	2.25	15.76 <56>	3.58 <56>	11.51	9.54	4928	3.55	0.81
2/22/2022 8:17	49.75	79.09	29.15	8.68	13.8	7.07	2.24	15.90 <56>	3.57 <56>	11.05	9.64	4907	3.56	0.80
2/22/2022 8:18	47.2	74.9	26.41	8.06	12.79	6.27	2.22	15.87 <56>	3.41 <56>	11.42	9.62	4687	3.52	0.76
2/22/2022 8:19	60.26	88.13	37.76	11.31	16.54	9.86	2.49	14.62 <56>	3.81 <56>	12.39	8.66	5248	3.64	0.95
2/22/2022 8:20	45.48	70.79	26.6	10.52	16.37	8.56	1.18	15.57 <56>	3.56 <56>	10.7	9.4	4899	1.84	0.42
2/22/2022 8:21	45.23	73.8	25.48	8.23	13.43	6.45	1.96	16.32 <56>	3.43 <56>	11.08	9.93	4719	3.20	0.67
2/22/2022 8:22	33.3	56.66	18.47	6.89	11.72	5.32	2.09	17.02 <56>	3.38 <56>	9.93	10.38	4645	3.56	0.71
2/22/2022 8:23	36.37	63.7	19.53	5.47	9.58	4.09	2.21	17.51 <56>	3.27 <56>	10.48	10.68	4497	3.87	0.72
Average	**44.90**	**72.41**	**25.85**	**6.35**	**10.33**	**5.09**	**2.07**			**11.02**	**9.83**	**4805.61**	**3.35**	**0.72**

Flow	kdscfh	4805.61
O2	% dry	9.83
CO2	% dry	11.02
NOx	ppm dry	44.90
NOx	ppm @ 3% O2	72.41
NOx	lb/hr	25.85
SO2	ppm dry	6.35
SO2	ppm @ 3% O2	10.33
SO2	lb/hr	5.09
CO	ppm dry	2.07
CO	ppm @ 3% O2	3.35
CO	lb/hr	0.72

CEDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	Stack Flow kdscf/hr 1-Min		
2/22/2022 8:47	44.98	71.13	25.62	8.34	13.19	6.61	1.29	15.81 <56>	3.47 <56>	11.35	9.58	4770	2.04	0.45
2/22/2022 8:48	54.16	83.14	32.1	11.03	16.93	9.09	1.32	15.35 <56>	3.61 <56>	11.37	9.24	4964	2.03	0.48
2/22/2022 8:49	41.87	67.34	23.07	8.19	13.17	6.28	1.26	16.08 <56>	3.35 <56>	10.73	9.77	4616	2.03	0.42
2/22/2022 8:50	47.56	73.39	27.93	8.91	13.75	7.28	1.32	15.43 <56>	3.57 <56>	11.62	9.3	4919	2.04	0.47
2/22/2022 8:51	37.97	60.47	21.19	7.6	12.1	5.9	1.26	15.93 <56>	3.40 <56>	11.27	9.66	4675	2.01	0.43
2/22/2022 8:52	46.42	70.9	27.34	8.46	12.92	6.93	1.41	15.27 <56>	3.58 <56>	11.37	9.18	4933	2.15	0.51
2/22/2022 8:53	45.88	72.61	25.6	7.96	12.6	6.18	1.22	15.83 <56>	3.40 <56>	11.29	9.59	4673	1.93	0.41
2/22/2022 8:54	48.47	74.86	28.33	8.39	12.96	6.82	1.22	15.44 <56>	3.56 <56>	11.34	9.31	4896	1.88	0.43
2/22/2022 8:55	41.53	66.49	23.25	6.86	10.98	5.34	1.27	16.01 <56>	3.41 <56>	10.8	9.72	4690	2.03	0.43
2/22/2022 8:56	39.99	64.78	22.41	6.78	10.98	5.29	1.29	16.20 <56>	3.41 <56>	11.02	9.85	4693	2.09	0.44
2/22/2022 8:57	35.65	58.71	19.71	6.16	10.14	4.74	1.12	16.47 <56>	3.37 <56>	10.74	10.03	4631	1.84	0.38
2/22/2022 8:58	38.71	64.28	21.79	5.93	9.85	4.65	1.24	16.60 <56>	3.43 <56>	10.38	10.12	4716	2.06	0.42
2/22/2022 8:59	40.19	67.68	21.38	5.74	9.67	4.25	1.25	16.84 <56>	3.24 <56>	11.02	10.27	4456	2.10	0.40
2/22/2022 9:00	54.37	82.27	32.66	8.55	12.94	7.15	1.49	15.13 <56>	3.66 <56>	11.82	9.07	5032	2.25	0.54
2/22/2022 9:01	43.17	67.43	24.42	8.09	12.64	6.37	1.27	15.62 <56>	3.44 <56>	11.31	9.44	4739	1.98	0.44
2/22/2022 9:02	49.35	74.99	29.12	8.55	12.99	7.02	1.27	15.20 <56>	3.59 <56>	11.43	9.12	4943	1.93	0.46
2/22/2022 9:03	43.82	69.11	24.46	7.26	11.45	5.64	1.29	15.77 <56>	3.40 <56>	11.29	9.55	4676	2.03	0.44
2/22/2022 9:04	52.94	80.99	30.69	9.09	13.91	7.33	1.34	15.30 <56>	3.53 <56>	11.55	9.2	4855	2.05	0.47
2/22/2022 9:05	46.55	73.54	25.84	8.82	13.93	6.81	1.21	15.80 <56>	3.38 <56>	10.92	9.57	4649	1.91	0.41
2/22/2022 9:06	50.71	79.97	29.1	8.41	13.26	6.72	1.17	15.77 <56>	3.49 <56>	11.35	9.55	4807	1.85	0.41
2/22/2022 9:07	40.51	67.08	22.26	7.49	12.4	5.73	1	16.56 <56>	3.35 <56>	10.49	10.09	4603	1.66	0.33
2/22/2022 9:08	40.11	66.11	22.04	7.43	12.25	5.68	1.23	16.48 <56>	3.35 <56>	10.59	10.04	4603	2.03	0.41
2/22/2022 9:09	48.44	77.97	27.43	8.26	13.3	6.51	1.21	16.10 <56>	3.45 <56>	11.28	9.78	4743	1.95	0.42
2/22/2022 9:10	43.6	69.07	23.85	10.2	16.16	7.76	1.16	15.84 <56>	3.33 <56>	11.46	9.6	4581	1.84	0.39
2/22/2022 9:11	63.41	90.66	39.07	16.67	23.83	14.29	1.38	14.30 <56>	3.75 <56>	12.75	8.38	5161	1.97	0.52
2/22/2022 9:12	49.84	74.28	30.14	17.19	25.62	14.46	1.13	14.90 <56>	3.68 <56>	11.12	8.89	5065	1.68	0.42
2/22/2022 9:13	39.11	65.98	21.16	10.92	18.42	8.22	1.05	16.87 <56>	3.29 <56>	10	10.29	4531	1.77	0.35
2/22/2022 9:14	39.37	66.99	21.14	8.64	14.7	6.46	1	17.02 <56>	3.27 <56>	10.74	10.38	4498	1.70	0.33
2/22/2022 9:15	43.2	69.85	24.27	9.23	14.92	7.21	1.05	16.17 <56>	3.42 <56>	10.86	9.83	4706	1.70	0.36
2/22/2022 9:16	46.77	74.48	26.45	9.45	15.05	7.44	1.06	15.93 <56>	3.44 <56>	11.43	9.66	4737	1.69	0.36
2/22/2022 9:17	52.25	80.56	30.04	10.93	16.85	8.74	1.08	15.42 <56>	3.50 <56>	11.2	9.29	4815		
Average	**45.51**	**71.84**	**25.93**	**8.89**	**14.00**	**7.06**	**1.22**			**11.16**	**9.59**	**4754.06**	**1.94**	**0.42**

Flow	kdscfh	4754.06
O2	% dry	9.59
CO2	% dry	11.16
NOx	ppm dry	45.51
NOx	ppm @ 3% O2	71.84
NOx	lb/hr	25.93
SO2	ppm dry	8.89
SO2	ppm @ 3% O2	14.00
SO2	lb/hr	7.06
CO	ppm dry	1.22
CO	ppm @ 3% O2	1.94
CO	lb/hr	0.42

CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	Stack Flow kdscf/hr 1-Min		
2/22/2022 9:39	45.19	69.73	29.66	12.42	19.17	11.34	0.54	15.43 <56>	4.00 <56>	11.39	9.3	5498	0.83	0.22
2/22/2022 9:40	41.34	67.52	25.24	11.17	18.24	9.49	0.58	16.33 <56>	3.72 <56>	10.73	9.94	5114	0.95	0.22
2/22/2022 9:41	43.66	67.96	27.75	12.28	19.11	10.86	0.66	15.57 <56>	3.87 <56>	11.29	9.4	5323	1.03	0.26
2/22/2022 9:42	49.51	75.81	32.07	13.91	21.3	12.54	0.69	15.31 <56>	3.94 <56>	11.24	9.21	5426	1.06	0.27
2/22/2022 9:43	41.39	66.99	25.78	11.8	19.1	10.23	0.62	16.18 <56>	3.79 <56>	10.74	9.84	5218	1.00	0.24
2/22/2022 9:44	38.7	64.44	23	8.9	14.82	7.36	0.62	16.65 <56>	3.62 <56>	10.56	10.15	4979	1.03	0.22
2/22/2022 9:45	50.76	74.72	33.43	12.08	17.78	11.07	0.73	14.72 <56>	4.01 <56>	12.17	8.74	5516	1.07	0.29
2/22/2022 9:46	50.9	74.5	33.33	14.72	21.54	13.41	0.69	14.64 <56>	3.99 <56>	11.75	8.67	5484	1.01	0.27
2/22/2022 9:47	46.99	74.5	29.01	12.14	19.25	10.43	0.58	15.85 <56>	3.76 <56>	10.88	9.61	5171	0.92	0.22
2/22/2022 9:48	42.43	69.81	25.25	9.22	15.17	7.63	0.53	16.45 <56>	3.62 <56>	10.64	10.02	4984	0.87	0.19
2/22/2022 9:49	41.12	66.07	24.78	8.7	13.98	7.29	0.62	16.07 <56>	3.67 <56>	10.92	9.76	5047	1.00	0.23
2/22/2022 9:50	45.7	69.8	28.28	10.13	15.47	8.72	0.57	15.27 <56>	3.77 <56>	11.54	9.18	5184	0.87	0.21
2/22/2022 9:51	53.86	78.38	36.36	13.36	19.44	12.55	0.55	14.55 <56>	4.11 <56>	11.8	8.6	5655	0.80	0.23
2/22/2022 9:52	45.32	71.79	27.17	10.35	16.4	8.63	0.38	15.84 <56>	3.65 <56>	11.19	9.6	5021	0.60	0.14
2/22/2022 9:53	47.97	72.46	30.43	10.29	15.54	9.08	0.54	15.11 <56>	3.86 <56>	11.59	9.05	5313	0.82	0.21
2/22/2022 9:54	45.92	70.92	28.06	10.54	16.28	8.96	0.41	15.44 <56>	3.72 <56>	11.24	9.31	5119	0.63	0.15
2/22/2022 9:55	49.26	74.66	30.59	9.99	15.14	8.63	0.52	15.16 <56>	3.78 <56>	11.46	9.09	5201	0.79	0.20
2/22/2022 9:56	48.23	71.35	30.62	10.32	15.27	9.12	0.66	14.79 <56>	3.86 <56>	11.92	8.8	5318	0.98	0.26
2/22/2022 9:57	50.57	76.07	31.64	11.33	17.04	9.86	0.62	15.04 <56>	3.81 <56>	11.46	9	5241	0.93	0.24
2/22/2022 9:58	43.18	66.46	26.3	9.78	15.05	8.29	0.46	15.39 <56>	3.71 <56>	11.39	9.27	5101	0.71	0.17
2/22/2022 9:59	40.86	62.83	25.11	9.43	14.5	8.06	0.58	15.38 <56>	3.74 <56>	11.29	9.26	5147	0.89	0.22
2/22/2022 10:00	39.85	61.92	24.2	7.86	12.21	6.64	0.46	15.54 <56>	3.70 <56>	11.24	9.38	5086	0.71	0.17
2/22/2022 10:01	41.21	63.92	25.47	8.6	13.34	7.39	0.53	15.51 <56>	3.76 <56>	11.05	9.36	5176	0.82	0.20
2/22/2022 10:02	37.96	60.99	22.44	8.08	12.98	6.64	0.31	16.07 <56>	3.60 <56>	11	9.76	4951	0.50	0.11
2/22/2022 10:03	41.6	63.75	25.99	7.77	11.91	6.76	0.35	15.33 <56>	3.80 <56>	11.61	9.22	5234	0.54	0.13
2/22/2022 10:04	42.06	66.45	25.74	9.71	15.34	8.27	0.29	15.80 <56>	3.73 <56>	10.87	9.57	5126	0.46	0.11
2/22/2022 10:05	39.26	62.25	23.68	7.97	12.64	6.69	0.27	15.85 <56>	3.67 <56>	11.05	9.61	5053	0.43	0.10
2/22/2022 10:06	38.45	60.21	23.69	8.76	13.72	7.51	0.23	15.66 <56>	3.75 <56>	11.03	9.47	5161	0.36	0.09
2/22/2022 10:07	39.31	61.89	23.77	7.97	12.55	6.7	0.17	15.74 <56>	3.68 <56>	11.15	9.53	5064	0.27	0.06
2/22/2022 10:08	43.21	67.49	26.91	8.52	13.31	7.38	0.29	15.62 <56>	3.79 <56>	11.17	9.44	5216	0.45	0.11
2/22/2022 10:09	32.06	54.34	18.91	7.82	13.26	6.42	0.17	16.95 <56>	3.59 <56>	10.19	10.34	4941		
Average	**43.80**	**68.06**	**27.25**	**10.19**	**15.83**	**8.84**	**0.49**			**11.21**	**9.40**	**5195.74**	**0.78**	**0.19**

Flow	kdscfh	5195.74
O2	% dry	9.40
CO2	% dry	11.21
NOx	ppm dry	43.80
NOx	ppm @ 3% O2	68.06
NOx	lb/hr	27.25
SO2	ppm dry	10.19
SO2	ppm @ 3% O2	15.83
SO2	lb/hr	8.84
CO	ppm dry	0.49
CO	ppm @ 3% O2	0.78
CO	lb/hr	0.19

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CEMAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	Stack Flow kdscf/hr 1-Min		
2/22/2022 10:26	51.68	76.9	32.4	10.75	16	9.38	0.15	14.88 <56>	3.82 <56>	11.75	8.87	5252	0.22	0.06
2/22/2022 10:27	52.42	79.32	31.78	11.28	17.07	9.51	0.13	15.13 <56>	3.69 <56>	11.45	9.07	5078	0.20	0.05
2/22/2022 10:28	52.15	77.66	32.99	12.02	17.9	10.58	0.21	14.89 <56>	3.85 <56>	11.66	8.88	5298	0.31	0.08
2/22/2022 10:29	40.12	64.93	23.83	10.3	16.67	8.51	0.03	16.18 <56>	3.62 <56>	10.65	9.84	4975	0.05	0.01
2/22/2022 10:30	35.16	57.95	20.8	8.57	14.13	7.05	0.03	16.48 <56>	3.60 <56>	10.67	10.04	4954	0.05	0.01
2/22/2022 10:31	35.77	59.62	21.09	8.82	14.7	7.23	0.07	16.67 <56>	3.59 <56>	10.45	10.16	4938	0.12	0.03
2/22/2022 10:32	37.35	60.78	22.4	8.67	14.11	7.24	0.08	16.27 <56>	3.65 <56>	10.74	9.9	5024	0.13	0.03
2/22/2022 10:33	43.21	67.37	26.76	9.46	14.75	8.15	0.04	15.59 <56>	3.77 <56>	11.27	9.42	5188	0.06	0.02
2/22/2022 10:34	45.15	69.08	28.45	11	16.83	9.64	0.08	15.30 <56>	3.84 <56>	11.51	9.2	5278	0.12	0.03
2/22/2022 10:35	41.93	64.54	26.09	11.48	17.67	9.94	0.09	15.39 <56>	3.79 <56>	11.38	9.27	5212	0.14	0.03
2/22/2022 10:36	38.6	61.58	23	11.11	17.72	9.21	0	15.95 <56>	3.63 <56>	10.84	9.68	4991	0.00	0.00
2/22/2022 10:37	43.18	65.89	26.92	10.94	16.69	9.49	0.02	15.26 <56>	3.79 <56>	11.55	9.17	5222	0.03	0.01
2/22/2022 10:38	43.94	67.8	27.12	12.65	19.52	10.86	0.08	15.43 <56>	3.76 <56>	11.11	9.3	5169	0.12	0.03
2/22/2022 10:39	40.75	64.38	24.82	10.34	16.34	8.76	0	15.80 <56>	3.71 <56>	11.05	9.57	5101	0.00	0.00
2/22/2022 10:40	38.01	61.63	22.21	9.37	15.19	7.62	0	16.21 <56>	3.56 <56>	10.85	9.86	4895	0.00	0.00
2/22/2022 10:41	47.65	72.16	29.85	14.85	22.49	12.94	0.11	15.14 <56>	3.81 <56>	11.54	9.08	5247	0.17	0.04
2/22/2022 10:42	43.08	66.65	27.04	13.53	20.93	11.82	0.12	15.47 <56>	3.82 <56>	11.18	9.33	5258	0.19	0.05
2/22/2022 10:43	34.77	58.6	20.29	10.13	17.07	8.22	0.06	16.85 <56>	3.55 <56>	10.36	10.28	4887	0.10	0.02
2/22/2022 10:44	34.44	56.61	20.15	9.3	15.29	7.57	0.03	16.44 <56>	3.56 <56>	10.81	10.01	4901	0.05	0.01
2/22/2022 10:45	42.87	64.87	27.75	13.34	20.18	12.01	0.18	15.13 <56>	3.94 <56>	11.47	9.07	5422	0.27	0.07
2/22/2022 10:46	38.73	62.18	23.11	12.71	20.4	10.55	0.01	16.05 <56>	3.63 <56>	10.76	9.75	4999	0.02	0.00
2/22/2022 10:47	41.53	64.92	25.96	13.25	20.71	11.52	0.02	15.63 <56>	3.80 <56>	11.23	9.45	5235	0.03	0.01
2/22/2022 10:48	36.43	59.94	21.47	11.46	18.85	9.4	0	16.45 <56>	3.59 <56>	10.46	10.02	4937	0.00	0.00
2/22/2022 10:49	38.29	61.31	23.12	11.36	18.19	9.54	0	16.01 <56>	3.68 <56>	10.98	9.72	5058	0.00	0.00
2/22/2022 10:50	41.87	65.34	25.67	12.56	19.6	10.71	0	15.61 <56>	3.73 <56>	11.27	9.43	5135	0.00	0.00
2/22/2022 10:51	44.3	69.13	27.79	13.72	21.41	11.97	0	15.61 <56>	3.82 <56>	11.19	9.43	5254	0.00	0.00
2/22/2022 10:52	41.48	66.59	24.57	11.48	18.43	9.46	0	16.05 <56>	3.61 <56>	11.05	9.75	4961	0.00	0.00
2/22/2022 10:53	49.52	75.25	31.32	15.44	23.46	13.58	0.01	15.20 <56>	3.85 <56>	11.23	9.12	5297	0.02	0.00
2/22/2022 10:54	40.87	64.68	24.77	12.57	19.89	10.6	0	15.83 <56>	3.69 <56>	11.09	9.59	5076	0.00	0.00
2/22/2022 10:55	44.88	69.92	27.43	12.27	19.12	10.44	0	15.58 <56>	3.72 <56>	11.36	9.41	5120	0.00	0.00
Average	**42.00**	**65.92**	**25.70**	**11.49**	**18.04**	**9.78**	**0.05**			**11.10**	**9.52**	**5112.07**	**0.08**	**0.02**

Flow	kdscfh	5112.07
O2	% dry	9.52
CO2	% dry	11.10
NOx	ppm dry	42.00
NOx	ppm @ 3% O2	65.92
NOx	lb/hr	25.70
SO2	ppm dry	11.49
SO2	ppm @ 3% O2	18.04
SO2	lb/hr	9.78
CO	ppm dry	0.05
CO	ppm @ 3% O2	0.08
CO	lb/hr	0.02

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CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	Stack Flow kdscf/hr 1-Min		
2/22/2022 11:13	47.09	71.07	29.61	13.14	19.83	11.49	0	15.09 <56>	3.83 <56>	11.51	9.04	5266	0.00	0.00
2/22/2022 11:14	48.93	73.85	31.24	14.54	21.94	12.91	0	15.09 <56>	3.89 <56>	11.57	9.04	5347	0.00	0.00
2/22/2022 11:15	40.12	64.18	23.62	12.3	19.68	10.08	0	16.00 <56>	3.58 <56>	10.85	9.71	4932	0.00	0.00
2/22/2022 11:16	49.55	75.23	31.26	13.71	20.82	12.03	0	15.18 <56>	3.84 <56>	11.56	9.11	5284	0.00	0.00
2/22/2022 11:17	39.11	63.41	23.4	12.21	19.8	10.17	0	16.21 <56>	3.64 <56>	10.6	9.86	5012	0.00	0.00
2/22/2022 11:18	39.51	64.12	23.85	9.1	14.77	7.64	0	16.23 <56>	3.67 <56>	10.77	9.87	5056	0.00	0.00
2/22/2022 11:19	37.45	61.96	22.74	9.76	16.15	8.25	0	16.54 <56>	3.70 <56>	10.57	10.08	5087	0.00	0.00
2/22/2022 11:20	35.92	60.71	21.46	8.69	14.69	7.22	0	16.90 <56>	3.64 <56>	10.29	10.31	5004	0.00	0.00
2/22/2022 11:21	37.39	61.46	22.81	7.94	13.05	6.74	0	16.44 <56>	3.71 <56>	10.68	10.01	5111	0.00	0.00
2/22/2022 11:22	40.82	65.3	25.87	8.62	13.79	7.6	0	16.00 <56>	3.86 <56>	10.98	9.71	5308	0.00	0.00
2/22/2022 11:23	37.87	63	22.96	9.2	15.30	7.76	0	16.64 <56>	3.69 <56>	10.45	10.14	5078	0.00	0.00
2/22/2022 11:24	43.4	67.38	27.74	9.64	14.97	8.57	0	15.52 <56>	3.89 <56>	11.34	9.37	5354	0.00	0.00
2/22/2022 11:25	52.16	78.99	33.68	13.87	21.00	12.46	0	15.14 <56>	3.93 <56>	11.43	9.08	5408	0.00	0.00
2/22/2022 11:26	49.8	76.12	31.96	15.79	24.14	14.1	0	15.29 <56>	3.91 <56>	11.42	9.19	5375	0.00	0.00
2/22/2022 11:27	49.89	76	31.57	14.5	22.09	12.77	0	15.23 <56>	3.85 <56>	11.45	9.15	5300	0.00	0.00
2/22/2022 11:28	53.6	78.97	34.56	15.67	23.09	14.06	0	14.73 <56>	3.92 <56>	12.09	8.75	5400	0.00	0.00
2/22/2022 11:29	51.48	76.6	33.75	16.93	25.19	15.44	0	14.88 <56>	3.99 <56>	11.59	8.87	5492	0.00	0.00
2/22/2022 11:30	44.97	70.92	27.52	14.05	22.16	11.96	0	15.77 <56>	3.72 <56>	11.02	9.55	5125	0.00	0.00
2/22/2022 11:31	43.61	69.82	26.65	12.98	20.78	11.03	0	16.01 <56>	3.72 <56>	10.77	9.72	5118	0.00	0.00
2/22/2022 11:32	40.69	65.56	25.09	11.45	18.45	9.82	0	16.11 <56>	3.75 <56>	10.78	9.79	5165	0.00	0.00
2/22/2022 11:33	43.78	73.1	26.56	11.52	19.24	9.72	0	16.70 <56>	3.69 <56>	10.46	10.18	5082	0.00	0.00
2/22/2022 11:34	42.17	66.74	25.34	10.31	16.32	8.62	0	15.83 <56>	3.66 <56>	11.36	9.59	5034	0.00	0.00
2/22/2022 11:35	55.63	78.47	39.17	18.48	26.07	18.1	0	14.11 <56>	4.29 <56>	12.13	8.21	5897	0.00	0.00
2/22/2022 11:36	42.07	65.6	25.91	14.4	22.45	12.34	0	15.59 <56>	3.75 <56>	11.21	9.42	5158	0.00	0.00
2/22/2022 11:37	45.41	69.89	28.63	14.13	21.75	12.39	0	15.39 <56>	3.84 <56>	11.28	9.27	5281	0.00	0.00
2/22/2022 11:38	46.92	72.03	28.58	15.86	24.35	13.44	0	15.35 <56>	3.71 <56>	11.43	9.24	5102	0.00	0.00
2/22/2022 11:39	57.39	79.63	39.86	24.86	34.50	24.02	0	13.88 <56>	4.23 <56>	12.72	8	5817	0.00	0.00
2/22/2022 11:40	51.79	75.25	33.67	21.94	31.88	19.85	0	14.53 <56>	3.96 <56>	12	8.58	5446	0.00	0.00
2/22/2022 11:41	46.2	70.14	28.14	17.57	26.68	14.89	0	15.18 <56>	3.71 <56>	11.47	9.11	5102	0.00	0.00
2/22/2022 11:42	43.93	66.92	27.5	14.98	22.82	13.05	0	15.23 <56>	3.81 <56>	11.39	9.15	5244	0.00	0.00
Average	**45.29**	**70.08**	**28.49**	**13.60**	**20.93**	**11.95**	**0.00**			**11.24**	**9.37**	**5246.17**	**0.00**	**0.00**

