TEST REPORT FOR
2021 CEMS RATA AT THE
DESERT VIEW POWER MECCA PLANT

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Test Date: **March 8 and 10, 2021**
Production Date: **May 20, 2021**
Report Number: **W002AS-006514-RT-2235**

STAC STACK TESTING ACCREDITATION COUNCIL

ACCREDITED TO ASTM D7036 ONLY CERT #3925.01

MONTROSE AIR QUALITY SERVICES

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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: 5/20/2021

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: 5/20/2021

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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) testing at the Desert View Power Project located in Mecca, California. Testing was conducted on March 8 and 10, 2021. Testing was performed in accordance with the test plan (MAQS Document Number: W002AS-006514-PP-276) submitted to Desert View Power on January 22, 2021. The MAQS test team consisted of Rik Dupont, John Peterson, Robert Howard, Luis Martinez, Shannon Scrugham and Patrick Whitman. John Paterson was the on-site Qualified Individual for MAQS. 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 units 1 and 2 continuous emissions monitoring system (CEMS).

The plant CEMS met all RATA requirements of CFR 40 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
MARCH 10, 2021

Parameter/Units	RA	Limit	Comment
NO_x			
ppm	4.1%	20%	Pass
@ 3% O_2	4.5%	20%	Pass
lb/hr	6.9%	20%	Pass
O_2, dry	1.4%	20%	Pass
CO			
ppm(1)	-0.22	<5 ppm(1)	Pass
@ 3% O_2(1)	-0.34	<5 ppm(1)	Pass
lb/hr(2)	0.48%	5%(2)	Pass
SO_2			
ppm	13.0%	20%	Pass
@ 3% O_2	13.2%	20%	Pass
lb/hr	7.4%	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
MARCH 8, 2021

Parameter/Units	RA	Limit	Comment
NO_x			
ppm	3.9%	20%	Pass
@ 3% O_2	4.7%	20%	Pass
lb/hr	5.2%	20%	Pass
O_2, dry	1.5%	20%	Pass
CO			
ppm(1)	-0.39	<5 ppm(1)	Pass
@ 3% O_2(1)	-0.58	<5 ppm(1)	Pass
lb/hr(2)	0.61%	5%(2)	Pass
SO_2			
ppm	12.3%	20%	Pass
@ 3% O_2	12.6%	20%	Pass
lb/hr	4.5%	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.

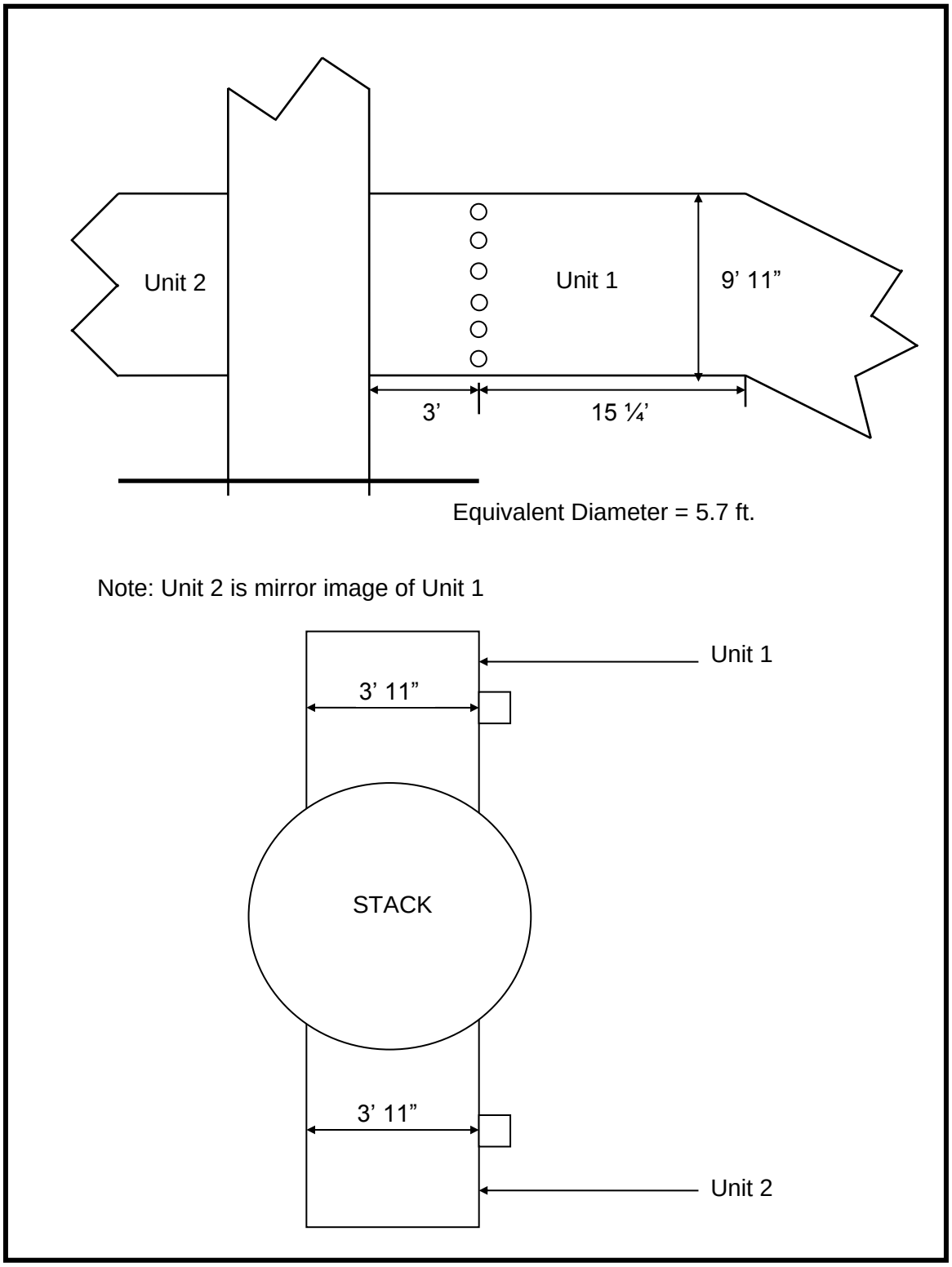
TABLE 2-2
AVERAGE DAILY UNIT DATA
DESERT VIEW POWER
MARCH, 2021

Date	Combined	Gross MW	Total Steam Production
3/8/2021	Units 1 & 2	47.8	401.5
3/10/2021	Units 1 & 2	47.2	395.4

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 Unit 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



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:

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

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

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

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

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

Where:

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

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

$|\bar{d}|$ = 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 RESULTS

This section presents the results of the RATA tests conducted at Desert View Power during March of 2021. 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 CFR 40, 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
MARCH 10, 2021

Run #	Date	Time	RM NO_x ppm dry	CEMS NO_x ppm dry	Difference NO_x ppm dry	Use Data? (Y or N)
1	3/10/2021	7:46	35.1	37.1	-2.0	Y
2	3/10/2021	9:08	34.2	36.1	-1.9	Y
3	3/10/2021	10:34	39.9	41.6	-1.7	Y
4	3/10/2021	11:54	43.7	45.3	-1.6	N
5	3/10/2021	13:14	47.8	49.3	-1.5	Y
6	3/10/2021	14:04	36.8	38.6	-1.8	Y
7	3/10/2021	14:56	46.8	48.4	-1.6	Y
8	3/10/2021	15:48	52.3	53.8	-1.5	Y
9	3/10/2021	16:36	49.5	50.9	-1.4	Y
10	3/10/2021	17:34	52.5	54.1	-1.6	Y

Ref. Method Average:	43.89	ppm
CEMS Average:	45.54	ppm
Average Difference:	-1.66	ppm
Number of Tests:	9	
Standard Deviation:	0.19	ppm
t Value:	2.306	
Confidence Coefficient:	0.15	ppm
Relative Accuracy:	4.10	% of Reference Method

TABLE 4-2
NO_X PPM @ 3% O_2 UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMARY
DESERT VIEW POWER
MARCH 10, 2021

Run #	Date	Time	RM NO_x ppmc	CEMS NO_x ppmc	Difference NO_x ppmc	Use Data? (Y or N)
1	3/10/2021	7:46	53.0	56.1	-3.1	Y
2	3/10/2021	9:08	51.6	54.6	-3.0	Y
3	3/10/2021	10:34	59.3	62.1	-2.8	Y
4	3/10/2021	11:54	64.7	67.4	-2.7	N
5	3/10/2021	13:14	71.8	74.4	-2.5	Y
6	3/10/2021	14:04	55.6	58.5	-2.9	Y
7	3/10/2021	14:56	70.3	72.9	-2.6	Y
8	3/10/2021	15:48	79.5	82.4	-2.8	Y
9	3/10/2021	16:36	73.7	76.2	-2.5	Y
10	3/10/2021	17:34	80.7	83.9	-3.2	Y

Ref. Method Average:	66.18	ppmc
CEMS Average:	69.00	ppmc
Average Difference:	-2.83	ppmc
Number of Tests:	9	
Standard Deviation:	0.23	ppmc
t Value:	2.306	
Confidence Coefficient:	0.18	
Relative Accuracy:	4.54	% of Reference Method

TABLE 4-3
NO_X LB/HR UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 10, 2021

Run #	Date	Time	RM NO_x lb/hr	CEMS NO_x lb/hr	Difference NO_x lb/hr	Use Data? (Y or N)
1	3/10/2021	7:46	23.75	26.66	-2.91	Y
2	3/10/2021	9:08	23.29	25.93	-2.65	Y
3	3/10/2021	10:34	27.27	25.33	1.94	Y
4	3/10/2021	11:54	29.39	25.26	4.13	N
5	3/10/2021	13:14	27.20	26.21	1.00	Y
6	3/10/2021	14:04	25.66	25.83	-0.17	Y
7	3/10/2021	14:56	26.54	24.85	1.68	Y
8	3/10/2021	15:48	29.53	26.59	2.93	Y
9	3/10/2021	16:36	26.09	25.75	0.34	Y
10	3/10/2021	17:34	26.74	26.34	0.41	Y

Ref. Method Average:	26.229	lb/hr
CEMS Average:	25.943	lb/hr
Average Difference:	0.286	lb/hr
Number of Tests:	9	
Standard Deviation:	1.976	lb/hr
t Value:	2.306	
Confidence Coefficient:	1.5189	
Relative Accuracy:	6.88	% of Reference Method

TABLE 4-4
SO_2 PPM UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 10, 2021

Run #	Date	Time	RM SO_2 ppm dry	CEMS SO_2 ppm dry	Difference SO_2 ppm dry	Use Data? (Y or N)
1	3/10/2021	7:46	6.0	6.2	-0.2	Y
2	3/10/2021	9:08	6.7	6.9	-0.2	Y
3	3/10/2021	10:34	7.4	8.2	-0.8	Y
4	3/10/2021	11:54	9.4	10.2	-0.9	N
5	3/10/2021	13:14	10.2	11.0	-0.8	Y
6	3/10/2021	14:04	9.2	9.9	-0.7	Y
7	3/10/2021	14:56	8.9	9.1	-0.2	Y
8	3/10/2021	15:48	10.5	11.8	-1.3	Y
9	3/10/2021	16:36	9.8	11.5	-1.7	Y
10	3/10/2021	17:34	12.2	11.0	1.2	Y

Ref. Method Average:	8.97	ppm
CEMS Average:	9.52	ppm
Average Difference:	-0.54	ppm
Number of Tests:	9	
Standard Deviation:	0.81	ppm
t Value:	2.306	
Confidence Coefficient:	0.63	ppm
Relative Accuracy:	13.00	% of Reference Method

TABLE 4-5
SO_2 PPM @ 3% O_2 UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 10, 2021

Run #	Date	Time	RM SO_2 ppm dry	CEMS SO_2 ppm dry	Difference SO_2 ppm dry	Use Data? (Y or N)
1	3/10/2021	7:46	9.0	9.4	-0.4	Y
2	3/10/2021	9:08	10.2	10.5	-0.4	Y
3	3/10/2021	10:34	11.0	12.2	-1.2	Y
4	3/10/2021	11:54	13.8	15.2	-1.3	N
5	3/10/2021	13:14	15.3	16.5	-1.2	Y
6	3/10/2021	14:04	13.8	15.0	-1.2	Y
7	3/10/2021	14:56	13.3	13.7	-0.4	Y
8	3/10/2021	15:48	15.9	18.0	-2.1	Y
9	3/10/2021	16:36	14.6	17.1	-2.5	Y
10	3/10/2021	17:34	18.7	17.1	1.7	Y

Ref. Method Average:	13.54	ppmc
CEMS Average:	14.40	ppmc
Average Difference:	-0.86	ppmc
Number of Tests:	9	
Standard Deviation:	1.21	ppmc
t Value:	2.306	
Confidence Coefficient:	0.93	ppmc
Relative Accuracy:	13.21	% of Reference Method

TABLE 4-6
SO_2 LB/HR UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 10, 2021

Run #	Date	Time	RM SO_2 lb/hr	CEMS SO_2 lb/hr	Difference SO_2 lb/hr	Use Data? (Y or N)
1	3/10/2021	7:46	5.61	6.20	-0.59	Y
2	3/10/2021	9:08	6.37	6.92	-0.55	Y
3	3/10/2021	10:34	7.05	7.00	0.05	Y
4	3/10/2021	11:54	8.76	7.97	0.78	N
5	3/10/2021	13:14	8.07	8.15	-0.07	Y
6	3/10/2021	14:04	8.88	9.24	-0.36	Y
7	3/10/2021	14:56	6.98	6.51	0.48	Y
8	3/10/2021	15:48	8.22	8.13	0.10	Y
9	3/10/2021	16:36	7.19	8.07	-0.89	Y
10	3/10/2021	17:34	8.63	7.46	1.17	Y

Ref. Method Average:	7.45	lb/hr
CEMS Average:	7.52	lb/hr
Average Difference:	-0.07	lb/hr
Number of Tests:	9	
Standard Deviation:	0.62	lb/hr
t Value:	2.306	
Confidence Coefficient:	0.48	ppmc
Relative Accuracy:	7.43	% of Reference Method

TABLE 4-7
CO PPM UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 10, 2021

Run #	Date	Time	RM CO ppm dry	CEMS CO ppm dry	Difference CO ppm dry	Use Data? (Y or N)
1	3/10/2021	7:46	0.1	1.2	-1.1	Y
2	3/10/2021	9:08	0.1	0.3	-0.2	Y
3	3/10/2021	10:34	0.1	0.8	-0.7	Y
4	3/10/2021	11:54	0.1	0.3	-0.2	N
5	3/10/2021	13:14	0.1	0.2	0.0	Y
6	3/10/2021	14:04	0.1	0.2	0.0	Y
7	3/10/2021	14:56	0.1	0.1	0.0	Y
8	3/10/2021	15:48	0.1	0.1	0.0	Y
9	3/10/2021	16:36	0.1	0.1	0.0	Y
10	3/10/2021	17:34	0.1	0.1	0.0	Y

Ref. Method Average:	0.11	ppm
CEMS Average:	0.34	ppm
Average Difference:	-0.22	(PS 4A Criteria: Avg. Diff. less than 5 ppm)
Number of Tests:	9	
Standard Deviation:	0.39	ppm
t Value:	2.306	
Confidence Coefficient:	0.30	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
MARCH 10, 2021

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	3/10/2021	7:46	0.2	1.8	-1.6	Y
2	3/10/2021	9:08	0.2	0.5	-0.3	Y
3	3/10/2021	10:34	0.1	1.2	-1.0	Y
4	3/10/2021	11:54	0.1	0.4	-0.3	N
5	3/10/2021	13:14	0.2	0.3	-0.1	Y
6	3/10/2021	14:04	0.2	0.2	0.0	Y
7	3/10/2021	14:56	0.2	0.2	0.0	Y
8	3/10/2021	15:48	0.1	0.1	0.0	Y
9	3/10/2021	16:36	0.1	0.1	0.0	Y
10	3/10/2021	17:34	0.2	0.1	0.1	Y

Ref. Method Average:	0.17	ppmc
CEMS Average:	0.51	ppmc
Average Difference:	-0.34	(PS 4A Criteria: Avg. Diff. less than 5 ppm)
Number of Tests:	9	
Standard Deviation:	0.59	ppmc
t Value:	2.306	
Confidence Coefficient:	0.46	ppmc
Relative Accuracy:	N/A	% of Reference Method

TABLE 4-9
CO LB/HR UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 10, 2021

Run #	Date	Time	RM CO lb/hr	CEMS CO lb/hr	Difference CO lb/hr	Use Data? (Y or N)
1	3/10/2021	7:46	0.05	0.52	-0.47	Y
2	3/10/2021	9:08	0.06	0.14	-0.09	Y
3	3/10/2021	10:34	0.03	0.29	-0.26	Y
4	3/10/2021	11:54	0.03	0.11	-0.07	N
5	3/10/2021	13:14	0.05	0.06	-0.01	Y
6	3/10/2021	14:04	0.05	0.06	-0.01	Y
7	3/10/2021	14:56	0.04	0.04	-0.01	Y
8	3/10/2021	15:48	0.02	0.03	0.00	Y
9	3/10/2021	16:36	0.03	0.02	0.00	Y
10	3/10/2021	17:34	0.04	0.03	0.02	Y

Ref. Method Average:	0.04	lb/hr
CEMS Average:	0.13	lb/hr
Average Difference:	-0.09	lb/hr
Number of Tests:	9	
Standard Deviation:	0.165	
t Value:	2.306	
Confidence Coefficient:	0.127	
Applicable Standard:	45.0	lb/hr
Relative Accuracy:	N/A	% of Reference Method
Relative Accuracy:	0.48	% of Applicable Standard

TABLE 4-10
O_2 % UNIT 1
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 10, 2021

Run #	Date	Time	RM O_2 % dry	CEMS O_2 % dry	Difference O_2 % dry	Use Data? (Y or N)
1	3/10/2021	7:46	9.04	9.16	-0.12	Y
2	3/10/2021	9:08	9.03	9.15	-0.12	Y
3	3/10/2021	10:34	8.86	8.99	-0.13	Y
4	3/10/2021	11:54	8.81	8.91	-0.11	N
5	3/10/2021	13:14	8.99	9.09	-0.09	Y
6	3/10/2021	14:04	9.06	9.16	-0.10	Y
7	3/10/2021	14:56	8.97	9.06	-0.10	Y
8	3/10/2021	15:48	9.13	9.23	-0.10	Y
9	3/10/2021	16:36	8.87	8.99	-0.11	Y
10	3/10/2021	17:34	9.25	9.39	-0.14	Y

Ref. Method Average:	9.02	
CEMS Average:	9.14	
Average Difference:	-0.11	
Number of Tests:	9	
Standard Deviation:	0.02	
t Value:	2.306	
Confidence Coefficient:	0.01	
Relative Accuracy:	1.40	% 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 CFR 40 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
MARCH 8, 2021

Run #	Date	Time	RM NO_x ppm dry	CEMS NO_x ppm dry	Difference NO_x ppm dry	Use Data? (Y or N)
1	3/8/2021	8:20	38.4	40.1	-1.7	Y
2	3/8/2021	9:35	39.1	40.6	-1.5	Y
3	3/8/2021	10:52	39.6	40.9	-1.3	Y
4	3/8/2021	12:15	40.1	41.5	-1.4	Y
5	3/8/2021	13:00	40.3	41.8	-1.5	Y
6	3/8/2021	13:48	39.9	41.4	-1.5	Y
7	3/8/2021	14:32	39.6	41.0	-1.4	Y
8	3/8/2021	15:18	40.6	41.7	-1.1	Y
9	3/8/2021	16:04	40.0	41.2	-1.3	Y

Ref. Method Average:	39.73	ppm
CEMS Average:	41.13	ppm
Average Difference:	-1.41	ppm
Number of Tests:	9	
Standard Deviation:	0.16	ppm
t Value:	2.306	
Confidence Coefficient:	0.12	ppm
Relative Accuracy:	3.85	% of Reference Method

TABLE 4-12
NO_X PPM @ 3% O_2 UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 8, 2021

Run #	Date	Time	RM NO_x ppmc	CEMS NO_x ppmc	Difference NO_x ppmc	Use Data? (Y or N)
1	3/8/2021	8:20	57.1	59.6	-2.5	Y
2	3/8/2021	9:35	58.0	60.8	-2.8	Y
3	3/8/2021	10:52	58.6	61.1	-2.5	Y
4	3/8/2021	12:15	59.2	61.8	-2.6	Y
5	3/8/2021	13:00	60.1	62.9	-2.8	Y
6	3/8/2021	13:48	59.0	61.7	-2.8	Y
7	3/8/2021	14:32	58.1	60.5	-2.4	Y
8	3/8/2021	15:18	59.0	61.1	-2.1	Y
9	3/8/2021	16:04	58.5	60.9	-2.4	Y

Ref. Method Average:	58.61	ppmc
CEMS Average:	61.17	ppmc
Average Difference:	-2.55	ppmc
Number of Tests:	9	
Standard Deviation:	0.22	ppmc
t Value:	2.306	
Confidence Coefficient:	0.17	
Relative Accuracy:	4.65	% of Reference Method

TABLE 4-13
NO_X LB/HR UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 8, 2021

Run #	Date	Time	RM NO_x lb/hr	CEMS NO_x lb/hr	Difference NO_x lb/hr	Use Data? (Y or N)
1	3/8/2021	8:20	25.89	25.04	0.85	Y
2	3/8/2021	9:35	26.25	24.91	1.35	Y
3	3/8/2021	10:52	26.47	24.86	1.60	Y
4	3/8/2021	12:15	26.39	25.07	1.32	Y
5	3/8/2021	13:00	26.60	25.17	1.43	Y
6	3/8/2021	13:48	25.93	24.92	1.01	Y
7	3/8/2021	14:32	25.78	24.76	1.02	Y
8	3/8/2021	15:18	26.18	25.31	0.87	Y
9	3/8/2021	16:04	25.55	24.88	0.67	Y

Ref. Method Average:	26.116	lb/hr
CEMS Average:	24.992	lb/hr
Average Difference:	1.124	lb/hr
Number of Tests:	9	
Standard Deviation:	0.312	lb/hr
t Value:	2.306	
Confidence Coefficient:	0.2401	
Relative Accuracy:	5.22	% of Reference Method

TABLE 4-14
SO_2 PPM UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 8, 2021

Run #	Date	Time	RM SO_2 ppm dry	CEMS SO_2 ppm dry	Difference SO_2 ppm dry	Use Data? (Y or N)
1	3/8/2021	8:20	8.7	9.7	-1.1	Y
2	3/8/2021	9:35	8.6	9.3	-0.7	Y
3	3/8/2021	10:52	8.9	10.3	-1.4	Y
4	3/8/2021	12:15	9.8	10.5	-0.7	Y
5	3/8/2021	13:00	9.6	10.8	-1.2	Y
6	3/8/2021	13:48	9.2	9.9	-0.8	Y
7	3/8/2021	14:32	9.7	10.2	-0.5	Y
8	3/8/2021	15:18	10.5	11.2	-0.7	Y
9	3/8/2021	16:04	10.1	9.4	0.7	Y

Ref. Method Average:	9.45	ppm
CEMS Average:	10.15	ppm
Average Difference:	-0.70	ppm
Number of Tests:	9	
Standard Deviation:	0.61	ppm
t Value:	2.306	
Confidence Coefficient:	0.47	ppm
Relative Accuracy:	12.30	% of Reference Method

TABLE 4-15
SO_2 PPM @ 3% O_2 UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 8, 2021

Run #	Date	Time	RM SO_2 ppm dry	CEMS SO_2 ppm dry	Difference SO_2 ppm dry	Use Data? (Y or N)
1	3/8/2021	8:20	12.9	14.4	-1.5	Y
2	3/8/2021	9:35	12.7	13.8	-1.1	Y
3	3/8/2021	10:52	13.2	15.4	-2.1	Y
4	3/8/2021	12:15	14.5	15.6	-1.1	Y
5	3/8/2021	13:00	14.4	16.2	-1.8	Y
6	3/8/2021	13:48	13.6	14.8	-1.2	Y
7	3/8/2021	14:32	14.2	15.1	-0.9	Y
8	3/8/2021	15:18	15.2	16.3	-1.1	Y
9	3/8/2021	16:04	14.8	13.8	1.0	Y

Ref. Method Average:	13.94	ppmc
CEMS Average:	15.03	ppmc
Average Difference:	-1.08	ppmc
Number of Tests:	9	
Standard Deviation:	0.88	ppmc
t Value:	2.306	
Confidence Coefficient:	0.68	ppmc
Relative Accuracy:	12.64	% of Reference Method

TABLE 4-16
SO_2 LB/HR UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 8, 2021

Run #	Date	Time	RM SO_2 lb/hr	CEMS SO_2 lb/hr	Difference SO_2 lb/hr	Use Data? (Y or N)
1	3/8/2021	8:20	8.13	8.49	-0.36	Y
2	3/8/2021	9:35	8.02	7.93	0.09	Y
3	3/8/2021	10:52	8.30	8.81	-0.51	Y
4	3/8/2021	12:15	8.99	8.84	0.16	Y
5	3/8/2021	13:00	8.85	9.09	-0.24	Y
6	3/8/2021	13:48	8.30	8.34	-0.03	Y
7	3/8/2021	14:32	8.78	8.62	0.16	Y
8	3/8/2021	15:18	9.39	9.43	-0.05	Y
9	3/8/2021	16:04	8.98	7.89	1.09	Y

Ref. Method Average:	8.64	lb/hr
CEMS Average:	8.60	lb/hr
Average Difference:	0.04	lb/hr
Number of Tests:	9	
Standard Deviation:	0.46	lb/hr
t Value:	2.306	
Confidence Coefficient:	0.35	ppmc
Relative Accuracy:	4.50	% of Reference Method

TABLE 4-17
CO PPM UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 8, 2021

Run #	Date	Time	RM CO ppm dry	CEMS CO ppm dry	Difference CO ppm dry	Use Data? (Y or N)
1	3/8/2021	8:20	0.1	0.0	0.1	Y
2	3/8/2021	9:35	0.1	0.1	0.0	Y
3	3/8/2021	10:52	0.1	0.6	-0.4	Y
4	3/8/2021	12:15	0.1	1.2	-1.0	Y
5	3/8/2021	13:00	0.2	1.2	-1.1	Y
6	3/8/2021	13:48	0.1	0.9	-0.7	Y
7	3/8/2021	14:32	0.1	0.7	-0.5	Y
8	3/8/2021	15:18	0.1	0.2	0.0	Y
9	3/8/2021	16:04	0.2	0.0	0.2	Y

Ref. Method Average:	0.14	ppm
CEMS Average:	0.53	ppm
Average Difference:	-0.39	(PS 4A Criteria: Avg. Diff. less than 5 ppm)
Number of Tests:	9	
Standard Deviation:	0.48	ppm
t Value:	2.306	
Confidence Coefficient:	0.37	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,
MARCH 8, 2021

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	3/8/2021	8:20	0.2	0.0	0.2	Y
2	3/8/2021	9:35	0.2	0.2	0.0	Y
3	3/8/2021	10:52	0.2	0.9	-0.7	Y
4	3/8/2021	12:15	0.2	1.7	-1.5	Y
5	3/8/2021	13:00	0.2	1.8	-1.6	Y
6	3/8/2021	13:48	0.2	1.3	-1.1	Y
7	3/8/2021	14:32	0.2	1.0	-0.7	Y
8	3/8/2021	15:18	0.2	0.2	-0.1	Y
9	3/8/2021	16:04	0.2	0.0	0.2	Y

Ref. Method Average:	0.21	ppmc
CEMS Average:	0.79	ppmc
Average Difference:	-0.58	(PS 4A Criteria: Avg. Diff. less than 5 ppm)
Number of Tests:	9	
Standard Deviation:	0.72	ppmc
t Value:	2.306	
Confidence Coefficient:	0.55	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
MARCH 8, 2021

Run #	Date	Time	RM CO lb/hr	CEMS CO lb/hr	Difference CO lb/hr	Use Data? (Y or N)
1	3/8/2021	8:20	0.05	0.00	0.05	Y
2	3/8/2021	9:35	0.06	0.04	0.02	Y
3	3/8/2021	10:52	0.05	0.21	-0.16	Y
4	3/8/2021	12:15	0.06	0.43	-0.37	Y
5	3/8/2021	13:00	0.06	0.44	-0.38	Y
6	3/8/2021	13:48	0.06	0.32	-0.27	Y
7	3/8/2021	14:32	0.06	0.24	-0.18	Y
8	3/8/2021	15:18	0.05	0.06	-0.01	Y
9	3/8/2021	16:04	0.06	0.00	0.06	Y

Ref. Method Average:	0.06	lb/hr
CEMS Average:	0.19	lb/hr
Average Difference:	-0.14	lb/hr
Number of Tests:	9	
Standard Deviation:	0.176	
t Value:	2.306	
Confidence Coefficient:	0.135	
Applicable Standard:	45.0	lb/hr
Relative Accuracy:	N/A	% of Reference Method
Relative Accuracy:	0.61	% of Applicable Standard

TABLE 4-20
O_2 % UNIT 2
RELATIVE ACCURACY TEST AUDIT SUMMARY
DESERT VIEW POWER
MARCH 8, 2021

Run #	Date	Time	RM O_2 % dry	CEMS O_2 % dry	Difference O_2 % dry	Use Data? (Y or N)
1	3/8/2021	8:20	8.86	8.86	0.00	Y
2	3/8/2021	9:35	8.82	8.95	-0.13	Y
3	3/8/2021	10:52	8.82	8.94	-0.12	Y
4	3/8/2021	12:15	8.77	8.89	-0.12	Y
5	3/8/2021	13:00	8.90	9.01	-0.11	Y
6	3/8/2021	13:48	8.80	8.91	-0.11	Y
7	3/8/2021	14:32	8.68	8.78	-0.10	Y
8	3/8/2021	15:18	8.59	8.70	-0.11	Y
9	3/8/2021	16:04	8.67	8.79	-0.12	Y

Ref. Method Average:	8.77	
CEMS Average:	8.87	
Average Difference:	-0.10	
Number of Tests:	9	
Standard Deviation:	0.04	
t Value:	2.306	
Confidence Coefficient:	0.03	
Relative Accuracy:	1.49	% of Reference Method

APPENDIX A
TEST DATA

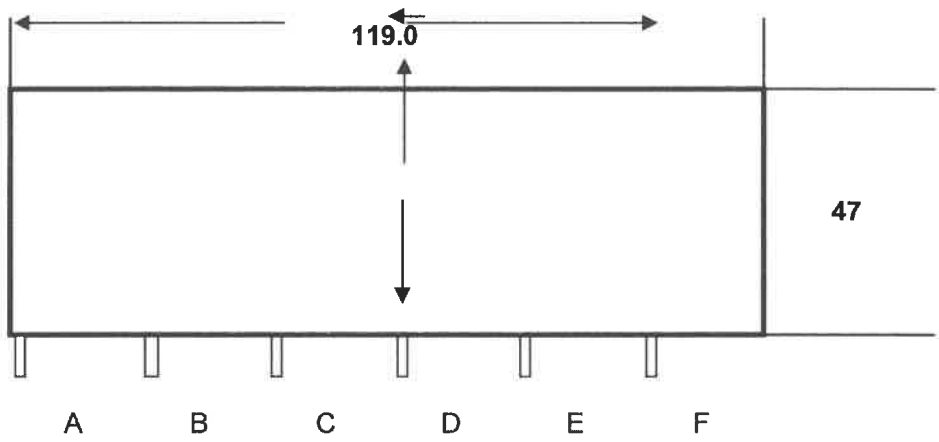
Appendix A.1
Unit 1 Reference Method Data

Appendix A.1.1
Unit 1 Sample Location

Method 1

Client: Desert View Power Date: 3/8/2021

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



		Point No.	Sample Point	Inches from nozzle
H (in.)	**119.0**			
		1	4.7	17.7
W (in.)	**47.0**	2	14.1	27.1
		3	23.5	36.5
Nipple length	**13.0**	4	32.9	45.9
		5	42.3	55.3
Distance between points	**9.40**			
Stack Area (ft^2)	**38.84**			

Appendix A.1.2
Unit 1 CEMS Data

Date	Time	O2 %	CO2 %	NOx ppm	CO ppm	
3/10/2021	6:38	20.963	0.153	0.022	0.669	
3/10/2021	6:39	20.969	0.152	0.018	0.637	
3/10/2021	6:40	20.973	0.16	0.017	0.598	
3/10/2021	6:41	6.525	0.11	0.199	0.606	
3/10/2021	6:42	0.01	0.068	0.016	0.272	
3/10/2021	6:43	0.006	0.002	0.016	0.013	
3/10/2021	6:44	0.005	0.009	0.016	0.005	DIR ZERO
3/10/2021	6:45	7.671	5.398	4.973	0.061	
3/10/2021	6:46	19.183	18.942	86.641	5.942	
3/10/2021	6:47	19.184	18.955	87.557	9.621	
3/10/2021	6:48	19.189	18.964	87.487	9.635	
3/10/2021	6:49	19.191	18.973	87.478	9.634	DIR HIGH
3/10/2021	6:50	13.186	11.88	46.401	8.914	
3/10/2021	6:51	10.863	10.417	41.449	4.892	
3/10/2021	6:52	10.869	10.425	41.494	4.61	DIR SPAN
3/10/2021	6:53	16.162	4.547	21.67	4.232	
3/10/2021	6:54	20.991	0.114	0.107	1.136	
3/10/2021	6:55	20.979	0.115	0.018	0.646	ZERO NO MODE
3/10/2021	6:56	20.821	0.277	70.806	0.586	
3/10/2021	6:57	20.825	0.26	87.844	0.546	NO NO MODE
3/10/2021	6:58	20.955	0.136	12.157	0.577	
3/10/2021	6:59	21.003	0.102	0.106	0.608	NO2 NO MODE
3/10/2021	7:00	21.003	0.113	38.793	0.658	
3/10/2021	7:01	21.004	0.115	42.57	0.728	NO2 NOX MODE
3/10/2021	7:02	21.008	0.113	8.228	0.622	
3/10/2021	7:03	21.002	0.114	0.174	0.662	
3/10/2021	7:04	20.999	0.117	0.135	0.641	
3/10/2021	7:05	21.008	0.11	0.119	0.671	
3/10/2021	7:06	21.008	0.107	0.131	0.72	
3/10/2021	7:07	21.008	0.107	0.119	0.745	
3/10/2021	7:08	21.008	0.107	0.106	0.692	
3/10/2021	7:09	21.008	0.107	0.106	0.698	
3/10/2021	7:10	21.008	0.113	0.106	0.7	
3/10/2021	7:11	21.008	0.107	0.101	0.731	
3/10/2021	7:12	21.008	0.102	0.105	0.776	
3/10/2021	7:13	21.008	0.101	0.079	0.648	
3/10/2021	7:14	21.011	0.128	0.187	0.675	
3/10/2021	7:15	9.897	11.359	39.851	0.712	
3/10/2021	7:16	8.641	11.941	49.949	0.2	
3/10/2021	7:17	8.59	12.041	55.498	0.203	
3/10/2021	7:18	9.055	11.551	46.767	0.181	
3/10/2021	7:19	9.069	11.598	45.893	0.195	
3/10/2021	7:20	9.755	10.887	28.245	0.219	
3/10/2021	7:21	9.597	11.012	31.404	0.237	
3/10/2021	7:22	9.698	11.01	28.638	0.251	
3/10/2021	7:23	8.992	11.658	43.483	0.228	