Flow	kdscfh	5246.17
O2	% dry	9.37
CO2	% dry	11.24
NOx	ppm dry	45.29
NOx	ppm @ 3% O2	70.08
NOx	lb/hr	28.49
SO2	ppm dry	13.60
SO2	ppm @ 3% O2	20.93
SO2	lb/hr	11.95
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00
CO	lb/hr	0.00

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CEMAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	Stack Flow kdscf/hr 1-Min		
2/22/2022 11:59	53.74	81.94	33.91	14.18	21.62	12.45	0	15.25 <56>	3.84 <56>	11.33	9.16	5285	0.00	0.00
2/22/2022 12:00	39.38	64.08	23.69	10.85	17.66	9.08	0	16.27 <56>	3.66 <56>	10.63	9.9	5039	0.00	0.00
2/22/2022 12:01	34	56.67	20.68	8.04	13.40	6.8	0	16.67 <56>	3.70 <56>	10.41	10.16	5094	0.00	0.00
2/22/2022 12:02	30.24	51.02	17.61	6.32	10.66	5.12	0	16.87 <56>	3.54 <56>	10.62	10.29	4878	0.00	0.00
2/22/2022 12:03	47.15	71.83	31.02	9.98	15.20	9.14	0	15.23 <56>	4.00 <56>	11.33	9.15	5511	0.00	0.00
2/22/2022 12:04	48.08	74.06	30.37	9.95	15.33	8.74	0	15.40 <56>	3.85 <56>	11.4	9.28	5291	0.00	0.00
2/22/2022 12:05	53.54	80.06	35.12	11.89	17.78	10.85	0	14.95 <56>	3.99 <56>	11.48	8.93	5495	0.00	0.00
2/22/2022 12:06	47.16	74.77	29.29	11.09	17.58	9.58	0	15.85 <56>	3.78 <56>	11.14	9.61	5202	0.00	0.00
2/22/2022 12:07	43.07	68.96	26.68	9.44	15.11	8.14	0	16.01 <56>	3.77 <56>	10.98	9.72	5189	0.00	0.00
2/22/2022 12:08	42.54	68.11	25.74	8.94	14.31	7.53	0	16.01 <56>	3.68 <56>	10.8	9.72	5068	0.00	0.00
2/22/2022 12:09	44.65	70.54	28.24	9.18	14.50	8.08	0	15.80 <56>	3.85 <56>	10.93	9.57	5297	0.00	0.00
2/22/2022 12:10	34.09	57.08	20.36	7.1	11.89	5.9	0	16.74 <56>	3.64 <56>	10.55	10.21	5003	0.00	0.00
2/22/2022 12:11	42.24	68.8	25.99	6.95	11.32	5.95	0	16.29 <56>	3.75 <56>	10.66	9.91	5154	0.00	0.00
2/22/2022 12:12	40.02	64.02	24.58	6.53	10.45	5.58	0	16.00 <56>	3.74 <56>	10.97	9.71	5145	0.00	0.00
2/22/2022 12:13	48.12	72.81	31.64	7.09	10.73	6.49	0	15.13 <56>	4.00 <56>	11.6	9.07	5508	0.00	0.00
2/22/2022 12:14	46.87	75.99	28.55	8.53	13.83	7.23	0	16.21 <56>	3.71 <56>	10.69	9.86	5103	0.00	0.00
2/22/2022 12:15	47.57	72.9	30.34	7.44	11.40	6.6	0	15.33 <56>	3.88 <56>	11.46	9.22	5343	0.00	0.00
2/22/2022 12:16	46.46	73.34	29.38	7.35	11.60	6.47	0	15.78 <56>	3.85 <56>	10.86	9.56	5296	0.00	0.00
2/22/2022 12:17	38.78	63.05	23.38	5.85	9.51	4.91	0	16.26 <56>	3.67 <56>	10.84	9.89	5049	0.00	0.00
2/22/2022 12:18	48.14	73.21	31.16	7.54	11.47	6.79	0	15.21 <56>	3.94 <56>	11.57	9.13	5421	0.00	0.00
2/22/2022 12:19	48.62	75.03	30.9	8.05	12.42	7.12	0	15.43 <56>	3.87 <56>	11.17	9.3	5323	0.00	0.00
2/22/2022 12:20	42.53	67.01	26.71	6.34	9.99	5.54	0	15.76 <56>	3.82 <56>	11.03	9.54	5260	0.00	0.00
2/22/2022 12:21	39.58	61.98	25.12	6.16	9.65	5.44	0	15.66 <56>	3.86 <56>	11.16	9.47	5316	0.00	0.00
2/22/2022 12:22	43.18	66.4	27.12	6.82	10.49	5.96	0	15.38 <56>	3.82 <56>	11.54	9.26	5261	0.00	0.00
2/22/2022 12:23	55.94	82.82	36.97	8.81	13.04	8.1	0	14.81 <56>	4.02 <56>	11.56	8.81	5535	0.00	0.00
2/22/2022 12:24	52.85	78.9	34.04	9.13	13.63	8.18	0	14.93 <56>	3.92 <56>	11.88	8.91	5395	0.00	0.00
2/22/2022 12:25	55.11	82	35.7	10.73	15.97	9.67	0	14.88 <56>	3.94 <56>	11.65	8.87	5426	0.00	0.00
2/22/2022 12:26	46.5	70.3	28.75	10.26	15.51	8.82	0	15.12 <56>	3.76 <56>	11.5	9.06	5178	0.00	0.00
2/22/2022 12:27	49.67	72.17	33.24	11.32	16.45	10.54	0	14.53 <56>	4.07 <56>	11.83	8.58	5605	0.00	0.00
2/22/2022 12:28	35.39	57.85	21.45	8.29	13.55	6.99	0	16.35 <56>	3.69 <56>	10.47	9.95	5076	0.00	0.00
Average	**44.84**	**69.92**	**28.26**	**8.67**	**13.54**	**7.59**	**0.00**			**11.13**	**9.46**	**5258.20**	**0.00**	**0.00**

Flow	kdscfh	5258.20
O2	% dry	9.46
CO2	% dry	11.13
NOx	ppm dry	44.84
NOx	ppm @ 3% O2	69.92
NOx	lb/hr	28.26
SO2	ppm dry	8.67
SO2	ppm @ 3% O2	13.54
SO2	lb/hr	7.59
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00
CO	lb/hr	0.00

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CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	Stack Flow kdscf/hr 1-Min		
2/22/2022 12:44	48.46	74.46	31.16	9.91	15.23	8.87	0	15.36 <56>	3.91 <56>	11.13	9.25	5386	0.00	0.00
2/22/2022 12:45	34.43	57.49	20.14	7.81	13.04	6.36	0	16.70 <56>	3.56 <56>	10.41	10.18	4899	0.00	0.00
2/22/2022 12:46	36.13	57.03	22.31	6.93	10.94	5.95	0	15.78 <56>	3.76 <56>	11.14	9.56	5172	0.00	0.00
2/22/2022 12:47	38.91	61.36	24.44	8.33	13.14	7.28	0	15.77 <56>	3.82 <56>	10.89	9.55	5262	0.00	0.00
2/22/2022 12:48	33.1	53.14	20.21	7.35	11.8	6.24	0	16.05 <56>	3.72 <56>	10.79	9.75	5115	0.00	0.00
2/22/2022 12:49	36.69	57.76	22.58	7.72	12.15	6.61	0	15.74 <56>	3.75 <56>	11.17	9.53	5156	0.00	0.00
2/22/2022 12:50	46.52	70.09	30.33	8.93	13.46	8.1	0	15.07 <56>	3.97 <56>	11.57	9.02	5461	0.00	0.00
2/22/2022 12:51	42.89	68.12	26.49	9.39	14.91	8.07	0	15.88 <56>	3.76 <56>	10.95	9.63	5173	0.00	0.00
2/22/2022 12:52	43.91	68.29	26.77	9.09	14.14	7.71	0	15.55 <56>	3.71 <56>	11.23	9.39	5107	0.00	0.00
2/22/2022 12:53	54.25	78.5	36.18	12.85	18.59	11.92	0	14.47 <56>	4.06 <56>	11.98	8.53	5586	0.00	0.00
2/22/2022 12:54	50	74.96	32.03	12.98	19.46	11.57	0	14.99 <56>	3.90 <56>	11.58	8.96	5365	0.00	0.00
2/22/2022 12:55	46.17	70.7	29.26	11.53	17.66	10.17	0	15.31 <56>	3.86 <56>	11.39	9.21	5308	0.00	0.00
2/22/2022 12:56	41.35	65.33	25.29	9.69	15.31	8.25	0	15.80 <56>	3.72 <56>	11.04	9.57	5123	0.00	0.00
2/22/2022 12:57	38.05	59.75	23.42	8.8	13.82	7.54	0	15.70 <56>	3.75 <56>	11.18	9.5	5155	0.00	0.00
2/22/2022 12:58	37.39	59.76	22.62	8.7	13.9	7.32	0	15.98 <56>	3.68 <56>	10.79	9.7	5067	0.00	0.00
2/22/2022 12:59	36.29	58.15	22.38	7.34	11.76	6.3	0	16.03 <56>	3.75 <56>	10.78	9.73	5166	0.00	0.00
2/22/2022 13:00	30.17	49.5	18.44	6.21	10.19	5.28	0	16.41 <56>	3.72 <56>	10.68	9.99	5119	0.00	0.00
2/22/2022 13:01	36.8	59.29	22.36	6.96	11.21	5.88	0	16.11 <56>	3.70 <56>	10.91	9.79	5089	0.00	0.00
2/22/2022 13:02	47.85	71.98	31.54	9.9	14.89	9.08	0	15.04 <56>	4.01 <56>	11.47	9	5521	0.00	0.00
2/22/2022 13:03	43.07	66.35	27.09	9.01	13.88	7.88	0	15.40 <56>	3.83 <56>	11.37	9.28	5268	0.00	0.00
2/22/2022 13:04	46.33	71.68	29.57	10.78	16.68	9.57	0	15.47 <56>	3.88 <56>	11.03	9.33	5346	0.00	0.00
2/22/2022 13:05	42.93	68.43	26.5	9.22	14.7	7.92	0	15.94 <56>	3.76 <56>	10.97	9.67	5171	0.00	0.00
2/22/2022 13:06	42.2	66.55	27.07	8.66	13.66	7.73	0	15.77 <56>	3.90 <56>	11.2	9.55	5373	0.00	0.00
2/22/2022 13:07	38.17	62.74	22.73	7.76	12.76	6.43	0	16.44 <56>	3.63 <56>	10.61	10.01	4989	0.00	0.00
2/22/2022 13:08	43.94	67.4	28.45	8.41	12.9	7.58	0	15.34 <56>	3.94 <56>	11.35	9.23	5424	0.00	0.00
2/22/2022 13:09	40.84	62.91	25.71	8.48	13.06	7.43	0	15.40 <56>	3.83 <56>	11.5	9.28	5273	0.00	0.00
2/22/2022 13:10	49.28	74.25	32.59	11.58	17.45	10.65	0	15.07 <56>	4.03 <56>	11.24	9.02	5539	0.00	0.00
2/22/2022 13:11	32.58	54.91	19.33	7.55	12.73	6.23	0	16.85 <56>	3.61 <56>	10.23	10.28	4970	0.00	0.00
2/22/2022 13:12	32.87	53.15	19.87	6.36	10.28	5.35	0	16.17 <56>	3.68 <56>	10.9	9.83	5064	0.00	0.00
2/22/2022 13:13	40.95	63.8	26.7	7.27	11.33	6.59	0	15.58 <56>	3.97 <56>	11.11	9.41	5461	0.00	0.00
Average	**41.08**	**64.26**	**25.79**	**8.85**	**13.83**	**7.73**	**0.00**			**11.09**	**9.49**	**5236.93**	**0.00**	**0.00**

Flow	kdscfh	5236.93
O2	% dry	9.49
CO2	% dry	11.09
NOx	ppm dry	41.08
NOx	ppm @ 3% O2	64.26
NOx	lb/hr	25.79
SO2	ppm dry	8.85
SO2	ppm @ 3% O2	13.83
SO2	lb/hr	7.73
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00
CO	lb/hr	0.00

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CEMAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	Stack Flow kdscf/hr 1-Min		
2/22/2022 13:29	40.49	65.41	24.67	7.13	11.52	6.04	1.45	16.16 <56>	3.71 <56>	10.91	9.82	5103	2.34	0.54
2/22/2022 13:30	44.1	68.88	27.95	7.91	12.36	6.97	1.65	15.62 <56>	3.86 <56>	10.95	9.44	5308	2.58	0.64
2/22/2022 13:31	44.95	69.78	28.16	7.32	11.36	6.38	1.67	15.52 <56>	3.81 <56>	11.13	9.37	5248	2.59	0.64
2/22/2022 13:32	48.74	74.57	31.45	7.94	12.15	7.13	1.62	15.30 <56>	3.93 <56>	11.21	9.2	5404	2.48	0.64
2/22/2022 13:33	46.05	71.87	28.48	8.24	12.86	7.09	1.51	15.61 <56>	3.77 <56>	11.35	9.43	5181	2.36	0.57
2/22/2022 13:34	51.16	77.87	33.18	9.53	14.51	8.6	1.58	15.22 <56>	3.95 <56>	11.23	9.14	5433	2.40	0.62
2/22/2022 13:35	43.45	68.71	26.31	8.12	12.84	6.84	1.43	15.81 <56>	3.69 <56>	10.96	9.58	5072	2.26	0.53
2/22/2022 13:36	50.36	74.56	32.95	9.87	14.61	8.99	1.57	14.81 <56>	3.98 <56>	11.75	8.81	5481	2.32	0.63
2/22/2022 13:37	43.17	66.39	27.15	9.69	14.9	8.48	1.43	15.38 <56>	3.83 <56>	11.21	9.26	5267	2.20	0.55
2/22/2022 13:38	43.08	67.29	27.32	9.21	14.39	8.13	1.59	15.62 <56>	3.86 <56>	10.93	9.44	5312	2.48	0.61
2/22/2022 13:39	40.97	65.71	24.56	8.69	13.94	7.25	1.47	16.04 <56>	3.65 <56>	10.97	9.74	5021	2.36	0.54
2/22/2022 13:40	43.93	67.91	28.57	10.9	16.85	9.86	1.54	15.46 <56>	3.96 <56>	10.99	9.32	5448	2.38	0.61
2/22/2022 13:41	30.4	50.01	18.17	8.36	13.75	6.95	1.36	16.45 <56>	3.64 <56>	10.71	10.02	5006	2.24	0.49
2/22/2022 13:42	40.95	63.68	25.89	9.74	15.15	8.57	1.43	15.55 <56>	3.85 <56>	11.24	9.39	5295	2.22	0.55
2/22/2022 13:43	39.3	61.33	24.74	10.47	16.34	9.17	1.44	15.61 <56>	3.83 <56>	10.94	9.43	5273	2.25	0.55
2/22/2022 13:44	42.47	65.93	26.81	9.65	14.98	8.47	1.39	15.52 <56>	3.84 <56>	11.16	9.37	5287	2.16	0.53
2/22/2022 13:45	42.41	66.59	26.34	10.84	17.02	9.37	1.44	15.70 <56>	3.78 <56>	11.16	9.5	5202	2.26	0.54
2/22/2022 13:46	43.89	67.49	27.92	10.44	16.05	9.24	1.53	15.38 <56>	3.87 <56>	11.31	9.26	5329	2.35	0.59
2/22/2022 13:47	46.73	71.86	28.91	11.04	16.98	9.5	1.53	15.38 <56>	3.77 <56>	11.37	9.26	5182	2.35	0.58
2/22/2022 13:48	55.11	82.34	36.67	13.8	20.62	12.77	1.42	14.94 <56>	4.05 <56>	11.35	8.92	5573	2.12	0.58
2/22/2022 13:49	38.5	63.4	22.27	9.41	15.5	7.57	1.33	16.47 <56>	3.52 <56>	10.55	10.03	4845	2.19	0.47
2/22/2022 13:50	50.73	77.35	33.15	10.73	16.36	9.75	1.41	15.25 <56>	3.98 <56>	11.36	9.16	5473	2.15	0.56
2/22/2022 13:51	37.33	61.81	22.47	8.99	14.89	7.53	1.37	16.56 <56>	3.66 <56>	10.42	10.09	5042	2.27	0.50
2/22/2022 13:52	33.09	54.49	20.16	7.4	12.19	6.27	1.54	16.47 <56>	3.71 <56>	10.59	10.03	5104	2.54	0.57
2/22/2022 13:53	35.87	58.05	22.5	7.91	12.8	6.9	1.38	16.18 <56>	3.82 <56>	10.58	9.84	5255	2.23	0.53
2/22/2022 13:54	39.2	62.87	24.57	7.98	12.8	6.96	1.35	16.04 <56>	3.82 <56>	10.91	9.74	5251	2.17	0.52
2/22/2022 13:55	39.99	64.26	25.3	8.96	14.4	7.89	1.33	16.07 <56>	3.85 <56>	10.81	9.76	5299	2.14	0.51
2/22/2022 13:56	38.09	62.49	23.54	8.48	13.91	7.29	1.47	16.41 <56>	3.76 <56>	10.64	9.99	5176	2.41	0.55
2/22/2022 13:57	41.01	66.61	25.66	9.8	15.92	8.53	1.54	16.24 <56>	3.81 <56>	10.6	9.88	5241	2.50	0.59
2/22/2022 13:58	35.74	58.64	22.56	8.49	13.93	7.46	1.36	16.41 <56>	3.84 <56>	10.65	9.99	5287	2.23	0.52
Average	**42.38**	**66.61**	**26.61**	**9.23**	**14.53**	**8.07**	**1.47**			**11.00**	**9.54**	**5246.60**	**2.32**	**0.56**

Flow	kdscfh	5246.60
O2	% dry	9.54
CO2	% dry	11.00
NOx	ppm dry	42.38
NOx	ppm @ 3% O2	66.61
NOx	lb/hr	26.61
SO2	ppm dry	9.23
SO2	ppm @ 3% O2	14.53
SO2	lb/hr	8.07
CO	ppm dry	1.47
CO	ppm @ 3% O2	2.32
CO	lb/hr	0.56

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CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	Stack Flow kdscf/hr 1-Min		
2/22/2022 14:30	41.91	68.89	25.83	8.87	14.58	7.61	1.34	16.44 <56>	3.75 <56>	10.38	10.01	5163	2.20	0.50
2/22/2022 14:31	37.8	63.35	22.55	6.68	11.2	5.54	1.24	16.76 <56>	3.63 <56>	10.25	10.22	4996	2.08	0.45
2/22/2022 14:32	48.45	73.43	32.16	7.05	10.69	6.51	1.25	15.16 <56>	4.04 <56>	11.64	9.09	5560	1.89	0.51
2/22/2022 14:33	42.43	65.03	27.45	7.16	10.97	6.44	1.38	15.33 <56>	3.94 <56>	11.34	9.22	5419	2.11	0.54
2/22/2022 14:34	42.93	65.07	27.25	7.21	10.93	6.37	1.26	15.16 <56>	3.86 <56>	11.46	9.09	5316	1.91	0.49
2/22/2022 14:35	51.46	73.34	35.25	8.93	12.73	8.51	1.36	14.25 <56>	4.17 <56>	12.26	8.34	5737	1.94	0.57
2/22/2022 14:36	48.58	73.2	31.52	9.68	14.59	8.74	1.23	15.07 <56>	3.95 <56>	11.47	9.02	5435	1.85	0.49
2/22/2022 14:37	38.46	61.3	23.22	7.81	12.45	6.56	1.18	15.94 <56>	3.67 <56>	10.81	9.67	5057	1.88	0.43
2/22/2022 14:38	45.32	69.69	29.81	8.03	12.35	7.35	1.16	15.38 <56>	4.00 <56>	11.1	9.26	5509	1.78	0.46
2/22/2022 14:39	33.67	56.48	20.09	6.29	10.55	5.22	1.04	16.78 <56>	3.63 <56>	10.45	10.23	4998	1.74	0.38
2/22/2022 14:40	31.69	52.09	19.76	5.94	9.76	5.15	1.03	16.44 <56>	3.79 <56>	10.53	10.01	5222	1.69	0.39
2/22/2022 14:41	35.68	57.9	22.07	5.58	9.06	4.8	1.11	16.23 <56>	3.77 <56>	10.82	9.87	5182	1.80	0.42
2/22/2022 14:42	44.86	67.94	29.07	6.48	9.81	5.84	1.19	15.14 <56>	3.94 <56>	11.54	9.08	5427	1.80	0.47
2/22/2022 14:43	49.82	72.98	33.86	8.72	12.77	8.24	1.32	14.65 <56>	4.14 <56>	11.73	8.68	5692	1.93	0.55
2/22/2022 14:44	45.17	69.28	28.22	8.18	12.55	7.11	1.2	15.34 <56>	3.80 <56>	11.43	9.23	5233	1.84	0.46
2/22/2022 14:45	50.1	73.87	33.66	8.9	13.12	8.32	1.17	14.74 <56>	4.09 <56>	11.73	8.76	5627	1.73	0.48
2/22/2022 14:46	37.74	61.14	23.03	7.36	11.92	6.25	1.06	16.20 <56>	3.71 <56>	10.68	9.85	5111	1.72	0.39
2/22/2022 14:47	35.08	57.08	21.51	6.1	9.93	5.2	1.12	16.27 <56>	3.73 <56>	10.6	9.9	5137	1.82	0.42
2/22/2022 14:48	38.83	60.6	24.54	6.19	9.66	5.44	1.13	15.61 <56>	3.85 <56>	11.23	9.43	5293	1.76	0.43
2/22/2022 14:49	44.68	67.89	29.55	8.11	12.32	7.46	1.31	15.20 <56>	4.03 <56>	11.47	9.12	5540	1.99	0.53
2/22/2022 14:50	36.21	58.6	22.55	7.4	11.98	6.41	1.21	16.18 <56>	3.79 <56>	10.56	9.84	5216	1.96	0.46
2/22/2022 14:51	33.22	53.72	20.81	5.95	9.62	5.19	1.15	16.17 <56>	3.81 <56>	10.78	9.83	5248	1.86	0.44
2/22/2022 14:52	36.35	57.89	23.34	5.89	9.38	5.26	1.12	15.93 <56>	3.91 <56>	11.06	9.66	5379	1.78	0.44
2/22/2022 14:53	38.37	60.19	23.78	7.06	11.08	6.09	1.14	15.69 <56>	3.77 <56>	11.19	9.49	5192	1.79	0.43
2/22/2022 14:54	55.97	80.99	39.76	10.84	15.69	10.71	1.33	14.47 <56>	4.32 <56>	11.7	8.53	5950	1.92	0.58
2/22/2022 14:55	28.76	48.75	17.42	7.31	12.39	6.16	1.14	16.95 <56>	3.69 <56>	10.27	10.34	5074	1.93	0.42
2/22/2022 14:56	31.96	52.87	19.55	5.52	9.13	4.7	1.04	16.54 <56>	3.72 <56>	10.58	10.08	5124	1.72	0.39
2/22/2022 14:57	38.11	59.01	24.49	6.99	10.82	6.25	1.18	15.48 <56>	3.91 <56>	11.26	9.34	5382	1.83	0.46
2/22/2022 14:58	45.74	67.06	31.67	9.22	13.52	8.88	1.16	14.66 <56>	4.21 <56>	11.89	8.69	5800	1.70	0.49
2/22/2022 14:59	38.92	61.71	24.27	9.56	15.16	8.3	1.08	15.85 <56>	3.80 <56>	10.84	9.61	5224	1.71	0.41
Average	**40.94**	**63.71**	**26.27**	**7.50**	**11.69**	**6.69**	**1.19**			**11.10**	**9.45**	**5341.43**	**1.86**	**0.46**

Flow	kdscfh	5341.43
O2	% dry	9.45
CO2	% dry	11.10
NOx	ppm dry	40.94
NOx	ppm @ 3% O2	63.71
NOx	lb/hr	26.27
SO2	ppm dry	7.50
SO2	ppm @ 3% O2	11.69
SO2	lb/hr	6.69
CO	ppm dry	1.19
CO	ppm @ 3% O2	1.86
CO	lb/hr	0.46