3/10/2021	7:24	8.894	11.724	39.176	0.217	
3/10/2021	7:25	8.969	11.68	47.191	0.226	
3/10/2021	7:26	11.683	9.099	32.576	0.26	
3/10/2021	7:27	9.257	11.429	35.872	0.24	
3/10/2021	7:28	8.787	11.845	44	0.228	
3/10/2021	7:29	8.791	11.853	54.255	0.244	
3/10/2021	7:30	8.862	11.705	46.518	0.223	
3/10/2021	7:31	8.965	11.735	45.87	0.205	
3/10/2021	7:32	8.42	12.188	46.068	0.201	
3/10/2021	7:33	11.226	9.966	4.763	0.206	
3/10/2021	7:34	10.838	10.432	0.081	0.12	
3/10/2021	7:35	10.838	10.435	0.062	0.115	SYS O2/CO2
3/10/2021	7:36	9.643	8.905	6.115	0.115	
3/10/2021	7:37	0.04	0.111	41.173	0.258	
3/10/2021	7:38	0.023	0.071	41.206	0.43	SYS NOX
3/10/2021	7:39	0.021	0.063	17.123	0.846	
3/10/2021	7:40	0.017	0.058	0.11	4.253	
3/10/2021	7:41	0.017	0.054	0.076	4.606	SYS CO
3/10/2021	7:42	5.498	6.046	15.664	4.019	
3/10/2021	7:43	9.323	11.332	31.942	0.527	
3/10/2021	7:44	9.239	11.274	30.952	0.22	
3/10/2021	7:45	8.939	11.703	41.344	0.214	
3/10/2021	7:46	8.77	11.838	47.549	0.204	RUN 1
3/10/2021	7:47	8.527	12.043	47.543	0.213	
3/10/2021	7:48	9.493	11.17	36.457	0.218	
3/10/2021	7:49	8.908	11.674	41.125	0.223	
3/10/2021	7:50	9.97	10.624	20.107	0.241	
3/10/2021	7:51	9.865	10.809	24.145	0.256	
3/10/2021	7:52	9.314	11.361	34.371	0.251	
3/10/2021	7:53	9.749	10.827	26.818	0.233	
3/10/2021	7:54	9.169	11.537	38.139	0.232	
3/10/2021	7:55	8.667	11.955	43.356	0.21	
3/10/2021	7:56	8.583	12.081	48.552	0.208	
3/10/2021	7:57	8.999	11.589	41.893	0.198	
3/10/2021	7:58	9.238	11.428	38.937	0.212	
3/10/2021	7:59	9.28	11.387	31.171	0.215	
3/10/2021	8:00	8.794	11.873	40.313	0.218	
3/10/2021	8:01	8.702	11.997	45.683	0.208	
3/10/2021	8:02	8.558	12.113	52.144	0.199	
3/10/2021	8:03	8.916	11.76	43.055	0.199	
3/10/2021	8:04	8.835	11.811	35.951	0.207	
3/10/2021	8:05	9.368	11.296	27.243	0.235	
3/10/2021	8:06	9.287	11.378	30.084	0.247	
3/10/2021	8:07	10.272	10.423	19.755	0.265	
3/10/2021	8:08	10.81	9.92	15.976	0.294	
3/10/2021	8:09	8.925	11.837	41.635	0.291	
3/10/2021	8:10	8.94	11.716	39.769	0.254	
3/10/2021	8:11	10.267	10.51	28.625	0.263	
3/10/2021	8:12	8.552	12.161	48.02	0.252	

3/10/2021	8:13	8.932	11.763	42.403	0.246	
3/10/2021	8:14	9.39	11.317	33.237	0.243	
3/10/2021	8:15	9.472	11.247	27.486	0.27	
3/10/2021	8:16	8.8	11.929	37.642	0.289	
3/10/2021	8:17	8.681	12.089	43.051	0.244	
3/10/2021	8:18	8.013	12.695	55.626	0.225	
3/10/2021	8:19	7.166	13.496	68.786	0.219	
3/10/2021	8:20	8.504	12.139	39.91	0.219	
3/10/2021	8:21	8.684	12.021	30.855	0.232	
3/10/2021	8:22	9.042	11.678	26.263	0.265	
3/10/2021	8:23	9.604	11.093	22.472	0.273	
3/10/2021	8:24	9.154	11.67	31.034	0.265	
3/10/2021	8:25	9.605	11.034	23.399	0.249	
3/10/2021	8:26	9.853	10.964	27.097	0.279	
3/10/2021	8:27	8.67	12.005	31.843	0.266	
3/10/2021	8:28	8.693	12.021	38.908	0.26	
3/10/2021	8:29	9.752	11.037	28.18	0.267	
3/10/2021	8:30	8.747	11.939	40.885	0.251	
3/10/2021	8:31	8.375	12.38	40.604	0.248	
3/10/2021	8:32	8.654	12.056	38.563	0.239	
3/10/2021	8:33	8.568	12.148	39.807	0.233	
3/10/2021	8:34	8.555	12.141	40.87	0.217	
3/10/2021	8:35	8.515	12.167	41.467	0.221	
3/10/2021	8:36	9.307	11.459	30.64	0.235	
3/10/2021	8:37	8.427	12.227	37.283	0.232	
3/10/2021	8:38	9.321	11.333	22.918	0.247	
3/10/2021	8:39	9.322	11.548	32.346	0.27	
3/10/2021	8:40	9.1	11.49	26.122	0.236	
3/10/2021	8:41	10.403	10.369	14.194	0.292	
3/10/2021	8:42	8.149	12.603	45.292	0.27	
3/10/2021	8:43	9.77	10.882	23.632	0.252	
3/10/2021	8:44	10.114	10.681	24.465	0.287	
3/10/2021	8:45	9.101	11.543	27.986	0.273	
3/10/2021	8:46	9.275	11.479	26.983	0.298	
AVERAGE		**9.0951**	**11.59872**	**35.05193**	**0.244233**	
3/10/2021	8:47	8.964	10.797	23.939	0.296	
3/10/2021	8:48	10.84	10.523	0.072	0.256	
3/10/2021	8:49	10.839	10.525	0.038	0.133	
3/10/2021	8:50	10.84	10.524	0.038	0.136	SYS O2/CO2
3/10/2021	8:51	9.547	8.871	6.542	0.134	
3/10/2021	8:52	0.045	0.154	41.098	0.282	
3/10/2021	8:53	0.025	0.107	41.192	0.454	SYS NOX
3/10/2021	8:54	0.022	0.092	17.257	0.864	
3/10/2021	8:55	0.019	0.087	0.108	4.276	
3/10/2021	8:56	0.017	0.08	0.077	4.634	
3/10/2021	8:57	0.017	0.075	0.053	4.64	SYS CO
3/10/2021	8:58	3.276	4.616	9.77	4.435	
3/10/2021	8:59	9.174	11.431	31.339	0.937	

3/10/2021	9:00	1.522	2.194	10.786	0.211	
3/10/2021	9:01	0.011	0.034	0.02	0.063	
3/10/2021	9:02	0.01	0.031	0.017	0.027	DIR ZEROI
3/10/2021	9:03	9.933	9.435	34.068	0.575	
3/10/2021	9:04	10.876	10.473	41.492	4.138	
3/10/2021	9:05	10.874	10.473	41.463	4.654	DIR SPAN
3/10/2021	9:06	10.121	10.725	25.327	3.677	
3/10/2021	9:07	9.475	11.211	20.351	0.426	
3/10/2021	9:08	8.92	11.721	24.109	0.298	RUN 2
3/10/2021	9:09	9.17	11.364	23.119	0.286	
3/10/2021	9:10	9.705	10.972	24.612	0.273	
3/10/2021	9:11	9.003	11.653	29.963	0.264	
3/10/2021	9:12	8.502	12.155	45.796	0.262	
3/10/2021	9:13	7.88	12.676	50.328	0.216	
3/10/2021	9:14	9.014	11.495	32.971	0.216	
3/10/2021	9:15	9.494	11.148	34.634	0.221	
3/10/2021	9:16	9.38	11.306	29.832	0.258	
3/10/2021	9:17	8.69	11.895	38.24	0.243	
3/10/2021	9:18	10.619	9.904	14.593	0.267	
3/10/2021	9:19	10.88	9.879	14.629	0.329	
3/10/2021	9:20	8.702	11.927	33.404	0.321	
3/10/2021	9:21	8.406	12.077	38.175	0.255	
3/10/2021	9:22	8.582	12.023	38.278	0.251	
3/10/2021	9:23	8.543	12.077	42.541	0.241	
3/10/2021	9:24	8.775	11.734	31.784	0.226	
3/10/2021	9:25	9.404	11.162	35.039	0.24	
3/10/2021	9:26	8.941	11.593	28.395	0.256	
3/10/2021	9:27	8.972	11.577	31.709	0.253	
3/10/2021	9:28	8.45	12.146	45.14	0.238	
3/10/2021	9:29	9.017	11.442	36.944	0.234	
3/10/2021	9:30	9.936	10.648	19.717	0.246	
3/10/2021	9:31	9.211	11.458	33.403	0.266	
3/10/2021	9:32	8.646	11.803	33.309	0.238	
3/10/2021	9:33	8.228	12.317	42.77	0.239	
3/10/2021	9:34	8.705	11.829	34.462	0.223	
3/10/2021	9:35	9.317	11.196	28.296	0.237	
3/10/2021	9:36	9.597	11.023	26.591	0.255	
3/10/2021	9:37	8.788	11.724	32.207	0.257	
3/10/2021	9:38	8.924	11.595	29.942	0.245	
3/10/2021	9:39	9.549	11.021	26.2	0.275	
3/10/2021	9:40	9.948	10.604	22.381	0.282	
3/10/2021	9:41	8.753	11.801	39.564	0.283	
3/10/2021	9:42	9.232	11.275	31.176	0.237	
3/10/2021	9:43	9.46	11.037	34.702	0.231	
3/10/2021	9:44	9.349	11.218	35.673	0.238	
3/10/2021	9:45	8.568	11.944	44.1	0.251	
3/10/2021	9:46	8.626	11.853	39.545	0.242	
3/10/2021	9:47	9.629	10.842	26.996	0.247	
3/10/2021	9:48	9.651	10.847	29.146	0.256	

3/10/2021	9:49	9.264	11.258	35.312	0.253	
3/10/2021	9:50	8.243	12.235	49.253	0.247	
3/10/2021	9:51	8.572	11.797	43.788	0.233	
3/10/2021	9:52	9.48	10.973	25.066	0.236	
3/10/2021	9:53	9.415	11.04	24.749	0.262	
3/10/2021	9:54	9.037	11.429	35.228	0.267	
3/10/2021	9:55	8.565	11.921	49.634	0.243	
3/10/2021	9:56	8.527	11.841	48.941	0.234	
3/10/2021	9:57	9.013	11.375	40.983	0.235	
3/10/2021	9:58	9.602	10.878	27.341	0.25	
3/10/2021	9:59	8.864	11.567	30.082	0.264	
3/10/2021	10:00	9.684	10.649	21.174	0.276	
3/10/2021	10:01	9.521	10.984	32.095	0.283	
3/10/2021	10:02	8.087	12.277	48.704	0.263	
3/10/2021	10:03	8.801	11.577	40.796	0.237	
3/10/2021	10:04	8.51	11.886	46.473	0.232	
3/10/2021	10:05	9.565	10.726	27.083	0.242	
3/10/2021	10:06	9.401	11.059	32.433	0.287	
3/10/2021	10:07	8.716	11.638	35.132	0.265	
3/10/2021	10:08	8.535	11.735	42.287	0.226	
AVERAGE		**9.0608**	**11.45142**	**34.11433**	**0.252217**	
3/10/2021	10:09	9.124	10.401	30.927	0.222	
3/10/2021	10:10	10.549	10.208	0.139	0.318	
3/10/2021	10:11	10.782	10.253	0.071	0.109	sys o2/co2
3/10/2021	10:12	5.583	4.905	21.619	0.113	
3/10/2021	10:13	0.023	0.05	41.081	0.335	
3/10/2021	10:14	0.017	0.028	41.129	0.411	SYS NOX
3/10/2021	10:15	0.015	0.017	17.196	0.802	
3/10/2021	10:16	0.011	0.014	0.121	4.186	
3/10/2021	10:17	7.394	6.013	20.949	4.552	SYS CO
3/10/2021	10:18	10.813	10.227	41.391	4.543	
3/10/2021	10:19	10.817	10.226	41.402	4.559	DIR SPAN
3/10/2021	10:20	2.894	1.851	12.427	3.412	
3/10/2021	10:21	-0.001	-0.029	0.042	0.122	
3/10/2021	10:22	-0.003	-0.029	0.017	-0.008	DIR ZERO
3/10/2021	10:23	6.443	8.878	31.163	0.017	
3/10/2021	10:24	9.255	11.097	34.227	0.209	
3/10/2021	10:25	8.678	11.606	43.702	0.214	
3/10/2021	10:26	8.323	11.923	49.523	0.195	
3/10/2021	10:27	8.702	11.525	43.217	0.192	
3/10/2021	10:28	9.387	10.969	37.588	0.209	
3/10/2021	10:29	9.226	11.051	40.672	0.204	
3/10/2021	10:30	9.266	10.992	33.696	0.194	
3/10/2021	10:31	9.419	10.88	36.386	0.197	
3/10/2021	10:32	8.386	11.927	50.911	0.189	
3/10/2021	10:33	7.941	12.152	56.237	0.193	
3/10/2021	10:34	9.179	11.135	39.873	0.182	RUN 3
3/10/2021	10:35	9.584	10.765	23.043	0.204	

3/10/2021	10:36	8.541	11.695	41.335	0.215
3/10/2021	10:37	9.42	10.828	29.274	0.202
3/10/2021	10:38	10.102	10.207	18.782	0.235
3/10/2021	10:39	8.809	11.519	38.106	0.237
3/10/2021	10:40	9.298	11.041	30.51	0.207
3/10/2021	10:41	7.558	12.694	58.264	0.176
3/10/2021	10:42	7.958	12.186	49.092	0.173
3/10/2021	10:43	8.339	11.908	49.59	0.191
3/10/2021	10:44	7.793	12.479	54.355	0.166
3/10/2021	10:45	8.225	11.883	44.369	0.149
3/10/2021	10:46	8.541	11.697	33.517	0.173
3/10/2021	10:47	9.016	11.17	26.552	0.187
3/10/2021	10:48	8.977	11.253	36.405	0.213
3/10/2021	10:49	9.288	11.024	28.054	0.209
3/10/2021	10:50	8.491	11.694	35.841	0.19
3/10/2021	10:51	8.526	11.667	38.686	0.179
3/10/2021	10:52	9.202	11.044	32.577	0.187
3/10/2021	10:53	9.577	10.629	31.85	0.198
3/10/2021	10:54	9.057	11.198	31.69	0.201
3/10/2021	10:55	9.469	10.755	23.67	0.232
3/10/2021	10:56	8.901	11.282	36.867	0.213
3/10/2021	10:57	9.106	11.178	40.635	0.182
3/10/2021	10:58	9.02	11.079	39.331	0.181
3/10/2021	10:59	9.223	11.049	38.412	0.204
3/10/2021	11:00	9.55	10.686	29.102	0.214
3/10/2021	11:01	9.261	11.018	36.583	0.224
3/10/2021	11:02	8.769	11.342	47.322	0.189
3/10/2021	11:03	9.145	11.029	40.762	0.164
3/10/2021	11:04	9.565	10.659	40.631	0.183
3/10/2021	11:05	9.52	10.728	38.655	0.184
3/10/2021	11:06	8.475	11.661	48.477	0.189
3/10/2021	11:07	8.291	11.83	50.765	0.174
3/10/2021	11:08	8.421	11.759	49.558	0.152
3/10/2021	11:09	8.097	12.021	50.505	0.141
3/10/2021	11:10	7.796	12.329	54.942	0.14
3/10/2021	11:11	8.146	11.964	52.749	0.134
3/10/2021	11:12	8.048	11.973	51.706	0.126
3/10/2021	11:13	8.567	11.639	49.759	0.13
3/10/2021	11:14	8.984	11.135	27.76	0.135
3/10/2021	11:15	9.047	11.05	35.477	0.161
3/10/2021	11:16	9.697	10.546	25.309	0.177
3/10/2021	11:17	7.941	12.137	42.98	0.159
3/10/2021	11:18	7.709	12.254	46.625	0.131
3/10/2021	11:19	8.276	11.731	43.863	0.124
3/10/2021	11:20	9.155	10.952	34.194	0.125
3/10/2021	11:21	9.104	10.964	33.145	0.135
3/10/2021	11:22	10.141	10.037	19.728	0.152
3/10/2021	11:23	9.041	11.124	33.77	0.178
3/10/2021	11:24	8.56	11.493	48.06	0.139

3/10/2021	11:25	9.108	10.983	39.147	0.136	
3/10/2021	11:26	9.066	11.033	40.47	0.15	
3/10/2021	11:27	8.626	11.52	51.027	0.145	
3/10/2021	11:28	8.326	11.805	51	0.129	
3/10/2021	11:29	8.537	11.56	47.937	0.13	
3/10/2021	11:30	8.06	11.996	54.037	0.116	
3/10/2021	11:31	8.686	11.423	46.81	0.112	
3/10/2021	11:32	9.289	10.815	39.516	0.128	
3/10/2021	11:33	9.813	10.306	31.896	0.133	
3/10/2021	11:34	9.399	10.741	32.104	0.151	
AVERAGE		**8.837283**	**11.33612**	**39.61963**	**0.1699**	
3/10/2021	11:35	10.031	9.424	7.377	0.256	
3/10/2021	11:36	10.718	10.039	0.078	0.081	SYS O2/CO2
3/10/2021	11:37	5.421	4.645	22.089	0.052	
3/10/2021	11:38	0.014	0.038	40.875	0.273	SYS NOX
3/10/2021	11:39	0.008	0.023	16.576	0.747	
3/10/2021	11:40	0.004	0.022	0.108	4.091	
3/10/2021	11:41	0.003	0.017	0.073	4.424	SYS CO
3/10/2021	11:42	8.612	7.531	26.196	4.422	
3/10/2021	11:43	10.751	10.038	41.242	4.429	
3/10/2021	11:44	10.751	10.038	41.236	4.432	DIR SPAN
3/10/2021	11:45	2.112	1.937	14.378	3.461	
3/10/2021	11:46	-0.009	-0.024	0.034	0.111	
3/10/2021	11:47	-0.011	-0.028	0.038	-0.063	DIR ZERO
3/10/2021	11:48	6.864	8.765	29.765	-0.018	
3/10/2021	11:49	8.384	11.741	48.634	0.121	
3/10/2021	11:50	8.337	11.759	50.902	0.124	
3/10/2021	11:51	9.028	11.005	40.619	0.125	
3/10/2021	11:52	9.839	10.389	37.691	0.141	
3/10/2021	11:53	9.355	10.806	33.16	0.143	
3/10/2021	11:54	8.645	11.5	44.638	0.146	RUN 4
3/10/2021	11:55	9.066	11.109	39.708	0.154	
3/10/2021	11:56	8.039	12.089	55.507	0.145	
3/10/2021	11:57	7.535	12.548	60.148	0.129	
3/10/2021	11:58	7.944	12.205	51.846	0.147	
3/10/2021	11:59	8.079	11.949	40.877	0.133	
3/10/2021	12:00	9.525	10.674	27.531	0.147	
3/10/2021	12:01	9.025	11.195	29.123	0.161	
3/10/2021	12:02	8.504	11.682	41.99	0.152	
3/10/2021	12:03	7.939	12.246	47.795	0.144	
3/10/2021	12:04	8.793	11.376	39.509	0.138	
3/10/2021	12:05	8.822	11.419	40.647	0.152	
3/10/2021	12:06	8.807	11.395	42.175	0.152	
3/10/2021	12:07	8.167	12.017	48.625	0.142	
3/10/2021	12:08	8.218	11.909	50.823	0.127	
3/10/2021	12:09	9.432	10.854	39.562	0.138	
3/10/2021	12:10	8.909	11.273	47.949	0.148	
3/10/2021	12:11	9.027	11.252	44.476	0.137	

3/10/2021	12:12	8.725	11.515	45.216	0.145	
3/10/2021	12:13	8.695	11.572	50.476	0.141	
3/10/2021	12:14	8.708	11.53	48.464	0.138	
3/10/2021	12:15	9.128	11.126	43.18	0.139	
3/10/2021	12:16	9.054	11.196	43.914	0.141	
3/10/2021	12:17	8.852	11.423	42.062	0.139	
3/10/2021	12:18	8.992	11.311	39.583	0.148	
3/10/2021	12:19	8.642	11.675	47.89	0.151	
3/10/2021	12:20	9.018	11.227	41.243	0.143	
3/10/2021	12:21	9.269	11.043	40.285	0.142	
3/10/2021	12:22	9.476	10.835	39.276	0.15	
3/10/2021	12:23	9.764	10.667	32.436	0.166	
3/10/2021	12:24	9.173	11.178	33.179	0.165	
AVERAGE		**8.777567**	**11.44967**	**43.18317**	**0.145133**	
3/10/2021	12:25	9.798	9.867	8.382	0.261	
3/10/2021	12:26	10.768	10.281	0.075	0.095	
3/10/2021	12:27	10.769	10.282	0.054	0.063	SYS O2/CO2
3/10/2021	12:28	8.377	7.574	10.896	0.065	
3/10/2021	12:29	0.022	0.149	40.714	0.237	
3/10/2021	12:30	0.011	0.122	40.771	0.371	SYS NOX
3/10/2021	12:31	0.008	0.113	16.656	0.8	
3/10/2021	12:32	0.005	0.113	0.112	4.174	
3/10/2021	12:33	0.005	0.112	0.067	4.516	SYS CO
3/10/2021	12:34	9.33	7.277	26.032	4.5	
3/10/2021	12:35	10.799	10.314	41.094	4.52	
3/10/2021	12:36	10.806	10.316	41.29	4.51	DIR SPAN
3/10/2021	12:37	3.576	3.099	11.873	2.794	
3/10/2021	12:38	-0.007	0.073	0.034	0.047	
3/10/2021	12:39	-0.007	0.071	0.021	-0.001	DIR ZERO
3/10/2021	12:40	0.042	1.528	0.161	0.001	
3/10/2021	12:41	9.369	10.335	36.098	0.102	
3/10/2021	12:42	8.863	10.343	43.519	0.217	
3/10/2021	12:43	9.14	10.34	37.899	0.227	
3/10/2021	12:44	8.585	10.342	49.054	0.223	
3/10/2021	12:45	9.958	10.34	37.752	0.218	
3/10/2021	12:46	9.626	10.307	33.885	0.241	
3/10/2021	12:47	10.128	10.669	31.404	0.336	
3/10/2021	12:48	8.817	11.612	48.887	0.319	
3/10/2021	12:49	8.801	11.566	45.676	0.343	
3/10/2021	12:50	8.959	13.271	46.002	0.324	
3/10/2021	12:51	8.543	9.799	54.281	0.283	
3/10/2021	12:52	9.036	-0.032	47.579	0.236	
3/10/2021	12:53	9.005	16.526	46.74	0.225	
3/10/2021	12:54	9.044	18.947	48.809	0.233	
3/10/2021	12:55	9.276	4.119	42.385	0.23	
3/10/2021	12:56	9.309	-0.122	45.22	0.237	
3/10/2021	12:57	8.869	-0.007	53.621	0.218	DIR CO2 ZERO
3/10/2021	12:58	8.696	17.725	52.024	0.218	

3/10/2021	12:59	8.669	18.952	54.871	0.221	DIR CO2 HIGH
3/10/2021	13:00	9.216	13.594	40.586	0.228	
3/10/2021	13:01	8.869	10.413	50.731	0.227	DIR MID
3/10/2021	13:02	8.721	9.991	37.812	0.226	
3/10/2021	13:03	10.729	10.397	0.133	0.32	
3/10/2021	13:04	10.789	10.413	0.071	0.119	
3/10/2021	13:05	10.787	10.416	0.049	0.121	SYS CO2 SPAN
3/10/2021	13:06	10.637	10.309	4.347	0.123	
3/10/2021	13:07	3.443	4.805	22.927	0.203	
3/10/2021	13:08	0.949	1.184	25.517	0.295	
3/10/2021	13:09	0.033	0.05	40.919	0.42	
3/10/2021	13:10	0.032	0.042	40.997	0.451	SYS CO2 ZERO
3/10/2021	13:11	4.246	5.297	40.965	0.419	
3/10/2021	13:12	9.006	11.5	45.137	0.252	
3/10/2021	13:13	9.327	11.129	33.837	0.254	
3/10/2021	13:14	10.179	10.343	32.499	0.269	RUN 5
3/10/2021	13:15	9.337	11.244	39.252	0.273	
3/10/2021	13:16	8.279	12.269	58.68	0.255	
3/10/2021	13:17	8.096	12.437	63.342	0.243	
3/10/2021	13:18	8.689	11.828	54.142	0.234	
3/10/2021	13:19	8.557	12.002	56.172	0.23	
3/10/2021	13:20	8.829	11.674	50.382	0.219	
3/10/2021	13:21	10.089	10.549	40.313	0.245	
3/10/2021	13:22	8.827	11.779	44.897	0.245	
3/10/2021	13:23	8.78	11.774	46.998	0.234	
3/10/2021	13:24	9.313	11.198	39.034	0.231	
3/10/2021	13:25	8.423	12.192	57.646	0.233	
3/10/2021	13:26	9.118	11.37	44.763	0.22	
3/10/2021	13:27	9.615	10.955	37.876	0.231	
3/10/2021	13:28	9.575	11.077	40.089	0.248	
3/10/2021	13:29	8.561	12.02	53.556	0.25	
3/10/2021	13:30	7.708	12.784	69.6	0.226	
3/10/2021	13:31	8.236	12.329	57.032	0.223	
3/10/2021	13:32	8.936	11.587	42.712	0.227	
3/10/2021	13:33	9.237	11.397	40.006	0.243	
3/10/2021	13:34	9.322	11.184	35.266	0.262	
3/10/2021	13:35	9.877	10.716	40.864	0.27	
3/10/2021	13:36	9.409	11.208	43.168	0.258	
3/10/2021	13:37	9.536	11.052	40.336	0.264	
3/10/2021	13:38	9.444	11.236	41.281	0.285	
3/10/2021	13:39	8.536	12.043	50.089	0.271	
3/10/2021	13:40	8.49	12.092	51.959	0.265	
3/10/2021	13:41	9.712	10.832	45.346	0.259	
3/10/2021	13:42	9.318	11.305	46.247	0.275	
3/10/2021	13:43	8.971	11.646	46.217	0.284	
3/10/2021	13:44	9.273	11.338	43.66	0.278	
AVERAGE		**9.0031**	**11.57057**	**47.36417**	**0.249367**	
3/10/2021	13:45	9.681	10.926	38.082	0.284	

3/10/2021	13:46	9.278	10.344	29.356	0.292	
3/10/2021	13:47	10.801	10.469	0.116	0.178	
3/10/2021	13:48	10.803	10.482	0.071	0.15	SYS O2/CO2
3/10/2021	13:49	10.803	10.485	0.049	0.149	
3/10/2021	13:50	3.124	2.63	30.312	0.199	
3/10/2021	13:51	0.037	0.056	41.155	0.434	SYS NOX
3/10/2021	13:52	0.028	0.045	18.117	0.839	
3/10/2021	13:53	0.024	0.035	0.104	4.284	
3/10/2021	13:54	0.022	0.03	0.071	4.691	SYS CO
3/10/2021	13:55	0.022	0	0.046	4.207	
3/10/2021	13:56	0.002	-0.012	0.021	0.776	
3/10/2021	13:57	-0.001	-0.016	0.016	0.132	
3/10/2021	13:58	-0.001	-0.016	0.016	0.046	DIR ZERO
3/10/2021	13:59	6.873	6.596	23.615	0.096	
3/10/2021	14:00	10.836	10.492	41.307	3.055	
3/10/2021	14:01	10.837	10.499	41.143	4.687	DIR SPAN
3/10/2021	14:02	9.777	10.995	43.238	4.121	
3/10/2021	14:03	8.56	12.166	58.446	0.549	
3/10/2021	14:04	8.892	11.708	50.608	0.231	RUN 6
3/10/2021	14:05	9.351	11.4	46.616	0.238	
3/10/2021	14:06	8.399	12.271	57.996	0.231	
3/10/2021	14:07	8.985	11.656	49.827	0.247	
3/10/2021	14:08	8.606	12.059	49.22	0.233	
3/10/2021	14:09	8.588	12.133	52.999	0.221	
3/10/2021	14:10	7.855	12.706	55.32	0.225	
3/10/2021	14:11	9.504	11.147	29.973	0.24	
3/10/2021	14:12	9.389	11.345	30.251	0.284	
3/10/2021	14:13	9.334	11.396	23.16	0.307	
3/10/2021	14:14	9.309	11.31	20.794	0.306	
3/10/2021	14:15	9.49	11.254	18.467	0.321	
3/10/2021	14:16	9.469	11.307	28.479	0.313	
3/10/2021	14:17	9.326	11.232	27.073	0.275	
3/10/2021	14:18	9.737	10.956	23.286	0.285	
3/10/2021	14:19	9.864	10.903	26.015	0.307	
3/10/2021	14:20	9.029	11.683	36.061	0.286	
3/10/2021	14:21	9.386	11.319	35.086	0.266	
3/10/2021	14:22	9.11	11.524	34.563	0.269	
3/10/2021	14:23	9.09	11.613	45.452	0.289	
3/10/2021	14:24	9.062	11.786	46.879	0.269	
3/10/2021	14:25	9.018	11.558	33.498	0.298	
3/10/2021	14:26	9.082	11.629	32.728	0.308	
3/10/2021	14:27	9.208	11.441	27.236	0.341	
3/10/2021	14:28	9.463	11.28	32.782	0.346	
3/10/2021	14:29	8.854	11.761	32.951	0.301	
3/10/2021	14:30	8.859	11.786	41.612	0.294	
3/10/2021	14:31	8.968	11.698	34.152	0.288	
3/10/2021	14:32	8.467	12.144	42.217	0.293	
3/10/2021	14:33	9.417	11.279	33.79	0.294	
3/10/2021	14:34	8.419	12.252	50.058	0.28	

AVERAGE		**9.087933**	**11.59427**	**36.61803**	**0.281833**	
3/10/2021	14:35	8.436	12.154	48.284	0.261	
3/10/2021	14:36	9.753	10.092	10.538	0.361	
3/10/2021	14:37	10.808	10.486	0.069	0.224	
3/10/2021	14:38	10.809	10.491	0.043	0.163	SYS O2/CO2
3/10/2021	14:39	5.558	4.986	21.693	0.182	
3/10/2021	14:40	0.028	0.048	41.065	0.416	SYS NOX
3/10/2021	14:41	0.023	0.025	19.566	0.785	
3/10/2021	14:42	0.021	0.02	0.128	4.222	
3/10/2021	14:43	0.015	0.012	0.077	4.723	SYS CO
3/10/2021	14:44	10.214	7.402	27.6	4.716	
3/10/2021	14:45	10.867	10.499	41.414	4.72	DIR SPAN
3/10/2021	14:46	7.973	7.304	29.817	4.615	
3/10/2021	14:47	0.004	-0.027	0.034	1.245	
3/10/2021	14:48	0	-0.033	0.015	0.065	DIR ZERO
3/10/2021	14:49	5.514	5.774	15.277	0.083	
3/10/2021	14:50	9.941	10.757	33.961	0.291	
3/10/2021	14:51	9.718	10.98	38.837	0.312	
3/10/2021	14:52	8.179	12.545	65.943	0.286	
3/10/2021	14:53	8.494	12.07	54.827	0.278	
3/10/2021	14:54	8.834	11.771	50.647	0.285	
3/10/2021	14:55	8.669	12.07	52.887	0.288	
3/10/2021	14:56	8.86	11.697	47.274	0.276	RUN 7
3/10/2021	14:57	9.448	11.303	40.954	0.289	
3/10/2021	14:58	8.837	11.765	46.717	0.273	
3/10/2021	14:59	9.059	11.569	44.81	0.284	
3/10/2021	15:00	7.889	12.813	62.663	0.275	
3/10/2021	15:01	7.977	12.667	61.073	0.269	
3/10/2021	15:02	9.253	11.315	40.884	0.256	
3/10/2021	15:03	9.413	11.303	39.564	0.269	
3/10/2021	15:04	9.574	11.078	35.819	0.288	
3/10/2021	15:05	9.31	11.326	37.92	0.294	
3/10/2021	15:06	9.172	11.528	41.69	0.289	
3/10/2021	15:07	9.023	11.638	43.675	0.289	
3/10/2021	15:08	8.76	11.903	49.554	0.275	
3/10/2021	15:09	8.823	11.829	46.36	0.264	
3/10/2021	15:10	9.113	11.542	47.276	0.265	
3/10/2021	15:11	8.959	11.734	48.123	0.276	
3/10/2021	15:12	9.095	11.579	46.949	0.274	
3/10/2021	15:13	8.428	12.276	56.733	0.269	
3/10/2021	15:14	8.301	12.329	57.21	0.271	
3/10/2021	15:15	9.506	11.199	43.077	0.283	
3/10/2021	15:16	8.688	11.998	54.593	0.278	
3/10/2021	15:17	8.288	12.398	57.959	0.271	
3/10/2021	15:18	8.209	12.352	58.972	0.252	
3/10/2021	15:19	9.712	11.032	36.658	0.258	
3/10/2021	15:20	9.077	11.578	37.829	0.283	
3/10/2021	15:21	8.624	12.048	51.473	0.291	

3/10/2021	15:22	9.586	11.066	41.568	0.284	
3/10/2021	15:23	9.545	11.146	44.151	0.288	
3/10/2021	15:24	9.736	11.007	43.102	0.286	
3/10/2021	15:25	9.253	11.395	38.58	0.283	
3/10/2021	15:26	9.394	11.231	39.788	0.298	
AVERAGE		**9.001733**	**11.6649**	**46.52413**	**0.277467**	
3/10/2021	15:27	9.457	10.333	25.96	0.348	
3/10/2021	15:28	10.816	10.532	0.082	0.302	
3/10/2021	15:29	10.82	10.535	0.075	0.169	sys o2/co2
3/10/2021	15:30	5.853	5.273	20.49	0.182	
3/10/2021	15:31	0.043	0.061	40.994	0.42	SYS NOX
3/10/2021	15:32	0.04	0.037	40.827	0.496	
3/10/2021	15:33	0.032	0.031	0.773	2.268	
3/10/2021	15:34	0.441	0.023	0.082	4.718	
3/10/2021	15:35	10.825	10.118	35.555	4.739	SYS CO @ 1534
3/10/2021	15:36	10.861	10.534	41.283	4.752	
3/10/2021	15:37	10.856	10.535	41.276	4.737	DIR SPAN
3/10/2021	15:38	6.909	6.256	27.747	4.693	
3/10/2021	15:39	0.005	-0.016	0.036	1.562	
3/10/2021	15:40	0.005	-0.02	0.015	0.134	
3/10/2021	15:41	0.004	-0.023	0.016	0.003	DIR ZERO
3/10/2021	15:42	5.927	8.284	34.706	1.199	
3/10/2021	15:43	9.619	11.043	47.199	7.934	
3/10/2021	15:44	9.554	11.066	44.981	9.569	
3/10/2021	15:45	9.273	11.553	52.606	3.479	
3/10/2021	15:46	8.189	12.455	61.534	0.211	
3/10/2021	15:47	8.922	11.743	48.473	0.204	
3/10/2021	15:48	9.009	11.641	45.017	0.193	RUN 8
3/10/2021	15:49	9.098	11.631	50.008	0.192	
3/10/2021	15:50	8.328	12.362	62.008	0.182	
3/10/2021	15:51	8.067	12.563	67.799	0.186	
3/10/2021	15:52	9.411	11.216	47.398	0.182	
3/10/2021	15:53	8.974	11.721	49.388	0.19	
3/10/2021	15:54	9.169	11.444	43.857	0.195	
3/10/2021	15:55	9.864	10.892	41.846	0.206	
3/10/2021	15:56	9.307	11.374	44.864	0.215	
3/10/2021	15:57	9.273	11.42	50.061	0.197	
3/10/2021	15:58	8.757	11.989	59.92	0.212	
3/10/2021	15:59	8.898	11.698	54.725	0.194	
3/10/2021	16:00	9.521	11.198	48.366	0.199	
3/10/2021	16:01	9.428	11.269	51.495	0.205	
3/10/2021	16:02	9.527	11.127	54.852	0.213	
3/10/2021	16:03	8.767	11.93	63.807	0.209	
3/10/2021	16:04	8.975	11.693	58.621	0.212	
3/10/2021	16:05	9.143	11.485	48.969	0.217	
3/10/2021	16:06	8.751	11.992	57.779	0.217	
3/10/2021	16:07	8.719	11.916	60.786	0.209	
3/10/2021	16:08	10.13	10.524	44.632	0.21	