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CEDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	Stack Flow kdscf/hr 1-Min		
2/22/2022 15:16	38.65	59.64	24.68	10.83	16.71	9.62	1.01	15.43 <56>	3.89 <56>	11.15	9.3	5348	1.56	0.39
2/22/2022 15:17	37.39	58.2	24.21	10.11	15.74	9.11	1.03	15.57 <56>	3.94 <56>	11.2	9.4	5424	1.60	0.41
2/22/2022 15:18	31.61	51.07	19.45	8.57	13.85	7.34	1.03	16.16 <56>	3.74 <56>	10.7	9.82	5153	1.66	0.39
2/22/2022 15:19	38.44	58.61	25.64	9.63	14.68	8.94	1.14	15.25 <56>	4.06 <56>	11.39	9.16	5586	1.74	0.46
2/22/2022 15:20	34	54.1	21.81	8.88	14.13	7.93	0.96	15.91 <56>	3.90 <56>	10.91	9.65	5373	1.53	0.37
2/22/2022 15:21	31.96	51.54	19.87	8.48	13.67	7.34	1.04	16.13 <56>	3.78 <56>	10.8	9.8	5208	1.68	0.39
2/22/2022 15:22	40.31	61.99	26.65	9.08	13.96	8.35	0.96	15.38 <56>	4.02 <56>	11.33	9.26	5538	1.48	0.39
2/22/2022 15:23	35.69	57.3	22.88	8.9	14.29	7.94	1.03	16.05 <56>	3.90 <56>	10.7	9.75	5369	1.65	0.40
2/22/2022 15:24	36.18	59.47	23.08	8.01	13.17	7.11	0.92	16.44 <56>	3.88 <56>	10.53	10.01	5343	1.51	0.36
2/22/2022 15:25	32.89	54.97	20.59	7.22	12.07	6.29	0.93	16.71 <56>	3.81 <56>	10.34	10.19	5243	1.55	0.35
2/22/2022 15:26	40.54	63.54	26.37	8.05	12.62	7.29	1.02	15.67 <56>	3.96 <56>	11.3	9.48	5449	1.60	0.40
2/22/2022 15:27	44.23	67.21	30.08	9.52	14.47	9.01	1.08	15.20 <56>	4.14 <56>	11.38	9.12	5697	1.64	0.45
2/22/2022 15:28	46.74	73.13	30.18	10.18	15.93	9.14	0.89	15.65 <56>	3.93 <56>	10.98	9.46	5408	1.39	0.35
2/22/2022 15:29	46.44	71.29	30.74	10.28	15.78	9.47	1.1	15.35 <56>	4.03 <56>	11.26	9.24	5545	1.69	0.44
2/22/2022 15:30	40.83	64.39	26.12	9.25	14.59	8.23	0.96	15.77 <56>	3.89 <56>	11.04	9.55	5358	1.51	0.37
2/22/2022 15:31	41.78	65.95	27.31	9.23	14.57	8.4	0.94	15.78 <56>	3.98 <56>	10.83	9.56	5476	1.48	0.37
2/22/2022 15:32	30.58	51.64	18.73	7.23	12.21	6.16	0.88	16.89 <56>	3.73 <56>	10.35	10.3	5131	1.49	0.33
2/22/2022 15:33	30.98	51.39	19.85	6.46	10.72	5.76	0.94	16.59 <56>	3.90 <56>	10.44	10.11	5366	1.56	0.37
2/22/2022 15:34	27.43	46.32	16.69	5.84	9.86	4.94	0.88	16.89 <56>	3.70 <56>	10.37	10.3	5096	1.49	0.33
2/22/2022 15:35	39.73	60.22	27.52	7.99	12.11	7.7	1.03	15.16 <56>	4.22 <56>	11.31	9.09	5801	1.56	0.43
2/22/2022 15:36	34.54	56	21.81	7.11	11.53	6.25	0.88	16.21 <56>	3.84 <56>	10.69	9.86	5290	1.43	0.34
2/22/2022 15:37	42.89	66.01	28.53	8.1	12.47	7.5	1	15.39 <56>	4.05 <56>	11.43	9.27	5571	1.54	0.40
2/22/2022 15:38	45.66	69.86	30.49	9.52	14.56	8.84	1.09	15.30 <56>	4.06 <56>	11.28	9.2	5593	1.67	0.44
2/22/2022 15:39	44.62	69.94	28.95	8.87	13.9	8.01	1.11	15.67 <56>	3.95 <56>	11.07	9.48	5435	1.74	0.44
2/22/2022 15:40	43.46	68.97	28.1	8.78	13.93	7.9	0.87	15.87 <56>	3.94 <56>	10.8	9.62	5415	1.38	0.34
2/22/2022 15:41	39.02	63.04	24.48	7.53	12.16	6.57	0.84	16.16 <56>	3.82 <56>	10.86	9.82	5254	1.36	0.32
2/22/2022 15:42	46.38	71.08	30.52	9.82	15.05	8.99	0.93	15.33 <56>	4.01 <56>	11.3	9.22	5512	1.43	0.37
2/22/2022 15:43	50.15	74.68	33.64	11.44	17.04	10.68	0.97	14.89 <56>	4.08 <56>	11.68	8.88	5618	1.44	0.40
2/22/2022 15:44	50.86	76.18	34.14	12.96	19.41	12.1	0.94	14.98 <56>	4.09 <56>	11.5	8.95	5623	1.41	0.38
2/22/2022 15:45	44.99	69.25	28.52	11.41	17.56	10.06	0.96	15.39 <56>	3.86 <56>	11.33	9.27	5309	1.48	0.37
Average	**39.63**	**62.23**	**25.72**	**8.98**	**14.09**	**8.10**	**0.98**			**11.01**	**9.54**	**5417.73**	**1.54**	**0.39**

Flow	kdscfh	5417.73
O2	% dry	9.54
CO2	% dry	11.01
NOx	ppm dry	39.63
NOx	ppm @ 3% O2	62.23
NOx	lb/hr	25.72
SO2	ppm dry	8.98
SO2	ppm @ 3% O2	14.09
SO2	lb/hr	8.10
CO	ppm dry	0.98
CO	ppm @ 3% O2	1.54
CO	lb/hr	0.39

Appendix B.1.2
Unit 1 Plant Process Data

INDEX	TIME_STAMP	EX-NMW	FI-1040 U1 Steam Flow	FI-2040 U2 Steam Flow
		NET MW OUT	Steam Flow	Steam Flow
1	2022-02-22 07:53:00	39.44	182.87	190.75
2	2022-02-22 08:08:00	37.47	167.37	175.87
3	2022-02-22 08:23:00	37.18	170.86	174.20
4	2022-02-22 08:38:00	40.00	191.12	191.16
5	2022-02-22 08:53:00	37.25	174.04	172.04
6	2022-02-22 09:08:00	39.55	185.33	187.20
7	2022-02-22 09:23:00	36.63	171.80	167.55
8	2022-02-22 09:38:00	41.00	182.13	197.64
9	2022-02-22 09:53:00	38.44	184.64	180.91
10	2022-02-22 10:08:00	40.42	172.14	193.36
11	2022-02-22 10:23:00	41.47	183.82	176.70
12	2022-02-22 10:38:00	38.23	173.46	197.80
13	2022-02-22 10:53:00	37.99	182.92	176.32
14	2022-02-22 11:08:00	40.98	167.58	196.52
15	2022-02-22 11:23:00	41.01	191.57	175.63
16	2022-02-22 11:38:00	38.21	170.63	192.68
17	2022-02-22 11:53:00	40.80	173.81	195.15
18	2022-02-22 12:08:00	38.39	186.48	176.64
19	2022-02-22 12:23:00	38.54	187.07	179.51
20	2022-02-22 12:38:00	41.41	176.21	198.69
21	2022-02-22 12:53:00	40.80	173.33	195.27
22	2022-02-22 13:08:00	37.75	186.18	178.44
23	2022-02-22 13:23:00	40.04	185.02	180.39
24	2022-02-22 13:38:00	38.43	172.28	195.96
25	2022-02-22 13:53:00	38.11	172.33	196.69
26	2022-02-22 14:08:00	40.66	186.21	177.10
27	2022-02-22 14:23:00	38.33	185.59	178.18
28	2022-02-22 14:38:00	40.38	171.61	192.42
29	2022-02-22 14:53:00	40.88	170.03	195.58
30	2022-02-22 15:08:00	38.47	189.14	180.53
31	2022-02-22 15:23:00	40.52	171.28	193.77
32	2022-02-22 15:38:00	39.52	176.75	184.91
	Average	39.32	178.61	185.80

Appendix B.2
Unit 2 CEMS and Process Data

Appendix B.2.1
Unit 2 Plant CEMS Data

CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	(Boiler 2) Stack Flow kdscf/hr 1-		
2/23/2022 7:31	38.28	57.53	24.8	9.7	14.58	8.74	3.14	15.03 <56>	3.94 <56>	11.7	8.99	5426	4.72	1.24
2/23/2022 7:32	37.81	60.32	22.23	8.04	12.83	6.58	2.98	15.95 <56>	3.58 <56>	11.09	9.68	4925	4.75	1.07
2/23/2022 7:33	53.34	77.69	34.12	8.86	12.90	7.89	3.18	14.56 <56>	3.89 <56>	13.14	8.61	5358	4.63	1.24
2/23/2022 7:34	49.41	69.75	32.98	12.75	18.00	11.84	3.16	14.12 <56>	4.06 <56>	11.82	8.22	5590	4.46	1.28
2/23/2022 7:35	46.95	69.17	29.78	11.83	17.43	10.44	3.17	14.73 <56>	3.86 <56>	12.27	8.75	5312	4.67	1.22
2/23/2022 7:36	40.07	60.43	24.84	10.46	15.77	9.02	3.22	15.08 <56>	3.77 <56>	11.81	9.03	5193	4.86	1.22
2/23/2022 7:37	42.09	64.62	25.7	9.39	14.42	7.98	3.19	15.35 <56>	3.72 <56>	11.67	9.24	5115	4.90	1.19
2/23/2022 7:38	42.08	63.19	25.97	9.06	13.61	7.78	3.31	15.02 <56>	3.76 <56>	11.86	8.98	5170	4.97	1.24
2/23/2022 7:39	44.61	65.4	28.27	10.04	14.72	8.85	3.3	14.66 <56>	3.86 <56>	12.46	8.69	5308	4.84	1.27
2/23/2022 7:40	38.4	57.09	24.37	9.38	13.95	8.28	3.21	14.87 <56>	3.86 <56>	11.9	8.86	5316	4.77	1.24
2/23/2022 7:41	33.38	52.69	19.84	7.33	11.57	6.06	3.02	15.78 <56>	3.62 <56>	10.89	9.56	4978	4.77	1.09
2/23/2022 7:42	44.35	68.32	26.81	7.73	11.91	6.5	3	15.40 <56>	3.68 <56>	12.04	9.28	5064	4.62	1.10
2/23/2022 7:43	37.03	56.08	23.14	8.6	13.02	7.48	3	15.14 <56>	3.80 <56>	11.5	9.08	5234	4.54	1.14
2/23/2022 7:44	33.69	52.76	20.33	8.05	12.61	6.76	3	15.66 <56>	3.67 <56>	11.41	9.47	5055	4.70	1.10
2/23/2022 7:45	29.32	46.12	17.37	7.08	11.14	5.84	2.98	15.73 <56>	3.61 <56>	11.53	9.52	4962	4.69	1.07
2/23/2022 7:46	38.89	57.77	24.47	7.77	11.54	6.8	3.05	14.85 <56>	3.83 <56>	12.4	8.85	5271	4.53	1.17
2/23/2022 7:47	39.16	57.98	24.6	9.23	13.67	8.07	3.04	14.81 <56>	3.82 <56>	11.92	8.81	5262	4.50	1.16
2/23/2022 7:48	44.15	65.21	27.8	9.96	14.71	8.73	3.17	14.77 <56>	3.83 <56>	12.1	8.78	5274	4.68	1.21
2/23/2022 7:49	37.14	55.45	23.01	9.17	13.69	7.91	3.07	14.93 <56>	3.77 <56>	11.86	8.91	5190	4.58	1.16
2/23/2022 7:50	40.65	60.74	25.03	8.53	12.75	7.31	2.98	14.94 <56>	3.75 <56>	12.12	8.92	5157	4.45	1.12
2/23/2022 7:51	39.96	59.46	24.43	9.52	14.17	8.1	2.93	14.88 <56>	3.72 <56>	11.89	8.87	5120	4.36	1.09
2/23/2022 7:52	49.79	72.58	31.65	10.03	14.62	8.87	3.11	14.58 <56>	3.87 <56>	12.39	8.62	5324	4.53	1.20
2/23/2022 7:53	43.25	64.19	26.52	11.55	17.14	9.86	3.07	14.84 <56>	3.73 <56>	11.79	8.84	5137	4.56	1.15
2/23/2022 7:54	45.59	67.95	28.34	10.59	15.78	9.16	3.1	14.90 <56>	3.78 <56>	11.93	8.89	5206	4.62	1.17
2/23/2022 7:55	37.06	57.29	21.86	8.66	13.39	7.11	2.95	15.46 <56>	3.59 <56>	11.63	9.32	4941	4.56	1.06
2/23/2022 7:56	40.75	61.19	25.04	6.39	9.60	5.46	3.03	15.02 <56>	3.74 <56>	11.92	8.98	5147	4.55	1.13
2/23/2022 7:57	42.53	64.35	25.72	6.6	9.99	5.55	2.99	15.13 <56>	3.68 <56>	11.97	9.07	5066	4.52	1.10
2/23/2022 7:58	39.21	60.25	24.46	6.91	10.62	6	3.04	15.36 <56>	3.80 <56>	11.21	9.25	5225	4.67	1.15
2/23/2022 7:59	32.25	52.91	18.01	6.28	10.30	4.88	2.9	16.41 <56>	3.40 <56>	11.33	9.99	4678	4.76	0.99
2/23/2022 8:00	41.06	61.04	25.86	6.65	9.89	5.83	3	14.87 <56>	3.83 <56>	12.04	8.86	5275	4.46	1.15
Average	**40.74**	**61.32**	**25.25**	**8.87**	**13.34**	**7.66**	**3.08**			**11.85**	**9.03**	**5175.97**	**4.64**	**1.16**

Flow	kdscfh	5175.97
O2	% dry	9.03
CO2	% dry	11.85
NOx	ppm dry	40.74
NOx	ppm @ 3% O2	61.32
NOx	lb/hr	25.25
SO2	ppm dry	8.87
SO2	ppm @ 3% O2	13.34
SO2	lb/hr	7.66
CO	ppm dry	3.08
CO	ppm @ 3% O2	4.64

CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	(Boiler 2) Stack Flow kdscf/hr 1-		
2/23/2022 8:31	34.74	52.7	21.23	5.2	7.89	4.42	0.18	15.17 <56>	3.72 <56>	11.77	9.1	5118	0.27	0.07
2/23/2022 8:32	29.45	46.2	17.24	5.2	8.16	4.24	0.11	15.69 <56>	3.56 <56>	11.35	9.49	4904	0.17	0.04
2/23/2022 8:33	28.75	43.91	17.1	4.77	7.64	3.95	0.16	15.27 <56>	3.62 <56>	11.93	9.18	4981	0.24	0.06
2/23/2022 8:34	39.1	56.99	24.35	4.94	7.29	4.28	0.12	14.58 <56>	3.79 <56>	12.22	8.62	5216	0.17	0.05
2/23/2022 8:35	40.94	59.24	25.49	5.71	8.26	4.95	0.14	14.47 <56>	3.79 <56>	12.29	8.53	5216	0.20	0.05
2/23/2022 8:36	43.15	62.44	26.55	6.2	8.97	5.31	0.23	14.47 <56>	3.75 <56>	12.5	8.53	5154	0.33	0.09
2/23/2022 8:37	47.72	67.42	29.94	7.39	10.44	6.45	0.17	14.13 <56>	3.82 <56>	12.68	8.23	5256	0.24	0.06
2/23/2022 8:38	51.37	71.78	32.27	8.14	11.37	7.11	0.25	13.97 <56>	3.82 <56>	12.78	8.09	5262	0.35	0.10
2/23/2022 8:39	52.77	74.67	32.96	9.05	12.81	7.86	0.15	14.15 <56>	3.80 <56>	12.5	8.25	5231	0.21	0.06
2/23/2022 8:40	52.42	76.85	32.09	7.12	10.44	6.06	0.14	14.66 <56>	3.73 <56>	11.61	8.69	5127	0.21	0.05
2/23/2022 8:41	45.72	70.13	26.31	5.43	8.33	4.35	0.12	15.34 <56>	3.50 <56>	12.08	9.23	4820	0.18	0.04
2/23/2022 8:42	42.66	63.9	25.82	5.13	7.68	4.32	0.19	14.98 <56>	3.68 <56>	11.77	8.95	5070	0.28	0.07
2/23/2022 8:43	38.05	58.41	22.16	5.57	8.55	4.51	0.18	15.35 <56>	3.55 <56>	11.6	9.24	4879	0.28	0.06
2/23/2022 8:44	41.46	61.59	25.02	5.88	8.73	4.94	0.18	14.85 <56>	3.67 <56>	12.21	8.85	5054	0.27	0.07
2/23/2022 8:45	42.7	62.86	26.43	7.02	10.33	6.04	0.14	14.72 <56>	3.77 <56>	12.07	8.74	5184	0.21	0.05
2/23/2022 8:46	37.13	56.09	22.11	7.58	11.45	6.28	0.14	15.11 <56>	3.62 <56>	11.56	9.05	4987	0.21	0.05
2/23/2022 8:47	42.6	63.33	25.5	8.05	11.97	6.7	0.19	14.87 <56>	3.64 <56>	12.37	8.86	5013	0.28	0.07
2/23/2022 8:48	36.28	53.27	22.67	8.73	12.82	7.59	0.09	14.68 <56>	3.80 <56>	11.91	8.71	5234	0.13	0.03
2/23/2022 8:49	31.27	48.21	17.8	7.25	11.18	5.74	0.14	15.42 <56>	3.46 <56>	11.55	9.29	4768	0.22	0.05
2/23/2022 8:50	45.63	65.87	29.06	7.99	11.53	7.08	0.15	14.44 <56>	3.88 <56>	12.63	8.5	5335	0.22	0.06
2/23/2022 8:51	36.1	55.18	21.16	9.17	14.02	7.48	0.02	15.29 <56>	3.57 <56>	11.45	9.19	4909	0.03	0.01
2/23/2022 8:52	42.82	63.66	25.76	8.7	12.93	7.28	0.12	14.87 <56>	3.66 <56>	12.13	8.86	5038	0.18	0.04
2/23/2022 8:53	42.74	63.38	25.76	9.29	13.78	7.79	0.06	14.83 <56>	3.67 <56>	12.06	8.83	5049	0.09	0.02
2/23/2022 8:54	47.12	68.97	29.04	10.56	15.46	9.06	0.09	14.64 <56>	3.75 <56>	12.37	8.67	5163	0.13	0.03
2/23/2022 8:55	41.36	60.78	25.28	10.58	15.55	9	0.05	14.70 <56>	3.72 <56>	11.94	8.72	5120	0.07	0.02
2/23/2022 8:56	47.88	70.54	29.82	9.3	13.70	8.06	0.17	14.73 <56>	3.79 <56>	11.93	8.75	5217	0.25	0.06
2/23/2022 8:57	37.87	58.54	22.37	9.61	14.85	7.9	0.07	15.46 <56>	3.60 <56>	11.45	9.32	4948	0.11	0.03
2/23/2022 8:58	36.63	56.62	21.78	8.76	13.54	7.25	0.04	15.46 <56>	3.62 <56>	11.53	9.32	4980	0.06	0.01
2/23/2022 8:59	37.14	57.11	22.2	8.85	13.61	7.36	0.05	15.38 <56>	3.64 <56>	11.79	9.26	5006	0.08	0.02
2/23/2022 9:00	41.2	62.13	25.03	9.87	14.88	8.34	0	15.08 <56>	3.70 <56>	11.93	9.03	5088	0.00	0.00
Average	**41.16**	**61.09**	**25.01**	**7.57**	**11.27**	**6.39**	**0.13**			**12.00**	**8.87**	**5077.57**	**0.19**	**0.05**

Flow	kdscfh	5077.57
O2	% dry	8.87
CO2	% dry	12.00
NOx	ppm dry	41.16
NOx	ppm @ 3% O2	61.09
NOx	lb/hr	25.01
SO2	ppm dry	7.57
SO2	ppm @ 3% O2	11.27
SO2	lb/hr	6.39
CO	ppm dry	0.13
CO	ppm @ 3% O2	0.19

CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	(Boiler 2) Stack Flow kdscf/hr 1-		
2/23/2022 9:16	48.45	71.56	29.09	11.12	16.42	9.29	0.09	14.77 <56>	3.65 <56>	12.33	8.78	5029	0.13	0.03
2/23/2022 9:17	46.47	66.76	29.02	12.48	17.93	10.84	0	14.37 <56>	3.80 <56>	12.22	8.44	5231	0.00	0.00
2/23/2022 9:18	41.1	60.25	25.16	11.16	16.36	9.5	0	14.66 <56>	3.73 <56>	12.23	8.69	5127	0.00	0.00
2/23/2022 9:19	33.93	51.34	20.29	9.95	15.06	8.28	0	15.13 <56>	3.64 <56>	11.48	9.07	5009	0.00	0.00
2/23/2022 9:20	38.2	58.19	22.17	8.72	13.28	7.04	0	15.23 <56>	3.53 <56>	12	9.15	4861	0.00	0.00
2/23/2022 9:21	38.65	57.04	23.25	9.01	13.30	7.54	0	14.76 <56>	3.66 <56>	12.09	8.77	5039	0.00	0.00
2/23/2022 9:22	38.76	56.5	23.72	9.61	14.01	8.18	0	14.58 <56>	3.73 <56>	12.32	8.62	5126	0.00	0.00
2/23/2022 9:23	38.73	57.01	23.06	8.97	13.20	7.43	0	14.72 <56>	3.62 <56>	12.05	8.74	4987	0.00	0.00
2/23/2022 9:24	52.59	74.77	32.28	9.86	14.02	8.42	0	14.22 <56>	3.74 <56>	12.91	8.31	5141	0.00	0.00
2/23/2022 9:25	50.1	71.51	31.9	11.21	16.00	9.93	0	14.27 <56>	3.88 <56>	12.01	8.36	5333	0.00	0.00
2/23/2022 9:26	35.85	56.14	20.57	8.67	13.58	6.92	0	15.66 <56>	3.49 <56>	11.21	9.47	4807	0.00	0.00
2/23/2022 9:27	36.99	57.78	21.26	7.2	11.25	5.76	0	15.62 <56>	3.50 <56>	11.45	9.44	4815	0.00	0.00
2/23/2022 9:28	40.46	61.9	23.97	7.09	10.85	5.84	0	15.30 <56>	3.61 <56>	11.98	9.2	4962	0.00	0.00
2/23/2022 9:29	39.28	58.94	23.37	8.18	12.27	6.77	0	15.00 <56>	3.62 <56>	11.81	8.97	4984	0.00	0.00
2/23/2022 9:30	41.44	61.35	25.59	8.54	12.64	7.34	0	14.81 <56>	3.76 <56>	12	8.81	5172	0.00	0.00
2/23/2022 9:31	33.85	53.15	19.82	8.2	12.88	6.68	0	15.70 <56>	3.56 <56>	11.19	9.5	4904	0.00	0.00
2/23/2022 9:32	34.16	55.34	19.77	6.9	11.18	5.56	0	16.20 <56>	3.52 <56>	11.04	9.85	4847	0.00	0.00
2/23/2022 9:33	33.19	53.09	18.79	6.43	10.29	5.07	0	16.00 <56>	3.45 <56>	11.4	9.71	4743	0.00	0.00
2/23/2022 9:34	44.54	65.3	27.49	6.86	10.06	5.89	0	14.66 <56>	3.76 <56>	12.53	8.69	5170	0.00	0.00
2/23/2022 9:35	45.3	66.03	28.4	8.76	12.77	7.64	0	14.58 <56>	3.82 <56>	11.98	8.62	5252	0.00	0.00
2/23/2022 9:36	43.98	66.66	26.29	8.4	12.73	6.99	0	15.16 <56>	3.64 <56>	11.69	9.09	5007	0.00	0.00
2/23/2022 9:37	50.18	74.79	29.99	8.66	12.91	7.2	0	14.90 <56>	3.64 <56>	12.46	8.89	5006	0.00	0.00
2/23/2022 9:38	52.34	74.65	32.29	10.45	14.90	8.97	0	14.26 <56>	3.76 <56>	12.37	8.35	5168	0.00	0.00
2/23/2022 9:39	58.7	82.28	37.16	12.34	17.30	10.87	0	14.02 <56>	3.85 <56>	12.65	8.13	5302	0.00	0.00
2/23/2022 9:40	46.86	68.47	28.07	12.19	17.81	10.16	0	14.61 <56>	3.65 <56>	12.11	8.65	5017	0.00	0.00
2/23/2022 9:41	44.8	66.27	26.8	9.63	14.25	8.02	0	14.79 <56>	3.64 <56>	12.01	8.8	5011	0.00	0.00
2/23/2022 9:42	42.72	64.64	25.35	8.79	13.30	7.26	0	15.13 <56>	3.61 <56>	11.53	9.07	4971	0.00	0.00
2/23/2022 9:43	37.5	58.52	21.52	8.7	13.58	6.95	0	15.61 <56>	3.49 <56>	11.41	9.43	4806	0.00	0.00
2/23/2022 9:44	40.61	62.34	23.87	8.32	12.77	6.8	0	15.35 <56>	3.58 <56>	11.94	9.24	4924	0.00	0.00
2/23/2022 9:45	40.73	61.63	24.15	8.18	12.38	6.75	0	15.13 <56>	3.61 <56>	11.94	9.07	4966	0.00	0.00
Average	**42.35**	**63.14**	**25.48**	**9.15**	**13.64**	**7.66**	**0.00**			**11.94**	**8.93**	**5023.90**	**0.00**	**0.00**

Flow	kdscfh	5023.90
O2	% dry	8.93
CO2	% dry	11.94
NOx	ppm dry	42.35
NOx	ppm @ 3% O2	63.14
NOx	lb/hr	25.48
SO2	ppm dry	9.15
SO2	ppm @ 3% O2	13.64
SO2	lb/hr	7.66
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00