3/10/2021	16:09	9.802	10.903	44.393	0.222	
3/10/2021	16:10	9.674	11.05	47.819	0.219	
3/10/2021	16:11	9.031	11.681	49.938	0.218	
3/10/2021	16:12	8.779	11.883	57.483	0.199	
3/10/2021	16:13	9.53	11.105	43.577	0.198	
3/10/2021	16:14	9.305	11.355	48.265	0.212	
3/10/2021	16:15	8.624	12.062	58.649	0.211	
3/10/2021	16:16	9.619	11.006	41.3	0.205	
3/10/2021	16:17	9.681	10.98	44.505	0.207	
3/10/2021	16:18	8.718	12.001	61.015	0.205	
AVERAGE		**9.162333**	**11.51567**	**51.9375**	**0.2046**	
3/10/2021	16:19	9.471	10.311	20.94	0.28	
3/10/2021	16:20	10.809	10.535	0.087	0.173	
3/10/2021	16:21	10.812	10.538	0.057	0.101	sys o2/co2
3/10/2021	16:22	7.53	6.922	14.214	0.097	
3/10/2021	16:23	0.044	0.069	40.962	0.288	
3/10/2021	16:24	0.041	0.038	41.041	0.408	SYS NOX
3/10/2021	16:25	0.039	0.032	16.663	0.842	
3/10/2021	16:26	0.038	0.031	0.119	4.227	
3/10/2021	16:27	8.342	7.713	25.443	4.563	SYS CO
3/10/2021	16:28	10.847	10.536	41.325	4.56	
3/10/2021	16:29	10.844	10.537	41.312	4.574	DIR SPAN
3/10/2021	16:30	1.86	1.628	14.343	3.302	
3/10/2021	16:31	0.005	-0.011	0.029	0.11	
3/10/2021	16:32	0.005	-0.012	0.016	-0.003	DIR ZERO
3/10/2021	16:33	6.107	7.411	28.789	0.023	
3/10/2021	16:34	9.426	11.258	45.585	0.196	
3/10/2021	16:35	8.17	12.5	53.027	0.203	
3/10/2021	16:36	7.64	13.061	62.911	0.2	RUN 9
3/10/2021	16:37	7.662	12.899	62.638	0.182	
3/10/2021	16:38	8.108	12.647	61.723	0.184	
3/10/2021	16:39	7.576	13.063	66.235	0.18	
3/10/2021	16:40	7.742	12.865	56.753	0.181	
3/10/2021	16:41	8.636	12.032	45.537	0.186	
3/10/2021	16:42	8.774	11.89	40.746	0.195	
3/10/2021	16:43	9.364	11.289	36.619	0.196	
3/10/2021	16:44	8.693	11.944	47.122	0.187	
3/10/2021	16:45	9.543	11.156	32.194	0.186	
3/10/2021	16:46	9.162	11.592	45.037	0.198	
3/10/2021	16:47	8.749	11.872	44.31	0.186	
3/10/2021	16:48	9.099	11.651	50.588	0.195	
3/10/2021	16:49	8.948	11.702	49.173	0.176	
3/10/2021	16:50	9.595	11.06	36.34	0.186	
3/10/2021	16:51	9.763	11.03	39.551	0.211	
3/10/2021	16:52	8.992	11.761	48.925	0.198	
3/10/2021	16:53	9	11.65	46.421	0.188	
3/10/2021	16:54	9.897	10.874	41.21	0.195	
3/10/2021	16:55	9.758	10.841	38.837	0.201	

3/10/2021	16:56	9.459	11.407	46.122	0.212	
3/10/2021	16:57	8.418	12.332	59.971	0.195	
3/10/2021	16:58	8.099	12.601	67.323	0.178	
3/10/2021	16:59	8.745	11.947	53.758	0.175	
3/10/2021	17:00	8.907	11.869	52.444	0.173	
3/10/2021	17:01	8.68	11.974	55.946	0.172	
3/10/2021	17:02	8.763	11.981	55.961	0.177	
3/10/2021	17:03	9.515	11.155	42.804	0.166	
3/10/2021	17:04	9.377	11.374	48.697	0.182	
3/10/2021	17:05	9	11.821	55.506	0.177	
3/10/2021	17:06	9.228	11.454	47.182	0.18	
AVERAGE		**8.9084**	**11.7911**	**49.1891**	**0.1866**	
3/10/2021	17:07	9.485	10.368	17.312	0.28	
3/10/2021	17:08	10.811	10.563	0.076	0.149	
3/10/2021	17:09	10.819	10.558	0.043	0.099	SYS O2/CO2
3/10/2021	17:10	8.788	8.066	9.715	0.105	
3/10/2021	17:11	0.036	0.105	40.956	0.273	
3/10/2021	17:12	0.033	0.071	41.034	0.412	SYS NOX
3/10/2021	17:13	0.03	0.065	16.189	0.881	
3/10/2021	17:14	0.028	0.061	0.125	4.258	
3/10/2021	17:15	3.123	2.478	6.704	4.579	SYS CO
3/10/2021	17:16	10.864	10.552	41.219	4.576	
3/10/2021	17:17	10.871	10.554	41.252	4.587	
3/10/2021	17:18	10.872	10.563	41.254	4.578	DIR SPAN
3/10/2021	17:19	9.232	11.577	48.565	3.481	
3/10/2021	17:20	8.972	11.759	54.074	0.271	
3/10/2021	17:21	9.399	11.27	45.332	0.174	
3/10/2021	17:22	9.473	11.243	45.356	0.187	
3/10/2021	17:23	9.258	11.453	44.896	0.186	
3/10/2021	17:24	10.11	10.642	35.109	0.199	
3/10/2021	17:25	9.065	11.752	52.968	0.196	
3/10/2021	17:26	9.012	11.674	54.673	0.186	
3/10/2021	17:27	9.273	11.483	60.722	0.186	
3/10/2021	17:28	9.237	11.467	59.066	0.195	
3/10/2021	17:29	9.103	11.68	63.548	0.195	
3/10/2021	17:30	4.393	6.206	35.553	0.194	
3/10/2021	17:31	0.007	0.024	0.035	0.05	
3/10/2021	17:32	0.005	0.016	0.017	0.005	DIR ZERO
3/10/2021	17:33	7.244	8.268	30.445	0.033	
3/10/2021	17:34	9.025	11.664	55.384	0.188	RUN 10
3/10/2021	17:35	9.05	11.626	58.174	0.192	
3/10/2021	17:36	9.907	10.855	45.283	0.197	
3/10/2021	17:37	10.373	10.384	36.559	0.197	
3/10/2021	17:38	9.812	10.893	41.125	0.217	
3/10/2021	17:39	9.279	11.483	54.402	0.2	
3/10/2021	17:40	9.736	10.977	45.075	0.198	
3/10/2021	17:41	9.157	11.646	59.636	0.194	
3/10/2021	17:42	8.959	11.756	57.012	0.185	

3/10/2021	17:43	9.273	11.439	54.364	0.188	
3/10/2021	17:44	8.347	12.415	68.019	0.189	
3/10/2021	17:45	8.709	11.924	58.424	0.196	
3/10/2021	17:46	9.191	11.603	55.606	0.198	
3/10/2021	17:47	9.211	11.437	49.573	0.182	
3/10/2021	17:48	9.816	10.86	47.335	0.185	
3/10/2021	17:49	9.419	11.409	50.031	0.189	
3/10/2021	17:50	9.421	11.288	50.076	0.184	
3/10/2021	17:51	9.734	11.141	51.871	0.192	
3/10/2021	17:52	8.44	12.267	60.235	0.177	
3/10/2021	17:53	8.639	12.105	60.052	0.167	
3/10/2021	17:54	9.122	11.599	54.449	0.163	
3/10/2021	17:55	9.233	11.498	50.43	0.172	
3/10/2021	17:56	9.891	10.879	47.575	0.178	
3/10/2021	17:57	8.964	11.793	56.807	0.175	
3/10/2021	17:58	8.981	11.785	58.386	0.17	
3/10/2021	17:59	9.6	11.109	48.249	0.18	
3/10/2021	18:00	9.996	10.804	41.552	0.188	
3/10/2021	18:01	8.75	12.074	58.201	0.194	
3/10/2021	18:02	9.04	11.675	55.451	0.186	
3/10/2021	18:03	9.442	11.361	48.269	0.197	
3/10/2021	18:04	9.864	10.872	48.437	0.192	
AVERAGE		**9.311867**	**11.4319**	**52.35527**	**0.1874**	
3/10/2021	18:05	9.861	10.194	14.707	0.288	
3/10/2021	18:06	10.829	10.598	0.088	0.149	
3/10/2021	18:07	10.831	10.604	0.066	0.105	SYS O2/CO2
3/10/2021	18:08	8.056	7.397	12.504	0.112	
3/10/2021	18:09	0.054	0.119	40.932	0.3	
3/10/2021	18:10	0.045	0.087	40.982	0.418	SYS NOX
3/10/2021	18:11	0.045	0.079	22.86	0.591	
3/10/2021	18:12	0.041	0.071	0.154	3.879	
3/10/2021	18:13	0.041	0.067	0.084	4.593	
3/10/2021	18:14	2.166	1.16	2.551	4.593	SYS CO
3/10/2021	18:15	10.861	10.595	41.16	4.592	
3/10/2021	18:16	10.866	10.602	41.307	4.605	
3/10/2021	18:17	10.869	10.609	41.309	4.606	DIR SPAN
3/10/2021	18:18	4.811	4.764	23.457	4.259	
3/10/2021	18:19	0.008	0.031	0.052	0.56	
3/10/2021	18:20	0.005	0.03	0.017	0.013	DIR ZERO
3/10/2021	18:21	16.123	9.871	37.459	0.512	
3/10/2021	18:22	19.191	19.305	85.78	7.937	
3/10/2021	18:23	19.191	19.315	82.924	9.638	
3/10/2021	18:24	19.191	19.315	86.792	9.657	
3/10/2021	18:25	19.191	19.312	87.195	9.649	
3/10/2021	18:26	19.188	18.947	87.173	9.658	
3/10/2021	18:27	19.19	18.957	87.171	9.659	
3/10/2021	18:28	19.191	18.968	87.167	9.664	DIR HIGH
3/10/2021	18:29	20.06	6.117	31.588	8.335	

3/10/2021	18:30	20.988	-0.637	0.092	1.008

Appendix A.1.3
Unit 1 Instrument Strip Chart Data

Montrose AQS
SPAN GAS RECORD

CLIENT/LOCATION: Desert View Power
Unit 1

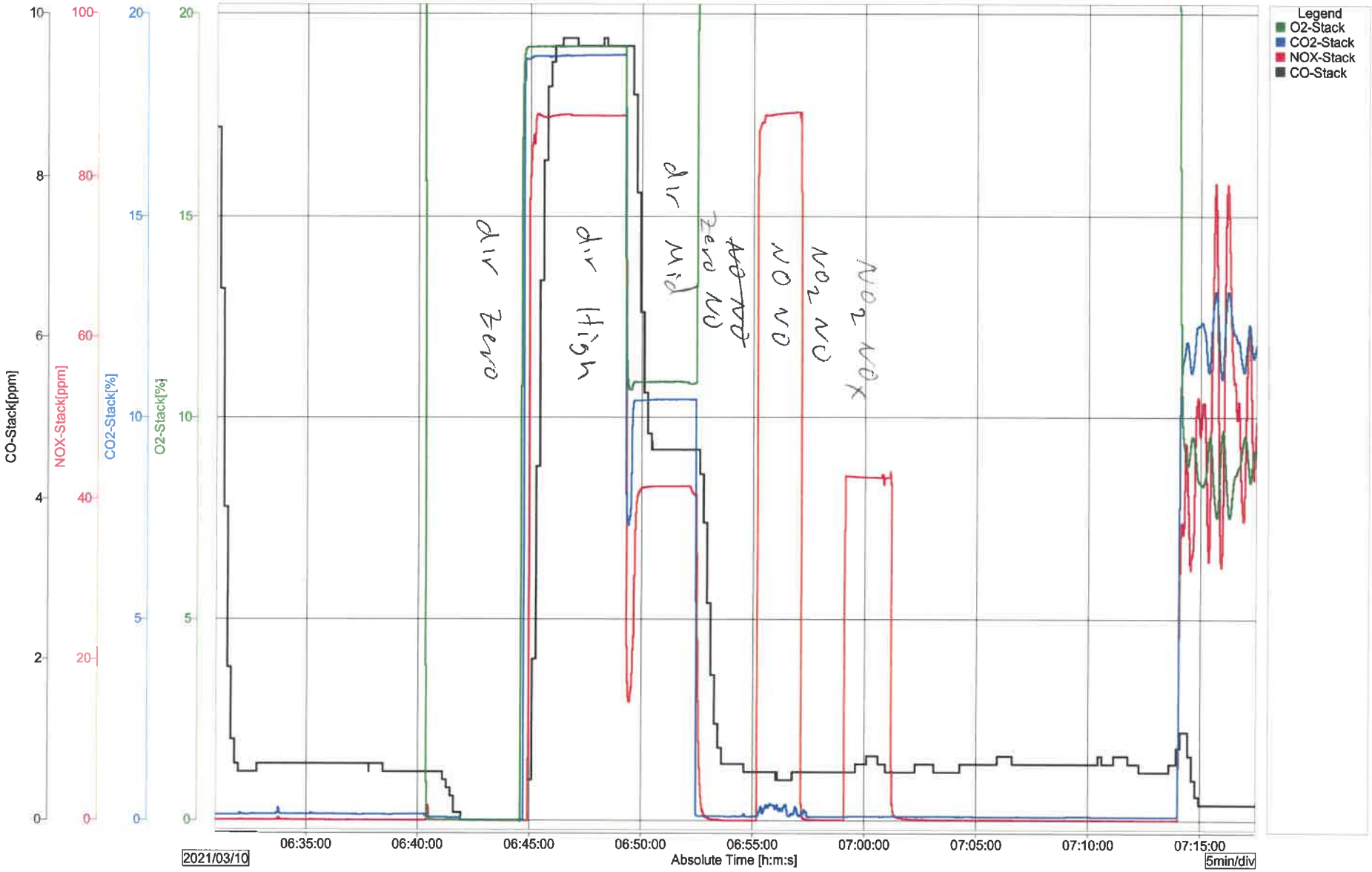
DATE: 3/10/2021
BY: RD

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	SA17192	0		
O_2	DT0016473	10.78	DT0011386	19.15
CO_2	DT0016473	10.56	DT0011386	18.94
NO_x	DT0029993	41.3	CC244416	87
CO	DT0024950	4.6	ALM046645	9.64

File Name : 000357_TV 6_210310_063056.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/10 06:30:56.000
Stop Time : 2021/03/10 18:30:06.000

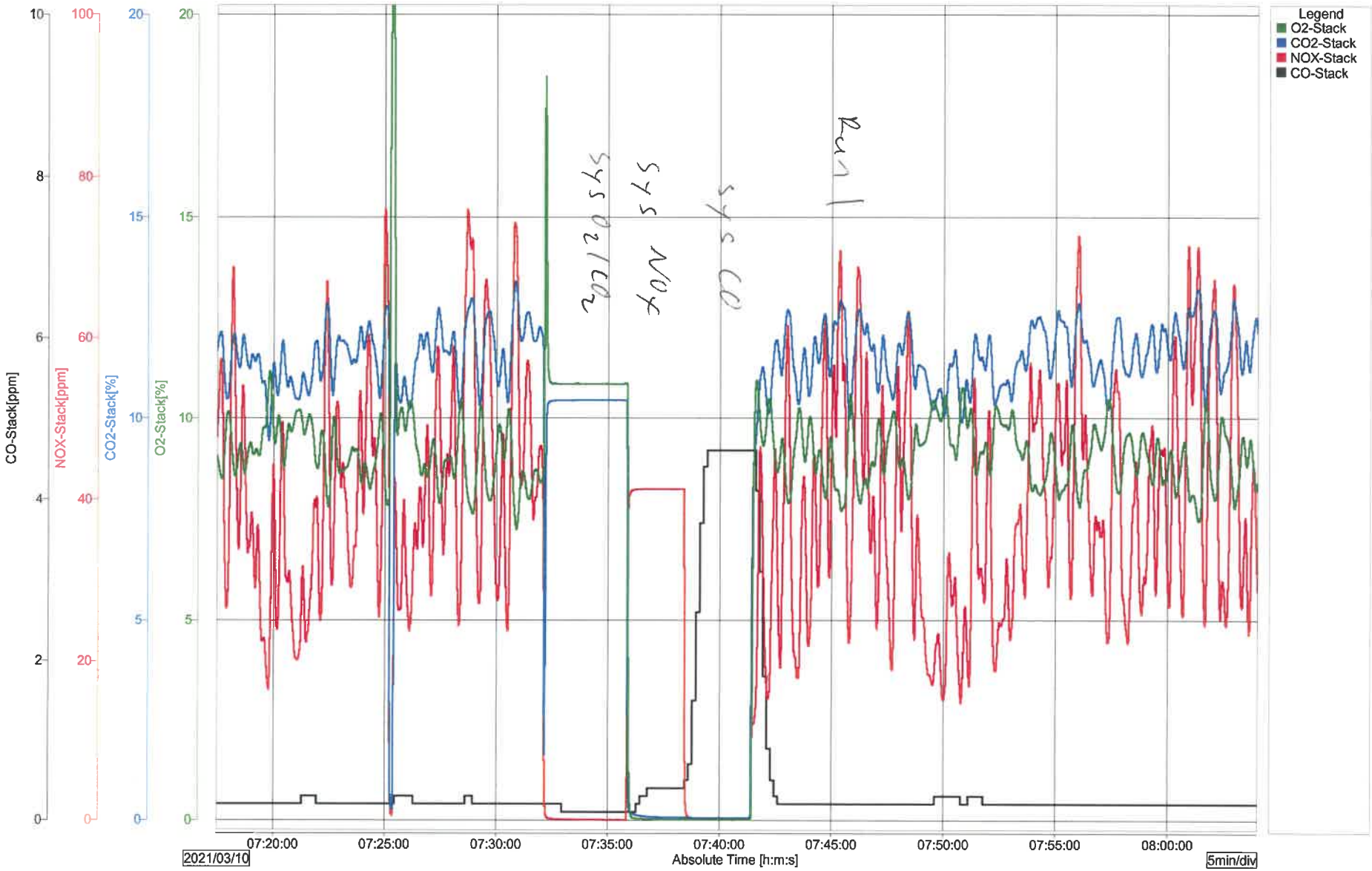
Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



File Name : 000357_TV 6_210310_063056.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/10 06:30:56.000
Stop Time : 2021/03/10 18:30:06.000

Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



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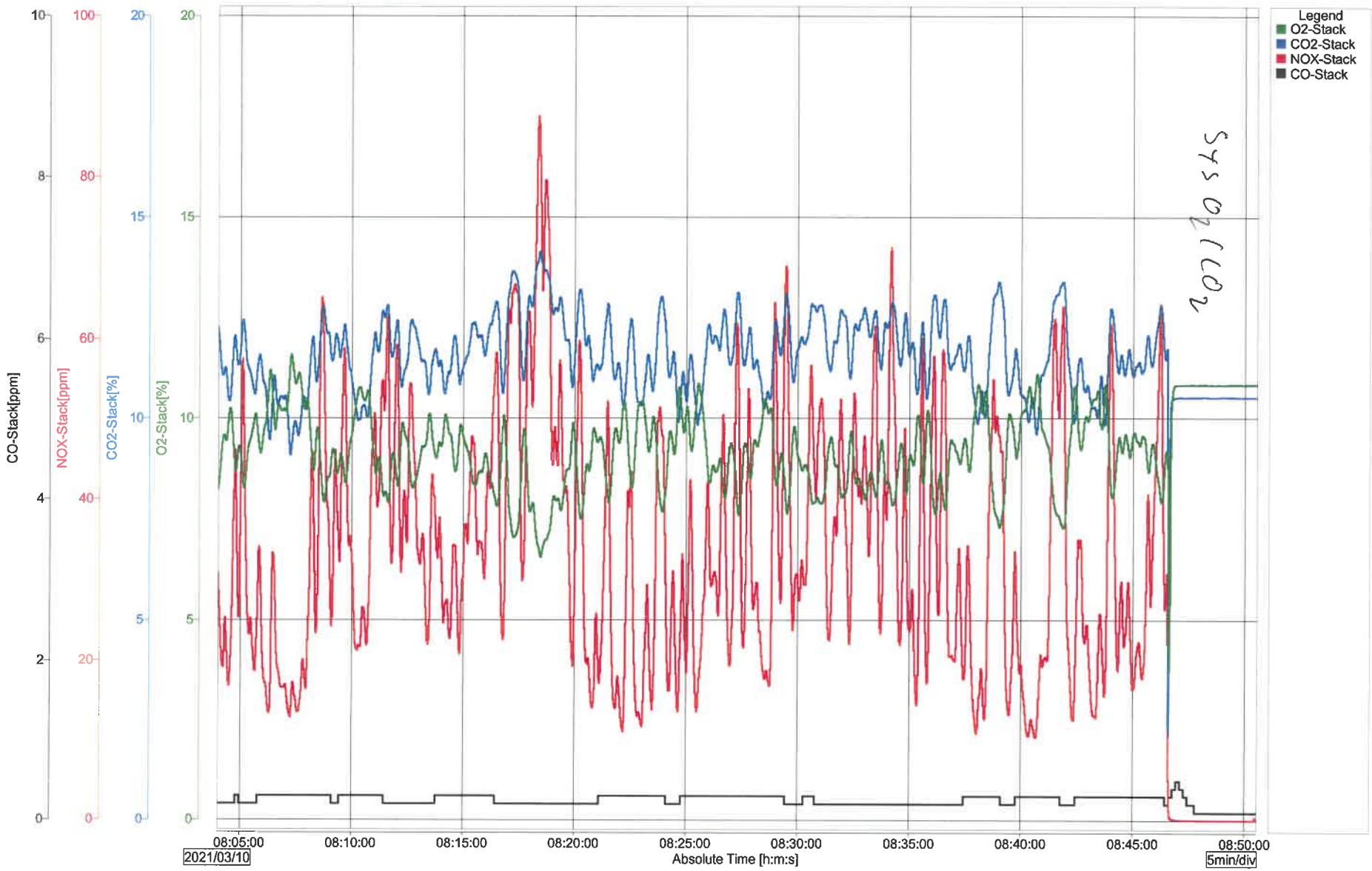
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/10 06:30:56.000
Stop Time : 2021/03/10 18:30:06.000

Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



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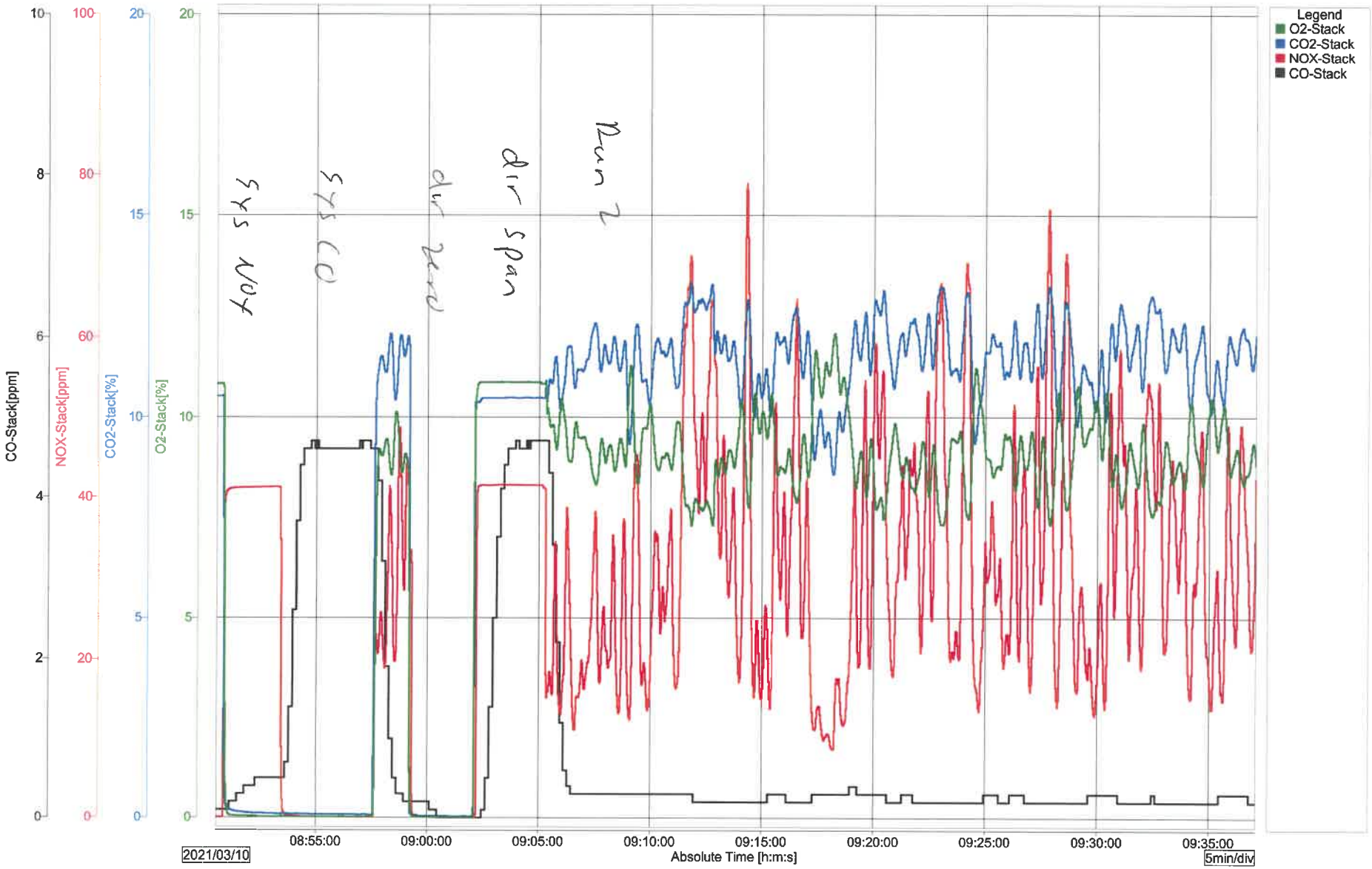
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/10 06:30:56.000
Stop Time : 2021/03/10 18:30:06.000

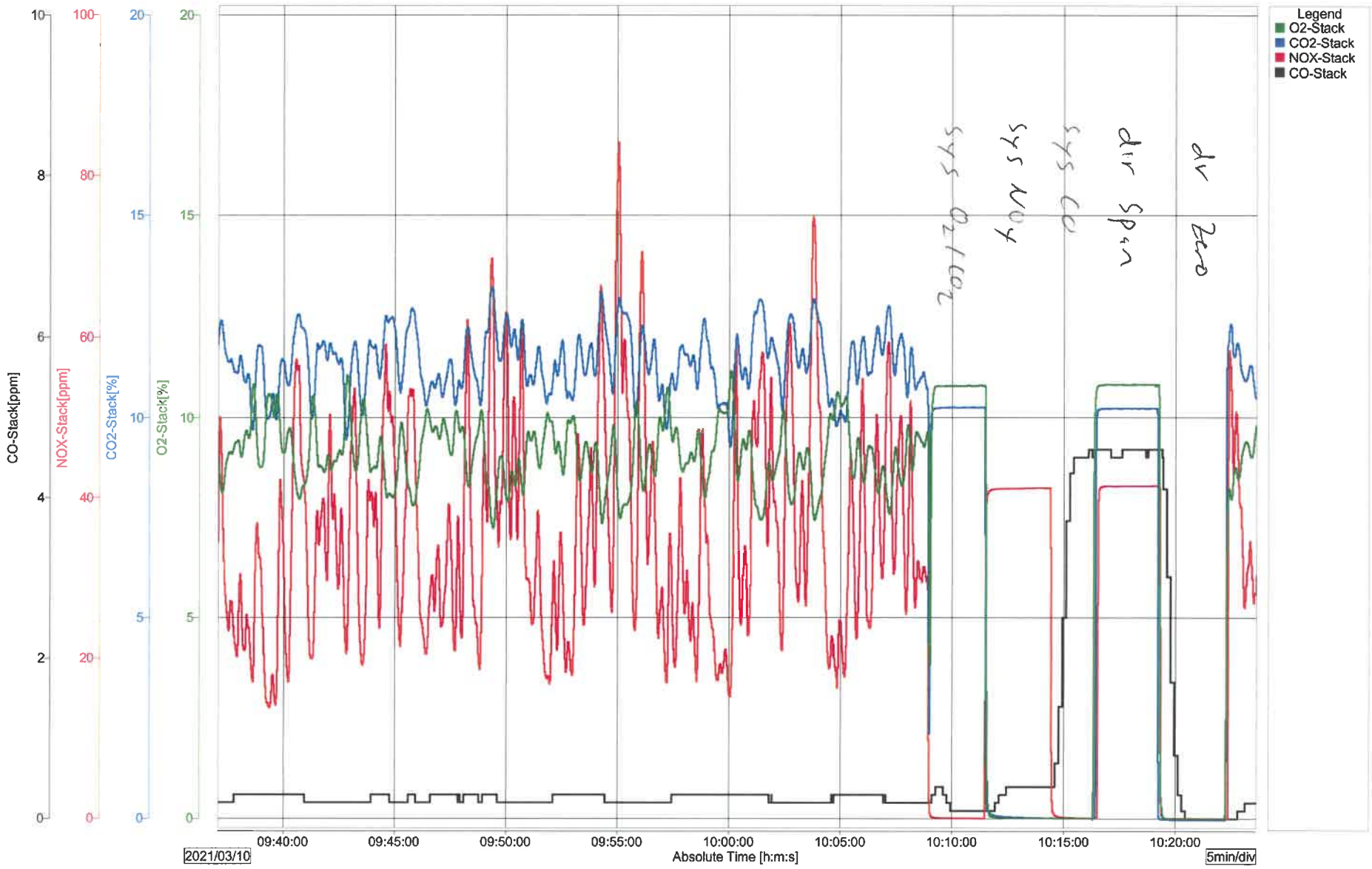
Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



File Name : 000357_TV 6_210310_063056.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/10 06:30:56.000
Stop Time : 2021/03/10 18:30:06.000

Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



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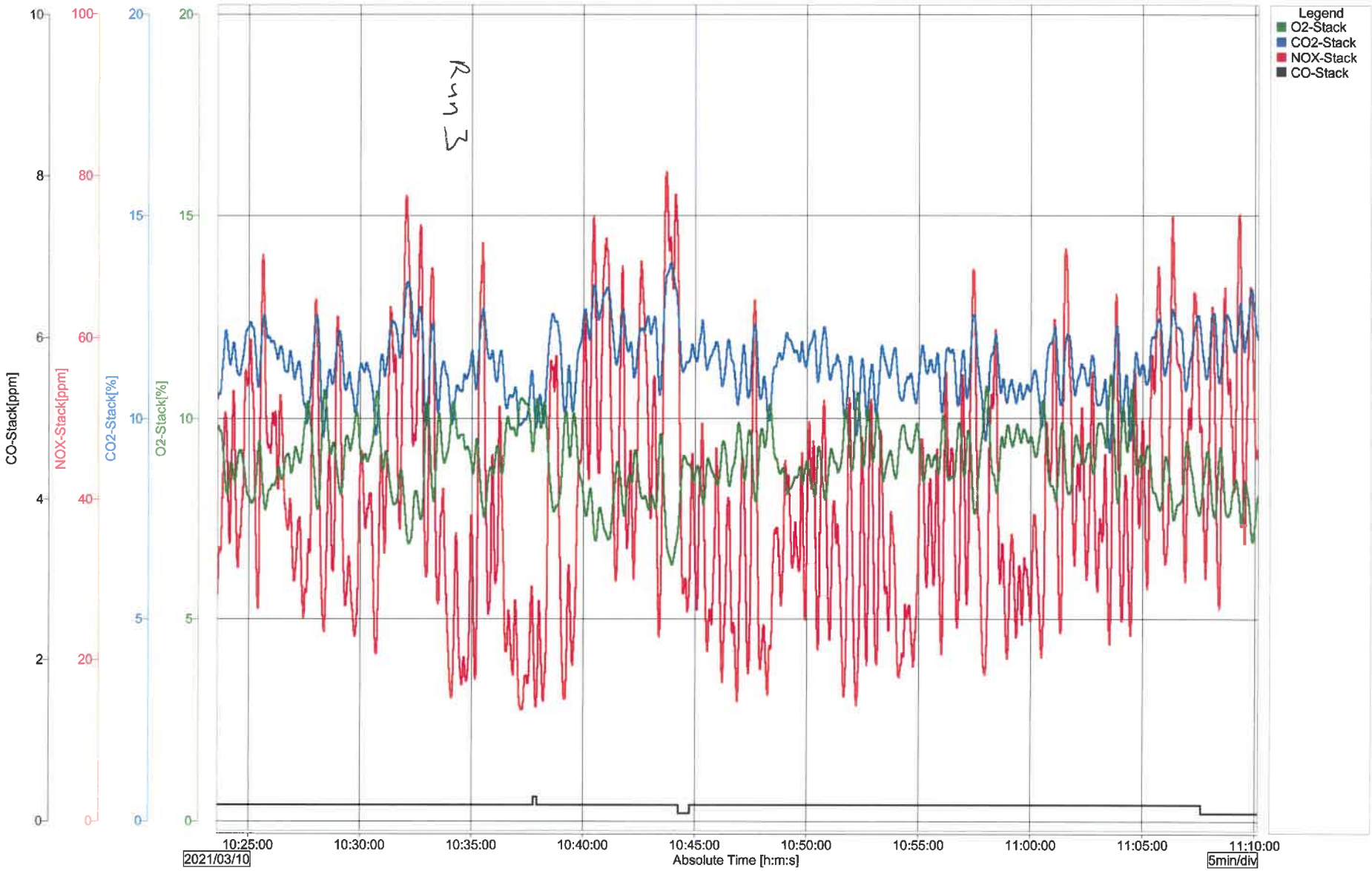
Serial No. : S5U604838

Start Time : 2021/03/10 06:30:56.000
Stop Time : 2021/03/10 18:30:06.000

Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



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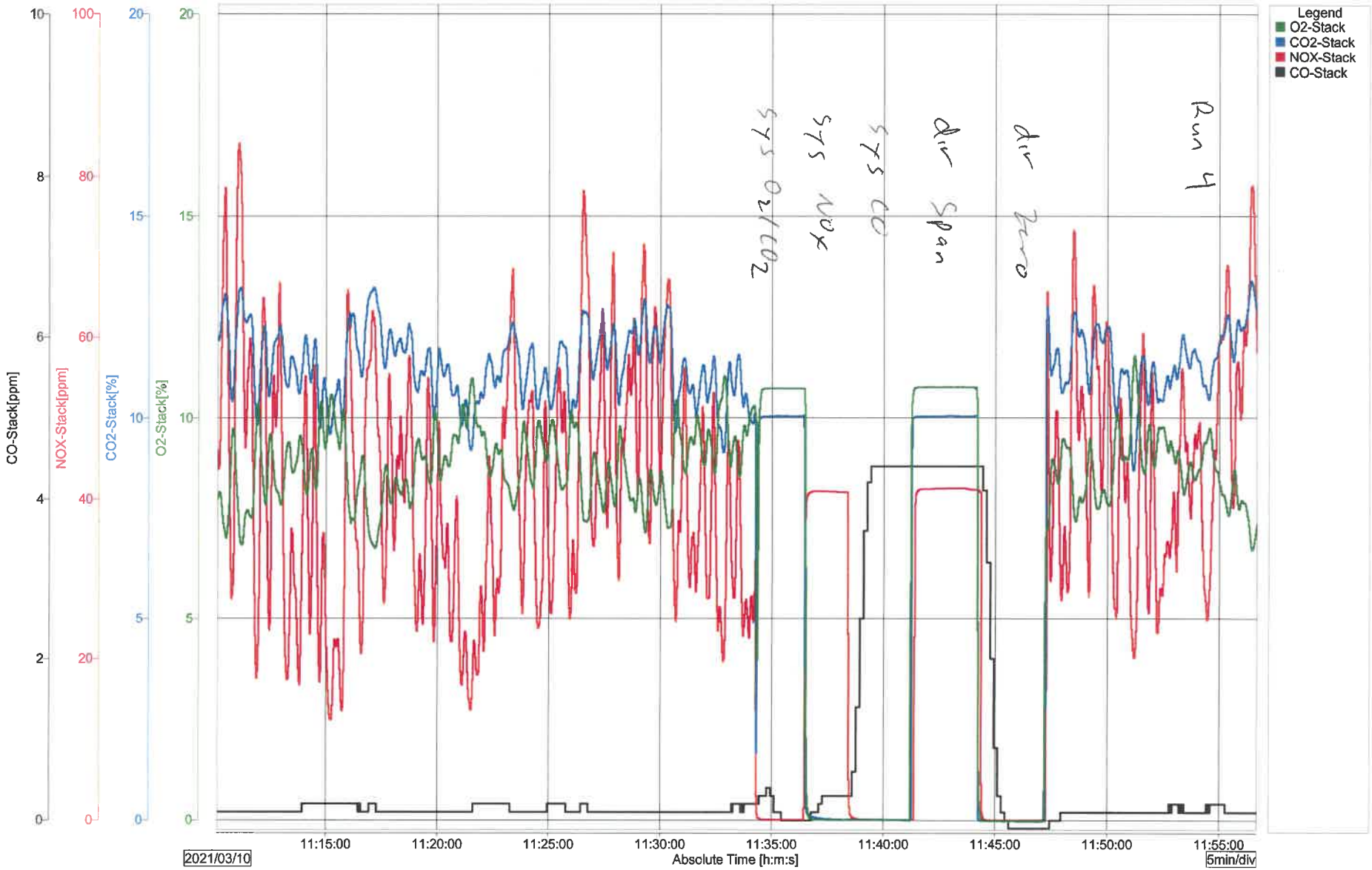

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Serial No. : S5U604838

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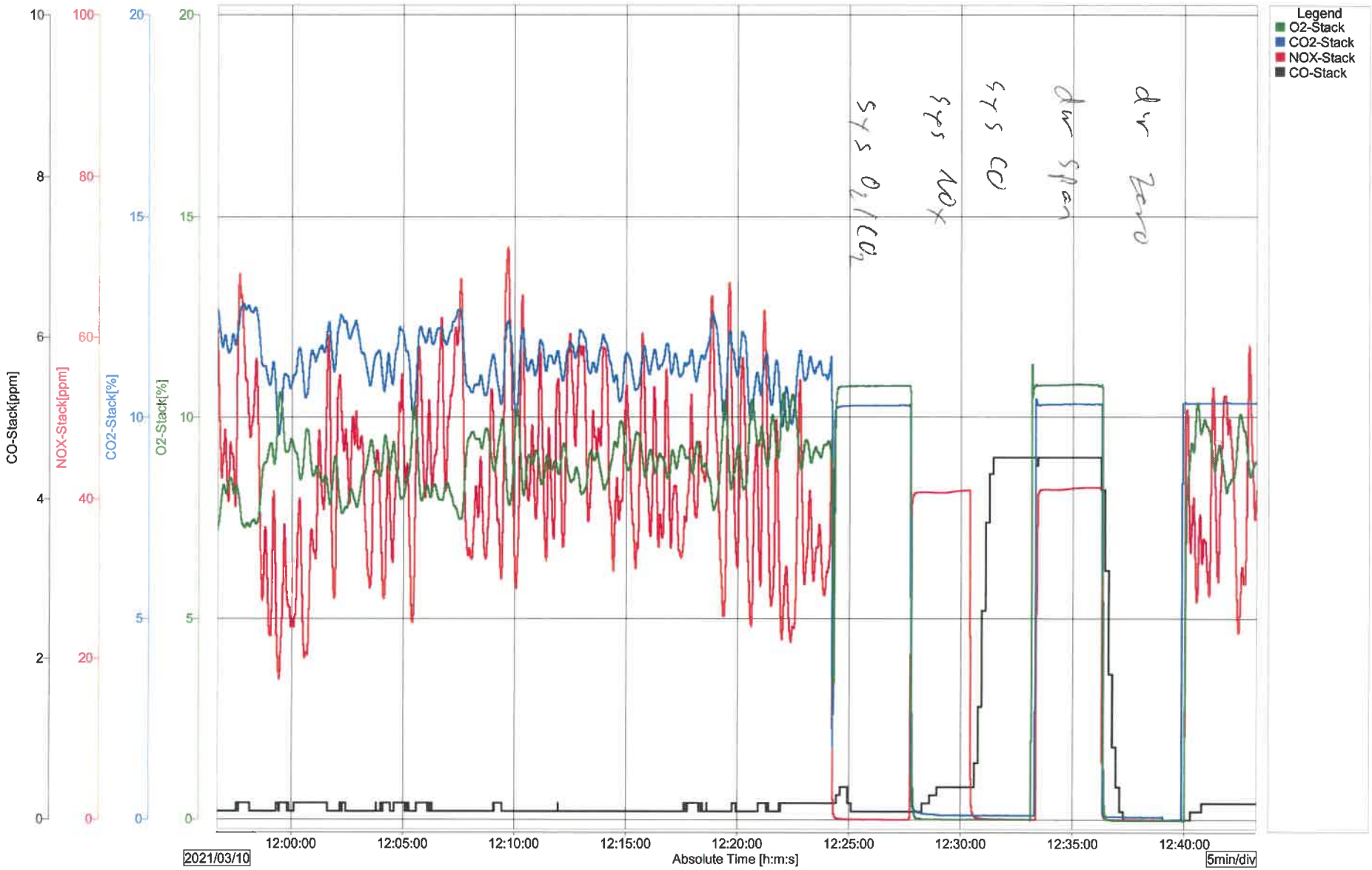
Stop Time : 2021/03/10 18:30:06.000

Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



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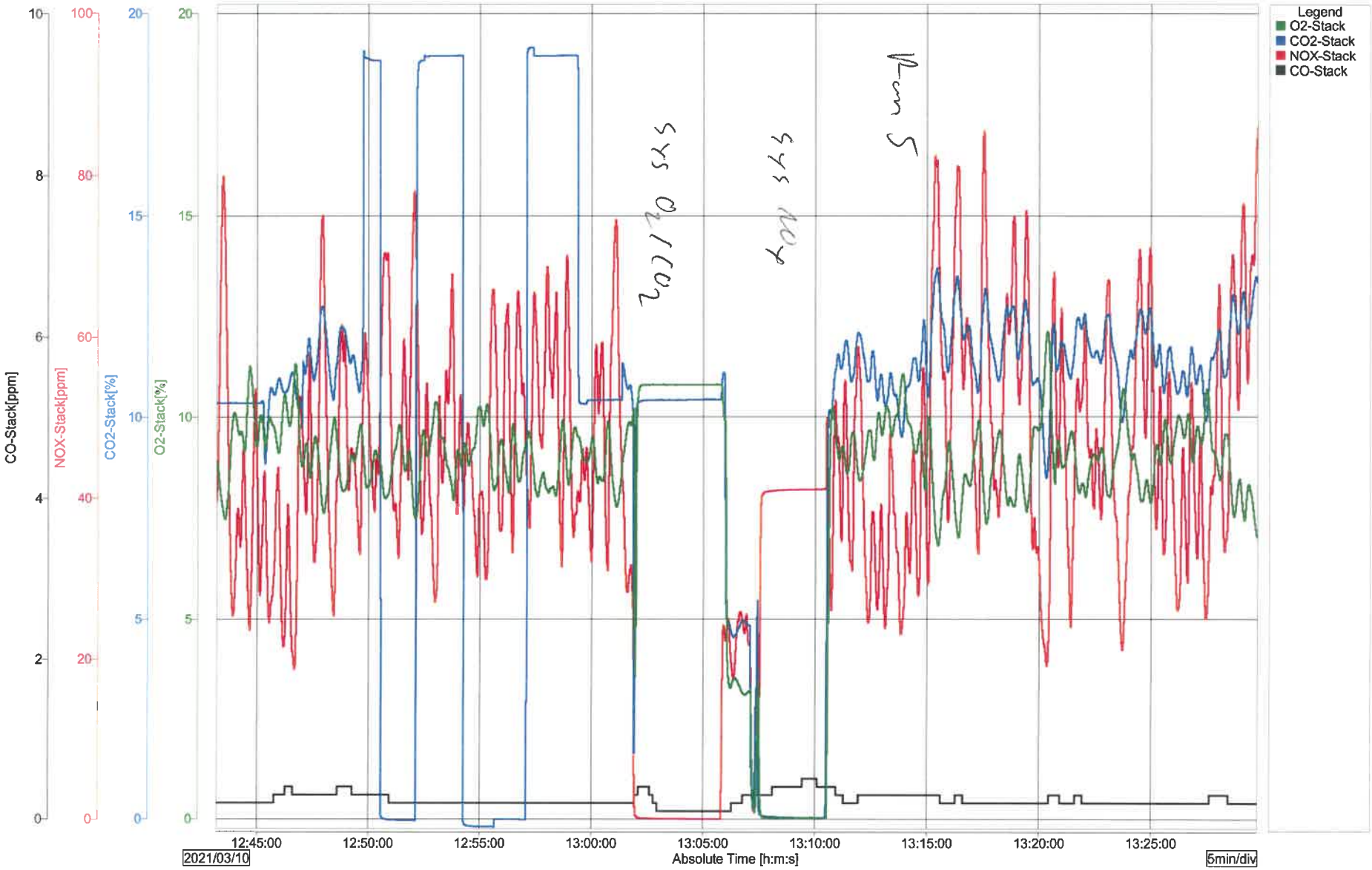
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/10 06:30:56.000
Stop Time : 2021/03/10 18:30:06.000

Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



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Device Type : DX2000
Serial No. : S5U604838

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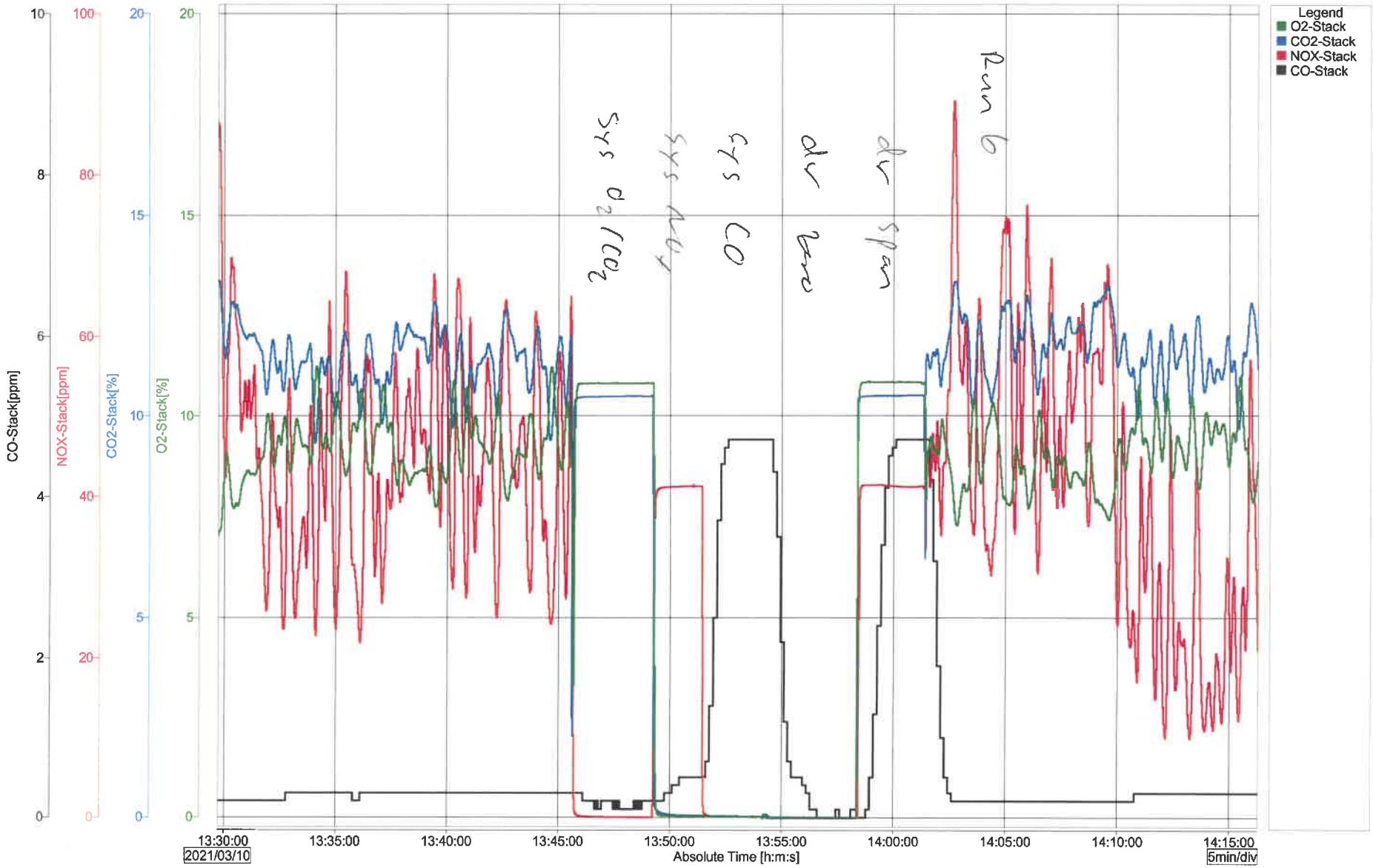
Stop Time : 2021/03/10 18:30:06.000

Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



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Serial No. : S5U604838

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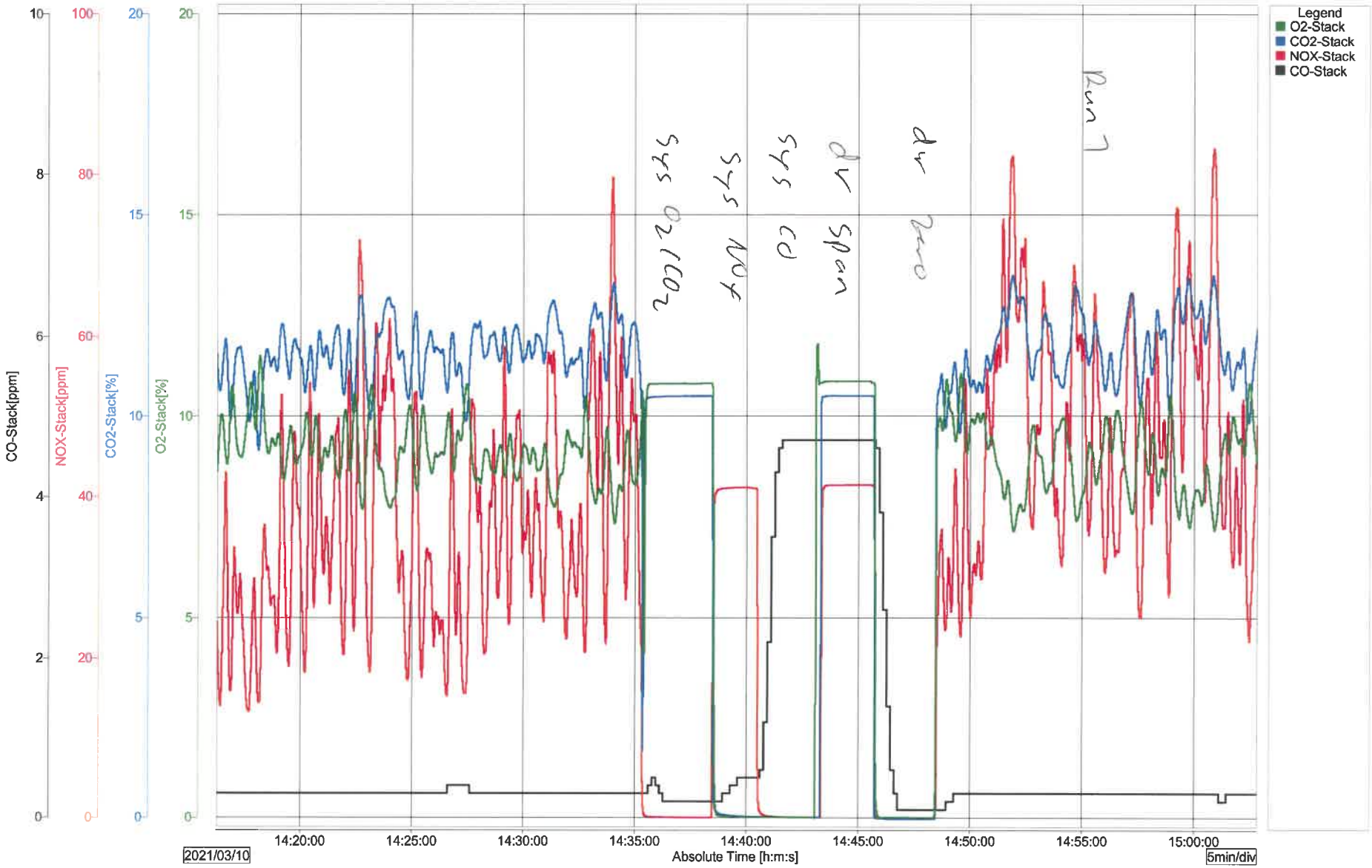
Stop Time : 2021/03/10 18:30:06.000

Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



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Device Type : DX2000
Serial No. : S5U604838

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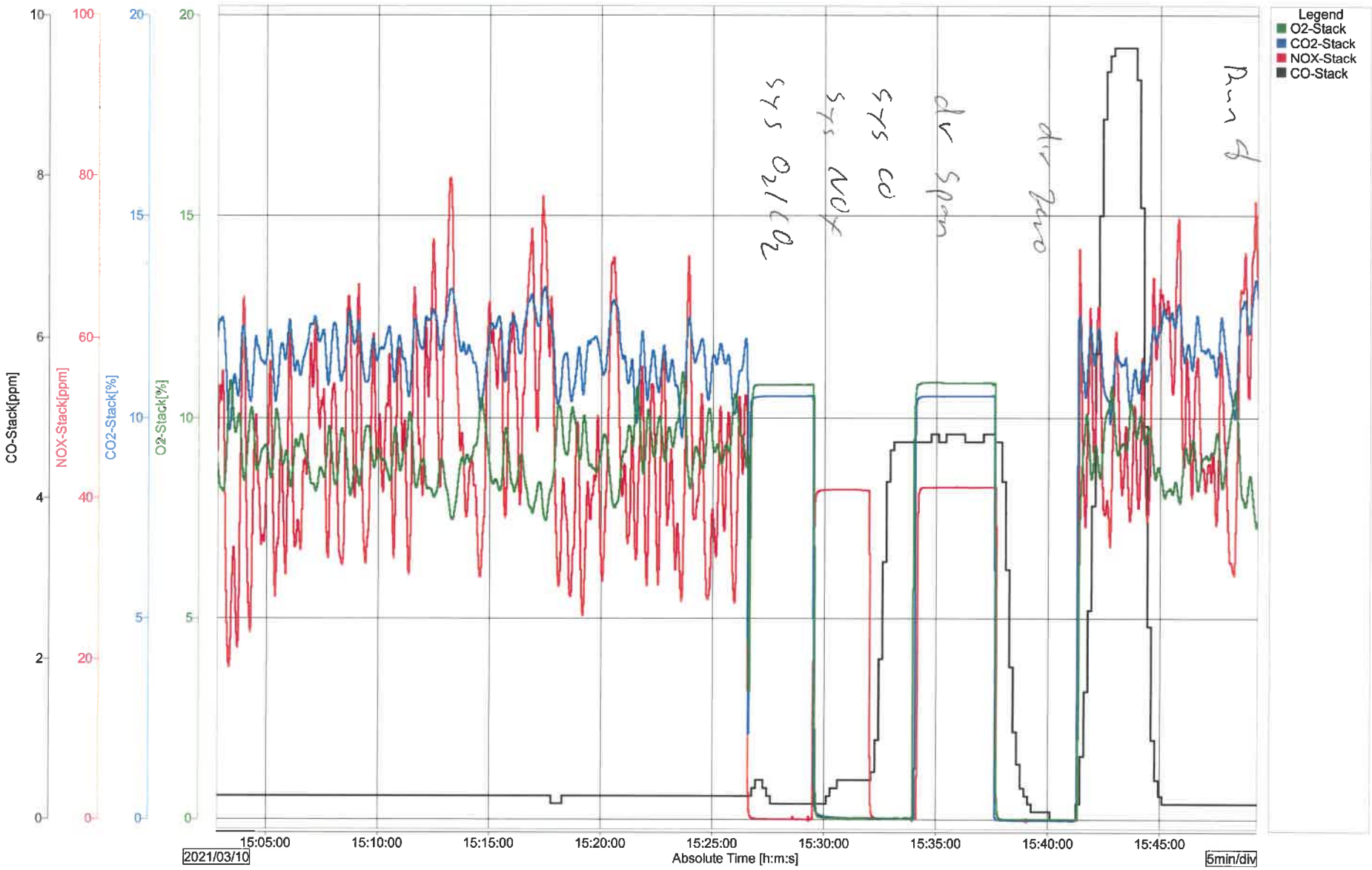
Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



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Print Groups : GROUP 1
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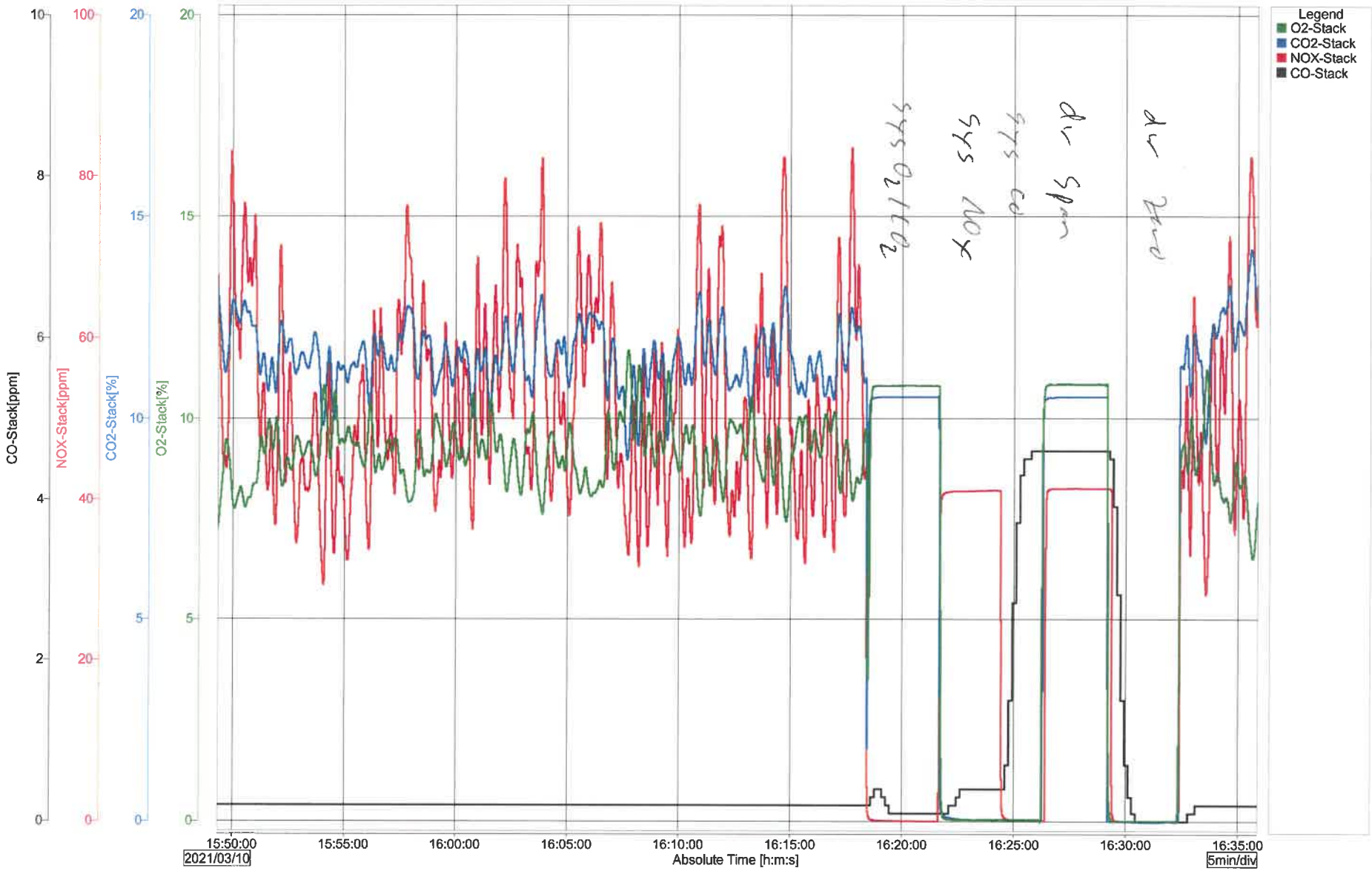

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Print Groups : GROUP 1
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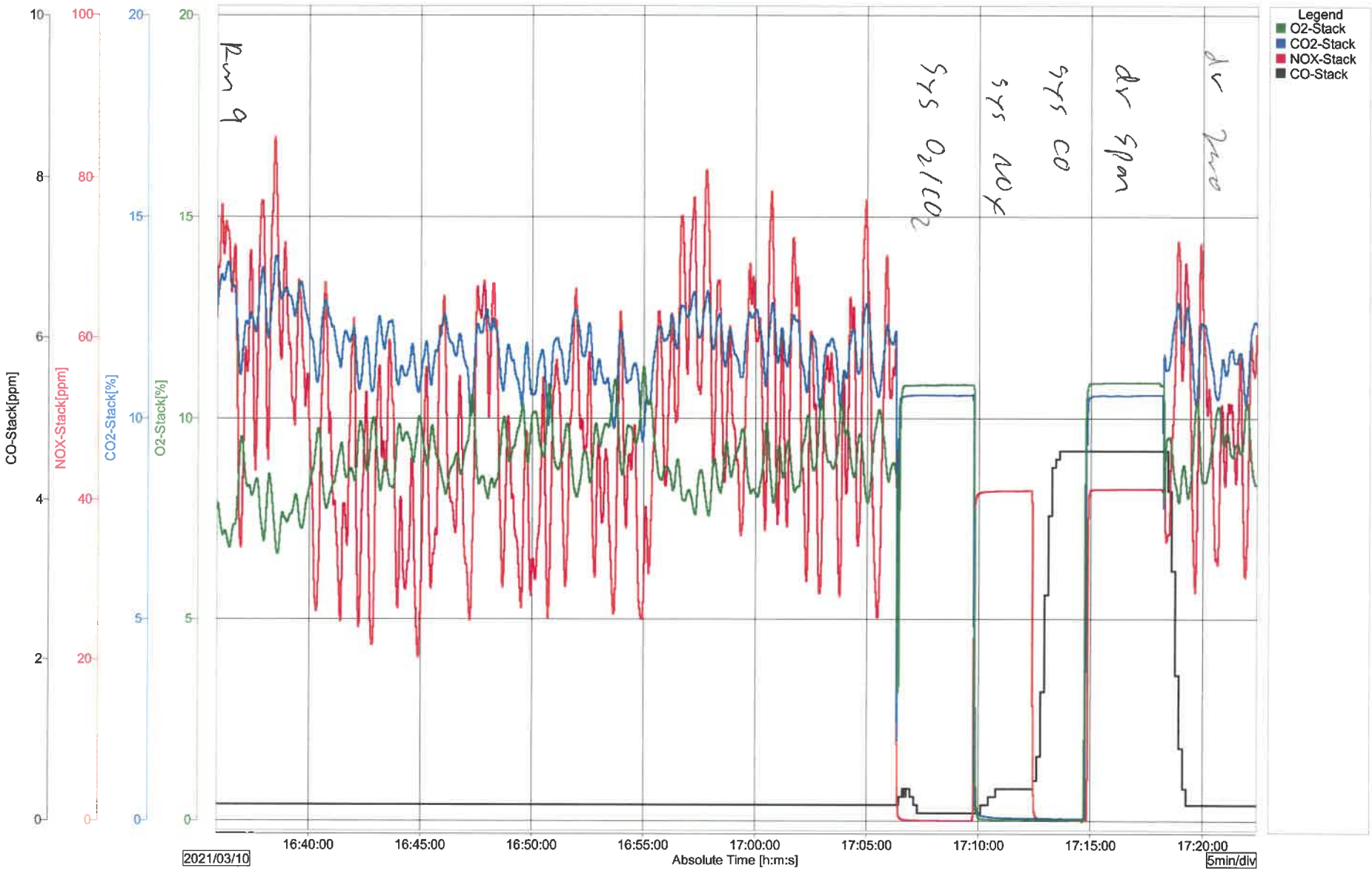

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Print Groups : GROUP 1
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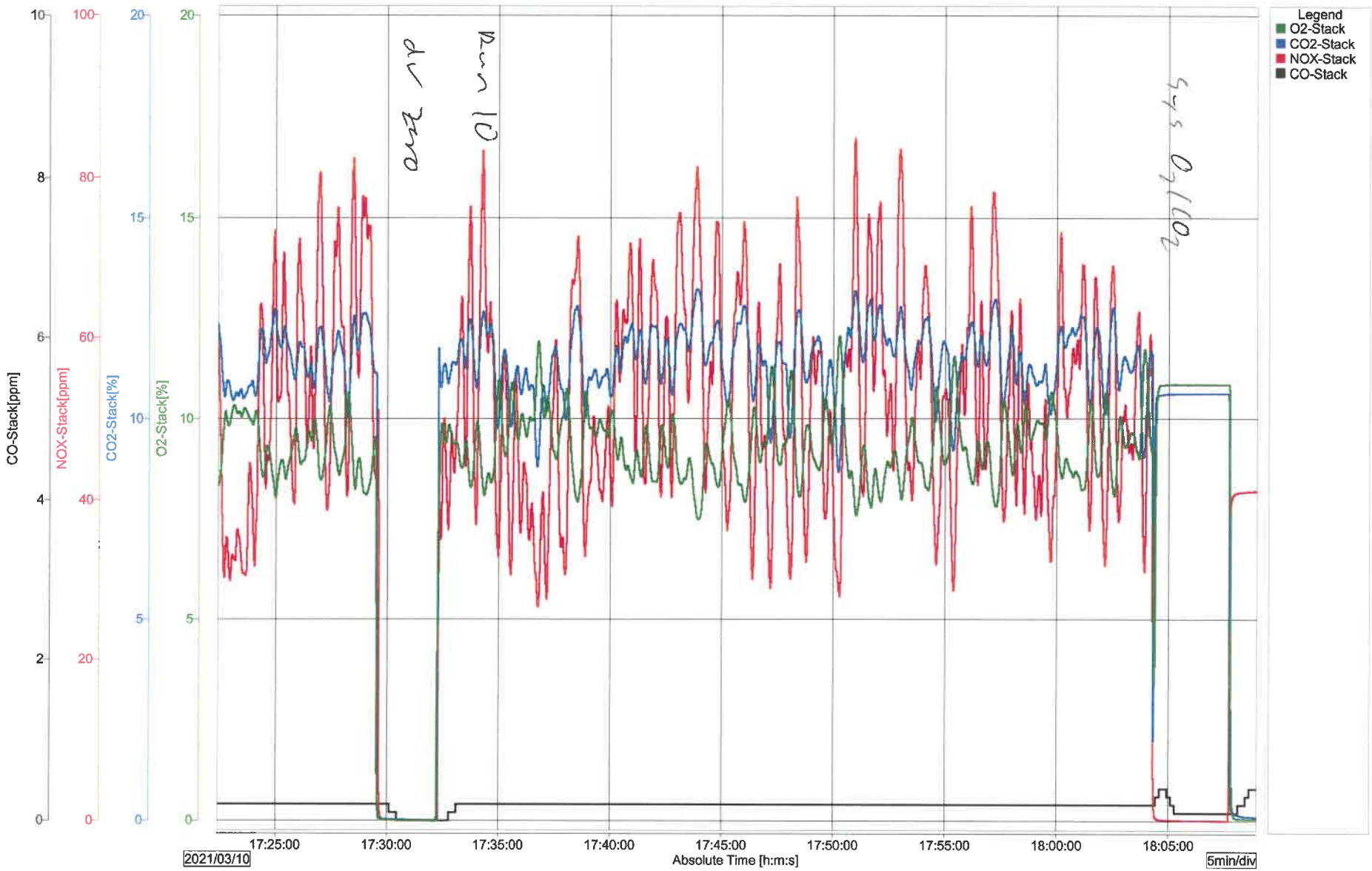

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Serial No. : S5U604838

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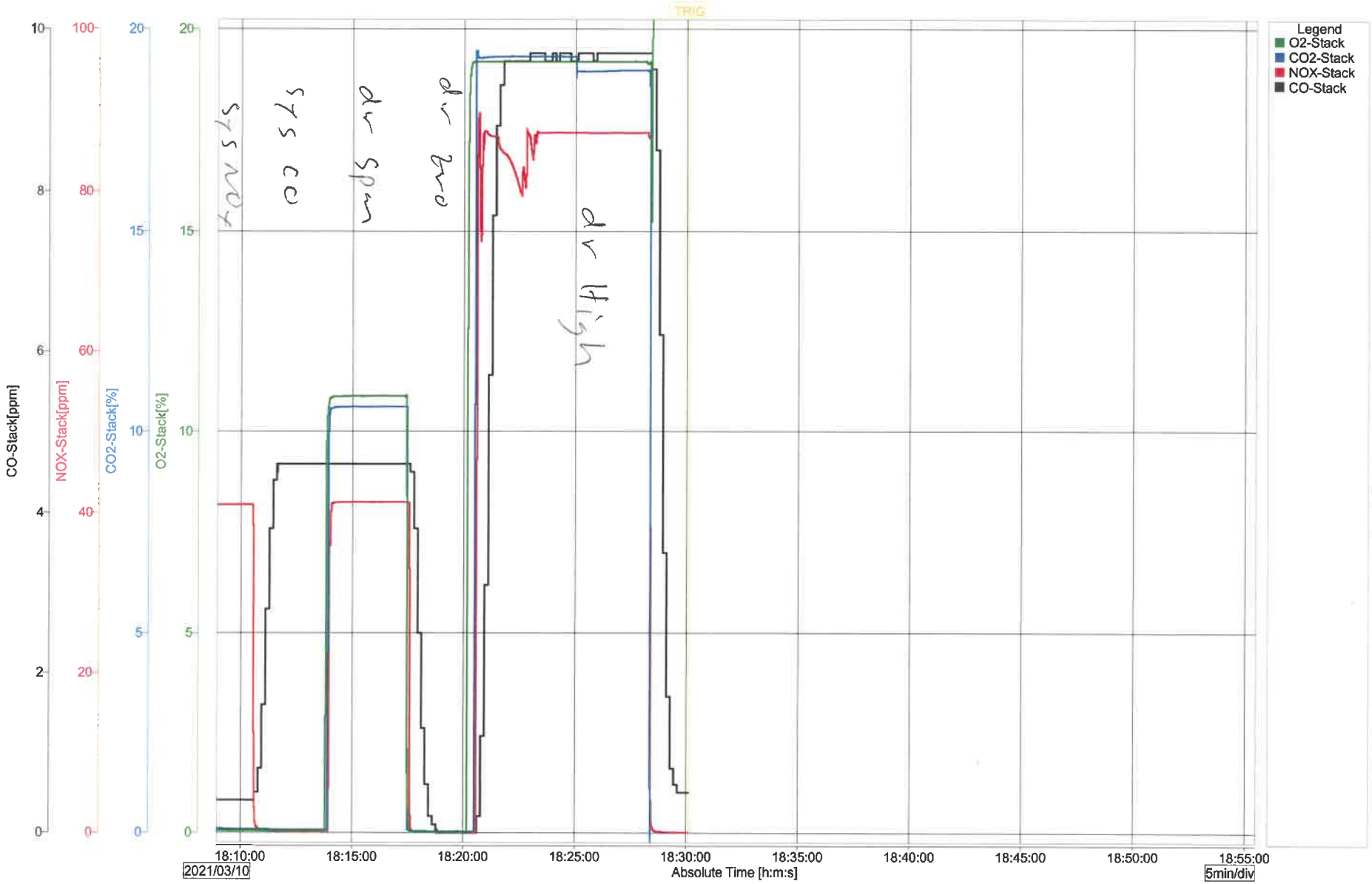
Stop Time : 2021/03/10 18:30:06.000