W002AS-01260-RT-3302

CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	(Boiler 2) Stack Flow kdscf/hr 1-		
2/23/2022 9:59	48.17	70.68	29.56	8.07	11.84	6.89	0	14.67 <56>	3.74 <56>	12.36	8.7	5140	0.00	0.00
2/23/2022 10:00	45.86	68.24	27.86	9.62	14.31	8.13	0	14.88 <56>	3.70 <56>	11.71	8.87	5088	0.00	0.00
2/23/2022 10:01	48.47	72.48	28.95	10.94	16.36	9.09	0	14.95 <56>	3.63 <56>	12.02	8.93	5002	0.00	0.00
2/23/2022 10:02	49.18	72.16	30.02	11.58	16.99	9.83	0	14.67 <56>	3.72 <56>	12.18	8.7	5113	0.00	0.00
2/23/2022 10:03	43.19	64.75	26	11.42	17.12	9.57	0	14.99 <56>	3.66 <56>	11.99	8.96	5043	0.00	0.00
2/23/2022 10:04	41.47	63.28	24.33	11.34	17.3	9.26	0	15.26 <56>	3.57 <56>	11.57	9.17	4915	0.00	0.00
2/23/2022 10:05	40.93	61.62	24.34	10.34	15.57	8.56	0	15.05 <56>	3.62 <56>	12.03	9.01	4982	0.00	0.00
2/23/2022 10:06	47.33	70.66	27.76	10.48	15.65	8.55	0	14.93 <56>	3.57 <56>	11.94	8.91	4913	0.00	0.00
2/23/2022 10:07	51.93	75.02	32.61	12.53	18.1	10.95	0	14.45 <56>	3.82 <56>	12.29	8.51	5260	0.00	0.00
2/23/2022 10:08	39.56	60.16	23.12	12.19	18.54	9.91	0	15.21 <56>	3.56 <56>	11.7	9.13	4896	0.00	0.00
2/23/2022 10:09	38.49	57.56	23.15	11.83	17.69	9.9	0	14.95 <56>	3.66 <56>	11.87	8.93	5037	0.00	0.00
2/23/2022 10:10	35.63	53.68	20.88	10.25	15.44	8.36	0	15.07 <56>	3.57 <56>	11.78	9.02	4908	0.00	0.00
2/23/2022 10:11	42.07	63.28	25.59	8.88	13.36	7.51	0	15.04 <56>	3.70 <56>	11.6	9	5094	0.00	0.00
2/23/2022 10:12	33.84	53.7	19.01	8.59	13.63	6.71	0	15.87 <56>	3.42 <56>	11.62	9.62	4705	0.00	0.00
2/23/2022 10:13	40.3	60.62	24.1	9.47	14.24	7.88	0	15.04 <56>	3.64 <56>	11.64	9	5009	0.00	0.00
2/23/2022 10:14	39.01	59.48	23.46	9.65	14.71	8.07	0	15.25 <56>	3.66 <56>	11.72	9.16	5037	0.00	0.00
2/23/2022 10:15	34.97	55.25	20.04	10.33	16.32	8.24	0	15.80 <56>	3.49 <56>	11.2	9.57	4801	0.00	0.00
2/23/2022 10:16	39.48	61.45	23.2	9.69	15.08	7.92	0	15.57 <56>	3.58 <56>	11.74	9.4	4922	0.00	0.00
2/23/2022 10:17	42.11	64.54	25.17	10.08	15.45	8.38	0	15.33 <56>	3.64 <56>	11.61	9.22	5007	0.00	0.00
2/23/2022 10:18	40.29	60.76	23.78	10.51	15.85	8.63	0	15.08 <56>	3.59 <56>	12.01	9.03	4943	0.00	0.00
2/23/2022 10:19	46.7	67.96	29.09	11.3	16.44	9.79	0	14.55 <56>	3.79 <56>	12.06	8.6	5217	0.00	0.00
2/23/2022 10:20	44.41	66.86	26.05	11.6	17.46	9.47	0	15.05 <56>	3.57 <56>	11.94	9.01	4914	0.00	0.00
2/23/2022 10:21	56.99	80.71	35.02	13.08	18.52	11.18	0	14.16 <56>	3.74 <56>	13.25	8.26	5147	0.00	0.00
2/23/2022 10:22	56.23	76.95	36.43	17.1	23.4	15.41	0	13.69 <56>	3.94 <56>	12.7	7.82	5426	0.00	0.00
2/23/2022 10:23	55.73	78.36	33.73	18.34	25.79	15.45	0	14.06 <56>	3.68 <56>	12.88	8.17	5070	0.00	0.00
2/23/2022 10:24	56.73	77.4	35.79	18.81	25.66	16.51	0	13.64 <56>	3.84 <56>	12.66	7.78	5284	0.00	0.00
2/23/2022 10:25	52.43	73.84	32.16	16.21	22.83	13.83	0	14.08 <56>	3.73 <56>	12.68	8.19	5138	0.00	0.00
2/23/2022 10:26	45.5	66.27	26.88	13.17	19.18	10.83	0	14.56 <56>	3.60 <56>	12.2	8.61	4949	0.00	0.00
2/23/2022 10:27	45.68	67.08	27.12	12.53	18.4	10.35	0	14.68 <56>	3.61 <56>	11.58	8.71	4973	0.00	0.00
2/23/2022 10:28	41.62	62.66	24.1	12.29	18.5	9.9	0	15.05 <56>	3.53 <56>	12.22	9.01	4851	0.00	0.00
Average	**44.81**	**66.25**	**26.98**	**11.74**	**17.32**	**9.84**	**0.00**			**12.03**	**8.83**	**5026.13**	**0.00**	**0.00**

Flow	kdscfh	5026.13
O2	% dry	8.83
CO2	% dry	12.03
NOx	ppm dry	44.81
NOx	ppm @ 3% O2	66.25
NOx	lb/hr	26.98
SO2	ppm dry	11.74
SO2	ppm @ 3% O2	17.32
SO2	lb/hr	9.84
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00

CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	(Boiler 2) Stack Flow kdscf/hr 1-		
2/23/2022 10:41	55.38	78.12	34.64	10.95	15.45	9.53	0	14.11 <56>	3.81 <56>	12.82	8.21	5239	0.00	0.00
2/23/2022 10:42	40.6	61.59	23.74	10.74	16.29	8.74	0	15.17 <56>	3.56 <56>	11.2	9.1	4898	0.00	0.00
2/23/2022 10:43	31.35	49.66	17.42	8.97	14.21	6.94	0	15.84 <56>	3.38 <56>	11.41	9.6	4655	0.00	0.00
2/23/2022 10:44	41.56	63.21	24.54	9.02	13.72	7.41	0	15.21 <56>	3.59 <56>	11.98	9.13	4946	0.00	0.00
2/23/2022 10:45	42.24	64.68	24.66	10.03	15.36	8.15	0	15.31 <56>	3.55 <56>	11.39	9.21	4891	0.00	0.00
2/23/2022 10:46	47.27	70.16	28.12	11.48	17.04	9.5	0	14.84 <56>	3.62 <56>	12.54	8.84	4983	0.00	0.00
2/23/2022 10:47	51.1	73.59	30.99	12.92	18.61	10.9	0	14.40 <56>	3.69 <56>	12.35	8.47	5079	0.00	0.00
2/23/2022 10:48	46.37	66.56	28.55	12.66	18.17	10.85	0	14.35 <56>	3.75 <56>	12.19	8.43	5158	0.00	0.00
2/23/2022 10:49	37.45	56.24	22.25	12.12	18.2	10.02	0	15.02 <56>	3.62 <56>	11.76	8.98	4976	0.00	0.00
2/23/2022 10:50	31.16	49.32	18.19	10.01	15.84	8.13	0	15.83 <56>	3.55 <56>	10.79	9.59	4889	0.00	0.00
2/23/2022 10:51	25.57	42.86	13.79	7.95	13.32	5.96	0	16.76 <56>	3.28 <56>	10.84	10.22	4516	0.00	0.00
2/23/2022 10:52	43.92	66.57	26.21	7.85	11.9	6.52	0	15.16 <56>	3.63 <56>	12.2	9.09	4998	0.00	0.00
2/23/2022 10:53	39.47	60.39	24.07	9.19	14.06	7.8	0	15.30 <56>	3.71 <56>	11.12	9.2	5109	0.00	0.00
2/23/2022 10:54	32.94	53.65	18.61	8.45	13.76	6.64	0	16.29 <56>	3.44 <56>	11.19	9.91	4732	0.00	0.00
2/23/2022 10:55	36.14	56.35	21.17	7.45	11.62	6.07	0	15.59 <56>	3.57 <56>	11.72	9.42	4906	0.00	0.00
2/23/2022 10:56	40.64	60.32	24.37	7.15	10.61	5.96	0	14.84 <56>	3.65 <56>	12.34	8.84	5022	0.00	0.00
2/23/2022 10:57	52.69	73.34	33.04	8.39	11.68	7.32	0	13.92 <56>	3.82 <56>	13.03	8.04	5253	0.00	0.00
2/23/2022 10:58	64.61	86.89	42.41	14.93	20.08	13.63	0	13.45 <56>	4.00 <56>	13.15	7.59	5498	0.00	0.00
2/23/2022 10:59	55.7	78.57	34.88	16.86	23.78	14.69	0	14.11 <56>	3.81 <56>	12.16	8.21	5245	0.00	0.00
2/23/2022 11:00	43.06	64.72	24.99	13.59	20.42	10.97	0	15.03 <56>	3.53 <56>	11.75	8.99	4861	0.00	0.00
2/23/2022 11:01	42.17	63.97	24.37	11.18	16.96	8.99	0	15.17 <56>	3.52 <56>	11.64	9.1	4840	0.00	0.00
2/23/2022 11:02	45.51	67.16	26.4	11.07	16.34	8.93	0	14.76 <56>	3.53 <56>	12.53	8.77	4858	0.00	0.00
2/23/2022 11:03	51.58	73.1	32.67	12.53	17.76	11.04	0	14.17 <56>	3.86 <56>	12.4	8.27	5306	0.00	0.00
2/23/2022 11:04	42.77	64.12	24.51	11.65	17.47	9.29	0	14.99 <56>	3.49 <56>	11.93	8.96	4800	0.00	0.00
2/23/2022 11:05	48.95	70.83	29.9	11.89	17.21	10.1	0	14.47 <56>	3.72 <56>	12.2	8.53	5116	0.00	0.00
2/23/2022 11:06	41.69	61.27	24.55	11.2	16.46	9.18	0	14.70 <56>	3.58 <56>	12.38	8.72	4933	0.00	0.00
2/23/2022 11:07	43.42	63.45	26.64	10.8	15.78	9.22	0	14.61 <56>	3.74 <56>	12.11	8.65	5140	0.00	0.00
2/23/2022 11:08	37.69	57.42	21.69	10.12	15.42	8.1	0	15.23 <56>	3.50 <56>	11.53	9.15	4820	0.00	0.00
2/23/2022 11:09	47.42	70.56	28.29	10.19	15.16	8.46	0	14.88 <56>	3.63 <56>	12.12	8.87	4997	0.00	0.00
2/23/2022 11:10	41.26	63.61	24.9	10	15.42	8.39	0	15.42 <56>	3.67 <56>	11.3	9.29	5054	0.00	0.00
Average	**43.39**	**64.41**	**26.02**	**10.71**	**15.94**	**8.91**	**0.00**			**11.94**	**8.91**	**4990.60**	**0.00**	**0.00**

Flow	kdscfh	4990.60
O2	% dry	8.91
CO2	% dry	11.94
NOx	ppm dry	43.39
NOx	ppm @ 3% O2	64.41
NOx	lb/hr	26.02
SO2	ppm dry	10.71
SO2	ppm @ 3% O2	15.94
SO2	lb/hr	8.91
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00

CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	(Boiler 2) Stack Flow kdscf/hr 1-		
2/23/2022 11:24	42.46	62.35	25.92	11.86	17.42	10.07	0	14.68 <56>	3.72 <56>	11.61	8.71	5113	0.00	0.00
2/23/2022 11:25	32.09	51.06	18.42	9.09	14.46	7.26	0	15.91 <56>	3.49 <56>	11.12	9.65	4808	0.00	0.00
2/23/2022 11:26	30.34	49.64	16.69	6.66	10.9	5.1	0	16.36 <56>	3.35 <56>	11.02	9.96	4608	0.00	0.00
2/23/2022 11:27	36.35	57.48	21.72	6.3	9.96	5.24	0	15.81 <56>	3.64 <56>	10.79	9.58	5006	0.00	0.00
2/23/2022 11:28	26.97	45.5	14.79	5.89	9.94	4.49	0	16.87 <56>	3.34 <56>	10.96	10.29	4594	0.00	0.00
2/23/2022 11:29	35.62	54.92	20.52	5.5	8.48	4.41	0	15.42 <56>	3.51 <56>	12.2	9.29	4825	0.00	0.00
2/23/2022 11:30	51.05	71.67	33.26	7.71	10.82	6.99	0	14.04 <56>	3.97 <56>	12.47	8.15	5457	0.00	0.00
2/23/2022 11:31	49.16	72.43	29.71	9.76	14.38	8.21	0	14.73 <56>	3.68 <56>	11.96	8.75	5062	0.00	0.00
2/23/2022 11:32	45.71	69.16	27.61	10.31	15.6	8.66	0	15.13 <56>	3.68 <56>	11.51	9.07	5059	0.00	0.00
2/23/2022 11:33	45.61	70.32	25.58	9.23	14.23	7.2	0	15.42 <56>	3.41 <56>	12.03	9.29	4698	0.00	0.00
2/23/2022 11:34	60.06	83.27	38.34	10.8	14.97	9.59	0	13.87 <56>	3.89 <56>	12.88	7.99	5347	0.00	0.00
2/23/2022 11:35	55.39	78.25	34.22	12.53	17.7	10.77	0	14.13 <56>	3.76 <56>	12.54	8.23	5175	0.00	0.00
2/23/2022 11:36	57.71	81.4	35.19	13.29	18.75	11.28	0	14.11 <56>	3.71 <56>	12.92	8.21	5108	0.00	0.00
2/23/2022 11:37	50.16	72.58	31.39	14.12	20.43	12.29	0	14.47 <56>	3.81 <56>	11.38	8.53	5242	0.00	0.00
2/23/2022 11:38	36.28	59.04	19.82	11.29	18.37	8.58	0	16.27 <56>	3.32 <56>	10.94	9.9	4575	0.00	0.00
2/23/2022 11:39	36.63	57.57	20.8	9.2	14.46	7.27	0	15.72 <56>	3.46 <56>	11.63	9.51	4756	0.00	0.00
2/23/2022 11:40	34.71	53.29	20.16	7.96	12.22	6.43	0	15.35 <56>	3.53 <56>	11.7	9.24	4864	0.00	0.00
2/23/2022 11:41	37.39	55.68	22.03	7.45	11.09	6.11	0	14.89 <56>	3.59 <56>	11.91	8.88	4935	0.00	0.00
2/23/2022 11:42	44.17	63.4	26.68	8.48	12.17	7.13	0	14.35 <56>	3.68 <56>	12.8	8.43	5059	0.00	0.00
2/23/2022 11:43	51.87	72.2	32.72	11.5	16.01	10.09	0	13.92 <56>	3.84 <56>	12.75	8.04	5283	0.00	0.00
2/23/2022 11:44	40.54	58.52	24.78	12.4	17.9	10.55	0	14.44 <56>	3.72 <56>	11.71	8.5	5120	0.00	0.00
2/23/2022 11:45	40.41	61.98	23.14	11.68	17.92	9.31	0	15.34 <56>	3.49 <56>	11.82	9.23	4797	0.00	0.00
2/23/2022 11:46	35.38	54.22	20.12	10.66	16.34	8.44	0	15.33 <56>	3.46 <56>	11.6	9.22	4764	0.00	0.00
2/23/2022 11:47	38.79	57.67	23.05	10.1	15.02	8.35	0	14.87 <56>	3.62 <56>	12.07	8.86	4977	0.00	0.00
2/23/2022 11:48	36.22	54.25	21.45	10.43	15.62	8.59	0	14.98 <56>	3.60 <56>	11.68	8.95	4960	0.00	0.00
2/23/2022 11:49	44.7	66.35	26	10.83	16.07	8.76	0	14.84 <56>	3.54 <56>	12.33	8.84	4872	0.00	0.00
2/23/2022 11:50	47.04	67.74	29.28	12	17.28	10.39	0	14.40 <56>	3.79 <56>	12.12	8.47	5214	0.00	0.00
2/23/2022 11:51	34.91	53.78	19.91	11.27	17.36	8.94	0	15.40 <56>	3.47 <56>	11.28	9.28	4778	0.00	0.00
2/23/2022 11:52	42.91	64.11	25.5	11.17	16.69	9.24	0	14.94 <56>	3.62 <56>	12.23	8.92	4978	0.00	0.00
2/23/2022 11:53	38.13	58.14	22.73	11.4	17.38	9.46	0	15.25 <56>	3.63 <56>	11.34	9.16	4994	0.00	0.00
Average	**41.96**	**62.60**	**25.05**	**10.03**	**15.00**	**8.31**	**0.00**			**11.84**	**8.97**	**4967.60**	**0.00**	**0.00**

Flow	kdscfh	4967.60
O2	% dry	8.97
CO2	% dry	11.84
NOx	ppm dry	41.96
NOx	ppm @ 3% O2	62.60
NOx	lb/hr	25.05
SO2	ppm dry	10.03
SO2	ppm @ 3% O2	15.00
SO2	lb/hr	8.31
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00

CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	(Boiler 2) Stack Flow kdscf/hr 1-		
2/23/2022 12:06	35.07	55.9	20.49	9.5	15.14	7.72	0	15.94 <56>	3.56 <56>	11.33	9.67	4894	0.00	0.00
2/23/2022 12:07	37.14	59.2	21	8.66	13.8	6.81	0	15.94 <56>	3.44 <56>	11.36	9.67	4737	0.00	0.00
2/23/2022 12:08	50.7	74.21	31	11.34	16.6	9.65	0	14.64 <56>	3.72 <56>	12.61	8.67	5121	0.00	0.00
2/23/2022 12:09	51.86	74.92	32.94	12.83	18.54	11.34	0	14.45 <56>	3.87 <56>	11.83	8.51	5320	0.00	0.00
2/23/2022 12:10	47.62	72.79	27.29	9.97	15.24	7.95	0	15.29 <56>	3.49 <56>	11.75	9.19	4800	0.00	0.00
2/23/2022 12:11	53.56	77.88	32.4	12.15	17.67	10.23	0	14.54 <56>	3.68 <56>	12.55	8.59	5067	0.00	0.00
2/23/2022 12:12	52.04	75.3	32.29	14.69	21.26	12.68	0	14.47 <56>	3.78 <56>	12.12	8.53	5197	0.00	0.00
2/23/2022 12:13	44.54	66.33	25.67	13.66	20.34	10.95	0	14.89 <56>	3.51 <56>	12.08	8.88	4828	0.00	0.00
2/23/2022 12:14	48.94	69.8	30.37	15.46	22.05	13.35	0	14.26 <56>	3.78 <56>	12.31	8.35	5197	0.00	0.00
2/23/2022 12:15	46.52	68.54	27.32	15.55	22.91	12.71	0	14.73 <56>	3.57 <56>	12.23	8.75	4919	0.00	0.00
2/23/2022 12:16	50.37	72.71	30.4	15.64	22.58	13.13	0	14.44 <56>	3.67 <56>	12.2	8.5	5056	0.00	0.00
2/23/2022 12:17	47.32	68.86	28.48	15.18	22.09	12.71	0	14.55 <56>	3.66 <56>	12.18	8.6	5042	0.00	0.00
2/23/2022 12:18	49.43	71.59	28.86	14.31	20.72	11.62	0	14.48 <56>	3.55 <56>	12.56	8.54	4890	0.00	0.00
2/23/2022 12:19	53.96	75.52	34.05	17.6	24.63	15.45	0	14.00 <56>	3.84 <56>	12.53	8.11	5285	0.00	0.00
2/23/2022 12:20	46.83	69.51	27.28	16.43	24.39	13.32	0	14.84 <56>	3.55 <56>	12.03	8.84	4880	0.00	0.00
2/23/2022 12:21	43.58	63.78	25.23	14.93	21.85	12.03	0	14.64 <56>	3.52 <56>	12.1	8.67	4849	0.00	0.00
2/23/2022 12:22	53.19	74.62	32.67	14.67	20.58	12.54	0	14.03 <56>	3.74 <56>	12.97	8.14	5145	0.00	0.00
2/23/2022 12:23	44.79	64.19	27.07	14.88	21.33	12.51	0	14.33 <56>	3.68 <56>	11.77	8.41	5063	0.00	0.00
2/23/2022 12:24	47.91	70.76	27.7	11.32	16.72	9.11	0	14.77 <56>	3.52 <56>	12.31	8.78	4843	0.00	0.00
2/23/2022 12:25	46	68.33	27.1	11.83	17.57	9.7	0	14.85 <56>	3.59 <56>	12.04	8.85	4935	0.00	0.00
2/23/2022 12:26	39.79	59.8	22.62	12.01	18.05	9.5	0	15.03 <56>	3.46 <56>	11.7	8.99	4762	0.00	0.00
2/23/2022 12:27	49.05	71.97	29.4	12.75	18.71	10.63	0	14.67 <56>	3.65 <56>	11.94	8.7	5020	0.00	0.00
2/23/2022 12:28	45.35	68.33	26.28	13.33	20.08	10.75	0	15.07 <56>	3.53 <56>	12.02	9.02	4854	0.00	0.00
2/23/2022 12:29	39.24	59.22	22.59	12.39	18.7	9.93	0	15.09 <56>	3.50 <56>	11.88	9.04	4823	0.00	0.00
2/23/2022 12:30	40.89	60.14	24.67	11.95	17.58	10.03	0	14.71 <56>	3.67 <56>	12.19	8.73	5054	0.00	0.00
2/23/2022 12:31	30.37	46.82	17.86	11.72	18.07	9.59	0	15.42 <56>	3.58 <56>	11.21	9.29	4927	0.00	0.00
2/23/2022 12:32	27.59	45.73	15.49	8.57	14.2	6.69	0	16.57 <56>	3.42 <56>	10.67	10.1	4702	0.00	0.00
2/23/2022 12:33	22.3	38.13	12.28	7.1	12.14	5.44	0	17.10 <56>	3.35 <56>	10.28	10.43	4612	0.00	0.00
2/23/2022 12:34	34.06	54.63	18.98	6.57	10.54	5.09	0	16.04 <56>	3.39 <56>	11.81	9.74	4668	0.00	0.00
2/23/2022 12:35	46.96	67.68	29.9	8.43	12.15	7.47	0	14.41 <56>	3.88 <56>	12.22	8.48	5334	0.00	0.00
Average	**44.23**	**65.57**	**26.32**	**12.51**	**18.54**	**10.35**	**0.00**			**11.96**	**8.89**	**4960.80**	**0.00**	**0.00**

Flow	kdscfh	4960.80
O2	% dry	8.89
CO2	% dry	11.96
NOx	ppm dry	44.23
NOx	ppm @ 3% O2	65.57
NOx	lb/hr	26.32
SO2	ppm dry	12.51
SO2	ppm @ 3% O2	18.54
SO2	lb/hr	10.35
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00

CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	(Boiler 2) Stack Flow kdscf/hr 1-		
2/23/2022 12:50	42.25	64.31	24.51	10.35	15.75	8.36	0	15.22 <56>	3.53 <56>	11.71	9.14	4860	0.00	0.00
2/23/2022 12:51	48.7	71.34	29.52	10.48	15.35	8.84	0	14.65 <56>	3.69 <56>	12.23	8.68	5077	0.00	0.00
2/23/2022 12:52	45.57	66.97	27.43	10.71	15.74	8.97	0	14.70 <56>	3.66 <56>	12.03	8.72	5041	0.00	0.00
2/23/2022 12:53	45.06	67.1	26.67	10.94	16.29	9.01	0	14.89 <56>	3.60 <56>	12.01	8.88	4957	0.00	0.00
2/23/2022 12:54	44.37	65.42	26.33	9.35	13.79	7.72	0	14.74 <56>	3.61 <56>	12	8.76	4970	0.00	0.00
2/23/2022 12:55	52.44	75.64	31.38	10.26	14.8	8.54	0	14.42 <56>	3.64 <56>	12.7	8.49	5013	0.00	0.00
2/23/2022 12:56	49.77	71.04	31.49	15.61	22.28	13.74	0	14.27 <56>	3.85 <56>	12.12	8.36	5299	0.00	0.00
2/23/2022 12:57	39.97	61.62	22.85	14.87	22.93	11.83	0	15.42 <56>	3.48 <56>	11.28	9.29	4788	0.00	0.00
2/23/2022 12:58	40.1	60.57	22.69	13.55	20.47	10.67	0	15.11 <56>	3.44 <56>	12.18	9.05	4740	0.00	0.00
2/23/2022 12:59	51.35	72.72	32.06	17.58	24.9	15.27	0	14.16 <56>	3.80 <56>	12.65	8.26	5229	0.00	0.00
2/23/2022 13:00	40.94	60.22	24.86	17.73	26.08	14.98	0	14.71 <56>	3.70 <56>	11.75	8.73	5086	0.00	0.00
2/23/2022 13:01	34.55	53.27	19.71	14.36	22.14	11.4	0	15.42 <56>	3.47 <56>	11.64	9.29	4778	0.00	0.00
2/23/2022 13:02	41.35	61.63	23.84	14.31	21.33	11.48	0	14.90 <56>	3.51 <56>	12.04	8.89	4830	0.00	0.00
2/23/2022 13:03	48.19	68.84	29.91	16.79	23.99	14.5	0	14.29 <56>	3.78 <56>	12.72	8.37	5199	0.00	0.00
2/23/2022 13:04	38.91	57.85	22.94	17.78	26.43	14.58	0	14.87 <56>	3.59 <56>	11.49	8.86	4938	0.00	0.00
2/23/2022 13:05	41.16	62.28	24.36	15.27	23.11	12.58	0	15.13 <56>	3.60 <56>	11.82	9.07	4958	0.00	0.00
2/23/2022 13:06	31.45	50.35	17.62	13.57	21.73	10.58	0	16.01 <56>	3.41 <56>	10.79	9.72	4693	0.00	0.00
2/23/2022 13:07	46.07	72.78	25.98	11.6	18.33	9.1	0	15.80 <56>	3.43 <56>	11.69	9.57	4724	0.00	0.00
2/23/2022 13:08	43.9	65.98	25.82	11.49	17.27	9.4	0	15.03 <56>	3.58 <56>	12.3	8.99	4926	0.00	0.00
2/23/2022 13:09	40.98	60.52	25	10.08	14.89	8.56	0	14.77 <56>	3.71 <56>	11.86	8.78	5110	0.00	0.00
2/23/2022 13:10	38.22	57.83	22.54	8.93	13.51	7.33	0	15.13 <56>	3.59 <56>	11.86	9.07	4940	0.00	0.00
2/23/2022 13:11	37.05	55.68	21.41	9.49	14.26	7.63	0	15.03 <56>	3.52 <56>	11.83	8.99	4841	0.00	0.00
2/23/2022 13:12	47.01	68.41	28.97	12.08	17.58	10.36	0	14.55 <56>	3.75 <56>	12.22	8.6	5161	0.00	0.00
2/23/2022 13:13	45.92	68.27	26.19	13.25	19.7	10.52	0	14.87 <56>	3.47 <56>	12.37	8.86	4778	0.00	0.00
2/23/2022 13:14	57.85	79.47	36.83	18.12	24.89	16.05	0	13.74 <56>	3.87 <56>	12.94	7.87	5332	0.00	0.00
2/23/2022 13:15	48.2	70.09	29.27	17.82	25.91	15.05	0	14.54 <56>	3.70 <56>	11.81	8.59	5086	0.00	0.00
2/23/2022 13:16	36.13	56.73	20.39	14.63	22.97	11.49	0	15.70 <56>	3.44 <56>	11.43	9.5	4727	0.00	0.00
2/23/2022 13:17	35.91	56.68	20.09	12.24	19.32	9.53	0	15.78 <56>	3.40 <56>	11.31	9.56	4685	0.00	0.00
2/23/2022 13:18	40.11	61.16	23.29	11.16	17.02	9.01	0	15.25 <56>	3.53 <56>	11.86	9.16	4863	0.00	0.00
2/23/2022 13:19	42.21	63.81	24.55	11.08	16.75	8.97	0	15.12 <56>	3.54 <56>	11.88	9.06	4872	0.00	0.00
Average	**43.19**	**64.29**	**25.62**	**13.18**	**19.65**	**10.87**	**0.00**			**11.95**	**8.91**	**4950.03**	**0.00**	**0.00**