Print Groups : GROUP 1
Print Range : 2021/03/10 06:30:56.000 - 2021/03/10 18:30:06.000



Appendix A.1.4
Unit 1 SO_2 Data and Velocity Data

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desertview
LOCATION/UNIT: U1 Stack Breaching
PERFORMED BY: PW / S.S.
TEST DATE: 3-10-21
BAR. PRESSURE: 30.11
TC READOUT ID: 30-WCS
DP INDICATOR ID: 30-WCS
TC ID: #013
DP INDICATOR TYPE: 0-10"
PITOT TUBE ID: #013
Cp: .84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 1-Sox	Ps: 4.48		Run #:	Ps:		Run #:	Ps:	
Start: 0746	Stop: 0846		Start:	Stop:		Start:	Stop:	
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	1.1	357	5	.90	357	5	1.1	357
4	.98	358	4	.90	356	4	1.2	358
3	.94	360	3	.94	356	3	1.3	359
2	1.0	360	2	.92	357	2	1.2	358
1	.95	358	1	.98	355	1	1.0	358
5	1.4	357	5	1.0	359	5	1.4	357
4	1.2	358	4	1.1	358	4	1.4	358
3	.85	359	3	1.3	359	3	1.3	356
2	.82	360	2	1.0	360	2	1.2	358
1	.80	360	1	1.0	358	1	1.1	357
Heated Line Temp. °F		312	Heated Line Temp. °F			Heated Line Temp. °F.		
Chiller Temp. °C		20.6	Chiller Temp. °C			Chiller Temp. °C		

MOISTURE DATA FOR TEST RUNS 1-Sox THROUGH 1-Sox

METER ID: 1 PM METER Yd: 1.017 BALANCE CHECK WEIGHT: 499.9 / 500.0

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
0746	660.100	1.5	60	61	54	5"	#1	H_2O_2	910.8	731.4	
0806	673.132	1.5	61	62	55	5"	#2	H_2O_2	711.1	710.5	
0826	686.150	1.5	62	64	55	5"	#3	Empty	638.4	638.4	
0846	698.957						#4	Silica Gel	866.9	857.1	
							Total	VR		50	

Pre-Test Leak Check: 0.005 CFM @ 15 in. Hg., Post-Test Leak Check: 0.005 CFM @ 15 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View
LOCATION/UNIT: U1 Stack Breeching
PERFORMED BY: PW/S.S.
TEST DATE: 3-10-21
BAR. PRESSURE: 30.11
TC READOUT ID: 30-WCS
DP INDICATOR ID: 30-WCS
TC ID: #013
DP INDICATOR TYPE: 0-10"
PITOT TUBE ID: #013
Cp: .84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 2-Sox	Ps: 1.48		Run #:	Ps:		Run #:	Ps:	
Start: 0908	Stop: 1008		Start:	Stop:		Start:	Stop:	
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	1.2	362	5	.94	365	5	1.5	368
4	1.0	364	4	.98	369	4	1.2	369
3	.98	365	3	.92	368	3	1.3	368
2	1.0	366	2	.93	369	2	1.3	369
1	.96	368	1	1.0	368	1	1.0	370
5	1.4	368	5	1.0	368	5	1.4	368
4	1.2	369	4	1.1	368	4	1.3	369
3	.92	370	3	1.3	369	3	1.3	368
2	.96	368	2	1.1	370	2	1.2	369
1	.83	369	1	1.2	369	1	1.2	368
Heated Line Temp. °F		311	Heated Line Temp. °F			Heated Line Temp. °F.		
Chiller Temp. °C		00.6	Chiller Temp. °C			Chiller Temp. °C		

MOISTURE DATA FOR TEST RUNS 2-Sox THROUGH 2-Sox

METER ID: 1 PM METER Yd: 1.011 BALANCE CHECK WEIGHT: 499.9 / 500.0

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
0908	700.100	1.5	70	71	54	5"	#1	H_2O_2	845.9	655.2	
0928	714.365	1.5	74	76	54	5"	#2	H_2O_2	730.0	728.6	
0948	728.640	1.5	75	78	56	5"	#3	Empty	592.9	591.9	
1008	743.024						#4	Silica Gel	896.3	881.1	
							Total	LR		50	

Pre-Test Leak Check: 0.005 CFM @ 15 in. Hg., Post-Test Leak Check: 0.005 CFM @ 15 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman TEST DATE: 3/10/2021
BAR. PRESSURE: 30.11 TC READOUT ID: 30-WCS
DP INDICATOR ID: 30-WCS TC ID: #013
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #013 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 3-Sox Ps: 1.48
Start: 1034 Stop: 1134

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	371	5	.96	371	5	1.5	372
4, 45.9"	.99	372	4	.99	372	4	1.2	371
3, 36.5"	.98	373	3	.93	372	3	1.3	372
2, 27.1"	1.1	372	2	.92	371	2	1.2	371
1, 17.7	97	371	1	1.1	372	1	1.1	370
5	1.4	370	5	1.1	371	5	1.4	369
4	1.3	371	4	1.2	372	4	1.3	370
3	.94	372	3	1.3	371	3	1.2	371
2	.97	371	2	1.1	371	2	1.2	371
1	.82	372	1	1.2	372	1	1.1	370
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	256		312	00.8			
2	256	254						
3	257	252						

MOISTURE DATA FOR TEST RUNS 2-Sox THROUGH 3-Sox

METER ID: 1PM ~~WCS~~ METER Yd: 1.011 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.
1034	745.000	1.5	73	76	49	5"	#1	H_2O_2	927.7	737.1	
1054	758.900	1.5	74	77	54	5"	#2	H_2O_2	712.6	711.1	
1114	772.795	1.5	78	78	57	5"	#3	Empty	639.9	639.6	
1134	786.418						#4	Silica Gel	877.0	866.9	
							Total	Line rinse		50	

Pre-Test Leak Check: 0.005 CFM @ 15 in. Hg., Post-Test Leak Check: 0.005 CFM @ 15 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View Power
LOCATION/UNIT: Unit - 1
PERFORMED BY: Patrick Whitman
TEST DATE: 3/10/2021
BAR. PRESSURE: 30.11
TC READOUT ID: 30-WCS
DP INDICATOR ID: 30-WCS
TC ID: #013
DP INDICATOR TYPE: 0-10" Manometer
PITOT TUBE ID: #013
Cp: 0.84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 4-Sox Ps: +.48
Start: 1154 Stop: 1224

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	371	5	.98	372	5	1.4	371
4, 45.9"	.97	372	4	1.1	371	4	1.3	372
3, 36.5"	.96	372	3	.92	371	3	1.2	373
2, 27.1"	1.0	371	2	.90	370	2	1.0	372
1, 17.7	.95	370	1	1.1	371	1	1.1	371
5	1.4	371	5	1.1	371	5	1.4	370
4	1.2	371	4	1.2	370	4	1.3	371
3	.95	370	3	1.2	371	3	1.3	371
2	.98	371	2	1.0	372	2	1.2	371
1	.87	370	1	1.0	371	1	1.0	370
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	251		317	00.7			
2	257	256						
3	255	258						

MOISTURE DATA FOR TEST RUNS 4-Sox THROUGH 4-Sox

METER ID: 1PM ~~WCS~~ METER Yd: 1.011 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.
1154	788.000	2.5	80	83	49	8"	#1	H_2O_2	785.2	647.1	
1204	797.600	2.5	80	81	53	8"	#2	H_2O_2	742.2	739.9	
1214	806.840	2.5	79	82	56	8"	#3	Empty	596.1	594.4	
1224	815.337						#4	Silica Gel	907.6	896.3	
							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: 3/10/2021
BAR. PRESSURE: 30.11 TC READOUT ID: 30-UCS
DP INDICATOR ID: 30-UCS TC ID: #013
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #013 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: S-Sox Ps: 1.48
Start: 1314 Stop: 1344

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"	.90	355	5	.98	356	5	.90	356
4, 45.9"	.97	356	4	1.0	357	4	.80	357
3, 36.5"	.96	357	3	.92	358	3	.80	358
2, 27.1"	.60	357	2	.90	358	2	.60	357
1, 17.7	.60	356	1	.80	356	1	.50	355
5	.80	355	5	.90	354	5	.90	355
4	.80	354	4	.90	355	4	.90	356
3	.95	355	3	.80	356	3	.80	357
2	.98	356	2	.60	357	2	.80	356
1	.60	354	1	.50	355	1	.60	357
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	256	254		311	027			
2	255	258						
3	254	257						

MOISTURE DATA FOR TEST RUNS S-Sox THROUGH S-Sox

METER ID: 1PM ~~WCS~~ METER Yd: 1.017 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.
1314	816.420	2.5	88	90	57	8"	#1	H_2O_2	872.0	731.6	
1324	824.885	2.5	74	77	52	8"	#2	H_2O_2	715.3	713.8	
1334	833.520	2.5	73	75	52	8"	#3	Empty	640.6	639.3	
1344	841.949						#4	Silica Gel	949.1	939.9	
							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: 3/10/2021
BAR. PRESSURE: 30.11 TC READOUT ID: 30-WCS
DP INDICATOR ID: 30-WCS TC ID: #013
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #013 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 6Sox	Ps: 1.48							
Start: 1404	Stop: 1434							
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	365	5	.96	364	5	1.5	364
4, 45.9"	.99	366	4	.99	365	4	1.2	365
3, 36.5"	.98	364	3	.93	366	3	1.3	364
2, 27.1"	1.1	365	2	.92	364	2	1.2	364
1, 17.7	.97	364	1	1.1	365	1	1.1	364
5	1.4	364	5	1.1	364	5	1.4	364
4	1.3	365	4	1.2	365	4	1.3	365
3	.94	366	3	1.3	366	3	1.2	366
2	.97	367	2	1.1	364	2	1.2	365
1	.82	364	1	1.2	365	1	1.1	364
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	257		311	00.6			
2	256	255						
3	252	254						

MOISTURE DATA FOR TEST RUNS 6Sox THROUGH 6Sox

METER ID: 1PM ~~WCS~~ METER Yd: 1.011 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.
1404	844.100	2.5	70	72	53	8"	#1	H_2O_2	760.5	638.5	
1414	852.560	2.5	73	75	55	8"	#2	H_2O_2	750.4	749.9	
1424	861.000	2.5	74	76	54	8"	#3	Empty	595.5	595.2	
1434	869.487						#4	Silica Gel	916.3	907.6	
							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: 3/10/2021
BAR. PRESSURE: 30.11 TC READOUT ID: 30-WCS
DP INDICATOR ID: 30-WCS TC ID: #013
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #013 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 7Sox Ps: 7.48
Start: 1456 Stop: 1526

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"	.90	365	5	.98	371	5	.90	371
4, 45.9"	.97	368	4	1.0	372	4	.80	372
3, 36.5"	.96	370	3	.92	371	3	.60	372
2, 27.1"	.60	371	2	.80	371	2	.60	372
1, 17.7	.60	371	1	.80	370	1	.50	371
5	.80	370	5	.80	371	5	.90	371
4	.80	371	4	.80	372	4	.90	372
3	.95	372	3	.80	372	3	.80	371
2	.98	373	2	.60	371	2	.80	372
1	.60	371	1	.50	370	1	.60	372

	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	255	258		312	00.7			
2	254	257						
3	252	255						

MOISTURE DATA FOR TEST RUNS 7Sox THROUGH 7Sox

METER ID: 1PM WCS METER Yd: 1.011 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.
1456	870.700	2.5	73	77	55	8"	#1	H_2O_2	681.5	731.1	
1506	879.945	2.5	74	77	52	8"	#2	H_2O_2	907.6	717.2	
1516	889.890	2.5	75	78	54	8"	#3	Empty	641.0	639.6	
1526	897.441						#4	Silica Gel	956.6	949.1	
							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: 3/10/2021
BAR. PRESSURE: 30.11 TC READOUT ID: 30-WCS
DP INDICATOR ID: 30-WCS TC ID: #013
DP INDICATOR TYPE: 0-10" Manometer PITOT TUBE ID: #013 Cp: 0.84
ZERO: ✓ LEVEL: ✓ LEAK CHECK PRE- ✓ POST- ✓

Run #: 8-3or Ps: 1.48
Start: 1548 Stop: 1618

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"	.89	371	5	.97	371	5	.87	371
4, 45.9"	.88	372	4	1.1	372	4	.80	372
3, 36.5"	.85	371	3	.81	372	3	.60	371
2, 27.1"	.61	372	2	.80	371	2	.60	372
1, 17.7	.60	371	1	.80	370	1	.52	371
5	.82	372	5	.81	371	5	.87	371
4	.81	371	4	.92	372	4	.86	372
3	.94	372	3	.81	371	3	.81	371
2	.95	371	2	.62	370	2	.80	370
1	.63	370	1	.53	371	1	.62	371
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	254	258						
2	257	255						
3	253	252						

MOISTURE DATA FOR TEST RUNS 8-3or THROUGH 8-3or

METER ID: 1 PM WCS METER Yd: 1.011 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.
1548	898.200	2.5	76	78	54	8"	#1	H_2O_2	789.2	650.5	
1558	907.025	2.5	73	75	53	8"	#2	H_2O_2	737.6	736.4	
1608	915.775	2.5	72	75	56	8"	#3	Empty	595.0	594.4	
1618	924.318						#4	Silica Gel	924.5	916.3	
							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: 3/10/2021
BAR. PRESSURE: 30.11 | TC READOUT ID: 30-WCS
DP INDICATOR ID: 30-WCS | TC ID: #013
DP INDICATOR TYPE: 0-10" Manometer | PITOT TUBE ID: A013 | Cp: 0.84
ZERO: ✓ LEVEL: ✓ | LEAK CHECK PRE- ✓ POST- ✓

Run #: 9-Sox Ps: 8.48
Start: 1636 Stop: 1706

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"	.74	358	5	.93	362	5	.82	362
4, 45.9"	.70	359	4	.82	363	4	.73	363
3, 36.5"	.68	360	3	.78	362	3	.52	362
2, 27.1"	.62	361	2	.54	361	2	.43	362
1, 17.7	.53	362	1	.52	362	1	.40	361
5	.83	362	5	.83	361	5	.78	362
4	.72	362	4	.79	363	4	.72	362
3	.63	363	3	.72	364	3	.59	361
2	.60	362	2	.51	362	2	.51	362
1	.52	361	1	.50	362	1	.48	361
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	256	253		312	00.C			
2	255	257						
3	254	255						

MOISTURE DATA FOR TEST RUNS 9-Sox THROUGH 9-Sox

METER ID: 1 PM WCS METER Yd: 1.071 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.
1636	922.000	2.5	73	75	52	8"	#1	H_2O_2	867.3	729.4	
1646	934.420	2.5	74	76	50	8"	#2	H_2O_2	718.4	715.4	
1656	942.825	2.5	75	78	50	8"	#3	Empty	639.7	639.2	
1706	951.838						#4	Silica Gel	963.2	956.6	
							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: 3/10/2021
BAR. PRESSURE: 30.11
TC READOUT ID: 30-WCS
DP INDICATOR ID: 30-WCS
TC ID: #013
DP INDICATOR TYPE: 0-10" Manometer
PITOT TUBE ID: #013
Cp: 0.84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 10-Sox Ps: +.48
Start: 1724 Stop: 1804

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"	.68	362	5	.72	363	5	.70	364
4, 45.9"	.67	363	4	.70	362	4	.70	365
3, 36.5"	.69	364	3	.69	363	3	.61	366
2, 27.1"	.60	365	2	.51	362	2	.55	365
1, 17.7	.52	364	1	.47	361	1	.48	367
5	.70	365	5	.70	360	5	.71	368
4	.69	364	4	.70	361	4	.62	369
3	.61	365	3	.66	362	3	.53	368
2	.60	364	2	.50	363	2	.50	367
1	.48	364	1	.45	364	1	.44	364
	Probe Temp. °F	Filter Temp. °C		Heated Line Temp. °F	Chiller Temp. °C			
1	253	251		312	00.8			
2	257	259						
3	255	256						

MOISTURE DATA FOR TEST RUNS 10-Sox THROUGH 10-Sox

METER ID: 1PM WCS METER Yd: 1.012 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.
1724	952.600	2.5	74	77	52	8"	#1	H_2O_2	783.4	652.9	
1734	962.000	2.5	72	75	50	8"	#2	H_2O_2	733.5	733.1	
1744	970.980	2.5	70	72	53	8"	#3	Empty	593.4	593.0	
1804	979.654						#4	Silica Gel	883.4	893.0	
							Total	Line rinse		50	

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

MONTROSE AIR QUALITY SERVICES

SULFATE TITRATION

Project # PROJ-006514
Client/Location Desert View Power
Sample Location Unit 1
Titrant Used 0.01 N $BaCl_2$

Sample Date 3/10/2021
Analysis Date 3/10/2021
Analyst Initials LM

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	0.13 0.18	0.16		
Blank (V_b): 20 mL DI H_2O + 80 mL IPA					20	0.16 0.14	0.15	N = (0.02*Va)/Vt	
Standardization: 15 ml DI H_2O + 5 ml 0.0200 N H_2SO_4 + 80 mL IPA					5	10.48 10.50	10.34	N= 0.00967118	
Audit Sample: 5 ml 1000 ppm SO_4 + 15 DI H_2O + 80 mL IPA					5	10.55 10.55	10.40	97 % recovery	
1-SO2		511.9			20	2.43 2.45	2.28	in 3% H_2O_2	
2-SO2		513.1			20	2.95 2.90	2.77	in 3% H_2O_2	
3-SO2		503.1			20	3.15 3.15	2.99	in 3% H_2O_2	
4-SO2		459.4			20	2.89 2.84	2.71	in 3% H_2O_2	
5-SO2		445.6			20	3.02 3.00	2.85	in 3% H_2O_2	
6-SO2		439.5			20	2.75 2.78	2.61	in 3% H_2O_2	
7-SO2		449.4			20	2.75 2.75	2.59	in 3% H_2O_2	
8-SO2		447.2			20	3.15 3.18	3.01	in 3% H_2O_2	
9-SO2		464.1			20	3.30 3.32	3.15	in 3% H_2O_2	
10-SO2		411.7			20	3.35 3.40	3.22	in 3% H_2O_2	
					mg $H_2SO_4 \cdot 2H_2O$ = (Vt-Vbl) (N) (67) (TV/V_{evap}) (V_{recon}/Va)				

Method of Sample Prep/Analysis Notes

MONTROSE AIR QUALITY SERVICES

SULFATE TITRATION

Project #	PROJ-006514		
Client/Location	Desert View Power	Sample Date	3/10/2021
Sample Location	Unit 1	Analysis Date	3/10/2021
Titrant Used	0.01 N $BaCl_2$	Analyst Initials	LM

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	X-Blank (mL)
Blank (V_b): 20 mL 3% H_2O_2 + 80 mL IPA					20	0.13 0.18	0.16		
Blank (V_b): 20 mL DI H_2O + 80 mL IPA					20	0.16 0.14	0.15		
Standardization: 15 ml DI H_2O + 5 ml 0.0200 N H_2SO_4 + 80 mL IPA					5	10.48 10.50	10.34	N= 0.00967118	
Audit Sample: 5 ml 1000 ppm SO_4 + 15 DI H_2O + 80 mL IPA					5	10.55 10.55	10.40	97% recovery	
1-SO2		511.9			20	2.45 2.43	2.28	in 3% H2O2	
2-SO2		513.1			20	2.95 2.90	2.77	in 3% H2O2	
3-SO2		503.1			20	3.15 3.15	2.99	in 3% H2O2	
4-SO2		459.4			20	2.89 2.84	2.71	in 3% H2O2	
5-SO2		445.6			20	3.02 3.00	2.85	in 3% H2O2	
6-SO2		439.5			20	2.75 2.78	2.61	in 3% H2O2	
7-SO2		449.4			20	2.75 2.75	2.59	in 3% H2O2	
8-SO2		447.2			20	3.15 3.18	3.01	in 3% H2O2	
9-SO2		469.1			20	3.30 3.32	3.15	in 3% H2O2	
10-SO2		411.7			20	3.35 3.40	3.22	in 3% H2O2	
					mg $H_2SO_4 \cdot 2H_2O$ = (Vt-Vbl) (N) (67) (TV/V_{evap}) (V_{recon}/Va)				

Method of Sample Prep/Analysis Notes

DS1580127

Date of last revision 02/22/19

Santa Ana\Forms\Lab Datasheets

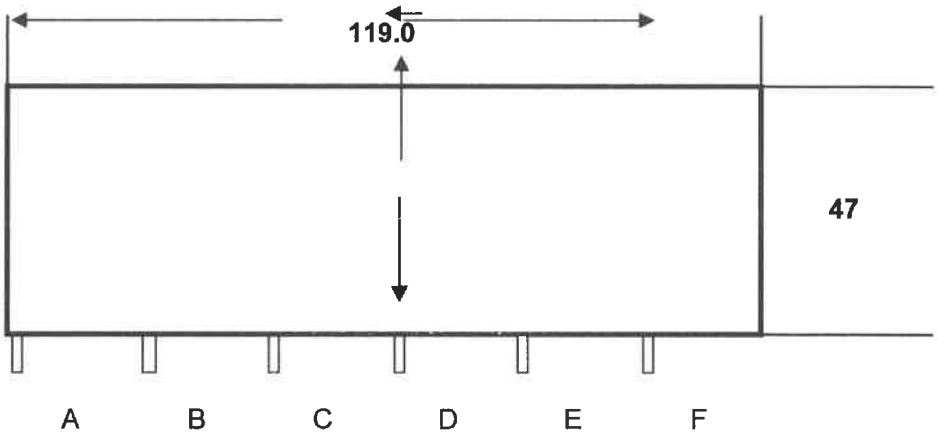
Appendix A.2
Unit 2 Reference Method Data

Appendix A.2.1
Unit 2 Sample Location

Method 1

Client: Desert View Power Date: 3/8/2021

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	
3/8/2021	7:00	20.961	-0.698	0.016	0.524	
3/8/2021	7:01	20.959	-0.701	0.029	0.523	
3/8/2021	7:02	20.95	-0.693	0.056	0.519	
3/8/2021	7:03	20.958	-0.699	0.023	0.519	
3/8/2021	7:04	20.23	-0.697	0.023	0.52	
3/8/2021	7:05	0.037	-0.777	0.014	0.45	
3/8/2021	7:06	-0.001	-0.311	0.014	0.026	
3/8/2021	7:07	-0.002	-0.001	0.014	-0.001	dir zero
3/8/2021	7:08	7.823	6.413	17.686	0.057	
3/8/2021	7:09	19.154	19.588	86.984	5.659	
3/8/2021	7:10	19.155	18.945	87.562	9.583	
3/8/2021	7:11	19.155	18.943	74.065	9.614	
3/8/2021	7:12	19.155	18.951	87.495	9.617	
3/8/2021	7:13	19.156	18.946	87.537	9.609	
3/8/2021	7:14	19.158	18.924	87.547	9.627	DIR HIGH
3/8/2021	7:15	12.591	10.975	53.644	8.532	
3/8/2021	7:16	10.861	10.406	41.41	4.739	
3/8/2021	7:17	10.857	10.41	41.555	4.604	DIR MID
3/8/2021	7:18	18.175	2.527	9.734	3.629	
3/8/2021	7:19	20.958	0.107	0.044	0.617	
3/8/2021	7:20	20.956	0.106	0.038	0.517	
3/8/2021	7:21	20.946	0.12	0.065	0.515	
3/8/2021	7:22	20.936	0.11	0.039	0.513	
3/8/2021	7:23	20.947	0.115	0.025	0.518	
3/8/2021	7:24	20.946	0.122	0.019	0.512	
3/8/2021	7:25	20.948	0.125	0.019	0.513	
3/8/2021	7:26	20.949	0.127	0.016	0.518	
3/8/2021	7:27	20.923	0.147	0.083	0.515	
3/8/2021	7:28	20.924	0.145	0.073	0.517	
3/8/2021	7:29	20.946	0.133	0.027	0.522	
3/8/2021	7:30	20.945	0.139	0.015	0.525	
3/8/2021	7:31	20.949	0.134	0.015	0.512	ZERO NOx MODE
3/8/2021	7:32	20.945	0.134	0.019	0.518	
3/8/2021	7:33	20.949	0.127	0.012	0.518	ZERO NO MODE
3/8/2021	7:34	20.948	0.126	75.964	0.521	
3/8/2021	7:35	20.943	0.132	87.779	0.523	NO NO MODE
3/8/2021	7:36	20.944	0.135	87.63	0.517	
3/8/2021	7:37	20.946	0.132	87.501	0.512	NO NOx MODE
3/8/2021	7:38	20.938	0.139	47.275	0.514	
3/8/2021	7:39	20.942	0.136	42.549	0.527	NO2 NOx MODE
3/8/2021	7:40	20.94	0.137	4.837	0.514	
3/8/2021	7:41	20.929	0.15	0.075	0.512	NO2 NO MODE
3/8/2021	7:42	20.94	0.142	13.311	0.514	
3/8/2021	7:43	13.405	8.152	20.234	0.407	
3/8/2021	7:44	10.836	10.397	0.317	0.143	
3/8/2021	7:45	10.827	10.414	0.254	0.098	SYS O2/CO2

3/8/2021	7:46	10.826	10.417	0.212	0.097	
3/8/2021	7:47	6.539	6.229	21.135	0.108	
3/8/2021	7:48	0.021	0.126	41.19	0.321	
3/8/2021	7:49	0.014	0.107	41.216	0.414	SYS NOX
3/8/2021	7:50	2.919	3.27	18.995	0.852	
3/8/2021	7:51	2.977	3.875	12.212	2.691	
3/8/2021	7:52	0.185	0.199	0.42	3.502	
3/8/2021	7:53	0.004	0.099	0.136	4.567	
3/8/2021	7:54	0.004	0.094	0.131	4.577	SYS CO
3/8/2021	7:55	6.215	8.869	30.9	3.44	
3/8/2021	7:56	8.36	12.239	40.807	0.328	
3/8/2021	7:57	8.349	12.162	41.916	0.216	
3/8/2021	7:58	8.443	12.09	40.666	0.213	
3/8/2021	7:59	8.5	12.11	38.281	0.214	
3/8/2021	8:00	8.32	12.209	40.364	0.214	
3/8/2021	8:01	8.492	12.077	37.734	0.218	
3/8/2021	8:02	9.083	11.396	33.141	0.218	
3/8/2021	8:03	9.996	10.612	29.293	0.222	
3/8/2021	8:04	9.852	10.82	30.822	0.227	
3/8/2021	8:05	9.106	11.415	33.496	0.223	
3/8/2021	8:06	8.983	11.642	35.153	0.226	
3/8/2021	8:07	8.485	12.054	37.843	0.22	
3/8/2021	8:08	8.866	11.518	40.09	0.222	
3/8/2021	8:09	8.33	12.191	39.61	0.219	
3/8/2021	8:10	8.705	11.864	37.052	0.224	
3/8/2021	8:11	8.828	11.724	37.613	0.226	
3/8/2021	8:12	8.682	11.897	39.693	0.221	
3/8/2021	8:13	8.125	12.362	39.564	0.219	
3/8/2021	8:14	8.627	11.888	38.13	0.217	
3/8/2021	8:15	8.897	11.587	37.942	0.217	
3/8/2021	8:16	9.316	11.296	35.466	0.223	
3/8/2021	8:17	8.371	12.175	37.375	0.219	
3/8/2021	8:18	8.614	11.925	37.058	0.217	
3/8/2021	8:19	8.641	11.899	36.797	0.221	
3/8/2021	8:20	8.547	12.001	38.6	0.218	RUN 1
3/8/2021	8:21	8.336	12.161	40.661	0.218	
3/8/2021	8:22	8.706	11.828	37.811	0.213	
3/8/2021	8:23	8.629	11.836	39.189	0.214	
3/8/2021	8:24	9.886	10.735	34.236	0.219	
3/8/2021	8:25	9.48	11.1	33.388	0.227	
3/8/2021	8:26	9.194	11.368	34.938	0.226	
3/8/2021	8:27	8.973	11.573	34.961	0.223	
3/8/2021	8:28	7.789	12.699	40.622	0.222	
3/8/2021	8:29	8.812	11.684	38.382	0.214	
3/8/2021	8:30	9.29	11.229	36.864	0.219	
3/8/2021	8:31	9.771	10.845	35.497	0.224	
3/8/2021	8:32	8.832	11.702	37.6	0.222	
3/8/2021	8:33	9.205	11.332	37.105	0.226	
3/8/2021	8:34	9.343	11.216	35.028	0.23	

3/8/2021	8:35	9.453	11.12	35.995	0.232
3/8/2021	8:36	8.862	11.647	36.882	0.23
3/8/2021	8:37	9.125	11.43	36.57	0.228
3/8/2021	8:38	8.637	11.873	39.395	0.223
3/8/2021	8:39	9.065	11.499	40.75	0.215
3/8/2021	8:40	9.263	11.267	38.015	0.22
3/8/2021	8:41	8.922	11.667	37.549	0.222
3/8/2021	8:42	8.437	12.064	39.145	0.221
3/8/2021	8:43	8.639	11.837	39.326	0.224
3/8/2021	8:44	8.9	11.595	38.579	0.224
3/8/2021	8:45	8.918	11.639	40.728	0.21
3/8/2021	8:46	8.279	12.185	41.883	0.208
3/8/2021	8:47	8.939	11.59	36.877	0.213
3/8/2021	8:48	8.663	11.826	39.2	0.211
3/8/2021	8:49	8.247	12.333	41.055	0.211
3/8/2021	8:50	8.864	11.592	39.01	0.219
3/8/2021	8:51	8.76	11.732	40.432	0.217
3/8/2021	8:52	8.833	11.647	40.452	0.206
3/8/2021	8:53	8.628	11.933	42.889	0.217
3/8/2021	8:54	8.692	11.801	39.059	0.214
3/8/2021	8:55	8.304	12.181	39.394	0.211
3/8/2021	8:56	8.574	11.97	39.36	0.21
3/8/2021	8:57	8.926	11.526	36.69	0.208
3/8/2021	8:58	8.664	11.814	35.976	0.207
3/8/2021	8:59	9.077	11.502	38.019	0.216
3/8/2021	9:00	8.405	12.086	37.547	0.211
3/8/2021	9:01	8.585	11.943	38.621	0.21
3/8/2021	9:02	9.298	11.23	37.426	0.213
3/8/2021	9:03	9.532	10.993	35.056	0.211
3/8/2021	9:04	9.06	11.458	37.001	0.215
3/8/2021	9:05	8.494	12.111	40.697	0.212
3/8/2021	9:06	8.472	11.938	38.289	0.208
3/8/2021	9:07	9.278	11.247	37.943	0.203
3/8/2021	9:08	8.809	11.768	40.505	0.208
3/8/2021	9:09	8.562	11.898	40.332	0.207
3/8/2021	9:10	9.182	11.273	35.994	0.204
3/8/2021	9:11	9.122	11.383	37.198	0.215
3/8/2021	9:12	8.742	11.72	38.207	0.22
3/8/2021	9:13	9.387	11.099	36.392	0.217
3/8/2021	9:14	9.418	11.076	35.746	0.223
3/8/2021	9:15	9.339	11.15	37.701	0.227
3/8/2021	9:16	8.392	12.131	41.343	0.215
3/8/2021	9:17	8.596	11.86	39.515	0.217
3/8/2021	9:18	8.547	11.942	42.168	0.208
3/8/2021	9:19	8.828	11.641	41.691	0.206
3/8/2021	9:20	9.241	11.275	36.928	0.206
Average		**8.89**	**11.63**	**38.26**	**0.22**
3/8/2021	9:21	10.019	9.887	3.861	0.305

3/8/2021	9:22	10.796	10.367	0.064	0.089	SYS O2/CO2
3/8/2021	9:23	4.176	3.677	27.15	0.111	
3/8/2021	9:24	0.012	0.133	41.096	0.336	SYS NOX
3/8/2021	9:25	0.032	0.154	20.002	0.634	
3/8/2021	9:26	0.004	0.111	0.092	3.976	
3/8/2021	9:27	1.937	1.736	1.706	4.524	SYS CO
3/8/2021	9:28	10.811	10.374	41.274	4.506	
3/8/2021	9:29	10.816	10.376	41.325	4.524	DIR SPAN
3/8/2021	9:30	3.178	2.57	12.705	3.619	
3/8/2021	9:31	-0.013	0.07	0.022	0.345	
3/8/2021	9:32	-0.013	0	0.013	-0.023	DIR ZERO
3/8/2021	9:33	6.039	15.355	27.013	0.009	
3/8/2021	9:34	8.448	16.819	40.678	0.193	
3/8/2021	9:35	8.905	11.599	37.979	0.204	RUN 2
3/8/2021	9:36	9.234	11.298	37.623	0.212	
3/8/2021	9:37	9.003	11.486	36.7	0.232	
3/8/2021	9:38	9.665	10.856	33.809	0.223	
3/8/2021	9:39	9.387	11.201	33.835	0.221	
3/8/2021	9:40	8.386	12.134	38.95	0.222	
3/8/2021	9:41	8.523	12.024	38.42	0.22	
3/8/2021	9:42	8.465	12.058	39.321	0.22	
3/8/2021	9:43	8.616	11.856	38.926	0.217	
3/8/2021	9:44	8.959	11.593	38.751	0.206	
3/8/2021	9:45	8.542	11.96	41.199	0.208	
3/8/2021	9:46	8.817	11.71	36.912	0.209	
3/8/2021	9:47	9.36	11.195	37.365	0.204	
3/8/2021	9:48	8.515	12.053	40.791	0.206	
3/8/2021	9:49	8.635	11.895	40.893	0.201	
3/8/2021	9:50	8.666	11.839	39.554	0.196	
3/8/2021	9:51	8.346	12.242	42.048	0.202	
3/8/2021	9:52	8.624	11.815	41.77	0.201	
3/8/2021	9:53	9.527	11.069	36.354	0.206	
3/8/2021	9:54	8.764	11.765	36.984	0.211	
3/8/2021	9:55	8.887	11.636	38.938	0.21	
3/8/2021	9:56	9.591	11.001	37.691	0.206	
3/8/2021	9:57	8.971	11.611	38.5	0.199	
3/8/2021	9:58	9.457	11.13	38.052	0.203	
3/8/2021	9:59	8.348	12.202	39.772	0.208	
3/8/2021	10:00	7.509	13.024	45.52	0.204	
3/8/2021	10:01	8.398	12.092	42.632	0.203	
3/8/2021	10:02	8.568	11.915	41.304	0.195	
3/8/2021	10:03	9.165	11.311	38.044	0.199	
3/8/2021	10:04	9.739	10.841	34.289	0.213	
3/8/2021	10:05	8.717	11.793	33.805	0.243	
3/8/2021	10:06	9.147	11.406	34.385	0.207	
3/8/2021	10:07	8.487	11.991	39.454	0.254	
3/8/2021	10:08	8.349	12.172	39.95	0.192	
3/8/2021	10:09	9.597	10.914	36.993	0.197	
3/8/2021	10:10	9.006	11.544	36.884	0.236	

3/8/2021	10:11	9.173	11.334	39.897	0.208	
3/8/2021	10:12	8.268	12.229	39.851	0.237	
3/8/2021	10:13	8.358	12.136	38.055	0.247	
3/8/2021	10:14	8.601	11.822	39.738	0.192	
3/8/2021	10:15	8.972	11.52	39.562	0.189	
3/8/2021	10:16	9.661	10.83	36.636	0.191	
3/8/2021	10:17	8.576	11.933	39.843	0.367	
3/8/2021	10:18	8.674	11.723	40.376	0.399	
3/8/2021	10:19	9.191	11.325	38.745	0.382	
3/8/2021	10:20	8.446	12.052	39.504	0.341	
3/8/2021	10:21	8.782	11.624	40.594	0.199	
3/8/2021	10:22	8.687	11.849	40.359	0.191	
3/8/2021	10:23	8.628	11.789	41.028	0.189	
3/8/2021	10:24	9.151	11.334	38.428	0.19	
3/8/2021	10:25	8.401	12.041	42.522	0.188	
3/8/2021	10:26	9.853	10.612	37.839	0.184	
3/8/2021	10:27	9.413	11.135	36.717	0.196	
3/8/2021	10:28	8.235	12.223	38.032	0.2	
3/8/2021	10:29	8.423	12.099	41.639	0.201	
3/8/2021	10:30	8.014	12.418	41.005	0.196	
3/8/2021	10:31	8.642	11.85	42.238	0.189	
3/8/2021	10:32	8.761	11.742	38.755	0.188	
3/8/2021	10:33	9.107	11.383	40.442	0.186	
3/8/2021	10:34	9.185	11.333	35.291	0.192	
3/8/2021	10:35	8.844	11.668	39.425	0.192	
Average		**8.8336**	**11.677267**	**38.882317**	**0.217**	
3/8/2021	10:36	10.378	10.509	9.442	0.173	
3/8/2021	10:37	10.796	10.427	0.098	0.083	
3/8/2021	10:38	10.801	10.435	0.07	0.078	SYS O2
3/8/2021	10:39	5.802	5.297	20.704	0.091	
3/8/2021	10:40	0.01	0.133	40.961	0.308	SYS NOX
3/8/2021	10:41	0.192	0.347	22.07	0.548	
3/8/2021	10:42	0	0.115	0.096	3.814	
3/8/2021	10:43	0.112	0.115	0.073	4.519	SYS CO
3/8/2021	10:44	10.776	10.344	38.333	4.529	
3/8/2021	10:45	10.823	10.483	41.156	4.543	DIR MID
3/8/2021	10:46	2.878	2.334	10.792	3.37	
3/8/2021	10:47	-0.014	0.072	0.016	0.11	DIR ZERO
3/8/2021	10:48	2.622	3.772	10.833	-0.022	
3/8/2021	10:49	9.17	11.414	39.028	0.094	
3/8/2021	10:50	8.861	11.816	39.677	0.208	
3/8/2021	10:51	8.817	11.747	41.404	0.21	
3/8/2021	10:52	9.63	11.086	38.11	0.215	RUN 3
3/8/2021	10:53	8.654	12.002	37.925	0.211	
3/8/2021	10:54	7.823	12.795	41.616	0.207	
3/8/2021	10:55	8.195	12.408	40.895	0.192	
3/8/2021	10:56	9.163	11.537	40.826	0.197	
3/8/2021	10:57	8.727	11.81	40.117	0.195	

3/8/2021	10:58	9.654	10.941	36.832	0.197
3/8/2021	10:59	9.442	11.342	37.377	0.21
3/8/2021	11:00	8.998	11.596	35.917	0.218
3/8/2021	11:01	9.117	11.524	35.855	0.221
3/8/2021	11:02	9.596	11.052	37.294	0.218
3/8/2021	11:03	9.251	11.335	37.769	0.216
3/8/2021	11:04	9.456	11.259	37.876	0.213
3/8/2021	11:05	8.396	12.288	40.123	0.211
3/8/2021	11:06	8.439	12.091	40.924	0.207
3/8/2021	11:07	9.279	11.32	38.048	0.202
3/8/2021	11:08	9.146	11.488	39.359	0.209
3/8/2021	11:09	9.47	11.181	36.284	0.215
3/8/2021	11:10	8.41	12.213	40.534	0.216
3/8/2021	11:11	9.041	11.613	39.84	0.219
3/8/2021	11:12	8.388	12.236	41.762	0.215
3/8/2021	11:13	8.838	11.751	40.936	0.212
3/8/2021	11:14	9.125	11.558	37.804	0.213
3/8/2021	11:15	8.881	11.751	37.218	0.214
3/8/2021	11:16	8.762	11.826	39.95	0.205
3/8/2021	11:17	8.276	12.384	42.982	0.207
3/8/2021	11:18	7.99	12.543	45.747	0.197
3/8/2021	11:19	8.999	11.521	42.516	0.198
3/8/2021	11:20	9.542	11.188	37.364	0.204
3/8/2021	11:21	8.211	12.381	41.193	0.201
3/8/2021	11:22	8.999	11.555	39.509	0.195
3/8/2021	11:23	8.976	11.674	39.185	0.187
3/8/2021	11:24	8.132	12.469	42.008	0.182
3/8/2021	11:25	7.859	12.725	44.267	0.188
3/8/2021	11:26	8.25	12.233	41.361	0.186
3/8/2021	11:27	8.474	12.145	42.369	0.2
3/8/2021	11:28	7.814	12.746	42.314	0.199
3/8/2021	11:29	8.193	12.332	42.641	0.193
3/8/2021	11:30	8.75	11.788	40.639	0.189
3/8/2021	11:31	9.482	11.066	35.371	0.194
3/8/2021	11:32	9.516	11.08	33.455	0.195
3/8/2021	11:33	9.491	11.122	34.82	0.2
3/8/2021	11:34	8.903	11.701	35.386	0.206
3/8/2021	11:35	8.375	12.218	39.804	0.208
3/8/2021	11:36	7.788	12.775	41.616	0.2
3/8/2021	11:37	7.826	12.729	45.679	0.198
3/8/2021	11:38	7.982	12.56	43.48	0.189
3/8/2021	11:39	8.88	11.625	37.895	0.182
3/8/2021	11:40	9.563	11.1	35.35	0.197
3/8/2021	11:41	9.531	11.118	32.841	0.213
3/8/2021	11:42	9.56	11.043	35.048	0.214
3/8/2021	11:43	9.486	11.136	34.756	0.217
3/8/2021	11:44	8.641	11.95	37.264	0.216
3/8/2021	11:45	8.265	12.324	41.267	0.206
3/8/2021	11:46	8.408	12.179	42.322	0.196

3/8/2021	11:47	9.015	11.507	40.096	0.193	
3/8/2021	11:48	9.582	10.966	36.423	0.195	
3/8/2021	11:49	9.81	10.779	34.523	0.208	
3/8/2021	11:50	9.456	11.2	38.301	0.218	
3/8/2021	11:51	8.891	11.657	38.155	0.214	
3/8/2021	11:52	9.151	11.404	37.038	0.222	
Average		**8.838633**	**11.764**	**39.134433**	**0.204**	
3/8/2021	11:53	9.971	10.883	13.525	0.198	
3/8/2021	11:54	10.802	10.442	0.101	0.084	
3/8/2021	11:55	10.802	10.445	0.061	0.079	sys o2/co2
3/8/2021	11:56	3.571	3.131	29.162	0.117	
3/8/2021	11:57	0.013	0.089	40.752	0.348	SYS NOX
3/8/2021	11:58	0.196	0.32	20.282	0.599	
3/8/2021	11:59	0.004	0.065	0.084	3.928	
3/8/2021	12:00	6.035	4.782	14.197	4.517	SYS CO
3/8/2021	12:01	10.821	10.434	41.035	4.53	
3/8/2021	12:02	10.823	10.434	41.036	4.538	
3/8/2021	12:03	10.828	10.432	41.208	4.536	DIR SPAN
3/8/2021	12:04	3.685	2.774	11.882	3.494	
3/8/2021	12:05	-0.008	0.015	0.014	0.141	
3/8/2021	12:06	-0.008	0.008	0.016	-0.018	DIR ZERO
3/8/2021	12:07	5.147	7.523	24.039	0.001	
3/8/2021	12:08	7.996	12.59	45.933	0.19	
3/8/2021	12:09	7.754	12.668	46.899	0.221	
3/8/2021	12:10	9.059	11.368	40.089	0.254	
3/8/2021	12:11	9.504	11.115	39.386	0.218	
3/8/2021	12:12	8.826	11.782	42.264	0.227	
3/8/2021	12:13	8.292	12.22	43.882	0.223	
3/8/2021	12:14	7.661	12.819	47.544	0.21	
3/8/2021	12:15	8.74	11.705	40.321	0.214	RUN 4
3/8/2021	12:16	8.875	11.736	41.18	0.212	
3/8/2021	12:17	8.957	11.575	38.315	0.221	
3/8/2021	12:18	9.456	11.123	40.217	0.225	
3/8/2021	12:19	8.384	12.193	44.4	0.218	
3/8/2021	12:20	8.69	11.846	44.195	0.216	
3/8/2021	12:21	8.682	11.939	43.916	0.222	
3/8/2021	12:22	8.164	12.316	44.837	0.219	
3/8/2021	12:23	8.909	11.715	41.472	0.22	
3/8/2021	12:24	9.11	11.273	37.263	0.218	
3/8/2021	12:25	9.24	11.424	35.221	0.221	
3/8/2021	12:26	8.726	11.834	36.504	0.231	
3/8/2021	12:27	8.626	12.011	38.217	0.227	
3/8/2021	12:28	8.177	12.344	40.934	0.219	
3/8/2021	12:29	8.072	12.485	42.519	0.218	
3/8/2021	12:30	8.339	12.21	41.49	0.215	
3/8/2021	12:31	8.871	11.63	37.706	0.222	
3/8/2021	12:32	9.261	11.373	36.345	0.22	
3/8/2021	12:33	9.084	11.439	34.43	0.229	

3/8/2021	12:34	9.37	11.332	37.441	0.234	
3/8/2021	12:35	8.966	11.642	37.671	0.237	
3/8/2021	12:36	8.863	11.63	39.033	0.234	
3/8/2021	12:37	8.483	12.214	40.881	0.23	
3/8/2021	12:38	8.45	12.048	41.023	0.23	
3/8/2021	12:39	8.512	12.065	43.012	0.225	
3/8/2021	12:40	9.122	11.512	38.886	0.224	
3/8/2021	12:41	9.164	11.342	36.919	0.223	
3/8/2021	12:42	9.072	11.526	39.08	0.23	
3/8/2021	12:43	8.7	11.885	39.635	0.219	
3/8/2021	12:44	8.428	12.236	40.03	0.22	
3/8/2021	12:45	8.793	11.802	38.058	0.218	
Average		**8.784867**	**11.79**	**39.694333**	**0.223233**	
3/8/2021	12:46	10.224	10.748	9.329	0.191	
3/8/2021	12:47	10.783	10.504	0.07	0.084	SYS O2/CO2
3/8/2021	12:48	3.754	3.33	28.445	0.117	
3/8/2021	12:49	0.015	0.148	40.846	0.355	
3/8/2021	12:50	0.01	0.137	40.961	0.396	SYS NOX
3/8/2021	12:51	0.076	0.218	23.166	0.541	
3/8/2021	12:52	0.004	0.124	0.113	3.792	
3/8/2021	12:53	0.374	0.308	0.073	4.537	SYS CO
3/8/2021	12:54	10.804	10.49	38.811	4.548	
3/8/2021	12:55	10.819	10.49	41.182	4.56	DIR SPAN
3/8/2021	12:56	3.455	2.981	13.321	3.496	
3/8/2021	12:57	-0.008	0.071	0.017	0.144	
3/8/2021	12:58	-0.007	0.07	0.012	-0.015	DIR ZERO
3/8/2021	12:59	4.985	8.294	31.704	0.015	
3/8/2021	13:00	8.227	12.273	43.485	0.205	RUN 5
3/8/2021	13:01	9.318	11.233	43.367	0.22	
3/8/2021	13:02	9.714	10.927	37.143	0.234	
3/8/2021	13:03	8.784	11.847	39.677	0.236	
3/8/2021	13:04	8.567	12.017	39.908	0.231	
3/8/2021	13:05	8.479	12.053	40.109	0.231	
3/8/2021	13:06	9.259	11.344	39.175	0.228	
3/8/2021	13:07	8.992	11.625	39.887	0.232	
3/8/2021	13:08	9.301	11.231	36.621	0.238	
3/8/2021	13:09	9.495	11.147	35.191	0.24	
3/8/2021	13:10	9.529	11.042	34.816	0.248	
3/8/2021	13:11	8.596	12.014	40.812	0.24	
3/8/2021	13:12	8.532	12.13	42.387	0.234	
3/8/2021	13:13	8.618	11.975	39.178	0.23	
3/8/2021	13:14	8.481	12.108	41.851	0.229	
3/8/2021	13:15	8.588	12.005	42.633	0.231	
3/8/2021	13:16	8.899	11.688	40.132	0.229	
3/8/2021	13:17	8.874	11.75	41.2	0.222	
3/8/2021	13:18	8.403	12.165	41.814	0.223	
3/8/2021	13:19	9.18	11.427	40.357	0.227	
3/8/2021	13:20	9.327	11.269	38.951	0.235	

3/8/2021	13:21	9.517	11.087	39.253	0.23	
3/8/2021	13:22	9.32	11.337	38.998	0.224	
3/8/2021	13:23	8.299	12.25	42.98	0.225	
3/8/2021	13:24	9.048	11.575	39.293	0.224	
3/8/2021	13:25	8.479	12.102	42.95	0.23	
3/8/2021	13:26	8.395	12.259	43.351	0.227	
3/8/2021	13:27	8.032	12.508	44.072	0.225	
3/8/2021	13:28	8.407	12.089	41.527	0.222	
3/8/2021	13:29	9.239	11.318	36.191	0.221	
3/8/2021	13:30	9.391	11.288	34.339	0.218	
Average		**8.9021**	**11.693667**	**39.938767**	**0.229467**	
3/8/2021	13:31	9.99	10.933	10.246	0.196	
3/8/2021	13:32	10.768	10.505	0.074	0.094	
3/8/2021	13:33	10.769	10.505	0.067	0.084	SYS O2
3/8/2021	13:34	6.837	6.214	17.694	0.096	
3/8/2021	13:35	0.018	0.171	40.686	0.298	
3/8/2021	13:36	0.01	0.148	40.928	0.387	SYS NOX
3/8/2021	13:37	0.1	0.282	31.699	0.417	
3/8/2021	13:38	4.83	4.158	11.576	3.048	
3/8/2021	13:39	10.812	10.488	40.964	4.54	SYS CO
3/8/2021	13:40	10.814	10.492	41.177	4.544	
3/8/2021	13:41	10.813	10.495	41.22	4.548	DIR SPAN.
3/8/2021	13:42	2.882	2.442	10.616	3.268	
3/8/2021	13:43	-0.008	0.083	0.024	0.099	
3/8/2021	13:44	-0.008	0.074	0.012	-0.013	DIR ZERO
3/8/2021	13:45	2.804	3.631	10.823	-0.014	
3/8/2021	13:46	8.614	11.904	37.924	0.125	
3/8/2021	13:47	8.255	12.361	40.918	0.217	
3/8/2021	13:48	8.484	12.054	41.631	0.21	RUN 6
3/8/2021	13:49	8.765	11.824	39.118	0.213	
3/8/2021	13:50	8.347	12.178	41.547	0.224	
3/8/2021	13:51	8.615	12.008	41.032	0.223	
3/8/2021	13:52	8.002	12.548	45.152	0.221	
3/8/2021	13:53	8.976	11.511	36.442	0.221	
3/8/2021	13:54	9.136	11.485	38.487	0.225	
3/8/2021	13:55	9.502	11.05	36.051	0.232	
3/8/2021	13:56	9.732	10.921	35.912	0.242	
3/8/2021	13:57	9.637	10.986	34.049	0.241	
3/8/2021	13:58	9.123	11.536	36.859	0.245	
3/8/2021	13:59	8.867	11.704	40.885	0.239	
3/8/2021	14:00	8.382	12.146	39.833	0.233	
3/8/2021	14:01	9.052	11.554	38.197	0.228	
3/8/2021	14:02	8.477	12.124	41.181	0.217	
3/8/2021	14:03	8.175	12.394	41.46	0.227	
3/8/2021	14:04	8.127	12.396	43.869	0.228	
3/8/2021	14:05	8.298	12.231	46.449	0.23	
3/8/2021	14:06	9.181	11.387	40.16	0.221	
3/8/2021	14:07	9.649	10.956	36.919	0.224	

3/8/2021	14:08	8.571	11.993	38.889	0.223	
3/8/2021	14:09	9.225	11.367	37.058	0.229	
3/8/2021	14:10	8.412	12.213	40.6	0.23	
3/8/2021	14:11	8.797	11.77	37.391	0.233	
3/8/2021	14:12	8.65	11.921	40.756	0.219	
3/8/2021	14:13	8.25	12.246	38.53	0.211	
3/8/2021	14:14	8.519	12.072	38.901	0.221	
3/8/2021	14:15	8.715	11.844	42.547	0.213	
3/8/2021	14:16	8.755	11.809	40.692	0.208	
3/8/2021	14:17	9.515	11.107	36.658	0.207	
3/8/2021	14:18	8.583	11.978	40.305	0.211	
Average		**8.801167**	**11.7753**	**39.530967**	**0.224633**	
3/8/2021	14:19	10.242	10.742	7.912	0.191	
3/8/2021	14:20	10.78	10.475	0.076	0.088	SYS O2/CO2
3/8/2021	14:21	2.727	2.297	32.562	0.141	
3/8/2021	14:22	0.012	0.126	40.992	0.367	SYS NOX
3/8/2021	14:23	9.504	8.611	36.911	1.302	
3/8/2021	14:24	10.799	10.46	41.031	4.441	
3/8/2021	14:25	10.801	10.455	41.087	4.55	SYS CO
3/8/2021	14:26	10.802	10.452	41.248	4.556	
3/8/2021	14:27	10.81	10.453	41.249	4.555	DIR SPAN
3/8/2021	14:28	6.077	5.415	22.614	4.226	
3/8/2021	14:29	-0.006	0.046	0.038	0.585	
3/8/2021	14:30	-0.008	0.043	0.022	-0.01	DIR ZERO
3/8/2021	14:31	5.701	9.353	30.96	0.019	
3/8/2021	14:32	8.55	12.023	40.841	0.197	RUN 7
3/8/2021	14:33	8.283	12.225	42.207	0.221	
3/8/2021	14:34	9.005	11.515	39.126	0.225	
3/8/2021	14:35	9.081	11.491	39.04	0.227	
3/8/2021	14:36	8.549	12.031	41.062	0.237	
3/8/2021	14:37	8.121	12.411	42.325	0.238	
3/8/2021	14:38	8.677	11.843	39.133	0.233	
3/8/2021	14:39	8.314	12.282	44.625	0.241	
3/8/2021	14:40	8.772	11.757	42.131	0.227	
3/8/2021	14:41	9.062	11.49	36.87	0.233	
3/8/2021	14:42	8.918	11.68	35.735	0.24	
3/8/2021	14:43	8.071	12.486	42.203	0.244	
3/8/2021	14:44	8.483	12.046	41.182	0.238	
3/8/2021	14:45	8.764	11.796	39.478	0.233	
3/8/2021	14:46	9.68	10.879	35.792	0.234	
3/8/2021	14:47	8.567	12.044	39.239	0.239	
3/8/2021	14:48	8.259	12.227	42.962	0.236	
3/8/2021	14:49	8.176	12.455	46.166	0.229	
3/8/2021	14:50	8.078	12.459	42.011	0.226	
3/8/2021	14:51	8.527	12.012	35.712	0.233	
3/8/2021	14:52	8.94	11.622	32.831	0.226	
3/8/2021	14:53	8.685	11.889	35.388	0.236	
3/8/2021	14:54	8.758	11.78	37.381	0.247	

3/8/2021	14:55	8.671	11.945	39.642	0.244	
3/8/2021	14:56	9.036	11.502	39.559	0.237	
3/8/2021	14:57	9.373	11.152	36.12	0.234	
3/8/2021	14:58	9.083	11.513	36.385	0.238	
3/8/2021	14:59	9.263	11.287	37.235	0.247	
3/8/2021	15:00	8.762	11.885	37.213	0.24	
3/8/2021	15:01	8.166	12.386	40.415	0.237	
3/8/2021	15:02	8.531	12.007	39.954	0.232	
Average		**8.6885**	**11.8699**	**39.304067**	**0.235067**	
3/8/2021	15:03	10.061	10.869	9.406	0.205	
3/8/2021	15:04	10.784	10.452	0.083	0.098	SYS O2/CO2
3/8/2021	15:05	3.261	2.817	30.567	0.13	
3/8/2021	15:06	0.013	0.103	40.893	0.366	SYS NOX
3/8/2021	15:07	0.116	0.203	9.752	1.246	
3/8/2021	15:08	1.93	0.843	0.082	4.423	
3/8/2021	15:09	10.817	10.426	39.935	4.549	SYS CO
3/8/2021	15:10	10.819	10.434	41.183	4.57	
3/8/2021	15:11	10.819	10.434	41.02	4.565	DIR SPAN
3/8/2021	15:12	2.691	2.162	10.041	3.2	
3/8/2021	15:13	-0.007	0.021	0.019	0.09	
3/8/2021	15:14	-0.007	0.023	0.012	-0.009	DIR ZERO
3/8/2021	15:15	5.599	9.66	29.082	0.011	
3/8/2021	15:16	8.643	11.853	40.569	0.179	
3/8/2021	15:17	9.018	11.504	36.138	0.222	
3/8/2021	15:18	9.56	11.038	37.032	0.228	RUN 8
3/8/2021	15:19	9.197	11.463	37.018	0.246	
3/8/2021	15:20	8.896	11.672	36.07	0.233	
3/8/2021	15:21	8.821	11.758	39.473	0.229	
3/8/2021	15:22	8.256	12.283	40.906	0.235	
3/8/2021	15:23	8.517	12.101	42.731	0.23	
3/8/2021	15:24	9.144	11.43	37.789	0.229	
3/8/2021	15:25	8.825	11.81	41.305	0.226	
3/8/2021	15:26	8.814	11.735	38.353	0.235	
3/8/2021	15:27	8.465	12.113	39.655	0.229	
3/8/2021	15:28	8.739	11.851	40.374	0.229	
3/8/2021	15:29	8.774	11.783	39.847	0.222	
3/8/2021	15:30	8.615	12.011	41.384	0.222	
3/8/2021	15:31	8.356	12.269	41.214	0.227	
3/8/2021	15:32	8.283	12.3	40.986	0.216	
3/8/2021	15:33	8.21	12.39	46.074	0.215	
3/8/2021	15:34	8.373	12.206	42.935	0.21	
3/8/2021	15:35	8.546	12.028	40.098	0.209	
3/8/2021	15:36	9.472	11.156	35.018	0.225	
3/8/2021	15:37	9.322	11.159	34.917	0.241	
3/8/2021	15:38	8.896	11.721	36.724	0.242	
3/8/2021	15:39	8.613	11.969	37.917	0.229	
3/8/2021	15:40	8.663	11.979	36.928	0.226	
3/8/2021	15:41	7.827	12.737	46.143	0.232	

3/8/2021	15:42	7.863	12.745	47.656	0.224	
3/8/2021	15:43	8.465	12.133	43.563	0.209	
3/8/2021	15:44	8.545	12.025	41.766	0.21	
3/8/2021	15:45	8.515	12.049	39.509	0.21	
3/8/2021	15:46	8.505	12.108	39.841	0.218	
3/8/2021	15:47	8.387	12.204	38.153	0.217	
3/8/2021	15:48	8.028	12.589	43.095	0.227	
Average		**8.597733**	**11.992567**	**40.248067**	**0.225067**	
3/8/2021	15:49	9.859	11.051	12.406	0.207	
3/8/2021	15:50	10.784	10.492	0.083	0.103	
3/8/2021	15:51	10.788	10.492	0.067	0.097	SYS O2/CO2
3/8/2021	15:52	3.75	3.287	28.831	0.135	
3/8/2021	15:53	0.012	0.132	41.024	0.368	SYS NOX
3/8/2021	15:54	0.076	0.223	10.924	1.19	
3/8/2021	15:55	0.004	0.112	0.071	4.413	
3/8/2021	15:56	0.377	0.202	0.048	4.563	SYS CO
3/8/2021	15:57	10.777	10.469	33.897	4.567	
3/8/2021	15:58	10.805	10.481	41.287	4.577	
3/8/2021	15:59	10.805	10.482	41.132	4.586	DIR SPAN
3/8/2021	16:00	3.063	2.516	11.063	3.32	
3/8/2021	16:01	-0.007	0.055	0.024	0.118	
3/8/2021	16:02	-0.009	0.054	0.013	0.002	DIR ZERO
3/8/2021	16:03	4.982	6.852	21.962	0.018	
3/8/2021	16:04	8.078	12.548	40.667	0.217	RUN 9
3/8/2021	16:05	7.697	12.783	43.413	0.232	
3/8/2021	16:06	8.8	11.801	42.337	0.233	
3/8/2021	16:07	8.663	11.885	41.805	0.244	
3/8/2021	16:08	8.561	12.004	39.961	0.251	
3/8/2021	16:09	9.148	11.431	36.161	0.246	
3/8/2021	16:10	9.548	11.092	34.574	0.256	
3/8/2021	16:11	8.492	12.116	40.168	0.258	
3/8/2021	16:12	8.551	11.974	38.937	0.251	
3/8/2021	16:13	8.698	11.843	37.765	0.255	
3/8/2021	16:14	9.139	11.336	37.836	0.251	
3/8/2021	16:15	9.601	11.059	35.998	0.253	
3/8/2021	16:16	8.597	11.868	38.758	0.255	
3/8/2021	16:17	8.527	11.959	40.1	0.237	
3/8/2021	16:18	9.144	11.437	38.01	0.242	
3/8/2021	16:19	9.091	11.564	39.602	0.252	
3/8/2021	16:20	7.691	12.816	46.502	0.245	
3/8/2021	16:21	7.774	12.741	46.836	0.239	
3/8/2021	16:22	8.302	12.295	43.719	0.247	
3/8/2021	16:23	8.376	12.119	41.858	0.235	
3/8/2021	16:24	8.361	12.283	39.438	0.24	
3/8/2021	16:25	8.646	11.83	36.67	0.246	
3/8/2021	16:26	8.819	11.804	34.951	0.252	
3/8/2021	16:27	8.733	11.833	37.619	0.24	
3/8/2021	16:28	8.821	11.754	39.281	0.243	

3/8/2021	16:29	9.083	11.519	36.905	0.24	
3/8/2021	16:30	8.63	12.052	38.197	0.241	
3/8/2021	16:31	8.305	12.35	43.926	0.238	
3/8/2021	16:32	9.605	10.881	38.879	0.238	
3/8/2021	16:33	8.644	12.029	39.978	0.241	
3/8/2021	16:34	8.282	12.323	41.604	0.239	
Average		**8.677633**	**11.8927**	**39.726267**	**0.244667**	
3/8/2021	16:35	9.56	10.33	9.365	0.328	
3/8/2021	16:36	10.791	10.485	0.052	0.136	
3/8/2021	16:37	10.794	10.486	0.04	0.096	SYS O2/CO2
3/8/2021	16:38	2.681	2.197	33.143	0.149	
3/8/2021	16:39	0.012	0.101	41.085	0.392	SYS NOX
3/8/2021	16:40	0.175	0.091	8.58	1.367	
3/8/2021	16:41	0.005	0.084	0.057	4.469	
3/8/2021	16:42	0.004	0.078	0.042	4.566	SYS CO
3/8/2021	16:43	9.355	8.862	29.533	4.566	
3/8/2021	16:44	10.829	10.474	41.342	4.596	DIR SPAN
3/8/2021	16:45	3.815	3.34	15.125	3.702	
3/8/2021	16:46	-0.007	0.028	0.02	0.219	
3/8/2021	16:47	-0.007	0.023	0.002	0.002	DIR ZERO
3/8/2021	16:48	-0.05	0.021	0.054	0.004	
3/8/2021	16:49	15.259	14.624	56.598	0.449	
3/8/2021	16:50	19.114	19.046	86.93	7.054	
3/8/2021	16:51	19.114	19.051	87.03	9.609	DIR HIGH
3/8/2021	16:52	10.634	9.766	50.594	9.081	
3/8/2021	16:53	-0.006	0.044	0.129	1.626	
3/8/2021	16:54	-0.016	0.039	0.074	0.422	

Appendix A.2.3
Unit 2 Instrument Strip Chart Data

Montrose

SPAN GAS RECORD

CLIENT/LOCATION: Desert View Power
Unit 2

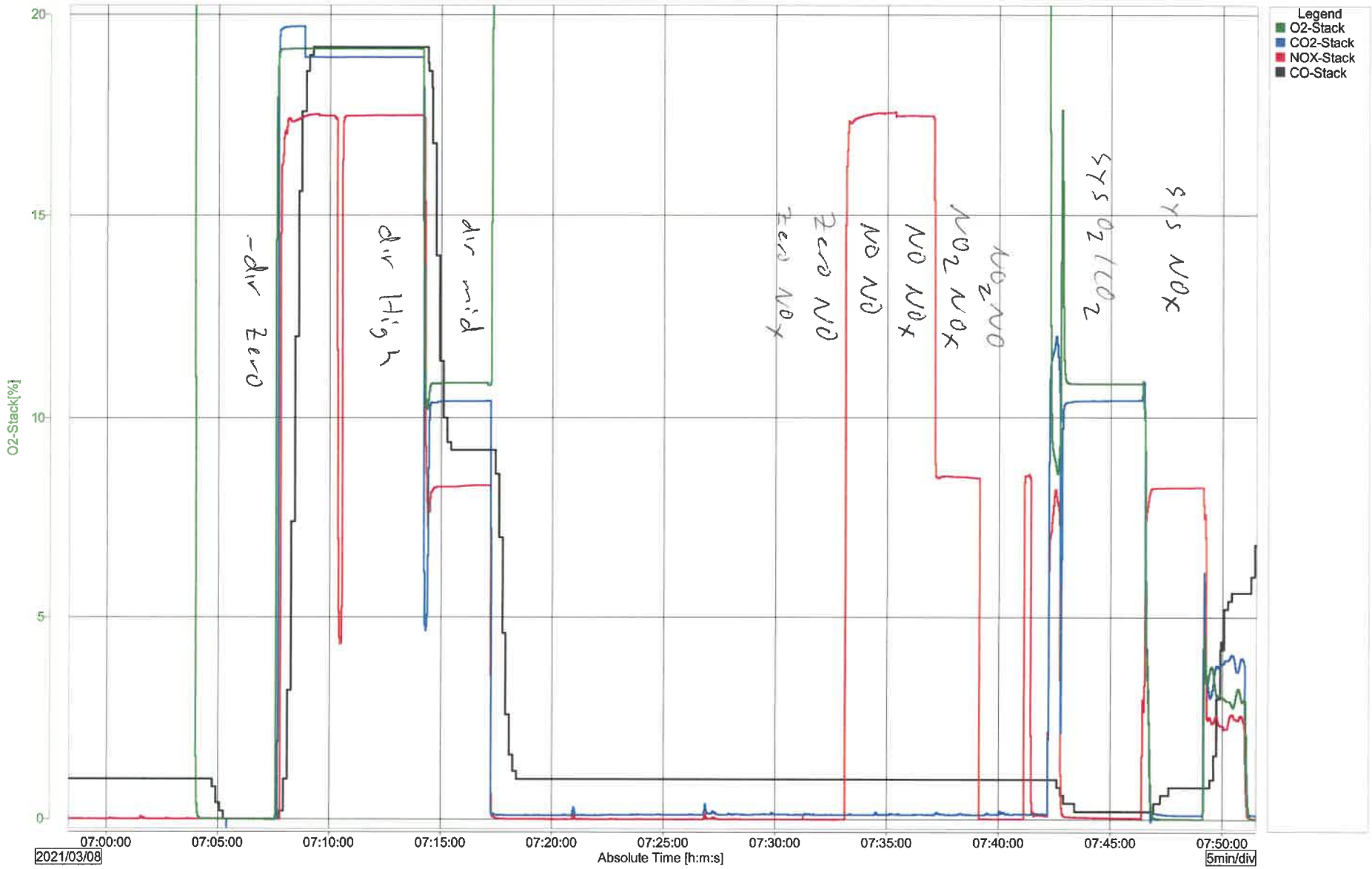
DATE: 3/8/2021
BY: RD

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	SA17192	0		
O_2	DT0016473	10.78	DT0011386	19.15
CO_2	DT0016473	10.56	DT0011386	18.94
NO_x	DT0029993	41.3	CC244416	87
CO	DT0024950	4.6	ALM046645	9.64

File Name : 000354_TV 6_210308_065818.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/08 06:58:18.000
Stop Time : 2021/03/09 06:58:16.000

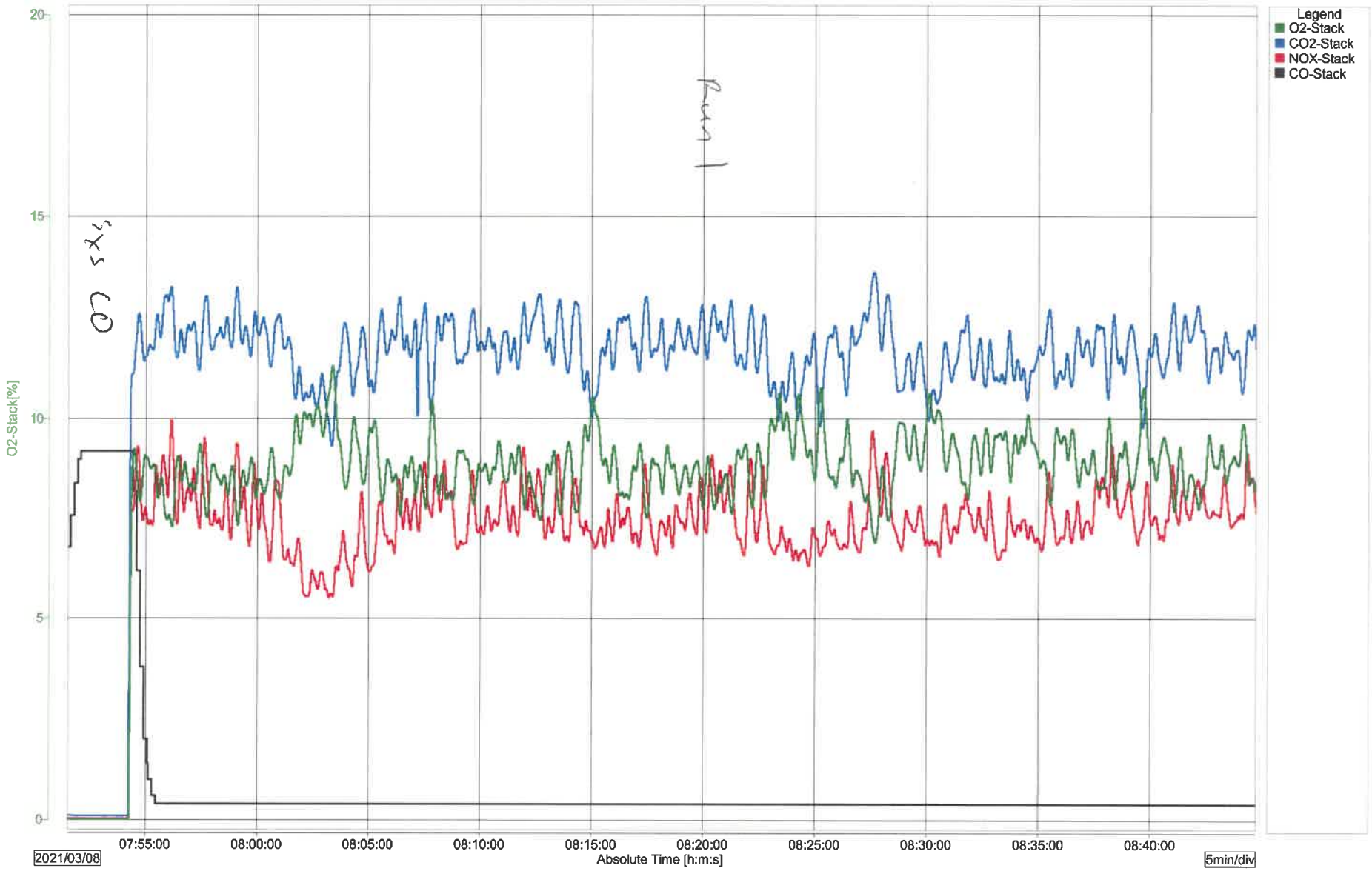
Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