Flow	kdscfh	4950.03
O2	% dry	8.91
CO2	% dry	11.95
NOx	ppm dry	43.19
NOx	ppm @ 3% O2	64.29
NOx	lb/hr	25.62
SO2	ppm dry	13.18
SO2	ppm @ 3% O2	19.65
SO2	lb/hr	10.87
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00

CeDAR 1-Minute Data

Timestamp	(Boiler 2) NOx ppm 1-Min	(Boiler 2) NOx ppm @3% O2 1-Min	(Boiler 2) NOx lb/hr 1-Min Avg	(Boiler 2) SO2 ppm 1-Min	(Boiler 2) SO2 ppm @3% O2 1-Min	(Boiler 2) SO2 lb/hr 1-Min Avg	(Boiler 2) CO ppm 1-Min	(Boiler 2) CO ppm @3% O2 1 Min	(Boiler 2) CO lb/hr 1-Min	(Boiler 2) CO2% 1-Min	(Boiler 2) O2% 1-Min	(Boiler 2) Stack Flow kdscf/hr 1-		
2/23/2022 13:34	50.79	74.09	30.85	10.76	15.7	9.09	0	14.59 <56>	3.70 <56>	12.59	8.63	5088	0.00	0.00
2/23/2022 13:35	49.02	71.75	29.93	13.31	19.48	11.31	0	14.64 <56>	3.72 <56>	12.16	8.67	5115	0.00	0.00
2/23/2022 13:36	52.24	76.27	30.4	13.7	20	11.09	0	14.60 <56>	3.54 <56>	12.5	8.64	4874	0.00	0.00
2/23/2022 13:37	54.52	77.03	34.3	16.92	23.9	14.81	0	14.13 <56>	3.83 <56>	12.22	8.23	5270	0.00	0.00
2/23/2022 13:38	41.86	63.55	24.3	14.06	21.35	11.36	0	15.18 <56>	3.53 <56>	11.79	9.11	4863	0.00	0.00
2/23/2022 13:39	41.47	63.01	23.7	10.49	15.94	8.34	0	15.20 <56>	3.48 <56>	11.94	9.12	4787	0.00	0.00
2/23/2022 13:40	46.95	68.44	28.55	11.1	16.18	9.39	0	14.58 <56>	3.70 <56>	12.23	8.62	5093	0.00	0.00
2/23/2022 13:41	45.05	67.03	26.33	11.07	16.47	9	0	14.88 <56>	3.56 <56>	12.05	8.87	4895	0.00	0.00
2/23/2022 13:42	52.24	75.29	31.48	13.06	18.82	10.95	0	14.41 <56>	3.67 <56>	12.66	8.48	5048	0.00	0.00
2/23/2022 13:43	50.09	71.1	30.58	16.49	23.41	14.01	0	14.20 <56>	3.72 <56>	12.61	8.29	5114	0.00	0.00
2/23/2022 13:44	45.03	65.43	27.51	15.44	22.43	13.13	0	14.53 <56>	3.72 <56>	11.89	8.58	5118	0.00	0.00
2/23/2022 13:45	34.49	54.83	19.65	12.75	20.27	10.11	0	15.90 <56>	3.47 <56>	10.84	9.64	4773	0.00	0.00
2/23/2022 13:46	28.45	47.28	15.8	9.43	15.67	7.29	0	16.62 <56>	3.38 <56>	10.86	10.13	4653	0.00	0.00
2/23/2022 13:47	32.68	52.89	18.04	8.23	13.32	6.32	0	16.18 <56>	3.36 <56>	11.71	9.84	4623	0.00	0.00
2/23/2022 13:48	41.91	60.99	25.33	10.02	14.58	8.43	0	14.55 <56>	3.68 <56>	12.61	8.6	5063	0.00	0.00
2/23/2022 13:49	47.6	66.93	30.36	13.93	19.59	12.36	0	14.06 <56>	3.88 <56>	12.42	8.17	5343	0.00	0.00
2/23/2022 13:50	44.29	64.35	25.89	12.84	18.66	10.44	0	14.53 <56>	3.56 <56>	12.62	8.58	4897	0.00	0.00
2/23/2022 13:51	51.96	71.93	33.62	15.6	21.6	14.04	0	13.84 <56>	3.94 <56>	12.7	7.97	5419	0.00	0.00
2/23/2022 13:52	40.59	61	23.35	13.51	20.3	10.81	0	15.03 <56>	3.50 <56>	11.75	8.99	4818	0.00	0.00
2/23/2022 13:53	40.31	60.43	23.74	10.61	15.91	8.69	0	14.99 <56>	3.58 <56>	11.96	8.96	4932	0.00	0.00
2/23/2022 13:54	35.89	55.38	20.52	9.04	13.95	7.19	0	15.43 <56>	3.48 <56>	11.43	9.3	4790	0.00	0.00
2/23/2022 13:55	39.82	60.97	22.93	7.1	10.87	5.69	0	15.31 <56>	3.51 <56>	12.2	9.21	4824	0.00	0.00
2/23/2022 13:56	42.65	63.57	25.25	8.64	12.88	7.12	0	14.90 <56>	3.60 <56>	11.8	8.89	4959	0.00	0.00
2/23/2022 13:57	40.5	61.54	24.2	8.67	13.17	7.21	0	15.20 <56>	3.64 <56>	11.58	9.12	5006	0.00	0.00
2/23/2022 13:58	33.37	53.81	18.83	7.59	12.24	5.96	0	16.13 <56>	3.43 <56>	11.32	9.8	4726	0.00	0.00
2/23/2022 13:59	36.21	56.26	20.46	6.85	10.64	5.38	0	15.54 <56>	3.44 <56>	11.59	9.38	4732	0.00	0.00
2/23/2022 14:00	50.25	73.13	31.57	8.07	11.74	7.05	0	14.55 <56>	3.82 <56>	12.33	8.6	5263	0.00	0.00
2/23/2022 14:01	42.81	65.5	25.18	8.78	13.43	7.18	0	15.30 <56>	3.58 <56>	11.69	9.2	4926	0.00	0.00
2/23/2022 14:02	43.23	67	25.14	7.34	11.38	5.94	0	15.50 <56>	3.54 <56>	11.35	9.35	4871	0.00	0.00
2/23/2022 14:03	46.18	69.88	26.97	7.14	10.8	5.8	0	15.13 <56>	3.56 <56>	12.4	9.07	4892	0.00	0.00
Average	**43.42**	**64.69**	**25.83**	**11.08**	**16.49**	**9.18**	**0.00**			**11.99**	**8.93**	**4959.17**	**0.00**	**0.00**

Flow	kdscfh	4959.17
O2	% dry	8.93
CO2	% dry	11.99
NOx	ppm dry	43.42
NOx	ppm @ 3% O2	64.69
NOx	lb/hr	25.83
SO2	ppm dry	11.08
SO2	ppm @ 3% O2	16.49
SO2	lb/hr	9.18
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00

Appendix B.2.2
Unit 2 Plant Process Data

INDEX	TIME_STAMP	EX-NMW	FI-1040 U1 Steam Flow	FI-2040 U2 Steam Flow
		NET MW OUT	Steam Flow	Steam Flow
1	2022-02-23 07:03:00	41.03	187.86	195.81
2	2022-02-23 07:18:00	38.58	173.94	180.99
3	2022-02-23 07:33:00	38.54	172.14	192.91
4	2022-02-23 07:48:00	40.56	186.84	183.18
5	2022-02-23 08:03:00	39.36	172.70	195.91
6	2022-02-23 08:18:00	40.68	189.01	183.30
7	2022-02-23 08:33:00	41.18	185.40	199.75
8	2022-02-23 08:48:00	39.19	174.70	184.01
9	2022-02-23 09:03:00	41.31	173.37	195.84
10	2022-02-23 09:18:00	38.73	187.87	181.05
11	2022-02-23 09:33:00	41.46	192.16	195.84
12	2022-02-23 09:48:00	38.55	172.95	182.78
13	2022-02-23 10:03:00	39.93	181.73	198.71
14	2022-02-23 10:18:00	37.26	166.12	179.88
15	2022-02-23 10:33:00	38.53	168.67	177.88
16	2022-02-23 10:48:00	40.36	187.09	194.91
17	2022-02-23 11:03:00	40.80	188.96	193.01
18	2022-02-23 11:18:00	38.59	168.74	177.43
19	2022-02-23 11:33:00	40.37	170.75	193.65
20	2022-02-23 11:48:00	38.29	189.31	177.75
21	2022-02-23 12:03:00	40.04	166.36	194.20
22	2022-02-23 12:18:00	38.38	182.18	175.64
23	2022-02-23 12:33:00	37.65	182.21	177.32
24	2022-02-23 12:48:00	40.06	166.57	191.59
25	2022-02-23 13:03:00	37.75	164.96	180.03
26	2022-02-23 13:18:00	39.54	178.82	191.93
27	2022-02-23 13:33:00	39.82	166.05	194.73
28	2022-02-23 13:48:00	38.09	182.73	180.88
29	2022-02-23 14:03:00	39.04	172.44	190.43
	Average	39.44	177.68	187.63

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

$$V_s = 2.9 * C_p * \sqrt{\Delta P} * \sqrt{T_s} * \sqrt{\frac{29.92 * 28.95}{P_s * MW_{wet}}}$$

II. Moisture

A. Sample gas volume, dscf

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6}\right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{ic} * \frac{T_{ref}}{528°R}$$

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

$$Q_{sd} = Q * (1 - B_{wo}) * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$

IV. Gaseous Mass Emission Rates, lb/hr

$$M = \frac{ppm * MW_i * Q_{sd} * 60}{SV * 10^6}$$

V. Emission Rates, lb/MMBtu

$$\frac{lb}{MMBtu} = \frac{ppm * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \% O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s (V_{mstd})}{(1 - B_{wo})\ 0 * V_s * P_s * Dn^2} * \frac{520°R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf
$C = 0.01543\ (M_n/V_{m\ std})$

(b) Grain loading at 12% CO_2, gr/dscf
$C_{12\%}\ CO_2 = C\ (12/\%\ CO_2)$

(c) Mass emissions, lb/hr
$M = C * Q_{sd} * (60\ min/hr) / (7000\ gr/lb)$

(d) Particulate emission factor

$$lb/10^6\ Btu = Cx\ \frac{1\ lb}{7000\ gr} * F * \frac{20.9}{20.9 - \% O_2}$$

Nomenclature:

A_s	=	stack area, ft^2
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO2}$	=	particulate grain loading, gr/dscf corrected to 12% CO_2
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
Dn	=	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
0	=	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, iwb
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

RATA SPECIFIC EMISSION CALCULATIONS

The following equations are used for Relative Accuracy Test Audit (RATA) Computational Procedures:

1. Stack Gas Corrected Concentration

   a. $C_{gas} = (\overline{C} - C_o)\frac{C_{ma}}{C_m - C_o}$

2. Relative Accuracy Calculations

   a. Average Difference

$$\overline{d} = \frac{1}{n}\sum_{i=1}^{n} d_i$$

   b. Standard Deviation

$$S_d = \left[\frac{\sum_{i=1}^{n} d_i^{\,2} - \frac{\left(\sum_{i=1}^{n} d_i\right)^2}{n}}{n-1}\right]^{1/2}$$

   c. Confidence Coefficient

$$CC = t_{0.975}\frac{S_d}{\sqrt{n}}$$

   d. Relative Accuracy

$$RA = \frac{|\bar{d}| + |cc|}{\overline{RA}} \; x\; 100$$

   e. Reference Method Average

$$\overline{RM} = \frac{1}{n}\sum_{i=1}^{n} RM_i$$

3. Bias Adjustment Factor

a. $BAF = 1 + \frac{|\bar{d}|}{\overline{CEM}}$

4. Nomenclature

C_{gas}	=	Corrected Stack Gas Concentration, ppm dry
$\bar{C}$	=	Average Gas Concentration, ppm dry
C_o	=	Average of the Initial and Final Zero Bias Check
C_m	=	Average of the Initial and Final Upscale Bias Check
C_{ma}	=	Actual Value of Upscale Calibration Gas Concentration
$\bar{d}$	=	Arithmetic Mean
S_d	=	Standard Deviation
N	=	Number of Tests
CC	=	Confidence Coefficient
RA	=	Relative Accuracy
RM	=	Reference Method
$t_{0.975}$	=	t Value
$\lvert d \rvert$	=	Absolute Value of the Mean Difference

Appendix C.2
Unit 1 Calculations

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	1-RA-U1	
Date:	2/22/2022	
Start/Stop Time:	7:53	8:23
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.09	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.12	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	869.1	744.9	124.2
2/H2O	766.3	761.8	4.5
3/Empty	601.6	599.7	1.9
4/S.G.	1002.9	993.7	9.2
Rinse		50.0	-50.0
Total			89.8

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	94.000	54	56
		58	62
Stop	120.373	64	69
Total	26.373		60.5

Summary

Sample Volume:	27.471	dscf
H_2O Volume :	4.239	scf
Moisture Content:	13.4	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.40	1.1832	342	81.98
4	1.50	1.2247	343	84.91
3	1.20	1.0954	344	75.99
2	1.00	1.0000	343	69.33
1	1.00	1.0000	344	69.37
5	1.30	1.1402	343	79.04
4	1.20	1.0954	344	75.99
3	1.10	1.0488	345	72.80
2	1.20	1.0954	346	76.08
1	1.10	1.0488	344	72.75
5	1.20	1.0954	346	76.08
4	1.00	1.0000	344	69.37
3	0.91	0.9539	345	66.21
2	0.83	0.9110	346	63.28
1	0.77	0.8775	344	60.87
5	0.84	0.9165	345	63.62
4	0.81	0.9000	346	62.51
3	0.79	0.8888	346	61.73
2	0.87	0.9327	345	64.74
1	0.91	0.9539	346	66.26
5	1.20	1.0954	345	76.04
4	1.00	1.0000	346	69.45
3	0.81	0.9000	348	62.59
2	0.72	0.8485	347	58.97
1	0.66	0.8124	344	56.36
5	0.97	0.9849	345	68.36
4	0.85	0.9220	346	64.03
3	0.83	0.9110	345	63.24
2	0.92	0.9592	344	66.54
1	0.98	0.9899	343	68.63
Average	0.9857	0.9928	344.8	68.90

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.01	0.05	0.02	0.00
Pre Test Span Direct	10.54	10.62	48.39	4.45
Pre-test Zero	0.04	0.11	0.01	0.07
Pre-test Span	10.49	10.55	48.57	4.46
0-30 min	9.70	10.89	43.58	-0.18
Post Test Zero Direct	-0.01	0.05	-0.02	-0.03
Post Test Span Direct	10.53	10.62	48.97	4.39
Post-test Zero	0.03	0.12	0.00	0.05
Post-test Span	10.49	10.60	48.48	4.44
Average	9.70	10.89	43.58	-0.18
Corr. Results	9.73	10.90	43.20	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.0%	0.2%	0.3%	-0.1%
Pre-Test Zero Bias	0.1%	0.3%	0.0%	0.8%
Pre-Test Span Bias	-0.2%	-0.3%	0.2%	0.2%
Post-Test Zero Bias	0.2%	0.3%	0.0%	1.0%
Post-Test Span Bias	-0.2%	-0.1%	-0.5%	0.5%
Zero Drift	0.0%	0.1%	0.0%	-0.2%
Span Drift	0.0%	0.3%	-0.1%	-0.3%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.733	% dry
	8.432	% wet
CO_2:	10.896	% dry
	9.440	% wet
NO_x:	43.201	ppm dry
	37.426	ppm wet
	28.434	lb/hr
SO_2:	7.44681687	ppm dry
SO2:	6.819	lb/hr
CO:	0.00	ppm dry
	0.00	ppm wet
	0.000	lb/hr
H_2O:	13.4	%
MW:	28.51	lb/lb-mole
Flow:	160,574	wacfm
	91.88	mdscfm
	5512.92	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5512.92	4805.61	707.30	12.8%
O_2	% dry	9.73	9.83	-0.10	-1.0%
CO_2	% dry	10.90	11.0	-0.13	-1.2%
NO_x	ppm dry	43.20	44.9	-1.70	-3.9%
NO_x	ppm @ 3% O_2	69.25	72.4	-3.16	-4.6%
NO_x	lb/hr	28.43	25.85	2.59	9.1%
SO_2	ppm dry	7.45	6.35	1.09	14.7%
SO_2	ppm @ 3% O_2	11.94	10.33	1.61	13.5%
SO_2	lb/hr	6.82	5.094	1.725	25.3%
CO	ppm dry	0.00	2.07	-2.07	
CO	ppm @ 3% O_2	0.00	3.35	-3.35	
CO	lb/hr	0.000	0.723	-0.72	

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.00987167	
Total VOL (ml)	539.4	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	1.81	

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	2-RA-U1	
Date:	2/22/2022	
Start/Stop Time:	8:47	9:17
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.09	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.12	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	751.3	631.7	119.6
2/H2O	719.1	715.4	3.7
3/Empty	642.5	640.0	2.5
4/S.G.	1063.3	1050.9	12.4
Rinse		50.0	-50.0
Total			88.2

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	123.300	67	70
		68	72
Stop	149.516	70	74
Total	26.216		70.2

Summary

Sample Volume:	26.809	dscf
H_2O Volume :	4.163	scf
Moisture Content:	13.4	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.40	1.1832	343	82.02
4	1.40	1.1832	343	82.02
3	1.20	1.0954	344	75.98
2	1.10	1.0488	345	72.79
1	0.97	0.9849	344	68.31
5	1.30	1.1402	344	79.08
4	1.10	1.0488	342	72.66
3	1.00	1.0000	343	69.32
2	1.00	1.0000	345	69.40
1	0.99	0.9950	344	69.01
5	0.98	0.9899	344	68.66
4	1.00	1.0000	345	69.40
3	0.87	0.9327	344	64.70
2	0.84	0.9165	342	63.49
1	0.76	0.8718	341	60.35
5	0.84	0.9165	343	63.53
4	0.78	0.8832	344	61.26
3	0.83	0.9110	345	63.23
2	0.83	0.9110	344	63.19
1	0.88	0.9381	343	65.03
5	1.10	1.0488	343	72.70
4	1.00	1.0000	344	69.36
3	0.82	0.9055	345	62.85
2	0.64	0.8000	345	55.52
1	0.62	0.7874	345	54.65
5	0.96	0.9798	344	67.96
4	0.87	0.9327	345	64.74
3	0.82	0.9055	346	62.89
2	0.85	0.9220	345	63.99
1	1.00	1.0000	343	69.32
Average	0.9495	0.9744	343.9	67.58

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	-0.01	0.05	-0.02	-0.03
Pre Test Span Direct	10.53	10.62	48.97	4.39
Pre-test Zero	0.03	0.12	0.00	0.05
Pre-test Span	10.49	10.60	48.48	4.44
0-30 min	9.50	11.07	44.36	-0.22
Post Test Zero Direct	0.00	0.02	-0.02	-0.01
Post Test Span Direct	10.53	10.57	48.77	4.43
Post-test Zero	0.02	0.09	0.66	0.06
Post-test Span	10.47	10.60	48.58	4.43
Average	9.50	11.07	44.36	-0.22
Corr. Results	9.54	11.05	43.95	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.0%	0.2%	0.9%	-0.8%
Pre-Test Zero Bias	0.2%	0.3%	0.0%	1.0%
Pre-Test Span Bias	-0.2%	-0.1%	-0.5%	0.5%
Post-Test Zero Bias	0.1%	0.4%	0.7%	0.8%
Post-Test Span Bias	-0.3%	0.1%	-0.2%	0.0%
Zero Drift	-0.1%	-0.2%	0.7%	0.1%
Span Drift	-0.1%	0.0%	0.1%	0.0%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.535	% dry
	8.253	% wet
CO_2:	11.055	% dry
	9.569	% wet
NO_x:	43.946	ppm dry
	38.040	ppm wet
	28.376	lb/hr
SO_2:	9.3001101	ppm dry
	8.355	lb/hr
CO:	0.00	ppm dry
	0.00	ppm wet
	0.000	lb/hr
H_2O:	13.4	%
MW:	28.52	lb/lb-mole
Flow:	157,490	wacfm
	90.141	mdscfm
	5408.47	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5408.47	4754.06	654.40	12.1%
O_2	% dry	9.54	9.6	-0.06	-0.6%
CO_2	% dry	11.05	11.2	-0.10	-0.9%
NO_x	ppm dry	43.95	45.5	-1.57	-3.6%
NO_x	ppm @ 3% O_2	69.22	71.8	-2.63	-3.8%
NO_x	lb/hr	28.38	25.9	2.45	8.6%
SO_2	ppm dry	9.30	8.89	0.41	4.4%
SO_2	ppm @ 3% O_2	14.65	14.00	0.65	4.5%
SO_2	lb/hr	8.355	7.061	1.294	15.5%
CO	ppm dry	0.00	1.22	-1.22	
CO	ppm @ 3% O_2	0.00	1.94	-1.94	
CO	lb/hr	0.000	0.424	-0.42	

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.00987167	
Total VOL (ml)	521.9	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.28	

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	3-RA-U1	
Date:	2/22/2022	
Start/Stop Time:	9:39	10:09
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.09	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.12	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	871.1	746.3	124.8
2/H2O	758.1	754.1	4.0
3/Empty	606.3	605.0	1.3
4/S.G.	1010.3	1002.9	7.4
Rinse		50.0	-50.0
Total			87.5

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	151.300	72	75
		73	76
Stop	177.568	74	76
Total	26.268		74.3

Summary

Sample Volume:	26.653	dscf
H_2O Volume :	4.130	scf
Moisture Content:	13.4	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.40	1.1832	342	81.95
4	1.30	1.1402	343	79.02
3	1.30	1.1402	344	79.07
2	1.10	1.0488	345	72.78
1	0.96	0.9798	343	67.90
5	1.20	1.0954	344	75.97
4	1.10	1.0488	345	72.78
3	1.00	1.0000	345	69.39
2	1.20	1.0954	344	75.97
1	1.00	1.0000	343	69.30
5	1.30	1.1402	342	78.97
4	1.10	1.0488	343	72.69
3	0.92	0.9592	344	66.52
2	0.90	0.9487	345	65.83
1	0.82	0.9055	344	62.80
5	0.94	0.9695	343	67.19
4	0.82	0.9055	344	62.80
3	0.78	0.8832	345	61.28
2	0.85	0.9220	343	63.90
1	0.94	0.9695	342	67.15
5	1.20	1.0954	342	75.87
4	0.88	0.9381	344	65.05
3	0.74	0.8602	345	59.69
2	0.63	0.7937	346	55.11
1	0.60	0.7746	344	53.72
5	0.97	0.9849	342	68.21
4	0.86	0.9274	343	64.27
3	0.90	0.9487	344	65.79
2	0.98	0.9899	345	68.69
1	0.10	0.3162	344	21.93
Average	0.9353	0.9671	343.7	67.05

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.00	0.02	-0.02	-0.01
Pre Test Span Direct	10.53	10.57	48.77	4.43
Pre-test Zero	0.02	0.09	0.66	0.06
Pre-test Span	10.47	10.60	48.58	4.43
0-30 min	9.41	11.15	42.51	-0.22
Post Test Zero Direct	0.00	0.04	-0.02	-0.04
Post Test Span Direct	10.52	10.59	48.83	4.48
Post-test Zero	0.02	0.10	0.02	-0.03
Post-test Span	10.49	10.60	48.60	4.31
Average	9.41	11.15	42.51	-0.22
Corr. Results	9.45	11.13	42.04	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.0%	0.0%	0.7%	-0.3%
Pre-Test Zero Bias	0.1%	0.4%	0.7%	0.8%
Pre-Test Span Bias	-0.3%	0.1%	-0.2%	0.0%
Post-Test Zero Bias	0.1%	0.3%	0.0%	0.1%
Post-Test Span Bias	-0.2%	0.1%	-0.2%	-2.0%
Zero Drift	0.0%	0.1%	-0.7%	-1.0%
Span Drift	0.1%	0.0%	0.0%	-1.5%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.453	% dry
	8.185	% wet
CO_2:	11.134	% dry
	9.640	% wet
NO_x:	42.040	ppm dry
	36.400	ppm wet
	26.947	lb/hr
SO_2:	9.77529904	ppm dry
	8.718	lb/hr
CO:	0.00	ppm dry
	0.00	ppm wet
	0.000	lb/hr
H_2O:	13.4	%
MW:	28.53	lb/lb-mole
Flow:	156,261	wacfm
	89.48	mdscfm
	5368.89	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5368.89	5196	173.15	3.2%
O_2	% dry	9.45	9.4	0.05	0.5%
CO_2	% dry	11.13	11.2	-0.08	-0.7%
NO_x	ppm dry	42.04	43.8	-1.76	-4.2%
NO_x	ppm @ 3% O_2	65.74	68.1	-2.32	-3.5%
NO_x	lb/hr	26.95	27.25	-0.30	-1.1%
SO_2	ppm dry	9.78	10.19	-0.42	-4.3%
SO_2	ppm @ 3% O_2	15.29	15.83	-0.55	-3.6%
SO_2	lb/hr	8.718	8.837	-0.120	-1.4%
CO	ppm dry	0.00	0.49	-0.49	
CO	ppm @ 3% O_2	0.00	0.78	-0.78	
CO	lb/hr	0.000	0.191	-0.19	