File Name : 000354_TV 6_210308_065818.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/08 06:58:18.000
Stop Time : 2021/03/09 06:58:16.000

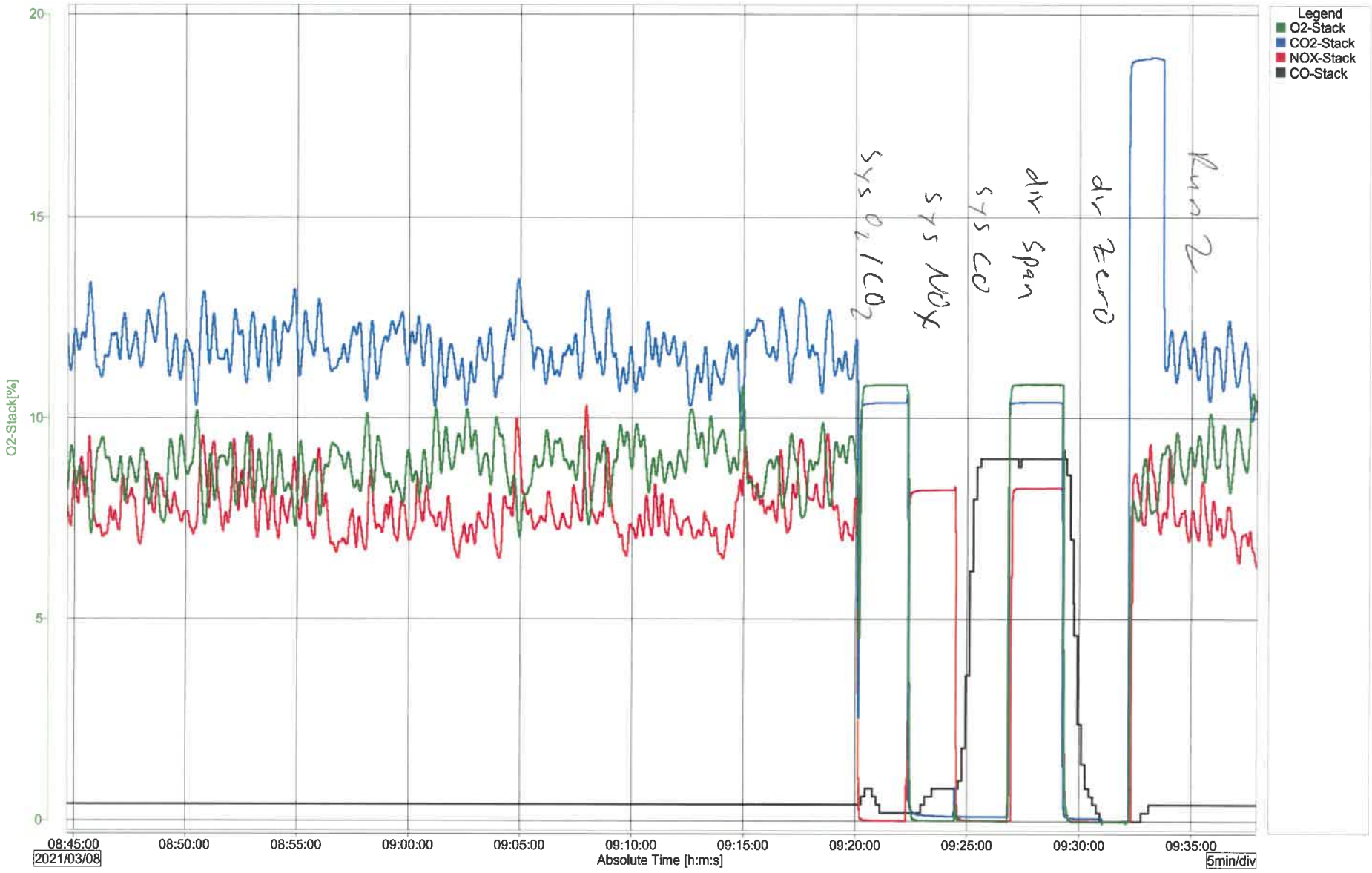
Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



File Name : 000354_TV 6_210308_065818.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/08 06:58:18.000
Stop Time : 2021/03/09 06:58:16.000

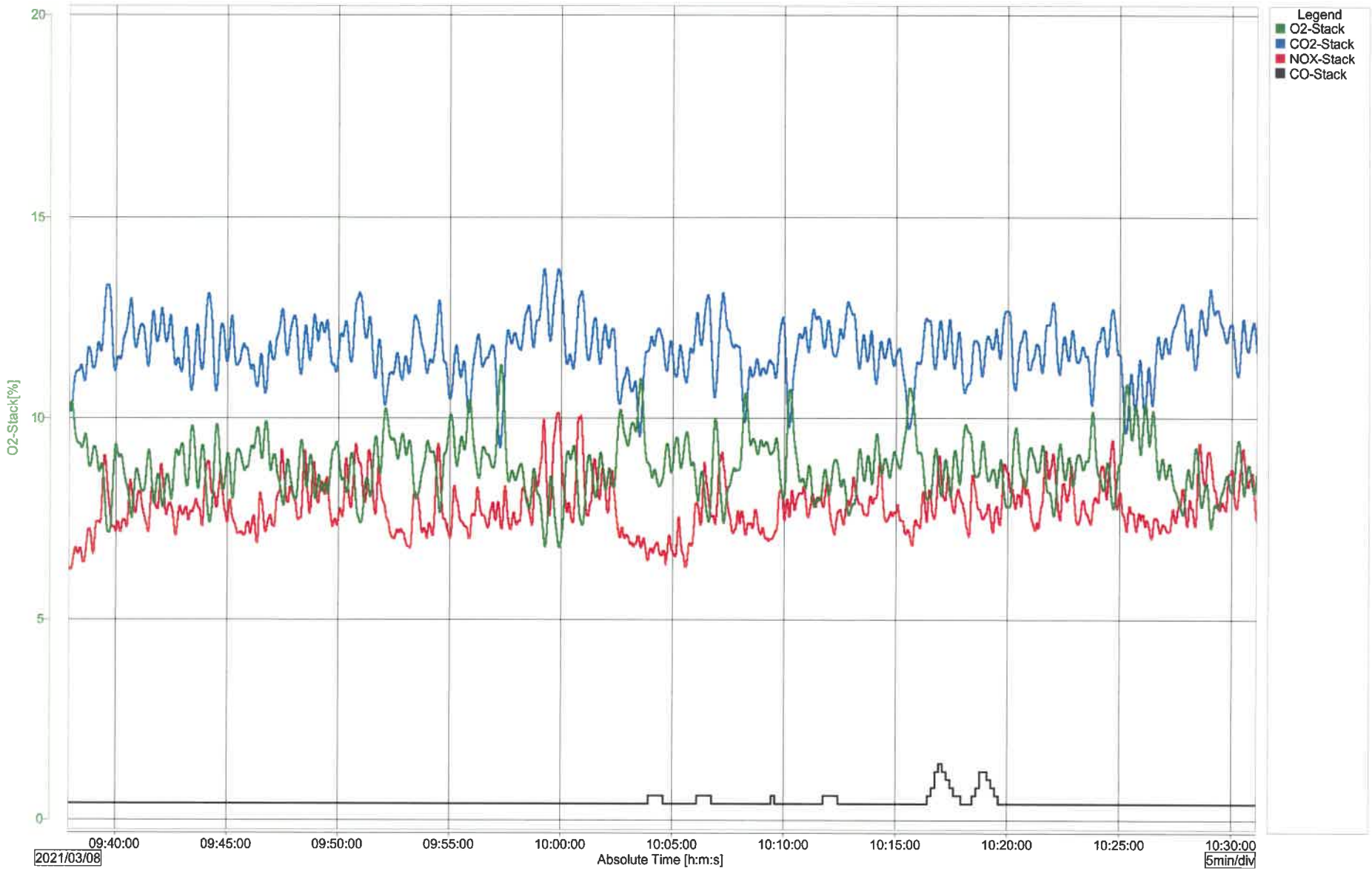
Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



File Name : 000354_TV 6_210308_065818.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/08 06:58:18.000
Stop Time : 2021/03/09 06:58:16.000

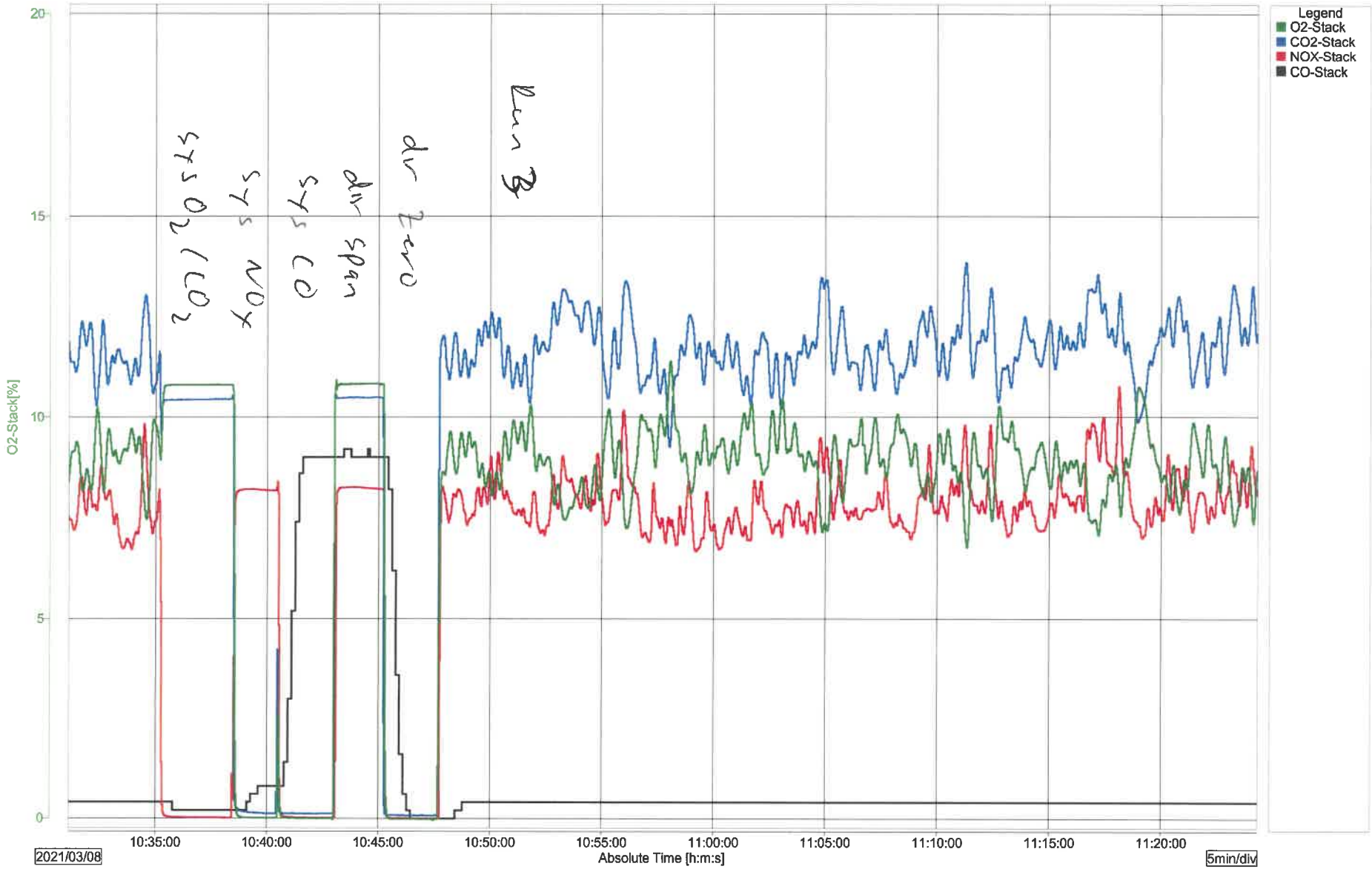
Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



File Name : 000354_TV 6_210308_065818.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/08 06:58:18.000
Stop Time : 2021/03/09 06:58:16.000

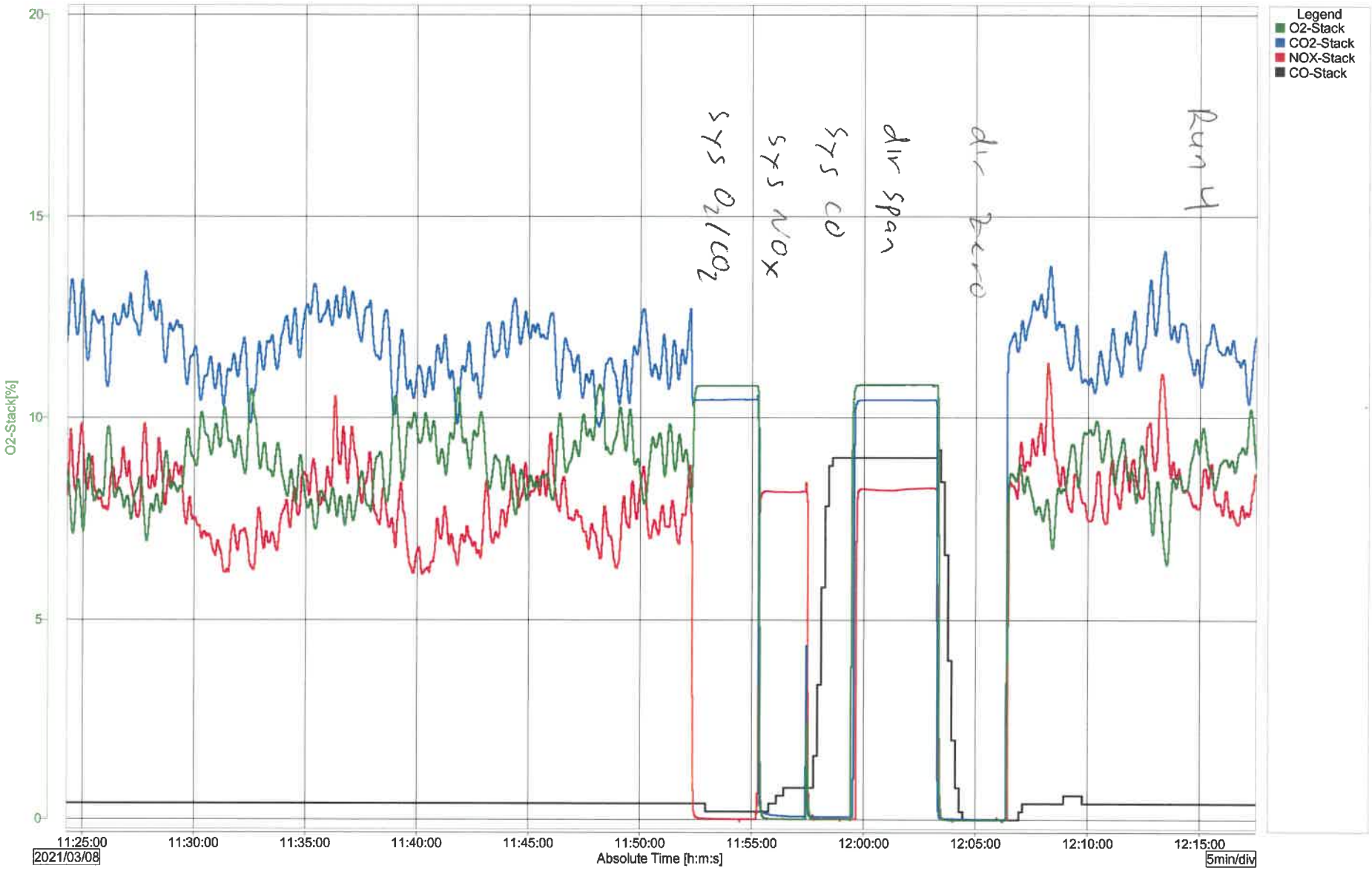
Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



File Name : 000354_TV 6_210308_065818.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/08 06:58:18.000
Stop Time : 2021/03/09 06:58:16.000

Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



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Device Type : DX2000
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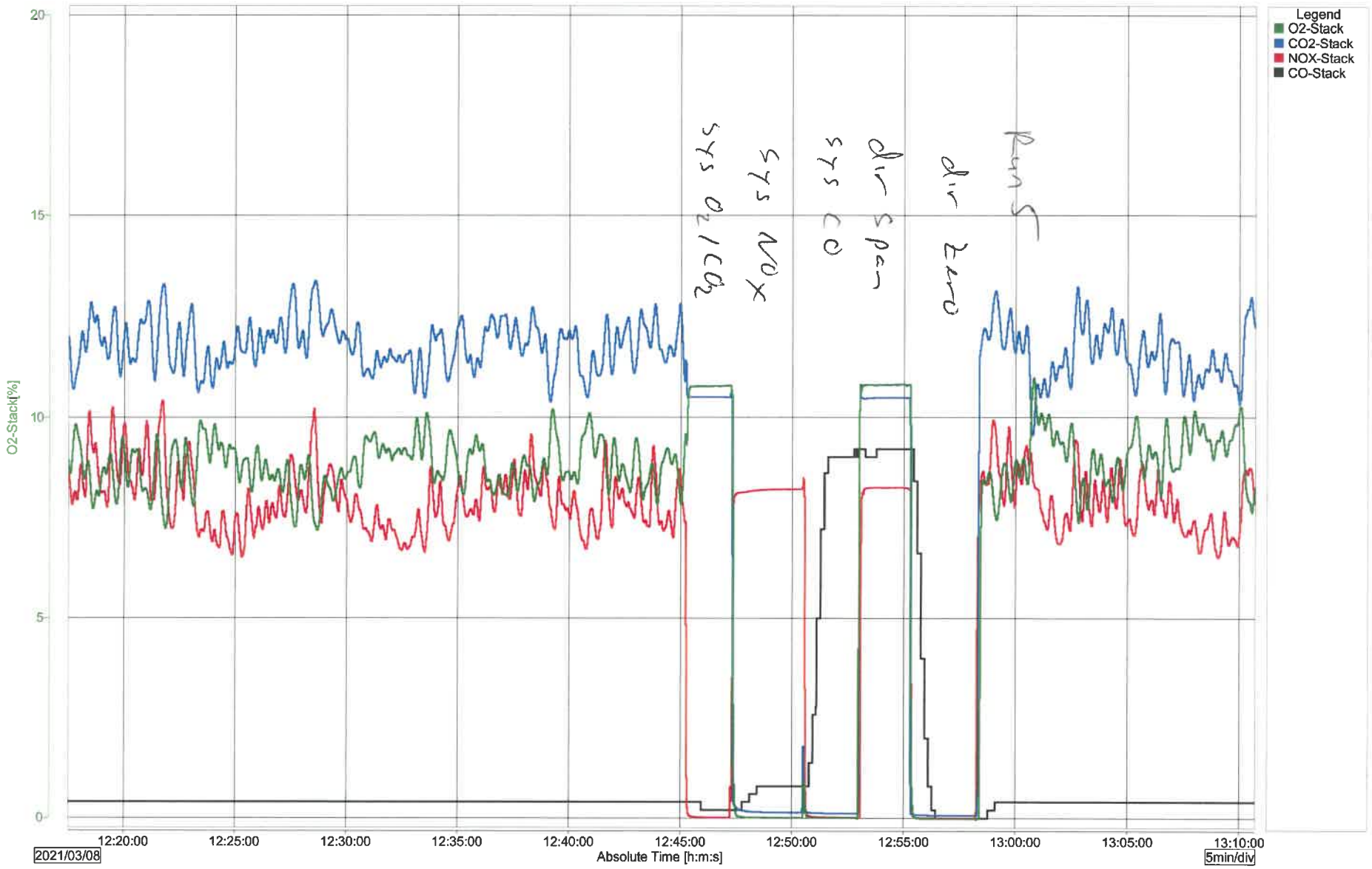
Stop Time : 2021/03/09 06:58:16.000

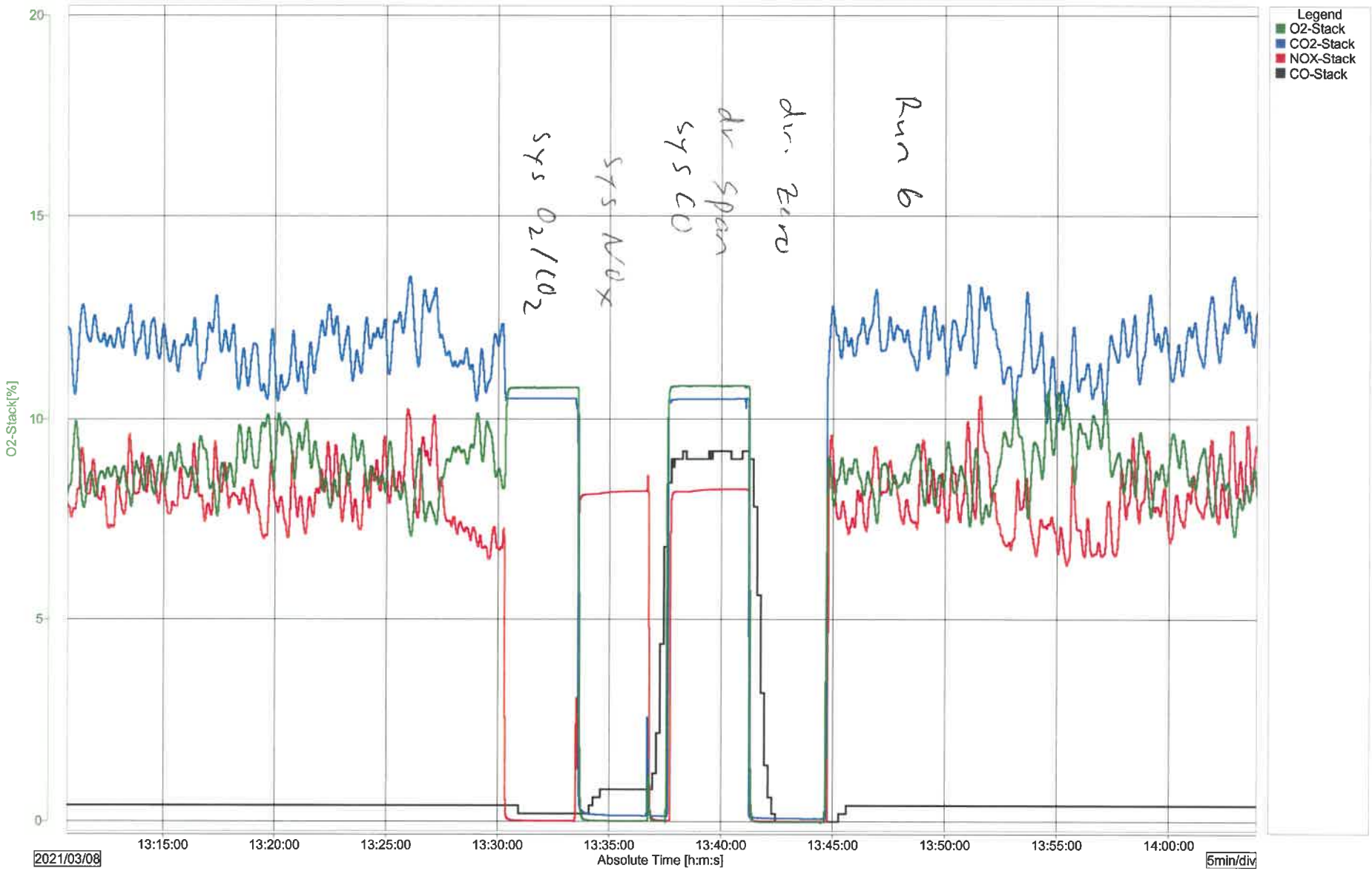
Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



File Name : 000354_TV 6_210308_065818.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/08 06:58:18.000
Stop Time : 2021/03/09 06:58:16.000

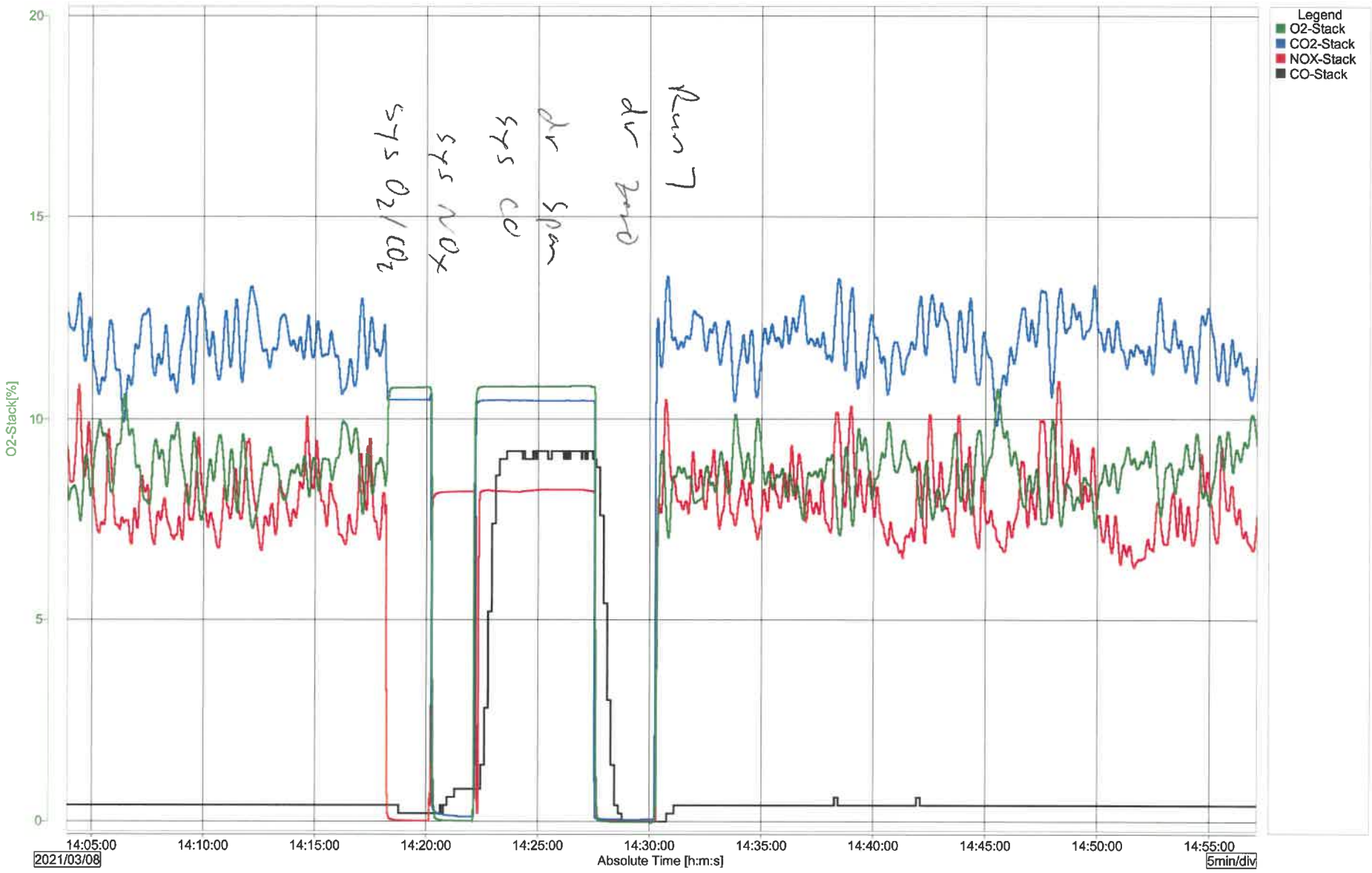
Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



File Name : 000354_TV 6_210308_065818.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/08 06:58:18.000
Stop Time : 2021/03/09 06:58:16.000

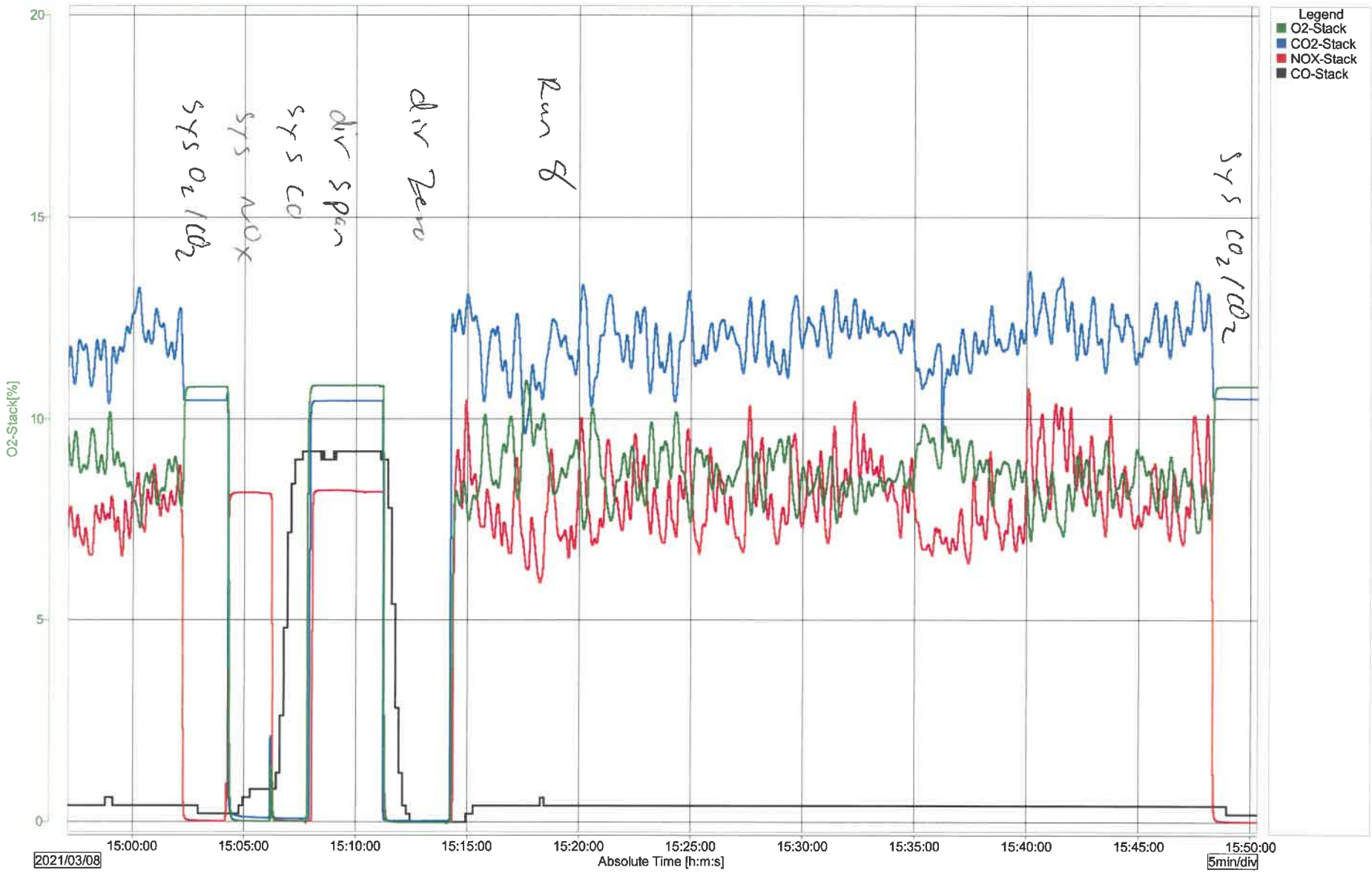
Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



File Name : 000354_TV 6_210308_065818.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/08 06:58:18.000
Stop Time : 2021/03/09 06:58:16.000

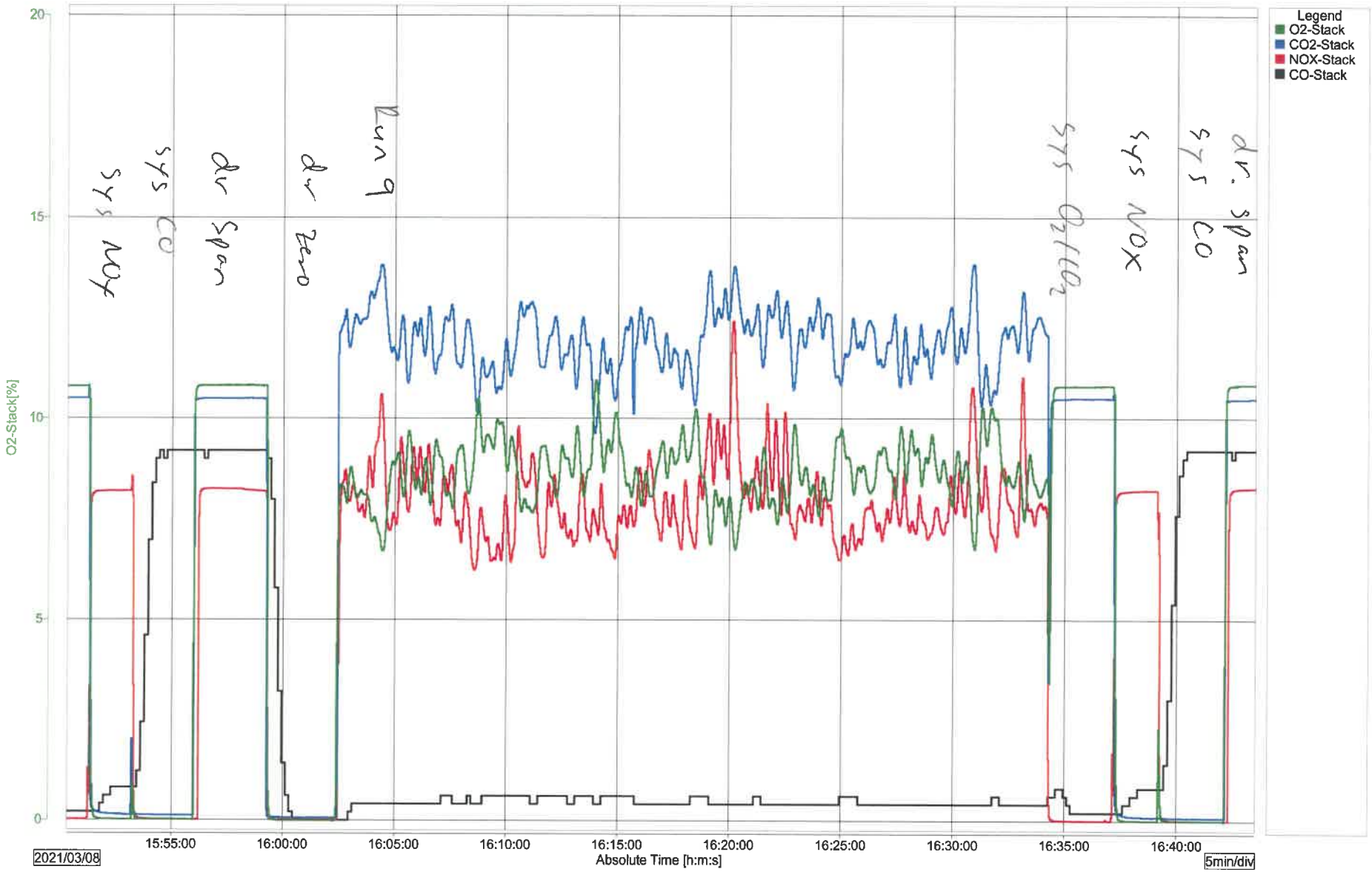
Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