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.00987167	
Total VOL (ml)	518.1	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.40	

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	4-RA-U1	
Date:	2/22/2022	
Start/Stop Time:	10:25	10:55
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.09	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.12	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	743.7	623.7	120.0
2/H2O	729.7	726.7	3.0
3/Empty	642.8	642.7	0.1
4/S.G.	1073.4	1063.3	10.1
Rinse		50.0	-50.0
Total			83.2

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	179.000	74	77
		75	78
Stop	205.347	76	78
Total	26.347		76.3

Summary

Sample Volume:	26.633	dscf
H_2O Volume :	3.927	scf
Moisture Content:	12.9	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.50	1.2247	343	84.80
4	1.40	1.1832	344	81.98
3	1.20	1.0954	345	75.94
2	1.00	1.0000	345	69.32
1	0.96	0.9798	342	67.80
5	1.30	1.1402	342	78.90
4	1.20	1.0954	344	75.89
3	1.10	1.0488	345	72.71
2	1.00	1.0000	344	69.28
1	1.00	1.0000	343	69.24
5	1.20	1.0954	342	75.80
4	1.00	1.0000	342	69.20
3	0.95	0.9747	343	67.49
2	0.87	0.9327	344	64.62
1	0.77	0.8775	345	60.83
5	0.84	0.9165	345	63.54
4	0.82	0.9055	346	62.82
3	0.78	0.8832	346	61.26
2	0.88	0.9381	344	64.99
1	0.92	0.9592	342	66.37
5	1.30	1.1402	342	78.90
4	1.00	1.0000	342	69.20
3	0.74	0.8602	344	59.60
2	0.66	0.8124	345	56.32
1	0.63	0.7937	344	54.99
5	1.00	1.0000	344	69.28
4	0.87	0.9327	345	64.66
3	0.90	0.9487	346	65.81
2	0.99	0.9950	345	68.98
1	1.10	1.0488	343	72.62
Average	0.9855	0.9927	343.9	68.77

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.00	0.04	-0.02	-0.04
Pre Test Span Direct	10.52	10.59	48.83	4.48
Pre-test Zero	0.02	0.10	0.02	-0.03
Pre-test Span	10.49	10.60	48.60	4.31
0-30 min	9.55	10.99	40.68	-0.20
Post Test Zero Direct	-0.01	0.04	-0.02	-0.01
Post Test Span Direct	10.53	10.59	48.94	4.41
Post-test Zero	0.03	0.08	0.03	0.07
Post-test Span	10.49	10.57	48.52	4.45
Average	9.55	10.99	40.68	-0.20
Corr. Results	9.58	10.99	40.29	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.0%	0.1%	0.8%	0.2%
Pre-Test Zero Bias	0.1%	0.3%	0.0%	0.1%
Pre-Test Span Bias	-0.2%	0.1%	-0.2%	-2.0%
Post-Test Zero Bias	0.2%	0.2%	0.1%	1.0%
Post-Test Span Bias	-0.2%	-0.1%	-0.4%	0.5%
Zero Drift	0.0%	-0.1%	0.0%	1.1%
Span Drift	0.0%	-0.2%	-0.1%	1.7%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.585	% dry
	8.353	% wet
CO_2:	10.994	% dry
	9.581	% wet
NO_x:	40.290	ppm dry
	35.113	ppm wet
	26.655	lb/hr
SO_2:	11.4276691	ppm dry
	10.519	lb/hr
CO:	0.00	ppm dry
	0.00	ppm wet
	0.000	lb/hr
H_2O:	12.9	%
MW:	28.58	lb/lb-mole
Flow:	160,264	wacfm
	92.36	mdscfm
	5541.56	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5541.56	5112.07	429.49	7.8%
O_2	% dry	9.58	9.5	0.06	0.7%
CO_2	% dry	10.99	11.1	-0.10	-0.9%
NO_x	ppm dry	40.29	42.0	-1.71	-4.3%
NO_x	ppm @ 3% O_2	63.74	65.9	-2.18	-3.4%
NO_x	lb/hr	26.66	25.6983	0.96	3.6%
SO_2	ppm dry	11.43	11.49	-0.06	-0.6%
SO_2	ppm @ 3% O_2	18.08	18.04	0.03	0.2%
SO_2	lb/hr	10.519	9.783	0.736	7.0%
CO	ppm dry	0.00	0.05	-0.05	
CO	ppm @ 3% O_2	0.00	0.08	-0.08	
CO	lb/hr	0.000	0.020		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.00987167	
Total VOL (ml)	542	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.68	

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	5-RA-U1	
Date:	2/22/2022	
Start/Stop Time:	11:12	11:42
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.09	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.12	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	876.3	753.4	122.9
2/H2O	737.7	733.0	4.7
3/Empty	605.9	604.0	1.9
4/S.G.	1017.5	1010.3	7.2
Rinse		50.0	-50.0
Total			86.7

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	206.800	75	77
		76	78
Stop	233.148	76	79
Total	26.348		76.8

Summary

Sample Volume:	26.610	dscf
H_2O Volume :	4.092	scf
Moisture Content:	13.3	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.50	1.2247	344	84.91
4	1.40	1.1832	345	82.08
3	1.30	1.1402	346	79.14
2	1.20	1.0954	344	75.94
1	0.97	0.9849	345	68.32
5	1.40	1.1832	345	82.08
4	1.30	1.1402	346	79.14
3	1.20	1.0954	347	76.08
2	1.10	1.0488	346	72.80
1	1.10	1.0488	344	72.71
5	1.30	1.1402	346	79.14
4	1.20	1.0954	347	76.08
3	0.97	0.9849	347	68.41
2	0.83	0.9110	345	63.20
1	0.77	0.8775	344	60.83
5	1.10	1.0488	343	72.66
4	0.88	0.9381	344	65.03
3	0.83	0.9110	345	63.20
2	0.95	0.9747	344	67.57
1	0.86	0.9274	344	64.29
5	1.30	1.1402	346	79.14
4	1.10	1.0488	347	72.85
3	0.84	0.9165	348	63.70
2	0.64	0.8000	347	55.56
1	0.62	0.7874	344	54.59
5	1.20	1.0954	345	75.99
4	0.90	0.9487	346	65.85
3	0.93	0.9644	347	66.98
2	1.00	1.0000	347	69.46
1	1.10	1.0488	348	72.89
Average	1.0475	1.0235	345.5	71.02

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	-0.01	-0.01	-0.02	-0.01
Pre Test Span Direct	10.53	10.41	48.94	4.41
Pre-test Zero	0.03	0.08	0.03	0.07
Pre-test Span	10.49	10.57	48.52	4.45
0-30 min	9.40	11.20	43.99	-0.21
Post Test Zero Direct	-0.01	0.03	-0.02	-0.04
Post Test Span Direct	10.51	10.59	48.71	4.37
Post-test Zero	0.04	0.11	0.03	0.02
Post-test Span	10.50	10.61	48.29	4.38
Average	9.40	11.20	43.99	-0.21
Corr. Results	9.43	11.19	43.71	0.00
	Cal Error <2%, Bias <5%; Drift <3%			
Calibrtion Error	0.0%	-0.9%	0.9%	-0.6%
Pre-Test Zero Bias	0.2%	0.5%	0.1%	1.0%
Pre-Test Span Bias	-0.2%	0.8%	-0.4%	0.5%
Post-Test Zero Bias	0.2%	0.4%	0.1%	0.7%
Post-Test Span Bias	-0.1%	0.2%	-0.4%	0.0%
Zero Drift	0.1%	0.1%	0.0%	-0.5%
Span Drift	0.0%	0.2%	-0.2%	-0.9%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.428	% dry
	8.171	% wet
CO_2:	11.190	% dry
	9.698	% wet
NO_x:	43.713	ppm dry
	37.887	ppm wet
	29.641	lb/hr
SO_2:	12.8906017	ppm dry
	12.161	lb/hr
CO:	0.00	ppm dry
	0.00	ppm wet
	0.000	lb/hr
H_2O:	13.3	%
MW:	28.55	lb/lb-mole
Flow:	165,508	wacfm
	94.66	mdscfm
	5679.66	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5679.66	5246.17	433.49	7.6%
O_2	% dry	9.43	9.4	0.06	0.6%
CO_2	% dry	11.19	11.2	-0.05	-0.4%
NO_x	ppm dry	43.71	45.3	-1.58	-3.6%
NO_x	ppm @ 3% O_2	68.21	70.1	-1.87	-2.7%
NO_x	lb/hr	29.64	28.49	1.15	3.9%
SO_2	ppm dry	12.89	13.60	-0.71	-5.5%
SO_2	ppm @ 3% O_2	20.11	20.93	-0.81	-4.0%
SO_2	lb/hr	12.161	11.951	0.211	1.7%
CO	ppm dry	0.00	0.00	0.00	
CO	ppm @ 3% O_2	0.00	0.00	0.00	
CO	lb/hr	0.000	0.000	0.00	

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.00987167	
Total VOL (ml)	499.1	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	3.28	

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	6-RA-U1	
Date:	2/22/2022	
Start/Stop Time:	11:58	12:28
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.09	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.12	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	749.8	627.6	122.2
2/H2O	739.9	735.8	4.1
3/Empty	643.3	641.1	2.2
4/S.G.	1083.2	1073.4	9.8
Rinse		50.0	-50.0
Total			88.3

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	234.600	76	78
		77	79
Stop	261.473	77	79
Total	26.873		77.7

Summary

Sample Volume:	27.098	dscf
H_2O Volume :	4.168	scf
Moisture Content:	13.3	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.40	1.1832	346	82.14
4	1.30	1.1402	347	79.20
3	1.20	1.0954	348	76.14
2	1.20	1.0954	346	76.05
1	1.00	1.0000	345	69.38
5	0.85	0.9220	345	63.97
4	0.83	0.9110	346	63.25
3	0.88	0.9381	347	65.17
2	0.96	0.9798	348	68.10
1	0.92	0.9592	346	66.59
5	1.40	1.1832	346	82.14
4	1.20	1.0954	347	76.10
3	1.10	1.0488	347	72.86
2	1.20	1.0954	348	76.14
1	0.98	0.9899	346	68.73
5	1.30	1.1402	346	79.15
4	1.30	1.1402	347	79.20
3	0.96	0.9798	348	68.10
2	0.88	0.9381	346	65.12
1	0.74	0.8602	348	59.79
5	1.30	1.1402	346	79.15
4	1.10	1.0488	347	72.86
3	0.80	0.8944	347	62.13
2	0.64	0.8000	348	55.61
1	0.62	0.7874	346	54.66
5	1.00	1.0000	345	69.38
4	0.89	0.9434	344	65.41
3	0.88	0.9381	346	65.12
2	1.00	1.0000	347	69.47
1	1.00	1.0000	347	69.47
Average	1.0166	1.0083	346.5	70.02

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	-0.01	0.03	-0.02	-0.04
Pre Test Span Direct	10.51	10.59	48.71	4.37
Pre-test Zero	0.04	0.11	0.03	0.02
Pre-test Span	10.50	10.61	48.29	4.38
0-30 min	9.49	11.10	43.76	-0.23
Post Test Zero Direct	0.00	0.05	-0.02	0.00
Post Test Span Direct	10.51	10.59	48.99	4.42
Post-test Zero	0.04	0.09	0.01	-0.01
Post-test Span	10.49	10.55	48.24	4.41
Average	9.49	11.10	43.76	-0.23
Corr. Results	9.52	11.10	43.61	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	-0.1%	0.0%	0.6%	-1.0%
Pre-Test Zero Bias	0.2%	0.4%	0.1%	0.7%
Pre-Test Span Bias	-0.1%	0.2%	-0.4%	0.0%
Post-Test Zero Bias	0.2%	0.2%	0.0%	0.0%
Post-Test Span Bias	-0.1%	-0.2%	-0.8%	0.0%
Zero Drift	0.0%	-0.1%	0.0%	-0.3%
Span Drift	-0.1%	-0.3%	-0.1%	0.5%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.520	% dry
	8.251	% wet
CO_2:	11.102	% dry
	9.622	% wet
NO_x:	43.613	ppm dry
	37.799	ppm wet
	29.120	lb/hr
SO_2:	7.10061274	ppm dry
	6.596	lb/hr
CO:	0.00	ppm dry
	0.00	ppm wet
	0.000	lb/hr
H_2O:	13.3	%
MW:	28.54	lb/lb-mole
Flow:	163,176	wacfm
	93.21	mdscfm
	5592.60	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5592.60	5258.20	334.40	6.0%
O_2	% dry	9.52	9.5	0.06	0.6%
CO_2	% dry	11.10	11.1	-0.03	-0.3%
NO_x	ppm dry	43.61	44.8	-1.23	-2.8%
NO_x	ppm @ 3% O_2	68.60	69.9	-1.32	-1.9%
NO_x	lb/hr	29.12	28.2577	0.86	3.0%
SO_2	ppm dry	7.10	8.67	-1.57	-22.1%
SO_2	ppm @ 3% O_2	11.17	13.54	-2.37	-21.2%
SO_2	lb/hr	6.596	7.593	-0.997	-15.1%
CO	ppm dry	0.00	0.00	0.00	
CO	ppm @ 3% O_2	0.00	0.00	0.00	
CO	lb/hr	0.000	0.000		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.00987167	
Total VOL (ml)	546.6	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	1.68	

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	7-RA-U1	
Date:	2/22/2022	
Start/Stop Time:	12:43	13:13
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.09	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.12	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	866.0	757.4	108.6
2/H2O	765.0	763.1	1.9
3/Empty	603.9	603.5	0.4
4/S.G.	1024.4	1017.5	6.9
Rinse		50.0	-50.0
Total			67.8

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	262.700	77	79
		78	81
Stop	288.677	77	80
Total	25.977		78.7

Summary

Sample Volume:	26.146	dscf
H_2O Volume :	3.200	scf
Moisture Content:	10.9	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.50	1.2247	344	84.49
4	1.30	1.1402	345	78.70
3	1.20	1.0954	346	75.66
2	1.10	1.0488	347	72.49
1	1.00	1.0000	346	69.07
5	1.40	1.1832	344	81.62
4	1.20	1.0954	345	75.62
3	1.00	1.0000	346	69.07
2	1.00	1.0000	347	69.11
1	0.98	0.9899	346	68.38
5	1.40	1.1832	346	81.73
4	1.10	1.0488	344	72.35
3	0.95	0.9747	345	67.28
2	0.88	0.9381	346	64.79
1	0.77	0.8775	344	60.53
5	0.84	0.9165	343	63.19
4	0.81	0.9000	345	62.13
3	0.79	0.8888	346	61.39
2	0.88	0.9381	346	64.79
1	0.97	0.9849	344	67.94
5	1.30	1.1402	346	78.75
4	1.20	1.0954	345	75.62
3	0.77	0.8775	346	60.61
2	0.63	0.7937	346	54.82
1	0.65	0.8062	344	55.62
5	1.00	1.0000	345	69.03
4	0.93	0.9644	346	66.61
3	0.90	0.9487	347	65.57
2	0.96	0.9798	347	67.72
1	1.00	1.0000	345	69.03
Average	1.0023	1.0011	345.4	69.12

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.00	0.05	-0.02	0.00
Pre Test Span Direct	10.51	10.59	48.99	4.42
Pre-test Zero	0.04	0.09	0.01	-0.01
Pre-test Span	10.49	10.55	48.24	4.41
0-30 min	9.52	11.07	39.94	-0.17
Post Test Zero Direct	-0.01	0.02	0.00	0.06
Post Test Span Direct	10.50	10.57	48.70	4.52
Post-test Zero	0.04	0.10	0.03	0.10
Post-test Span	10.50	10.61	48.60	4.50
Average	9.52	11.07	39.94	-0.17
Corr. Results	9.55	11.07	39.68	0.00
	Cal Error <2%, Bias <5%; Drift <3%			
Calibrtion Error	-0.1%	0.0%	0.9%	-0.5%
Pre-Test Zero Bias	0.2%	0.2%	0.0%	0.0%
Pre-Test Span Bias	-0.1%	-0.2%	-0.8%	0.0%
Post-Test Zero Bias	0.2%	0.5%	0.0%	0.6%
Post-Test Span Bias	0.0%	0.2%	-0.1%	-0.2%
Zero Drift	0.0%	0.1%	0.0%	1.3%
Span Drift	0.1%	0.3%	0.4%	1.1%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.554	% dry
	8.512	% wet
CO_2:	11.074	% dry
	9.867	% wet
NO_x:	39.678	ppm dry
	35.351	ppm wet
	26.923	lb/hr
SO_2:	6.81514873	ppm dry
	6.434	lb/hr
CO:	0.00	ppm dry
	0.00	ppm wet
	0.000	lb/hr
H_2O:	10.9	%
MW:	28.83	lb/lb-mole
Flow:	161,087	wacfm
	94.72	mdscfm
	5683.46	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5683.46	5236.93	446.53	7.9%
O_2	% dry	9.55	9.5	0.06	0.7%
CO_2	% dry	11.07	11.1	-0.01	-0.1%
NO_x	ppm dry	39.68	41.1	-1.41	-3.5%
NO_x	ppm @ 3% O_2	62.60	64.3	-1.66	-2.7%
NO_x	lb/hr	26.92	25.7853	1.14	4.2%
SO_2	ppm dry	6.82	8.85	-2.03	-29.9%
SO_2	ppm @ 3% O_2	10.75	13.83	-3.08	-28.7%
SO_2	lb/hr	6.434	7.729	-1.295	-20.1%
CO	ppm dry	0.00	0.00	0.00	
CO	ppm @ 3% O_2	0.00	0.00	0.00	
CO	lb/hr	0.000	0.000		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.00987167	
Total VOL (ml)	528.2	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	1.61	

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	8-RA-U1	
Date:	2/22/2022	
Start/Stop Time:	13:28	13:58
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.09	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.12	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	758.8	640.2	118.6
2/H2O	743.5	741.9	1.6
3/Empty	642.6	641.7	0.9
4/S.G.	961.2	949.6	11.6
Rinse		50.0	-50.0
Total			82.7

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	290.400	80	82
		79	82
Stop	316.808	79	82
Total	26.408		80.7

Summary

Sample Volume:	26.481	dscf
H_2O Volume :	3.903	scf
Moisture Content:	12.8	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.50	1.2247	345	84.92
4	1.40	1.1832	346	82.09
3	1.20	1.0954	347	76.05
2	1.20	1.0954	346	76.00
1	1.00	1.0000	344	69.29
5	1.40	1.1832	344	81.99
4	1.20	1.0954	345	75.95
3	1.10	1.0488	346	72.76
2	1.10	1.0488	346	72.76
1	1.10	1.0488	344	72.67
5	1.20	1.0954	344	75.90
4	1.10	1.0488	345	72.72
3	0.96	0.9798	346	67.97
2	0.86	0.9274	346	64.34
1	0.82	0.9055	345	62.78
5	0.88	0.9381	346	65.08
4	0.84	0.9165	345	63.54
3	0.78	0.8832	345	61.23
2	0.86	0.9274	346	64.34
1	0.94	0.9695	346	67.26
5	1.30	1.1402	344	79.00
4	1.20	1.0954	345	75.95
3	0.74	0.8602	345	59.64
2	0.65	0.8062	345	55.90
1	0.61	0.7810	345	54.15
5	1.00	1.0000	344	69.29
4	0.97	0.9849	344	68.24
3	0.95	0.9747	345	67.58
2	0.93	0.9644	344	66.82
1	1.10	1.0488	343	72.63
Average	1.0182	1.0090	345.0	69.96

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	-0.01	0.02	0.00	0.06
Pre Test Span Direct	10.50	10.57	48.70	4.52
Pre-test Zero	0.04	0.10	0.03	0.10
Pre-test Span	10.50	10.61	48.60	4.50
0-30 min	9.63	10.95	40.80	-0.16
Post Test Zero Direct	0.00	0.04	-0.02	0.06
Post Test Span Direct	10.52	10.60	49.14	4.49
Post-test Zero	0.04	0.11	0.04	0.11
Post-test Span	10.49	10.61	48.57	4.51
Average	9.63	10.95	40.80	-0.16
Corr. Results	9.65	10.92	40.39	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	-0.1%	-0.1%	0.6%	0.7%
Pre-Test Zero Bias	0.2%	0.5%	0.0%	0.6%
Pre-Test Span Bias	0.0%	0.2%	-0.1%	-0.2%
Post-Test Zero Bias	0.2%	0.4%	0.1%	0.5%
Post-Test Span Bias	-0.2%	0.1%	-0.6%	0.3%
Zero Drift	0.0%	0.0%	0.0%	0.0%
Span Drift	0.0%	0.0%	0.0%	0.1%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.654	% dry
	8.413	% wet
CO_2:	10.925	% dry
	9.521	% wet
NO_x:	40.389	ppm dry
	35.201	ppm wet
	27.146	lb/hr
SO_2:	9.04	ppm dry
	8.456	lb/hr
CO:	0.00	ppm dry
	0.00	ppm wet
	0.000	lb/hr
H_2O:	12.8	%
MW:	28.58	lb/lb-mole
Flow:	163,040	wacfm
	93.83	mdscfm
	5629.56	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5629.56	5246.60	382.96	6.8%
O_2	% dry	9.65	9.5	0.11	1.2%
CO_2	% dry	10.92	11.0	-0.07	-0.7%
NO_x	ppm dry	40.39	42.4	-1.99	-4.9%
NO_x	ppm @ 3% O_2	64.28	66.6	-2.32	-3.6%
NO_x	lb/hr	27.15	26.6127	0.53	2.0%
SO_2	ppm dry	9.04	9.23	-0.19	-2.1%
SO_2	ppm @ 3% O_2	14.39	14.53	-0.14	-1.0%
SO_2	lb/hr	8.456	8.065	0.391	4.6%
CO	ppm dry	0.00	1.47	-1.47	
CO	ppm @ 3% O_2	0.00	2.32	-2.32	
CO	lb/hr	0.000	0.561		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.00987167	
Total VOL (ml)	546.8	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.09	

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	9-RA-U1	
Date:	2/22/2022	
Start/Stop Time:	14:29	14:59
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.09	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.12	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	866.2	747.0	119.2
2/H2O	753.8	750.2	3.6
3/Empty	604.8	604.8	0.0
4/S.G.	1031.7	1024.5	7.2
Rinse		50.0	-50.0
Total			80.0

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	321.000	81	83
		80	84
Stop	347.113	81	84
Total	26.113		82.2

Summary

Sample Volume:	26.113	dscf
H_2O Volume :	3.776	scf
Moisture Content:	12.6	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.50	1.2247	344	84.81
4	1.40	1.1832	345	81.98
3	1.30	1.1402	346	79.05
2	1.20	1.0954	347	76.00
1	1.00	1.0000	346	69.33
5	1.30	1.1402	345	79.00
4	1.20	1.0954	346	75.95
3	1.10	1.0488	346	72.72
2	1.10	1.0488	347	72.76
1	1.00	1.0000	345	69.29
5	1.20	1.0954	345	75.90
4	1.00	1.0000	346	69.33
3	0.94	0.9695	347	67.26
2	0.87	0.9327	346	64.67
1	0.77	0.8775	345	60.80
5	0.83	0.9110	345	63.12
4	0.81	0.9000	346	62.40
3	0.79	0.8888	347	61.66
2	0.88	0.9381	347	65.08
1	0.94	0.9695	346	67.22
5	1.30	1.1402	346	79.05
4	1.10	1.0488	346	72.72
3	0.77	0.8775	347	60.88
2	0.65	0.8062	345	55.86
1	0.62	0.7874	344	54.52
5	1.20	1.0954	343	75.81
4	0.97	0.9849	343	68.16
3	0.91	0.9539	344	66.06
2	0.98	0.9899	345	68.59
1	1.20	1.0954	345	75.90
Average	1.0160	1.0080	345.5	69.86

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.00	0.04	-0.02	0.06
Pre Test Span Direct	10.52	10.60	49.14	4.49
Pre-test Zero	0.04	0.11	0.04	0.11
Pre-test Span	10.49	10.61	48.57	4.51
0-30 min	9.51	11.06	39.34	-0.17
Post Test Zero Direct	0.00	0.04	-0.02	0.03
Post Test Span Direct	10.52	10.61	49.02	4.48
Post-test Zero	0.04	0.12	0.03	0.07
Post-test Span	10.49	10.62	48.49	4.48
Average	9.51	11.06	39.34	-0.17
Corr. Results	9.54	11.03	38.99	0.00
	Cal Error <2%, Bias <5%; Drift <3%			
Calibrtion Error	0.0%	0.1%	1.1%	0.4%
Pre-Test Zero Bias	0.2%	0.4%	0.1%	0.5%
Pre-Test Span Bias	-0.2%	0.1%	-0.6%	0.3%
Post-Test Zero Bias	0.2%	0.4%	0.1%	0.4%
Post-Test Span Bias	-0.2%	0.0%	-0.6%	0.0%
Zero Drift	0.0%	0.1%	0.0%	-0.5%
Span Drift	0.0%	0.0%	-0.1%	-0.4%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.543	% dry
	8.338	% wet
CO_2:	11.032	% dry
	9.639	% wet
NO_x:	38.988	ppm dry
	34.063	ppm wet
	26.216	lb/hr
SO_2:	7.68	ppm dry
	7.189	lb/hr
CO:	0.00	ppm dry
	0.00	ppm wet
	0.000	lb/hr
H_2O:	12.6	%
MW:	28.61	lb/lb-mole
Flow:	162,808	wacfm
	93.87	mdscfm
	5632.05	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5632.05	5341.43	290.62	5.2%
O_2	% dry	9.54	9.4	0.09	1.0%
CO_2	% dry	11.03	11.1	-0.07	-0.6%
NO_x	ppm dry	38.99	40.9	-1.95	-5.0%
NO_x	ppm @ 3% O_2	61.45	63.7	-2.26	-3.7%
NO_x	lb/hr	26.22	26.27	-0.05	-0.2%
SO_2	ppm dry	7.68	7.50	0.18	2.4%
SO_2	ppm @ 3% O_2	12.11	11.69	0.42	3.5%
SO_2	lb/hr	7.189	6.687	0.502	7.0%
CO	ppm dry	0.00	1.19	-1.19	
CO	ppm @ 3% O_2	0.00	1.86	-1.86	
CO	lb/hr	0.000	0.461		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.00987167	
Total VOL (ml)	506.7	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	1.89	

Montrose AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 1

PRE-TEST INFORMATION
GENERAL

Test:	10-RA-U1	
Date:	2/22/2022	
Start/Stop Time:	15:15	15:45
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.09	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.12	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	745.5	621.9	123.6
2/H2O	745.0	741.1	3.9
3/Empty	642.1	640.7	1.4
4/S.G.	969.5	961.2	8.3
Rinse		50.0	-50.0
Total			87.2

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	348.800	80	84
		78	84
Stop	375.838	77	83
Total	27.038		81.0

Summary

Sample Volume:	27.096	dscf
H_2O Volume :	4.116	scf
Moisture Content:	13.2	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.40	1.1832	345	82.09
4	1.30	1.1402	346	79.15
3	1.20	1.0954	346	76.04
2	1.10	1.0488	347	72.85
1	0.98	0.9899	346	68.72
5	1.30	1.1402	347	79.20
4	1.10	1.0488	348	72.90
3	1.10	1.0488	348	72.90
2	1.10	1.0488	347	72.85
1	1.00	1.0000	345	69.38
5	1.30	1.1402	346	79.15
4	1.00	1.0000	347	69.46
3	1.00	1.0000	348	69.51
2	0.98	0.9899	348	68.81
1	0.77	0.8775	346	60.91
5	0.89	0.9434	345	65.45
4	0.78	0.8832	346	61.31
3	0.80	0.8944	347	62.13
2	0.88	0.9381	347	65.16
1	0.95	0.9747	345	67.62
5	1.40	1.1832	343	81.98
4	1.30	1.1402	346	79.15
3	0.75	0.8660	347	60.16
2	0.67	0.8185	347	56.86
1	0.63	0.7937	345	55.07
5	0.98	0.9899	344	68.64
4	0.90	0.9487	344	65.77
3	1.00	1.0000	345	69.38
2	1.10	1.0488	345	72.76
1	1.20	1.0954	343	75.90
Average	1.0181	1.0090	346.0	70.04

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.00	0.04	-0.02	0.03
Pre Test Span Direct	10.52	10.61	49.02	4.48
Pre-test Zero	0.04	0.11	0.04	0.11
Pre-test Span	10.49	10.61	48.57	4.51
0-30 min	9.59	11.01	38.01	-0.18
Post-test Zero	0.00	0.05	-0.02	0.01
Post-test Span	10.52	10.61	48.95	4.48
Post Test Zero Direct	0.03	0.14	0.04	0.04
Post Test Span Direct	10.49	10.62	48.75	4.44
Average	9.59	11.01	38.01	-0.18
Corr. Results	9.61	10.98	37.50	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.0%	0.2%	1.0%	0.3%
Pre-Test Zero Bias	0.2%	0.3%	0.1%	0.9%
Pre-Test Span Bias	-0.2%	0.0%	-0.5%	0.4%
Post-Test Zero Bias	-0.2%	-0.4%	-0.1%	-0.4%
Post-Test Span Bias	0.2%	0.0%	0.2%	0.5%
Zero Drift	-0.2%	-0.3%	-0.1%	-1.1%
Span Drift	0.2%	0.0%	0.4%	-0.4%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.613	% dry
	8.345	% wet
CO_2:	10.979	% dry
	9.531	% wet
NO_x:	37.500	ppm dry
	32.555	ppm wet
	25.105	lb/hr
SO_2:	9.09	ppm dry
	8.465	lb/hr
CO:	0.00	ppm dry
	0.00	ppm wet
	0.000	lb/hr
H_2O:	13.2	%
MW:	28.54	lb/lb-mole
Flow:	163,226	wacfm
	93.46	mdscfm
	5607.51	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5607.51	5417.73	189.78	3.4%
O_2	% dry	9.61	9.5	0.08	0.8%
CO_2	% dry	10.98	11.0	-0.03	-0.3%
NO_x	ppm dry	37.50	39.6	-2.13	-5.7%
NO_x	ppm @ 3% O_2	59.47	62.2	-2.76	-4.6%
NO_x	lb/hr	25.10	25.72	-0.62	-2.5%
SO_2	ppm dry	9.09	8.98	0.11	1.2%
SO_2	ppm @ 3% O_2	14.41	14.09	0.32	2.2%
SO_2	lb/hr	8.465	8.099	0.366	4.3%
CO	ppm dry	0.00	0.98	-0.98	
CO	ppm @ 3% O_2	0.00	1.54	-1.54	
CO	lb/hr	0.000	0.386		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.00987167	
Total VOL (ml)	539.1	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.18	

Appendix C.3
Unit 2 Calculations

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	1-RA-U2	
Date:	2/23/2022	
Start/Stop Time:	7:30	8:00
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.05	"Hg
Meter No.	1-P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.42	iwg
Pstack:	30.08	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	762.6	631.2	131.4
2/H2O	742.3	741.7	0.6
3/Empty	642.7	640.8	1.9
4/S.G.	976.6	969.5	7.1
Rinse		50.0	-50.0
Total			91.0

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	384.400	50	53
		52	54
Stop	410.180	55	57
Total	25.780		53.5

Summary

Sample Volume:	27.183	dscf
H_2O Volume :	4.295	scf
Moisture Content:	13.6	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.40	1.1832	318	80.74
4	1.20	1.0954	319	74.80
3	1.10	1.0488	320	71.66
2	1.10	1.0488	321	71.71
1	1.20	1.0954	321	74.89
5	1.40	1.1832	321	80.90
4	1.20	1.0954	321	74.89
3	1.10	1.0488	322	71.75
2	1.00	1.0000	321	68.37
1	0.99	0.9950	320	67.98
5	1.00	1.0000	319	68.28
4	0.90	0.9487	320	64.82
3	0.84	0.9165	321	62.66
2	0.73	0.8544	321	58.41
1	0.64	0.8000	319	54.63
5	0.73	0.8544	318	58.30
4	0.76	0.8718	319	59.53
3	0.68	0.8246	320	56.34
2	0.74	0.8602	321	58.81
1	0.77	0.8775	321	59.99
5	1.30	1.1402	321	77.95
4	1.00	1.0000	322	68.41
3	0.94	0.9695	322	66.33
2	0.62	0.7874	321	53.83
1	0.55	0.7416	320	50.67
5	0.88	0.9381	319	64.05
4	0.79	0.8888	320	60.73
3	0.73	0.8544	321	58.41
2	0.80	0.8944	321	61.15
1	0.84	0.9165	320	62.62
Average	0.9173	0.9578	320.3	65.45

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.02	0.03	-0.02	0.00
Pre Test Span Direct	10.55	10.62	48.86	4.43
Pre-test Zero	0.03	0.10	0.43	0.08
Pre-test Span	10.51	10.61	48.77	4.48
0-60 min	8.94	11.69	39.20	-0.21
Post Test Zero Direct	0.02	0.07	0.00	0.03
Post Test Span Direct	10.54	10.65	48.95	4.48
Post-test Zero	0.04	0.14	0.06	0.09
Post-test Span	10.52	10.66	48.61	4.50
Average	8.94	11.69	39.20	-0.21
Corr. Results	8.95	11.64	38.68	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibration Error	0.1%	0.2%	0.8%	-0.4%
Pre-Test Zero Bias	0.1%	0.4%	0.5%	0.9%
Pre-Test Span Bias	-0.2%	-0.1%	-0.1%	0.6%
Post-Test Zero Bias	0.1%	0.4%	0.1%	0.8%
Post-Test Span Bias	-0.1%	0.0%	-0.4%	0.2%
Zero Drift	0.0%	0.2%	-0.4%	0.2%
Span Drift	0.1%	0.3%	-0.2%	0.2%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.946	% dry
CO_2:	11.641	% dry
NO_x:	38.680	ppm dry
	24.825	lb/hr
SO_2:	8.840482063	ppm dry
SO2:	7.894	lb/hr
CO:	0.00	ppm dry
	0.000	lb/hr
H_2O:	13.6	%
MW:	28.55	lb/lb-mole
Flow:	152,536	wacfm
	89.60	mdscfm
	5375.91	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5375.91	5175.97	199.94	3.7%
O_2	% dry	8.95	9.0	-0.08	-0.9%
CO_2	% dry	11.64	11.9	-0.21	-1.8%
NO_x	ppm dry	38.68	40.7	-2.06	-5.3%
NO_x	ppm @ 3% O_2	57.92	61.3	-3.40	-5.9%
NO_x	lb/hr	24.83	25.25	-0.42	-1.7%
SO_2	ppm dry	8.84	8.87	-0.03	-0.3%
SO_2	ppm @ 3% O_2	13.24	13.34	-0.11	-0.8%
SO_2	lb/hr	7.89	7.656	0.238	3.0%
CO	ppm dry	0.00	3.08	-3.08	
CO	ppm @ 3% O_2	0.00	4.64	-4.64	
CO	lb/hr	0.000	1.158		

SOx Titration Summary

	B1/2
N BaCl2	0.00981354
Total VOL (ml)	536.6
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.15

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	2-RA-U2	
Date:	2/23/2022	
Start/Stop Time:	8:30	9:00
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.05	"Hg
Meter No.	1-P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.42	iwg
Pstack:	30.08	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	874.6	745.3	129.3
2/H2O	739.2	738.0	1.2
3/Empty	605.9	604.4	1.5
4/S.G.	951.7	942.7	9.0
Rinse		50.0	-50.0
Total			91.0

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	412.600	54	56
		55	58
Stop	438.482	57	59
Total	25.882		56.5

Summary

Sample Volume:	27.132	dscf
H_2O Volume :	4.295	scf
Moisture Content:	13.7	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.30	1.1402	317	77.73
4	1.10	1.0488	318	71.55
3	1.10	1.0488	320	71.64
2	1.30	1.1402	320	77.88
1	1.30	1.1402	320	77.88
5	1.20	1.0954	319	74.78
4	1.10	1.0488	320	71.64
3	1.00	1.0000	321	68.35
2	1.20	1.0954	321	74.88
1	1.00	1.0000	320	68.31
5	0.96	0.9798	319	66.89
4	0.90	0.9487	319	64.76
3	0.85	0.9220	320	62.98
2	0.77	0.8775	321	59.98
1	0.68	0.8246	319	56.29
5	0.74	0.8602	318	58.69
4	0.71	0.8426	319	57.52
3	0.69	0.8307	321	56.78
2	0.68	0.8246	320	56.33
1	0.66	0.8124	320	55.49
5	1.30	1.1402	318	77.78
4	1.10	1.0488	319	71.60
3	0.83	0.9110	320	62.23
2	0.68	0.8246	321	56.37
1	0.60	0.7746	320	52.91
5	0.93	0.9644	318	65.79
4	0.72	0.8485	318	57.89
3	0.79	0.8888	319	60.68
2	0.87	0.9327	319	63.67
1	1.00	1.0000	318	68.22
Average	0.9225	0.9605	319.4	65.58

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.02	0.07	0.00	0.03
Pre Test Span Direct	10.54	10.65	48.95	4.48
Pre-test Zero	0.04	0.14	0.06	0.09
Pre-test Span	10.52	10.66	48.61	4.50
0-60 min	8.77	11.85	39.58	-0.23
Post Test Zero Direct	0.00	0.02	0.01	0.01
Post Test Span Direct	10.54	10.60	48.86	4.45
Post-test Zero	0.04	0.11	0.05	0.03
Post-test Span	10.51	10.61	48.40	4.48
Average	8.77	11.85	39.58	-0.23
Corr. Results	8.77	11.80	39.23	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.0%	0.4%	0.9%	0.3%
Pre-Test Zero Bias	0.1%	0.4%	0.1%	0.8%
Pre-Test Span Bias	-0.1%	0.0%	-0.4%	0.2%
Post-Test Zero Bias	0.2%	0.4%	0.0%	0.3%
Post-Test Span Bias	-0.2%	0.0%	-0.5%	0.3%
Zero Drift	0.0%	-0.2%	0.0%	-0.7%
Span Drift	-0.1%	-0.3%	-0.2%	-0.2%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.771	% dry
CO_2:	11.801	% dry
NO_x:	39.235	ppm dry
	25.255	lb/hr
SO_2:	8.26782487	ppm dry
	7.404	lb/hr
CO:	0.00	ppm dry
	0.000	lb/hr
H_2O:	13.7	%
MW:	28.57	lb/lb-mole
Flow:	152,837	wacfm
	89.86	mdscfm
	5391.58	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5391.58	5077.57	314.01	5.8%
O_2	% dry	8.77	8.9	-0.10	-1.1%
CO_2	% dry	11.80	12.0	-0.20	-1.7%
NO_x	ppm dry	39.23	41.2	-1.92	-4.9%
NO_x	ppm @ 3% O_2	57.90	61.1	-3.19	-5.5%
NO_x	lb/hr	25.25	25.0	0.24	1.0%
SO_2	ppm dry	8.27	7.57	0.70	8.5%
SO_2	ppm @ 3% O_2	12.20	11.27	0.93	7.6%
SO_2	lb/hr	7.404	6.390	1.014	13.7%
CO	ppm dry	0.00	0.13	-0.13	
CO	ppm @ 3% O_2	0.00	0.19	-0.19	
CO	lb/hr	0.000	0.047		

SOx Titration Summary

	B1/2
N BaCl2	0.00981354
Total VOL (ml)	500.9
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.15

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	3-RA-U2	
Date:	2/23/2022	
Start/Stop Time:	9:15	9:45
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.05	"Hg
Meter No.	1-P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.42	iwg
Pstack:	30.08	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	747.7	616.8	130.9
2/H2O	738.4	736.2	2.2
3/Empty	640.6	639.8	0.8
4/S.G.	983.2	976.6	6.6
Rinse		50.0	-50.0
Total			90.5

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	439.700	57	60
		58	60
Stop	465.517	58	61
Total	25.817		59.0

Summary

Sample Volume:	26.934	dscf
H_2O Volume :	4.272	scf
Moisture Content:	13.7	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.40	1.1832	318	80.73
4	1.10	1.0488	319	71.61
3	1.20	1.0954	320	74.84
2	1.20	1.0954	320	74.84
1	1.30	1.1402	321	77.95
5	1.20	1.0954	318	74.74
4	1.10	1.0488	319	71.61
3	1.00	1.0000	320	68.32
2	1.00	1.0000	320	68.32
1	0.97	0.9849	319	67.24
5	0.86	0.9274	319	63.32
4	0.82	0.9055	319	61.83
3	0.80	0.8944	320	61.11
2	0.79	0.8888	320	60.72
1	0.66	0.8124	318	55.43
5	0.69	0.8307	318	56.68
4	0.62	0.7874	319	53.76
3	0.68	0.8246	319	56.30
2	0.74	0.8602	320	58.77
1	0.71	0.8426	318	57.49
5	1.20	1.0954	318	74.74
4	1.00	1.0000	320	68.32
3	0.87	0.9327	321	63.76
2	0.64	0.8000	322	54.73
1	0.56	0.7483	321	51.16
5	0.88	0.9381	320	64.09
4	0.74	0.8602	321	58.81
3	0.72	0.8485	322	58.04
2	0.75	0.8660	321	59.20
1	0.94	0.9695	318	66.15
Average	0.8915	0.9442	319.6	64.49

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.00	0.02	0.01	0.01
Pre Test Span Direct	10.54	10.60	48.86	4.45
Pre-test Zero	0.04	0.11	0.05	0.03
Pre-test Span	10.51	10.61	48.40	4.48
0-60 min	8.83	11.78	40.89	-0.23
Post Test Zero Direct	-0.01	0.06	-0.02	0.00
Post Test Span Direct	10.54	10.64	48.95	4.45
Post-test Zero	0.05	0.14	0.05	0.06
Post-test Span	10.50	10.65	48.61	4.44
Average	8.83	11.78	40.89	-0.23
Corr. Results	8.84	11.74	40.55	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.1%	0.1%	0.8%	-0.1%
Pre-Test Zero Bias	0.2%	0.4%	0.0%	0.3%
Pre-Test Span Bias	-0.2%	0.0%	-0.5%	0.3%
Post-Test Zero Bias	0.3%	0.4%	0.1%	0.7%
Post-Test Span Bias	-0.2%	0.0%	-0.4%	-0.1%
Zero Drift	0.0%	0.2%	0.0%	0.3%
Span Drift	0.0%	0.2%	0.2%	-0.4%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.841	% dry
CO_2:	11.743	% dry
NO_x:	40.545	ppm dry
	25.649	lb/hr
SO_2:	9.23615491	ppm dry
	8.129	lb/hr
CO:	0.00	ppm dry
	0.000	lb/hr
H_2O:	13.7	%
MW:	28.56	lb/lb-mole
Flow:	150,282	wacfm
	88.31	mdscfm
	5298.75	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5298.75	5023.90	274.85	5.2%
O_2	% dry	8.84	8.9	-0.09	-1.0%
CO_2	% dry	11.74	11.9	-0.20	-1.7%
NO_x	ppm dry	40.55	42.3	-1.80	-4.4%
NO_x	ppm @ 3% O_2	60.18	63.1	-2.96	-4.9%
NO_x	lb/hr	25.65	25.4820	0.17	0.7%
SO_2	ppm dry	9.24	9.15	0.08	0.9%
SO_2	ppm @ 3% O_2	13.71	13.64	0.07	0.5%
SO_2	lb/hr	8.129	7.663	0.466	5.7%
CO	ppm dry	0.00	0.00	0.00	
CO	ppm @ 3% O_2	0.00	0.00	0.00	
CO	lb/hr	0.000	0.001	0.00	

SOx Titration Summary

	B1/2
N BaCl2	0.00981354
Total VOL (ml)	552.9
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.16

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	4-RA-U2	
Date:	2/23/2022	
Start/Stop Time:	9:58	10:28
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.05	"Hg
Meter No.	1-P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.42	iwg
Pstack:	30.08	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	859.5	730.6	128.9
2/H2O	769.1	764.9	4.2
3/Empty	604.3	602.6	1.7
4/S.G.	959.5	951.7	7.8
Rinse		50.0	-50.0
Total			92.6

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	467.000	57	61
		59	62
Stop	493.116	60	63
Total	26.116		60.3

Summary

Sample Volume:	27.176	dscf
H_2O Volume :	4.371	scf
Moisture Content:	13.9	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.30	1.1402	318	77.81
4	1.20	1.0954	320	74.85
3	1.20	1.0954	321	74.90
2	1.10	1.0488	319	71.62
1	1.30	1.1402	318	77.81
5	1.20	1.0954	317	74.71
4	1.00	1.0000	318	68.24
3	1.10	1.0488	319	71.62
2	1.20	1.0954	320	74.85
1	1.20	1.0954	318	74.76
5	0.82	0.9055	318	61.80
4	0.80	0.8944	319	61.08
3	0.78	0.8832	318	60.27
2	0.76	0.8718	319	59.53
1	0.64	0.8000	320	54.67
5	0.68	0.8246	317	56.24
4	0.65	0.8062	318	55.02
3	0.64	0.8000	319	54.63
2	0.73	0.8544	318	58.31
1	0.76	0.8718	318	59.49
5	1.30	1.1402	317	77.76
4	1.00	1.0000	318	68.24
3	0.74	0.8602	318	58.71
2	0.63	0.7937	319	54.20
1	0.57	0.7550	318	51.52
5	0.88	0.9381	318	64.02
4	0.70	0.8367	319	57.13
3	0.74	0.8602	320	58.78
2	0.76	0.8718	321	59.61
1	0.98	0.9899	320	67.65
Average	0.8970	0.9471	318.7	64.66

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	-0.01	0.06	-0.02	0.00
Pre Test Span Direct	10.54	10.64	48.95	4.45
Pre-test Zero	0.05	0.14	0.05	0.06
Pre-test Span	10.50	10.65	48.61	4.44
0-30 min	8.72	11.89	43.43	-0.23
Post Test Zero Direct	-0.01	0.05	-0.02	-0.01
Post Test Span Direct	10.53	10.61	49.01	4.44
Post-test Zero	0.03	0.14	0.05	0.05
Post-test Span	10.48	10.63	48.53	4.44
Average	8.72	11.89	43.43	-0.23
Corr. Results	8.74	11.84	43.01	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.0%	0.3%	0.9%	-0.1%
Pre-Test Zero Bias	0.3%	0.4%	0.1%	0.7%
Pre-Test Span Bias	-0.2%	0.0%	-0.4%	-0.1%
Post-Test Zero Bias	0.2%	0.5%	0.1%	0.7%
Post-Test Span Bias	-0.3%	0.1%	-0.5%	0.0%
Zero Drift	-0.1%	0.0%	0.0%	-0.1%
Span Drift	-0.1%	-0.1%	-0.1%	0.0%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.744	% dry
CO_2:	11.837	% dry
NO_x:	43.009	ppm dry
	27.262	lb/hr
SO_2:	11.5833829	ppm dry
	10.215	lb/hr
CO:	0.00	ppm dry
	0.000	lb/hr
H_2O:	13.9	%
MW:	28.55	lb/lb-mole
Flow:	150,688	wacfm
	88.49	mdscfm
	5309.21	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5309.21	5026.13	283.07	5.3%
O_2	% dry	8.74	8.8	-0.09	-1.0%
CO_2	% dry	11.84	12.0	-0.19	-1.6%
NO_x	ppm dry	43.01	44.8	-1.80	-4.2%
NO_x	ppm @ 3% O_2	63.33	66.2	-2.92	-4.6%
NO_x	lb/hr	27.26	26.9767	0.28	1.0%
SO_2	ppm dry	11.58	11.74	-0.16	-1.4%
SO_2	ppm @ 3% O_2	17.06	17.32	-0.27	-1.6%
SO_2	lb/hr	10.215	9.835	0.380	3.7%
CO	ppm dry	0.00	0.00	0.00	
CO	ppm @ 3% O_2	0.00	0.00	0.00	
CO	lb/hr	0.000	0.000		

SOx Titration Summary

	B1/2
N BaCl2	0.00981354
Total VOL (ml)	555.6
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.72

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	5-RA-U2	
Date:	2/23/2022	
Start/Stop Time:	10:40	11:10
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.05	"Hg
Meter No.	1-P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.42	iwg
Pstack:	30.08	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	767.1	633.5	133.6
2/H2O	727.2	724.1	3.1
3/Empty	642.7	640.2	2.5
4/S.G.	991.1	983.2	7.9
Rinse		50.0	-50.0
Total			97.1

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	494.500	60	64
		60	64
Stop	520.047	61	65
Total	25.547		62.3

Summary

Sample Volume:	26.482	dscf
H_2O Volume :	4.583	scf
Moisture Content:	14.8	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.20	1.0954	317	74.87
4	1.00	1.0000	318	68.39
3	0.98	0.9899	319	67.75
2	1.00	1.0000	320	68.48
1	1.20	1.0954	318	74.92
5	1.10	1.0488	317	71.68
4	1.20	1.0954	317	74.87
3	1.20	1.0954	318	74.92
2	1.10	1.0488	319	71.77
1	1.20	1.0954	318	74.92
5	0.78	0.8832	318	60.40
4	0.82	0.9055	318	61.93
3	0.75	0.8660	319	59.27
2	0.73	0.8544	319	58.47
1	0.63	0.7937	318	54.28
5	0.68	0.8246	317	56.36
4	0.66	0.8124	318	55.56
3	0.64	0.8000	319	54.75
2	0.70	0.8367	318	57.22
1	0.68	0.8246	318	56.40
5	1.20	1.0954	318	74.92
4	0.96	0.9798	319	67.05
3	0.80	0.8944	318	61.17
2	0.64	0.8000	319	54.75
1	0.57	0.7550	318	51.63
5	0.83	0.9110	318	62.31
4	0.78	0.8832	320	60.48
3	0.72	0.8485	320	58.11
2	0.75	0.8660	320	59.30
1	0.97	0.9849	318	67.36
Average	0.8701	0.9328	318.4	63.81

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	-0.01	0.05	-0.02	-0.01
Pre Test Span Direct	10.53	10.61	49.01	4.44
Pre-test Zero	0.03	0.14	0.05	0.05
Pre-test Span	10.48	10.63	48.53	4.44
0-30 min	8.79	11.77	42.07	-0.26
Post Test Zero Direct	0.00	0.05	-0.02	-0.03
Post Test Span Direct	10.54	10.61	48.99	4.39
Post-test Zero	0.04	0.13	0.04	0.01
Post-test Span	10.49	10.63	48.52	4.38
Average	8.79	11.77	42.07	-0.26
Corr. Results	8.82	11.73	41.69	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibration Error	0.0%	0.2%	1.0%	-0.2%
Pre-Test Zero Bias	0.2%	0.5%	0.1%	0.7%
Pre-Test Span Bias	-0.3%	0.1%	-0.5%	0.0%
Post-Test Zero Bias	0.2%	0.4%	0.1%	0.4%
Post-Test Span Bias	-0.2%	0.1%	-0.5%	-0.1%
Zero Drift	0.1%	0.0%	0.0%	-0.5%
Span Drift	0.1%	0.0%	0.0%	-0.7%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.818	% dry
CO_2:	11.732	% dry
NO_x:	41.695	ppm dry
	25.818	lb/hr
SO_2:	11.1518255	ppm dry
	9.607	lb/hr
CO:	0.00	ppm dry
	0.000	lb/hr
H_2O:	14.8	%
MW:	28.43	lb/lb-mole
Flow:	148,701	wacfm
	86.44	mdscfm
	5186.55	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5186.55	4990.60	195.95	3.8%
O_2	% dry	8.82	8.9	-0.10	-1.1%
CO_2	% dry	11.73	11.9	-0.20	-1.7%
NO_x	ppm dry	41.69	43.4	-1.69	-4.1%
NO_x	ppm @ 3% O_2	61.77	64.4	-2.64	-4.3%
NO_x	lb/hr	25.82	26.0187	-0.20	-0.8%
SO_2	ppm dry	11.15	10.71	0.44	3.9%
SO_2	ppm @ 3% O_2	16.52	15.94	0.58	3.5%
SO_2	lb/hr	9.607	8.914	0.693	7.2%
CO	ppm dry	0.00	0.00	0.00	
CO	ppm @ 3% O_2	0.00	0.00	0.00	
CO	lb/hr	0.000	0.000	0.00	

SOx Titration Summary

	B1/2
N BaCl2	0.00981354
Total VOL (ml)	545.3
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.60

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	6-RA-U2	
Date:	2/23/2022	
Start/Stop Time:	11:23	11:53
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.05	"Hg
Meter No.	1-P&M	
Meter Y_d	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.42	iwg
Pstack:	30.08	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	882.0	751.2	130.8
2/H2O	767.4	765.0	2.4
3/Empty	603.3	603.5	-0.2
4/S.G.	964.7	959.5	5.2
Rinse		50.0	-50.0
Total			88.2

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	523.500	60	64
		61	65
Stop	549.247	61	65
Total	25.747		62.7

Summary

Sample Volume:	26.672	dscf
H_2O Volume :	4.163	scf
Moisture Content:	13.5	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.30	1.1402	318	77.77
4	1.20	1.0954	319	74.77
3	0.96	0.9798	320	66.92
2	1.20	1.0954	320	74.82
1	1.00	1.0000	318	68.21
5	1.10	1.0488	318	71.54
4	1.00	1.0000	319	68.25
3	1.20	1.0954	320	74.82
2	1.30	1.1402	318	77.77
1	1.30	1.1402	317	77.72
5	0.80	0.8944	318	61.01
4	0.84	0.9165	319	62.56
3	0.78	0.8832	319	60.28
2	0.76	0.8718	318	59.46
1	0.64	0.8000	317	54.53
5	0.68	0.8246	318	56.25
4	0.62	0.7874	319	53.74
3	0.68	0.8246	320	56.32
2	0.72	0.8485	320	57.95
1	0.74	0.8602	319	58.71
5	1.30	1.1402	317	77.72
4	0.98	0.9899	318	67.52
3	0.92	0.9592	319	65.47
2	0.66	0.8124	318	55.41
1	0.58	0.7616	318	51.95
5	1.00	1.0000	317	68.17
4	0.72	0.8485	318	57.88
3	0.66	0.8124	317	55.38
2	0.81	0.9000	318	61.39
1	0.96	0.9798	318	66.83
Average	0.8994	0.9484	318.4	64.70

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.00	0.05	-0.02	-0.03
Pre Test Span Direct	10.54	10.61	48.99	4.39
Pre-test Zero	0.04	0.13	0.04	0.01
Pre-test Span	10.49	10.63	48.52	4.38
0-30 min	8.84	11.74	40.73	-0.26
Post Test Zero Direct	0.00	0.03	-0.02	-0.02
Post Test Span Direct	10.53	10.59	49.06	4.42
Post-test Zero	0.05	0.14	0.02	-0.01
Post-test Span	10.50	10.63	48.63	4.36
Average	8.84	11.74	40.73	-0.26
Corr. Results	8.86	11.70	40.33	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.0%	0.2%	0.9%	-0.9%
Pre-Test Zero Bias	0.2%	0.4%	0.1%	0.4%
Pre-Test Span Bias	-0.2%	0.1%	-0.5%	-0.1%
Post-Test Zero Bias	0.3%	0.6%	0.0%	0.1%
Post-Test Span Bias	-0.2%	0.2%	-0.5%	-0.7%
Zero Drift	0.1%	0.1%	0.0%	-0.2%
Span Drift	0.0%	0.0%	0.1%	-0.2%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.858	% dry
CO_2:	11.704	% dry
NO_x:	40.329	ppm dry
	25.693	lb/hr
SO_2:	10.0032468	ppm dry
	8.867	lb/hr
CO:	0.00	ppm dry
	0.000	lb/hr
H_2O:	13.5	%
MW:	28.58	lb/lb-mole
Flow:	150,787	wacfm
	88.94	mdscfm
	5336.33	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5336.33	4967.60	368.73	6.9%
O_2	% dry	8.86	9.0	-0.11	-1.3%
CO_2	% dry	11.70	11.8	-0.14	-1.2%
NO_x	ppm dry	40.33	42.0	-1.63	-4.0%
NO_x	ppm @ 3% O_2	59.95	62.6	-2.65	-4.4%
NO_x	lb/hr	25.69	25.0510	0.64	2.5%
SO_2	ppm dry	10.00	10.03	-0.03	-0.3%
SO_2	ppm @ 3% O_2	14.87	15.00	-0.13	-0.9%
SO_2	lb/hr	8.867	8.307	0.560	6.3%
CO	ppm dry	0.00	0.00	0.00	
CO	ppm @ 3% O_2	0.00	0.00	0.00	
CO	lb/hr	0.000	0.000		

SOx Titration Summary

	B1/2
N BaCl2	0.00981354
Total VOL (ml)	554.5
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.31

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	7-RA-U2	
Date:	2/23/2022	
Start/Stop Time:	12:05	12:35
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.05	"Hg
Meter No.	1-P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.42	iwg
Pstack:	30.08	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	757.0	624.7	132.3
2/H2O	741.3	738.2	3.1
3/Empty	641.0	640.4	0.6
4/S.G.	950.7	942.3	8.4
Rinse		50.0	-50.0
Total			94.4

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	550.300	63	66
		63	67
Stop	576.318	64	68
Total	26.018		65.2

Summary

Sample Volume:	26.825	dscf
H_2O Volume :	4.456	scf
Moisture Content:	14.2	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.10	1.0488	318	71.65
4	0.98	0.9899	319	67.67
3	1.00	1.0000	320	68.40
2	1.10	1.0488	320	71.74
1	1.20	1.0954	318	74.84
5	1.20	1.0954	318	74.84
4	1.20	1.0954	319	74.88
3	1.10	1.0488	320	71.74
2	1.30	1.1402	321	78.04
1	1.30	1.1402	320	77.99
5	1.00	1.0000	318	68.32
4	0.92	0.9592	319	65.57
3	0.80	0.8944	320	61.18
2	0.77	0.8775	321	60.06
1	0.63	0.7937	320	54.29
5	0.74	0.8602	321	58.88
4	0.63	0.7937	322	54.36
3	0.66	0.8124	322	55.64
2	0.74	0.8602	321	58.88
1	0.73	0.8544	319	58.41
5	1.00	1.0000	318	68.32
4	1.20	1.0954	319	74.88
3	0.88	0.9381	319	64.13
2	0.64	0.8000	320	54.72
1	0.56	0.7483	319	51.16
5	0.83	0.9110	318	62.24
4	0.70	0.8367	318	57.16
3	0.68	0.8246	319	56.37
2	0.74	0.8602	318	58.77
1	0.87	0.9327	318	63.72
Average	0.8934	0.9452	319.4	64.63

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.00	0.03	-0.02	-0.02
Pre Test Span Direct	10.53	10.59	49.06	4.42
Pre-test Zero	0.05	0.14	0.02	-0.01
Pre-test Span	10.50	10.63	48.63	4.36
0-30 min	8.77	11.77	42.93	-0.23
Post Test Zero Direct	0.01	0.06	-0.02	-0.01
Post Test Span Direct	10.51	10.63	48.96	4.40
Post-test Zero	0.04	0.14	0.03	0.03
Post-test Span	10.50	10.62	48.42	4.46
Average	8.77	11.77	42.93	-0.23
Corr. Results	8.79	11.74	42.55	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.0%	0.0%	1.0%	-0.5%
Pre-Test Zero Bias	0.3%	0.6%	0.0%	0.1%
Pre-Test Span Bias	-0.2%	0.2%	-0.5%	-0.7%
Post-Test Zero Bias	0.2%	0.4%	0.0%	0.5%
Post-Test Span Bias	-0.1%	0.0%	-0.6%	0.6%
Zero Drift	-0.1%	0.0%	0.0%	0.5%
Span Drift	0.0%	0.0%	-0.2%	1.1%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.792	% dry
CO_2:	11.739	% dry
NO_x:	42.551	ppm dry
	26.810	lb/hr
SO_2:	12.3405379	ppm dry
	10.818	lb/hr
CO:	0.00	ppm dry
	0.000	lb/hr
H_2O:	14.2	%
MW:	28.49	lb/lb-mole
Flow:	150,611	wacfm
	87.96	mdscfm
	5277.51	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5277.51	4960.80	316.71	6.0%
O_2	% dry	8.79	8.9	-0.10	-1.1%
CO_2	% dry	11.74	12.0	-0.22	-1.9%
NO_x	ppm dry	42.55	44.2	-1.68	-4.0%
NO_x	ppm @ 3% O_2	62.91	65.6	-2.67	-4.2%
NO_x	lb/hr	26.81	26.3227	0.49	1.8%
SO_2	ppm dry	12.34	12.51	-0.17	-1.4%
SO_2	ppm @ 3% O_2	18.24	18.54	-0.30	-1.6%
SO_2	lb/hr	10.818	10.354	0.464	4.3%
CO	ppm dry	0.00	0.00	0.00	
CO	ppm @ 3% O_2	0.00	0.00	0.00	
CO	lb/hr	0.000	0.000		

SOx Titration Summary

	B1/2
N BaCl2	0.00981354
Total VOL (ml)	549.9
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.89

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	8-RA-U2	
Date:	2/23/2022	
Start/Stop Time:	12:49	13:19
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.05	"Hg
Meter No.	1-P&M	
Meter Y_d	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.42	iwg
Pstack:	30.08	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	883.2	749.0	134.2
2/H2O	745.7	742.2	3.5
3/Empty	608.0	605.5	2.5
4/S.G.	972.9	964.7	8.2
Rinse		50.0	-50.0
Total			98.4

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	577.800	62	66
		63	66
Stop	604.322	64	67
Total	26.522		64.7

Summary

Sample Volume:	27.370	dscf
H_2O Volume :	4.644	scf
Moisture Content:	14.5	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.30	1.1402	317	77.88
4	0.97	0.9849	318	67.31
3	0.99	0.9950	319	68.05
2	1.20	1.0954	318	74.87
1	1.00	1.0000	318	68.35
5	1.20	1.0954	317	74.82
4	1.00	1.0000	318	68.35
3	1.10	1.0488	318	71.68
2	1.30	1.1402	319	77.98
1	1.10	1.0488	320	71.77
5	0.83	0.9110	320	62.35
4	0.82	0.9055	321	62.01
3	0.76	0.8718	320	59.66
2	0.78	0.8832	318	60.36
1	0.67	0.8185	317	55.91
5	0.66	0.8124	317	55.49
4	0.64	0.8000	318	54.68
3	0.65	0.8062	319	55.14
2	0.70	0.8367	318	57.18
1	0.73	0.8544	319	58.43
5	0.98	0.9899	318	67.66
4	1.10	1.0488	319	71.73
3	0.80	0.8944	319	61.17
2	0.63	0.7937	318	54.25
1	0.56	0.7483	318	51.15
5	0.78	0.8832	318	60.36
4	0.76	0.8718	319	59.62
3	0.73	0.8544	319	58.43
2	0.84	0.9165	318	62.64
1	0.91	0.9539	318	65.20
Average	0.8713	0.9335	318.4	63.82

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.01	0.06	-0.02	-0.01
Pre Test Span Direct	10.51	10.63	48.96	4.40
Pre-test Zero	0.04	0.14	0.03	0.03
Pre-test Span	10.50	10.62	48.42	4.46
0-30 min	8.79	11.81	41.84	-0.24
Post Test Zero Direct	0.00	0.05	-0.02	-0.01
Post Test Span Direct	10.50	10.62	48.97	4.43
Post-test Zero	0.04	0.13	0.04	0.04
Post-test Span	10.50	10.62	48.64	4.42
Average	8.79	11.81	41.84	-0.24
Corr. Results	8.81	11.78	41.47	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	-0.1%	0.2%	0.9%	-0.7%
Pre-Test Zero Bias	0.2%	0.4%	0.0%	0.5%
Pre-Test Span Bias	-0.1%	0.0%	-0.6%	0.6%
Post-Test Zero Bias	0.2%	0.4%	0.1%	0.5%
Post-Test Span Bias	0.0%	0.0%	-0.4%	-0.2%
Zero Drift	0.0%	-0.1%	0.0%	0.1%
Span Drift	0.0%	0.0%	0.2%	-0.4%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.807	% dry
CO_2:	11.778	% dry
NO_x:	41.466	ppm dry
	25.751	lb/hr
SO_2:	13.0779249	ppm dry
	11.300	lb/hr
CO:	0.00	ppm dry
	0.000	lb/hr
H_2O:	14.5	%
MW:	28.46	lb/lb-mole
Flow:	148,718	wacfm
	86.69	mdscfm
	5201.66	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5201.66	4950.03	251.63	4.8%
O_2	% dry	8.81	8.9	-0.10	-1.1%
CO_2	% dry	11.78	12.0	-0.17	-1.5%
NO_x	ppm dry	41.47	43.2	-1.72	-4.2%
NO_x	ppm @ 3% O_2	61.38	64.3	-2.91	-4.7%
NO_x	lb/hr	25.75	25.6167	0.13	0.5%
SO_2	ppm dry	13.08	13.18	-0.10	-0.8%
SO_2	ppm @ 3% O_2	19.36	19.65	-0.29	-1.5%
SO_2	lb/hr	11.300	10.868	0.431	3.8%
CO	ppm dry	0.00	0.00	0.00	
CO	ppm @ 3% O_2	0.00	0.00	0.00	
CO	lb/hr	0.000	0.000		

SOx Titration Summary

	B1/2
N BaCl2	0.00981354
Total VOL (ml)	517.6
Aliquot VOL (ml)	20
Titrant VOL (ml)	3.32

MONTROSE AQS
RELATIVE ACCURACY TEST AUDIT
DATA AND WORKSHEET
Desert View Power UNIT 2

PRE-TEST INFORMATION
GENERAL

Test:	9-RA-U2	
Date:	2/23/2022	
Start/Stop Time:	13:33	14:03
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.05	"Hg
Meter No.	1-P&M	
Meter Y_d:	1.0150	
Meter Pressure:	2.5	iwg
Pstack:	0.42	iwg
Pstack:	30.08	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	759.8	625.2	134.6
2/H2O	735.7	732.5	3.2
3/Empty	642.0	640.0	2.0
4/S.G.	959.1	950.7	8.4
Rinse		50.0	-50.0
Total			98.2

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	605.700	64	68
		66	68
Stop	632.346	66	69
Total	26.646		66.8

Summary

Sample Volume:	27.385	dscf
H_2O Volume :	4.635	scf
Moisture Content:	14.5	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.20	1.0954	318	74.87
4	1.10	1.0488	319	71.73
3	1.00	1.0000	320	68.43
2	1.20	1.0954	320	74.96
1	1.20	1.0954	319	74.91
5	1.00	1.0000	318	68.34
4	1.20	1.0954	319	74.91
3	1.20	1.0954	320	74.96
2	1.30	1.1402	319	77.97
1	1.10	1.0488	320	71.77
5	0.86	0.9274	318	63.38
4	0.82	0.9055	319	61.93
3	0.80	0.8944	320	61.21
2	0.76	0.8718	318	59.58
1	0.65	0.8062	318	55.10
5	0.72	0.8485	318	57.99
4	0.68	0.8246	319	56.39
3	0.65	0.8062	319	55.14
2	0.70	0.8367	318	57.18
1	0.72	0.8485	318	57.99
5	1.10	1.0488	316	71.59
4	0.97	0.9849	317	67.27
3	0.88	0.9381	318	64.11
2	0.64	0.8000	319	54.71
1	0.57	0.7550	318	51.60
5	0.94	0.9695	318	66.26
4	0.76	0.8718	319	59.62
3	0.72	0.8485	318	57.99
2	0.74	0.8602	318	58.79
1	0.86	0.9274	317	63.34
Average	0.8892	0.9430	318.5	64.47

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.02	18.94	94.70	8.37
Actual Span Value	10.53	10.58	48.1	4.46
Pre Test Zero Direct	0.00	0.05	-0.02	-0.01
Pre Test Span Direct	10.50	10.62	48.97	4.43
Pre-test Zero	0.04	0.13	0.04	0.04
Pre-test Span	10.50	10.62	48.64	4.42
0-30 min	8.81	11.78	41.90	-0.25
Post Test Zero Direct	0.00	0.03	-0.02	-0.01
Post Test Span Direct	10.53	10.58	48.95	4.44
Post-test Zero	0.04	0.12	0.03	0.03
Post-test Span	10.49	10.59	48.50	4.38
Average	8.81	11.78	41.90	-0.25
Corr. Results	8.83	11.77	41.49	0.00
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	-0.1%	0.2%	0.9%	-0.3%
Pre-Test Zero Bias	0.2%	0.4%	0.1%	0.5%
Pre-Test Span Bias	0.0%	0.0%	-0.4%	-0.2%
Post-Test Zero Bias	0.2%	0.5%	0.0%	0.4%
Post-Test Span Bias	-0.2%	0.1%	-0.5%	-0.7%
Zero Drift	0.0%	-0.1%	0.0%	-0.1%
Span Drift	-0.1%	-0.2%	-0.1%	-0.5%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.834	% dry
CO_2:	11.765	% dry
NO_x:	41.489	ppm dry
	26.035	lb/hr
SO_2:	10.8640046	ppm dry
	9.485	lb/hr
CO:	0.00	ppm dry
	0.000	lb/hr
H_2O:	14.5	%
MW:	28.46	lb/lb-mole
Flow:	150,236	wacfm
	87.60	mdscfm
	5256.27	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5256.27	4959.17	297.10	5.7%
O_2	% dry	8.83	8.9	-0.10	-1.1%
CO_2	% dry	11.77	12.0	-0.23	-1.9%
NO_x	ppm dry	41.49	43.4	-1.93	-4.6%
NO_x	ppm @ 3% O_2	61.55	64.7	-3.14	-5.1%
NO_x	lb/hr	26.04	25.83	0.21	0.8%
SO_2	ppm dry	10.86	11.08	-0.22	-2.0%
SO_2	ppm @ 3% O_2	16.12	16.49	-0.37	-2.3%
SO_2	lb/hr	9.485	9.183	0.302	3.2%
CO	ppm dry	0.00	0.00	0.00	
CO	ppm @ 3% O_2	0.00	0.00	0.00	
CO	lb/hr	0.000	0.000		

SOx Titration Summary

	B1/2
N BaCl2	0.00981354
Total VOL (ml)	529
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.70

APPENDIX D
QUALITY ASSURANCE

Appendix D.1
Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC's (MAQS) ASTM D7036-04 certification, MAQS is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. MAQS' 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: MAQS has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: MAQS 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 MAQS' QA efforts. The manual is revised upon periodic review and as MAQS 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. MAQS 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 MAQS 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 MAQS' 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: MAQS maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: MAQS maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to MAQS source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to MAQS 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

MAQS 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). MAQS 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 MAQS 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)

The following safety measures will be 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 $\Delta H@$	--
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	+/- 1.5%

Note: Calibration requirements that meet applicable regulatory agency requirements will be used.

Appendix D.2
CARB, SCAQMD, and STAC Certifications

State of California

California Air Resources Board

Approved Independent Contractor

Montrose Air Quality Services, LLC

This is to certify that the company listed above has been approved by the California Air Resources Board to conduct compliance testing pursuant to California Code of Regulations, title 17, section 91207, through June 30, 2022 for those test methods listed below:

CARB Source Test Methods:
1, 2, 3, 2C, 5, 6, 8, 17, 20
100 (CO_2, CO, NOx, O_2, SO_2, THC)

Catherine Dunwoody, Chief
Monitoring and Laboratory Division

MONTROSE AIR QUALITY SERVICES

State of California

California Air Resources Board

Approved Independent Contractor

Montrose Air Quality Services, LLC

This is to certify that the company listed above has been approved by the California Air Resources Board to conduct compliance testing pursuant to California Code of Regulations, title 17, section 91207, through June 30, 2022 for those test methods listed below:

U.S. EPA Source Test Methods 201A, 202 and 205
Visible Emissions Evaluation

Catherine Dunwoody, Chief
Monitoring and Laboratory Division

MONTROSE AIR QUALITY SERVICES

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

September 1, 2021

Mr. John Peterson
Montrose Air Quality Services, LLC
1631 E. Saint Andrew Place
Santa Ana, CA 92705

Subject: LAP Approval Notice
Reference # 96LA1220

Dear Mr. Peterson:

We have reviewed your renewal letter under the South Coast Air Quality Management District's Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning September 30, 2021, and ending September 30, 2022 for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

South Coast AQMD Methods 1-4
South Coast AQMD Methods 10.1 and 100.1
USEPA CTM-030 and ASTM D6522-00
Rule 1420/1420.1/1420.2 – (Lead) Source and Ambient Sampling
South Coast AQMD Methods 5.1, 5.2, 5.3, 6.1
South Coast AQMD Methods 25.1 and 25.3 (Sampling)
Rule 1121/ 1146.2 Protocol

Your LAP approval to perform nitrogen oxide emissions compliance testing for Rule 1121/ 1146.2 Protocols includes satellite facilities located at:

McKenna Boiler
1510 North Spring Street
Los Angeles, CA 90012

Noritz America Corp.
11160 Grace Avenue
Fountain Valley, CA 92708

Ajax Boiler, Inc.
2701 S. Harbor Blvd.
Santa Ana, CA 92704

VA Laundry Bldg., Greater LA Healthcare Sys.
508 Constitution Avenue
Los Angeles, CA 90049

So Cal Gas – Engr Analysis Ctr, Bldg H
8101 Rosemead Blvd
Pico Rivera, CA 90660

Thank you for participating in the LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions. You may direct any questions or information to LAP Coordinator, Colin Eckerle. He may be reached by telephone at (909) 396-2476, or via e-mail at ceckerle@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar
Program Supervisor
Source Test Engineering

DS:CE
Attachment

210901 LapRenewal.doc

STAC A2LA

STACK TESTING ACCREDITATION COUNCIL

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 Certifications

SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

DAVE A. WONDERLY

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

MANUAL GAS VOLUME MEASUREMENTS AND ISOKINETIC PARTICULATE SAMPLING METHODS

ISSUED THIS 29TH DAY OF NOVEMBER 2018 AND EFFECTIVE UNTIL NOVEMBER 28TH, 2023

Peter R. Westlin, QSTI/QSTO Review Board

J. Wade Bice, QSTI/QSTO Review Board

Peter S. Pakalnis, QSTI/QSTO Review Board

Karen D. Kajiya-Mills , QSTI/QSTO Review Board

Tina Sanderson, QSTI/QSTO Review Board

Bruce Randall QSTI/QSTO Review Board

CERTIFICATE NO. 2009-298

MONTROSE AIR QUALITY SERVICES

SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

DAVE A. WONDERLY

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

GASEOUS POLLUTANTS INSTRUMENTAL SAMPLING METHODS

ISSUED THIS 28TH DAY OF SEPTEMBER 2018 AND EFFECTIVE UNTIL SEPTEMBER 27TH, 2023

Peter R. Westlin, QSTI/QSTO Review Board

Peter S. Pakainis, QSTI/QSTO Review Board

Tina Sanderson, QSTI/QSTO Review Board

J. Wade Bice, QSTI/QSTO Review Board

Karen D. Kaiya-Mills , QSTI/QSTO Review Board

Bruce Randall QSTI/QSTO Review Board

CERTIFICATE
NO.
2009-298

Appendix D.4
Statement of No Conflict of Interest

STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Facility ID: _____
Date(s) Tested: **February 23, 2022**
Facility Name: **Desert View Power**
Equipment Address: **62-300 Gene Welmas Drive**
Mecca, California 92254
Equipment Tested: **CEMS**
Device ID, A/N, P/N: _____

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm: Montrose Air Quality Services, LLC

Business Address: 1631 E. St. Andrew Pl.

Santa Ana, California 92705

is an "Independent Testing Laboratory" as defined in ***District Rule 304(k):***

For the purposes of this Rule, when an independent testing laboratory is used for the purposes of establishing compliance with District rules or to obtain a District permit to operate, it must meet all of the following criteria:

(1) The testing laboratory shall have no financial interest in the company or facility being tested, or in the parent company, or any subsidiary thereof;

(2) The company or facility being tested, or parent company or any subsidiary thereof, shall have no financial interest in the testing laboratory;

(3) Any company or facility responsible for the emission of significant quantities of pollutants to the atmosphere, or parent company or any subsidiary thereof shall have no financial interest in the testing laboratory; and

(4) The testing laboratory shall not be in partnership with, own or be owned by, in part or in full, the contractor who has provided or installed equipment (basic or control) or monitoring systems, or is providing maintenance for installed equipment or monitoring systems, for the company being tested.

Furthermore, I state that any contracts or agreements entered into by my source testing firm and the facility referenced above, or its designated contractor(s), either verbal or written, are not contingent upon the outcome of the source testing, or the source testing information provided to the SCAQMD.

Signature: Dave Wonderly **Date:** **3/14/2022**

Dave Wonderly	Client Project Manager	(714) 279-6777	3/14/2022
(Name)	(Title)	(Phone)	(Date)

FORM ST-110 :stevforl.doc (Revised 11/18/98

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If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. David Wonderly
Title: Client Project Manager
Region: West
Email: DWonderly@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