File Name : 000354_TV 6_210308_065818.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/08 06:58:18.000
Stop Time : 2021/03/09 06:58:16.000

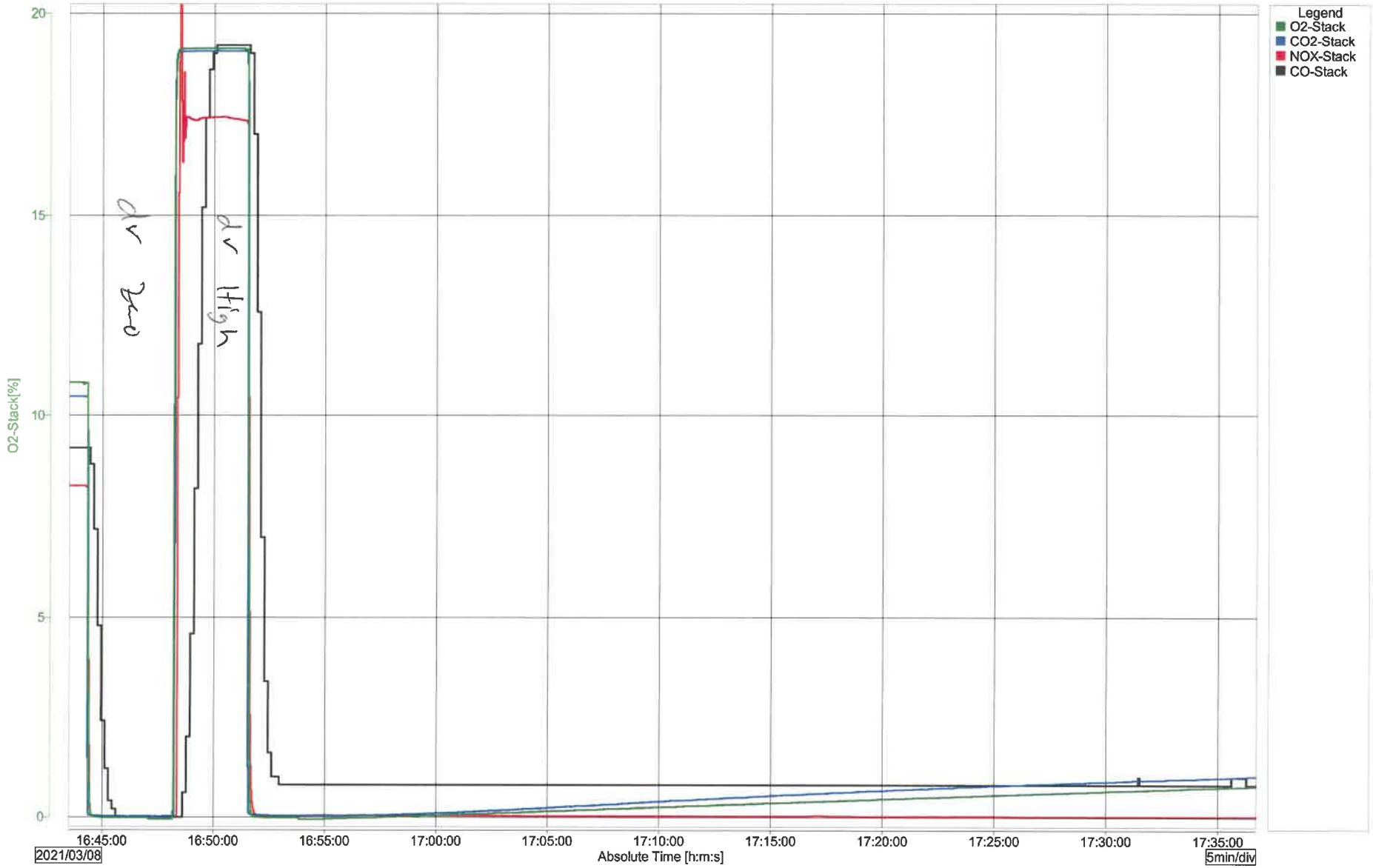
Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



File Name : 000354_TV 6_210308_065818.DSD
Device Type : DX2000
Serial No. : S5U604838

Start Time : 2021/03/08 06:58:18.000
Stop Time : 2021/03/09 06:58:16.000

Print Groups : GROUP 1
Print Range : 2021/03/08 06:58:18.000 - 2021/03/09 06:58:16.000



Appendix A.2.4
Unit 2 SO_2 Data and Velocity Data

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desertview
LOCATION/UNIT: U2 Stack Breeching
PERFORMED BY: PW
TEST DATE: 3-8-21
BAR. PRESSURE: 30.14
TC READOUT ID: 23-WCS
DP INDICATOR ID: 23-WCS
TC ID: #013
DP INDICATOR TYPE: 0-10"
PITOT TUBE ID: #013 Cp: .84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 1-Sox	Ps: 1.55		Run #:	Ps:		Run #:	Ps:	
Start: 0820	Stop: 0920		Start:	Stop:		Start:	Stop:	
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	1.0	328	5	.85	330	5	1.4	330
4	.97	330	4	.85	331	4	1.3	331
3	.95	331	3	.95	333	3	1.2	333
2	.82	332	2	.97	331	2	1.3	332
1	.77	330	1	.99	330	1	1.1	331
5	.98	329	5	1.0	329	5	1.4	332
4	.99	330	4	1.1	331	4	1.3	331
3	.83	331	3	1.2	332	3	1.3	333
2	.80	333	2	1.0	332	2	1.2	332
1	.77	332	1	.93	331	1	1.1	331
Heated Line Temp. °F		312	Heated Line Temp. °F			Heated Line Temp. °F.		
Chiller Temp. °C		20.7	Chiller Temp. °C			Chiller Temp. °C		

MOISTURE DATA FOR TEST RUNS 1-Sox THROUGH 1-Sox

METER ID: 23-WCS METER Yd: 1.000 BALANCE CHECK WEIGHT: 499.9 / 500.0

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
0820	459.500	1.5	74	75	50	5"	#1	H_2O_2	917.7	732.8	
0840	464.770	1.5	73	75	50	5"	#2	H_2O_2	712.5	710.6	
0900	469.040	1.5	78	80	55	5"	#3	Empty	638.9	638.6	
0920	472.982						#4	Silica Gel	917.1	905.2	
							Total	LR		50	

Pre-Test Leak Check: 12.005 CFM @ 15 in. Hg., Post-Test Leak Check: 12.005 CFM @ 15 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desertview
PERFORMED BY: PW/S.S.
BAR. PRESSURE: 30.14
DP INDICATOR ID: 23-WCS
DP INDICATOR TYPE: 0-10"
ZERO: ✓ LEVEL: ✓

LOCATION/UNIT: U2 Stack Breaching
TEST DATE: 3-8-21
TC READOUT ID: 23-WCS
TC ID: #013
PITOT TUBE ID: #013 Cp: .84
LEAK CHECK PRE- ✓ POST- ✓

Run #: 2-Sox	Ps: 1.55		Run #:	Ps:		Run #:	Ps:	
Start: 0935	Stop: 1035		Start:	Stop:		Start:	Stop:	
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	1.0	333	5	.86	332	5	1.4	332
4	.98	334	4	.88	332	4	1.2	333
3	.94	335	3	.94	333	3	1.3	334
2	.83	336	2	.92	334	2	1.2	332
1	.76	333	1	.98	333	1	1.0	333
5	.97	334	5	1.0	332	5	1.4	331
4	.95	335	4	1.1	334	4	1.4	332
3	.85	336	3	1.3	333	3	1.3	334
2	.82	334	2	1.0	333	2	.98	331
1	.78	332	1	.96	331	1	.97	333
Heated Line Temp. °F		311	Heated Line Temp. °F			Heated Line Temp. °F.		
Chiller Temp. °C		20.7	Chiller Temp. °C			Chiller Temp. °C		

MOISTURE DATA FOR TEST RUNS 2-Sox **THROUGH** 2-Sox

METER ID: 23-WCS METER Yd: 1.000 BALANCE CHECK WEIGHT: ~~500.0~~ 499.9 / 500.0

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T imp	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
0935	494.000	1.5	83	85	55	5"	#1	H_2O_2	804.9	635.7	
0955	506.550	1.5	85	88	54	5"	#2	H_2O_2	747.1	742.3	
1015	522.810	1.5	86	87	57	5"	#3	Empty	595.0	592.0	
1035	537.194						#4	Silica Gel	859.0	839.6	
							Total	LR		50	

Pre-Test Leak Check: 0.005 CFM @ 15 in. Hg., Post-Test Leak Check: 0.005 CFM @ 15 in. Hg

* 47 3/8/21

MONTROSE AIR QUALITY SERVICES

DS834026

Date of last revision 2/10/2017

Master Document Storage\Forms\Datasheets\Field Datasheets

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Descartrew
LOCATION/UNIT: WL Stack Breaching
PERFORMED BY: PLW/S.S.
TEST DATE: 3-8-21
BAR. PRESSURE: 30.14
TC READOUT ID: 23-WCS
DP INDICATOR ID: 23-WCS
TC ID: #013
DP INDICATOR TYPE: 0-10"
PITOT TUBE ID: #013
Cp: -84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 3-5a	Ps: 1.55	Run #:	Ps:	Run #:	Ps:
Start: 1052	Stop: 1152	Start:	Stop:	Start:	Stop:

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	.97	330	5	.87	332	5	1.4	332
4	.96	331	4	.85	331	4	1.2	333
3	.92	332	3	.93	332	3	1.2	332
2	.81	331	2	.91	331	2	1.1	331
1	.75	331	1	.96	332	1	1.0	330
5	.98	332	5	.98	331	5	1.2	332
4	.92	333	4	1.1	333	4	1.4	331
3	.83	332	3	1.2	332	3	1.2	332
2	.81	334	2	.99	332	2	1.3	331
1	.74	332	1	.95	331	1	1.0	330
Heated Line Temp. °F		310	Heated Line Temp. °F			Heated Line Temp. °F.		
Chiller Temp. °C		00.8	Chiller Temp. °C			Chiller Temp. °C		

MOISTURE DATA FOR TEST RUNS 3-5a THROUGH 3-5a

METER ID: 23-WCS METER Yd: 1.000 BALANCE CHECK WEIGHT: 499.9 / 500.0

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T imp	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1052	538.500	1.5	84	85	53	5"	#1	H_2O	905.6	731.7	
1112	552.760	1.5	85	90	54	5"	#2	H_2O	724.9	719.8 ~~726~~	
1132	567.000	1.5	87	90	55	5"	#3	Empty	640.0	638.9	
1152	581.334						#4	Silica Gel	925.6	917.1	
							Total	LR		50	

Pre-Test Leak Check: 0.005 CFM @ 15 in. Hg., Post-Test Leak Check: 0.005 CFM @ 15 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View
PERFORMED BY: PW/S.S.
BAR. PRESSURE: 30.14
DP INDICATOR ID: 23-WCS
DP INDICATOR TYPE: 0-10'
ZERO: ✓ LEVEL: ✓

LOCATION/UNIT: UR Stack Breaching
TEST DATE: 3-8-21
TC READOUT ID: 23-WCS
TC ID: #013
PITOT TUBE ID: #013 Cp: .84
LEAK CHECK PRE- ✓ POST- ✓

Run #: 4-Sox Ps: +.55 Start: 1215 Stop: 1245			Run #: Ps: Start: Stop:			Run #: Ps: Start: Stop:		
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	.98	333	5	.88	331	5	1.3	334
4	.94	334	4	.84	332	4	1.2	335
3	.91	335	3	.92	333	3	1.1	336
2	.82	334	2	.90	334	2	1.1	335
1	.74	333	1	.95	334	1	1.0	334
					~~3~~			
5	.96	332	5	.98	334	5	1.2	335
4	.91	331	4	1.2	335	4	1.3	336
3	.84	332	3	1.0	335	3	1.4	337
2	.80	331	2	.98	336	2	1.1	338
1	.75	332	1	.96	334	1	1.1	335
Heated Line Temp. °F		315	Heated Line Temp. °F			Heated Line Temp. °F.		
Chiller Temp. °C		00.8	Chiller Temp. °C			Chiller Temp. °C		

MOISTURE DATA FOR TEST RUNS 4-Sox THROUGH 4-Sox

METER ID: 23-WCS METER Yd: 1.000 BALANCE CHECK WEIGHT: 499.9 / 500.0

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T imp	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1215	584.000	2.5	94	96	54	8"	#1	H_2O_2	771.7	640.9	
1225	593.350	2.5	95	97	55	8"	#2	H_2O_2	751.2	745.6	
1235	602.720	2.5	95	97	57	8"	#3	Empty	595.1	593.5	
1245	612.038						#4	Silica Gel	868.7	859.0	
							Total	UR		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: Desertview
LOCATION/UNIT: U2 Stack Breaching
PERFORMED BY: PW
TEST DATE: 3-8-21
BAR. PRESSURE: 30.14
TC READOUT ID: 23-WCS
DP INDICATOR ID: 23-WCS
TC ID: #013
DP INDICATOR TYPE: 070"
PITOT TUBE ID: #013 Cp: .84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 5-50x Ps: 1.55 Start: 1300 Stop: 1330			Run #: Ps: Start: Stop:			Run #: Ps: Start: Stop:		
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	.99	334	5	.88	333	5	1.3	334
4	.94	335	4	.85	334	4	1.1	335
3	.92	336	3	.94	335	3	1.2	336
2	.83	335	2	.91	334	2	1.0	337
1	.76	334	1	.92	336	1	.98	335
5	.94	336	5	.96	334	5	1.2	334
4	.92	335	4	1.1	335	4	1.4	335
3	.84	336	3	1.0	336	3	1.3	336
2	.82	334	2	.97	334	2	1.1	334
1	.74	332	1	.95	332	1	.98	332
Heated Line Temp. °F		312	Heated Line Temp. °F			Heated Line Temp. °F.		
Chiller Temp. °C		00.8	Chiller Temp. °C			Chiller Temp. °C		

MOISTURE DATA FOR TEST RUNS 5-50x **THROUGH** 5-50x

METER ID: 23-WCS METER Yd: 1.000 BALANCE CHECK WEIGHT: 500.0 / 500.0

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T imp	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1300	614.000	2.5	95	97	50	8"	#1	H_2O_2	860.9	733.6	
1310	623.635	2.5	96	98	55	8"	#2	H_2O_2	724.3	716.9	
1320	633.180	2.5	97	100	56	8"	#3	Empty	640.4	639.4	
1330	642.728						#4	Silica Gel	931.9	925.6	
							Total	L.R.		50.0	

Pre-Test Leak Check: 10.005 CFM @ 25 in. Hg., Post-Test Leak Check: 10.005 CFM @ 25 in. Hg

FLUE GAS VELOCITY AND MOISTURE DATA AND WORKSHEET

CLIENT: Desert View
LOCATION/UNIT: U2 Stack Breaching
PERFORMED BY: PW/S.S.
TEST DATE: 3-8-21
BAR. PRESSURE: 30.14
TC READOUT ID: 23-WCS
DP INDICATOR ID: 23-WCS
TC ID: #013
DP INDICATOR TYPE: 0-10"
PITOT TUBE ID: #013
Cp: .84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 6-Sox	Ps: 8.55	Run #:	Ps:	Run #:	Ps:
Start: 1348	Stop: 1418	Start:	Stop:	Start:	Stop:

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	.97	335	5	.87	333	5	1.3	331
4	.93	336	4	.85	334	4	1.0	332
3	.89	335	3	.92	334	3	1.2	333
2	.83	336	2	.90	333	2	1.0	331
1	.77	334	1	.89	332	1	.97	331
5	.93	335	5	.97	331	5	1.2	332
4	.90	334	4	1.0	332	4	1.3	333
3	.84	335	3	1.0	332	3	1.0	334
2	.81	334	2	.98	331	2	1.0	333
1	.77	334	1	.93	332	1	.96	331
Heated Line Temp. °F		311	Heated Line Temp. °F			Heated Line Temp. °F.		
Chiller Temp. °C		00.6	Chiller Temp. °C			Chiller Temp. °C		

MOISTURE DATA FOR TEST RUNS 6-Sox THROUGH 6-Sox

METER ID: 23-WCS METER Yd: 1.0000 BALANCE CHECK WEIGHT: 499.9 / 500.0

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1348	644.000	2.5	96	100	55	8"	#1	H_2O_2	778.4	652.7	
1358	653.515	2.5	99	100	57	8"	#2	H_2O_2	743.0	738.4	
1408	662.140	2.5	98	100	58	8"	#3	Empty	595.1	594.6	
1418	672.437						#4	Silica Gel	880.9	869.5	
							Total	LR		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
LOCATION/UNIT: U2 Stack Breaching
PERFORMED BY: PWS.
TEST DATE: 3-8-21
BAR. PRESSURE: 30.14
TC READOUT ID: 23-WCS
DP INDICATOR ID: 23-WCS
TC ID: A013
DP INDICATOR TYPE: Dpm
PITOT TUBE ID: A013 Cp: .84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 7-Sox	Ps: 1.55		Run #:	Ps:		Run #:	Ps:	
Start: 1432	Stop: 1502		Start:	Stop:		Start:	Stop:	
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	.97	328	5	.88	333	5	1.4	333
4	.92	333	4	.84	332	4	1.0	334
3	.90	334	3	.91	334	3	1.1	335
2	.82	335	2	.89	335	2	1.0	334
1	.74	334	1	.87	330	1	.98	331
5	.92	335	5	.97	331	5	1.3	332
4	.91	336	4	1.0	332	4	1.2	331
3	.82	337	3	1.1	331	3	1.0	332
2	.79	335	2	.95	332	2	.98	333
1	.76	334	1	.92	331	1	.95	331
Heated Line Temp. °F		311	Heated Line Temp. °F			Heated Line Temp. °F.		
Chiller Temp. °C		00-8	Chiller Temp. °C			Chiller Temp. °C		

MOISTURE DATA FOR TEST RUNS 7-Sox THROUGH 7-Sox

METER ID: 23-WCS METER Yd: 1.000 BALANCE CHECK WEIGHT: 499.9 / 500.0

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1432	674.000	2.5	100	101	58	8"	#1	H_2O	866.4	737.1	
1442	683.485	2.5	98	100	59	8"	#2	H_2O	725.0	720.3	
1452	692.880	2.5	97	99	60	8"	#3	Empty	639.1	638.2	
1502	702.271						#4	Silica Gel	937.2	931.9	
							Total	LR		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: Desertview
LOCATION/UNIT: 1/2 Stack Breeching
PERFORMED BY: PW/S.S.
TEST DATE: 3-8-21
BAR. PRESSURE: 30.14
TC READOUT ID: 23-WCS
DP INDICATOR ID: 23-WCS
TC ID: #013
DP INDICATOR TYPE: 0-10"
PITOT TUBE ID: #013
Cp: .84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 8-Sox	Ps: 1.55		~~Run #:~~	~~Ps:~~		~~Run #:~~	~~Ps:~~	
Start: 1518	Stop: 1548		~~Start:~~	~~Stop:~~		~~Start:~~	~~Stop:~~	
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	.98	328	5	.89	334	5	1.3	334
4	.91	330	4	.82	335	4	1.0	335
3	.89	331	3	.90	334	3	1.0	334
2	.83	332	2	.85	333	2	1.0	336
1	.75	332	1	.84	332	1	.97	332
5	.94	332	5	.98	334	5	1.3	331
4	.90	333	4	1.0	333	4	1.1	334
3	.83	334	3	1.0	332	3	1.1	335
2	.78	333	2	.93	334	2	1.0	332
1	.76	332	1	.89	335	1	.94	330
Heated Line Temp. °F		315	Heated Line Temp. °F			Heated Line Temp. °F.		
Chiller Temp. °C		00.8	Chiller Temp. °C			Chiller Temp. °C		

MOISTURE DATA FOR TEST RUNS 8-Sox THROUGH 8-Sox

METER ID: 23-WCS METER Yd: 1.000 BALANCE CHECK WEIGHT: 499.9 / 500.0

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T_{imp}	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1518	704.000	2.5	97	98	55	8"	#1	H_2O_2	773.0	646.8	
1528	713.420	2.5	94	96	58	8"	#2	H_2O_2	747.5	744.4	
1538	722.845	2.5	93	95	59	8"	#3	Empty	595.0	593.7	
1548	732.268						#4	Silica Gel	892.0	880.9	
							Total	LR		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: Desertview
LOCATION/UNIT: U2 Stack Breeching
PERFORMED BY: PW/S.S.
TEST DATE: 3-8-21
BAR. PRESSURE: 30.14
TC READOUT ID: 23-WCS
DP INDICATOR ID: 23-WCS
TC ID: #013
DP INDICATOR TYPE: 0-10"
PITOT TUBE ID: #013
Cp: .84
ZERO: ✓ LEVEL: ✓
LEAK CHECK PRE- ✓ POST- ✓

Run #: 9-Sox	Ps: 1.55	Start: 1604	Stop: 1634	Run #:	Ps:	Start:	Stop:	Run #:	Ps:	Start:	Stop:

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	.97	334	5	.88	331	5	1.2	336
4	.92	336	4	.82	333	4	1.0	335
3	.90	336	3	.91	334	3	1.1	334
2	.81	335	2	.86	332	2	.97	335
1	.74	334	1	.83	331	1	.96	334
5	.93	334	5	.97	332	5	1.4	332
4	.89	335	4	1.0	331	4	1.1	331
3	.82	336	3	1.1	334	3	1.0	333
2	.77	333	2	.92	335	2	1.0	332
1	.76	332	1	.86	335	1	.92	334
Heated Line Temp. °F		312	Heated Line Temp. °F			Heated Line Temp. °F.		
Chiller Temp. °C		00.8	Chiller Temp. °C			Chiller Temp. °C		

MOISTURE DATA FOR TEST RUNS 9-Sox THROUGH 9-Sox

METER ID: 23-WCS METER Yd: 1.000 BALANCE CHECK WEIGHT: 499.9 / 500.0

Dry Gas Meter							Impinger Data				
Time	Volume	Delta H	Tm (in)	Tm (out)	T imp	Vacuum	No.	Material	End Wt.	Start Wt.	Diff.
1604	734.000	2.5	85	88	50	8"	#1	H_2O_2	871.8	738.6	
1614	743.105	2.5	86	89	53	8"	#2	H_2O_2	718.2	715.0	
1624	752.395	2.5	86	88	57	8"	#3	Empty	639.2	638.5	
1634	761.664						#4	Silica Gel	880.8	870.8	
							Total	LR		50	

Pre-Test Leak Check: 1.005 CFM @ 25 in. Hg., Post-Test Leak Check: 1.005 CFM @ 25 in. Hg

MONTROSE AIR QUALITY SERVICES

SULFATE TITRATION

Project # PROJ- 006514
Client/Location Deseret View Power
Sample Location Unit 2
Titrant Used 0.01 N BaCl2

Sample Date 3/8/2021
Analysis Date 3/8/2021
Analyst Initials LM

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	0.20 0.22	0.21		
Blank (V_b): 20 mL DI H_2O + 80 mL IPA					20	0.19 0.19	0.19	N = (0.02*Va)/Vt	
Standardization: 15 ml DI H_2O + 5 ml 0.0200 N H_2SO_4 + 80 mL IPA					5	10.50 10.52	10.32	N= 0.00968992	
Audit Sample: 5 ml 1000 ppm SO_4 + 15 DI H_2O + 80 mL IPA					5	10.58 10.55	10.38	97 % recovery	
1-SO2		459.4			20	4.11 4.06	3.88	in 3% H_2O_2	
2-SO2		422.3			20	4.40 4.38	4.18	in 3% H_2O_2	
3-SO2		428.6			20	4.42 4.45	4.23	in 3% H_2O_2	
4-SO2		414.8			20	3.30 3.33	3.11	in 3% H_2O_2	
5-SO2		450.4			20	3.10 3.06	2.87	in 3% H_2O_2	
6-SO2		436.8			20	3.00 2.97	2.78	in 3% H_2O_2	
7-SO2		444.5			20	3.10 3.05	2.87	in 3% H_2O_2	
8-SO2		447.2			20	3.30 3.30	3.09	in 3% H_2O_2	
9-SO2		418.3			20	2.95 2.98	2.76	in 3% H_2O_2	
					mg $H_2SO_4 \cdot 2H_2O$ = (Vt-Vbl) (N) (67) (TV/V_{evap}) (V_{recon}/Va)				

Method of Sample Prep/Analysis Notes

MONTROSE AIR QUALITY SERVICES

SULFATE TITRATION

Project #	PROJ-006514		
Client/Location	Desert View Power	Sample Date	3/8/2021
Sample Location	Unit 2	Analysis Date	3/8/2021
Titrant Used	0.01 N $BaCl_2$	Analyst Initials	LM

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	X-Blank (mL)
Blank (V_b): 20 mL 3% H_2O_2 + 80 mL IPA					20	0.20 0.22	0.21		
Blank (V_b): 20 mL DI H_2O + 80 mL IPA					20	0.19 0.19	0.19		
Standardization: 15 ml DI H_2O + 5 ml 0.0200 N H_2SO_4 + 80 mL IPA					5	10.50 10.52	10.32	N= 0.00968992	
Audit Sample: 5 ml 1000 ppm SO_4 + 15 DI H_2O + 80 mL IPA					5	10.58 10.55	10.38	97% recovery	
1-SO2		459.4			20	4.11 4.06	3.88	in 3% H2O2	
2-SO2		422.3			20	4.40 4.38	4.18	in 3% H2O2	
3-SO2		428.6			20	4.42 4.45	4.23	in 3% H2O2	
4-SO2		414.8			20	3.30 3.33	3.11	in 3% H2O2	
5-SO2		450.4			20	3.10 3.06	2.87	in 3% H2O2	
6-SO2		436.8			20	3.00 2.97	2.78	in 3% H2O2	
7-SO2		444.5			20	3.10 3.05	2.87	in 3% H2O2	
8-SO2		447.2			20	3.30 3.30	3.09	in 3% H2O2	
9-SO2		418.3			20	2.95 2.98	2.76	in 3% H2O2	
					mg $H_2SO_4 \cdot 2H_2O$ = (Vt-Vbl) (N) (67) (TV/V_{evap}) (V_{recon}/Va)				

Method of Sample Prep/Analysis Notes

DS1580127

Date of last revision 02/22/19

Santa Ana\Forms\Lab Datasheets

Appendix A.3
Reference Method Calibration Data

Date: 03/08/21

Time: 08 Mar 08:35 AM PST

Data By: RD

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

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.	08 Mar 08:35 AM PST
Reference Barometer Indication, corrected to sea level	30.03
Reference Barometer Reference Elevation	**-125**
Reference Barometer Actual Pressure	30.16
	0.00
Test Barometer Location/Site	**0.00**
Location/Site Elevation	**-127**
Location/Site Barometric Pressure	30.16
Sampling Location Height (above/below site elevation)	**20**
Sampling Location Barometric Pressure	**30.14**

NO2 to NO Converter Efficiency Test

				Cylinder #
Analyzer Manufacturer:	CAI	NO Cal Gas Value:	87.0	CC244416
Analyzer Model:	600 Series	NO2 Cal Gas Value:	44.2	CC506464
Analyzer Serial Number:	S03003	Performed By:	RD	
Date:	3/8/2021	CEMS ID#:	3-CEMS	

GAS	ANALYZER MODE	ANALYZER RESPONSE	CAL CORRECTED	LABEL
Zero	NOx	0.0	--	--
Zero	NO	0.0	--	--
NO	NO	87.8	--	--
NO	NOx	87.5	--	--
NO2	NO	0.1	0.1	C_1
NO2	NOx	42.5	42.3	C_2

		Label	Requirement
Abs. Value C_o-C_1:	44.1	D_1	--
Abs. Value C_2-C_1:	42.2	D_2	--
C_1/C_2	0%	D_3	< 5%
CE = D_2/D_1 * 100%:	95.7%	--	> 90%

Montrose

SPAN GAS RECORD

CLIENT/LOCATION: Desert View Power
Unit 2

DATE: 3/8/2021
BY: RD

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	SA17192	99.999		
O_2	DT0016473	10.78	DT0011386	19.15
CO_2	DT0016473	10.56	DT0011386	18.94
NO_x	DT0029993	41.3	CC244416	87
CO	DT0024950	4.6	ALM046645	9.64

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	0.00	0.00	0.01	0.00		--
Error (% of scale)	0.0%	0.0%	0.0%	0.0%		PASS
High Gas Value	19.15	18.94	87	9.64		--
Analyzer Reads	19.16	18.92	87.55	9.63		--
Error (% of scale)	0.0%	-0.1%	0.5%	-0.1%		PASS
Mid Gas Value	10.78	10.56	41.3	4.6		--
Analyzer Reads	10.86	10.41	41.56	4.60		--
Error (% of scale)	0.4%	-0.8%	0.3%	0.0%		PASS
Linearity at Mid Point	0.4%	-0.7%	0.0%	0.11%		

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	-0.01	0.02	0.00	0.00		--
Error (% of scale)	0.0%	0.1%	0.0%	0.0%		PASS
High Gas Value	19.15	18.94	87	9.64		--
Analyzer Reads	19.11	19.05	87.03	9.61		--
Error (% of scale)	-0.2%	0.6%	0.0%	-0.3%		PASS
Mid Gas Value	10.78	10.56	41.3	4.6		--
Analyzer Reads	10.83	10.47	41.34	4.60		--
Error (% of scale)	0.2%	-0.4%	0.0%	0.0%		PASS
Linearity at Mid Point	0.4%	-0.8%	0.0%	0.1%		

% 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: 3/8/2021
BY: RD

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	SA17192	0		
O_2	DT0016473	10.78	DT0011386	19.15
CO_2	DT0016473	10.56	DT0011386	18.94
NO_x	DT0029993	41.3	CC244416	87
CO	DT0024950	4.6	ALM046645	9.64

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Span	19.15	18.94	87	9.64		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	-0.002	-0.001	0.014	-0.001		--
Error (% of cal span)	0.0%	0.0%	0.0%	0.0%		PASS
High Gas Value	19.15	18.94	87	9.64		--
Analyzer Reads	19.158	18.924	87.547	9.627		--
Error (% of cal span)	0.0%	-0.1%	0.6%	-0.1%		PASS
Mid Gas Value	10.78	10.56	41.3	4.6		--
Analyzer Reads	10.857	10.41	41.555	4.604		--
Error (% of cal span)	0.4%	-0.8%	0.3%	0.0%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Span	19.15	18.94	87	9.64		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	-0.007	0.023	0.002	0.002		--
Error (% of cal span)	0.0%	0.1%	0.0%	0.0%		PASS
High Gas Value	19.15	18.94	87	9.64		--
Analyzer Reads	19.114	19.051	87.03	9.609		--
Error (% of cal span)	-0.2%	0.6%	0.0%	-0.3%		PASS
Mid Gas Value	10.78	10.56	41.3	4.6		--
Analyzer Reads	10.829	10.474	41.342	4.596		--
Error (% of cal span)	0.3%	-0.5%	0.0%	0.0%		PASS

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

Barometric Pressure Determination

Date: 03/10/21

Time: 10 Mar 05:35 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.	10 Mar 05:35 AM PST
Reference Barometer Indication, corrected to sea level	30.00
Reference Barometer Reference Elevation	**-125**
Reference Barometer Actual Pressure	30.13
Test Barometer Location/Site	
Location/Site Elevation	**-127**
Location/Site Barometric Pressure	30.13
Sampling Location Height (above/below site elevation)	**20**
Sampling Location Barometric Pressure	**30.11**

NO2 to NO Converter Efficiency Test

				Cylinder #
Analyzer Manufacturer:	CAI	NO Cal Gas Value:	87.0	CC244416
Analyzer Model:	600 Series	NO2 Cal Gas Value:	44.2	CC506464
Analyzer Serial Number:	D05005	Performed By:	RD	
Date:	3/10/2021	CEMS ID#:	3-CEMS	

GAS	ANALYZER MODE	ANALYZER RESPONSE	CAL CORRECTED	LABEL
Zero	NOx	0.0	--	--
Zero	NO	0.0	--	--
NO	NO	87.8	--	--
NO	NOx	87.5	--	--
NO2	NO	0.1	0.1	C_1
NO2	NOx	42.6	42.3	C_2

		Label	Requirement
Abs. Value C_o-C_1:	44.1	D_1	--
Abs. Value C_2-C_1:	42.2	D_2	--
C_1/C_2	0%	D_3	< 5%
CE = D_2/D_1 * 100%:	95.8%	--	> 90%

Montrose AQS
SPAN GAS RECORD

CLIENT/LOCATION: Desert View Power
Unit 1

DATE: 3/10/2021
BY: RD

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	SA17192	99.999		
O_2	DT0016473	10.78	DT0011386	19.15
CO_2	DT0016473	10.56	DT0011386	18.94
NO_x	DT0029993	41.3	CC244416	87
CO	DT0024950	4.6	ALM046645	9.64

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	0.01	0.02	0.01		--
Error (% of scale)	0.0%	0.0%	0.0%	0.1%		PASS
High Gas Value	19.15	18.94	87	9.64		--
Analyzer Reads	19.19	18.97	87.48	9.63		--
Error (% of scale)	0.2%	0.2%	0.5%	-0.1%		PASS
Mid Gas Value	10.78	10.56	41.3	4.6		--
Analyzer Reads	10.87	10.43	41.49	4.61		--
Error (% of scale)	0.4%	-0.7%	0.2%	0.1%		PASS
Linearity at Mid Point	0.3%	-0.8%	0.0%	0.10%		

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	0.005	0.03	0.017	0.013		--
Error (% of scale)	0.0%	0.2%	0.0%	0.1%		PASS
High Gas Value	19.15	18.94	87	9.64		--
Analyzer Reads	19.188	18.947	87.173	9.658		--
Error (% of scale)	0.2%	0.0%	0.2%	0.2%		PASS
Mid Gas Value	10.78	10.56	41.3	4.6		--
Analyzer Reads	10.869	10.609	41.309	4.606		--
Error (% of scale)	0.4%	0.2%	0.0%	0.1%		PASS
Linearity at Mid Point	0.3%	0.2%	-0.1%	-0.1%		

% 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: 3/10/2021
BY: DW

	MID SPAN CYLINDER		HIGH SPAN CYLINDER	
	CYLINDER NO.	CONCENTRATION	CYLINDER NO.	CONCENTRATION
ZERO	SA17192	0		
O_2	DT0016473	10.78	DT0011386	19.15
CO_2	DT0016473	10.56	DT0011386	18.94
NO_x	DT0029993	41.3	CC244416	87
CO	DT0024950	4.6	ALM046645	9.64

PRE-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Span	19.15	18.94	87	9.64		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	0.005	0.009	0.016	0.005		--
Error (% of cal span)	0.0%	0.0%	0.0%	0.1%		PASS
High Gas Value	19.15	18.94	87	9.64		--
Analyzer Reads	19.191	18.973	87.478	9.634		--
Error (% of cal span)	0.2%	0.2%	0.5%	-0.1%		PASS
Mid Gas Value	10.78	10.56	41.3	4.6		--
Analyzer Reads	10.869	10.425	41.494	4.61		--
Error (% of cal span)	0.5%	-0.7%	0.2%	0.1%		PASS

POST-TEST INSTRUMENT CALIBRATION ERROR

	ANALYZER					STATUS
	O_2	CO_2	NO_x	CO		
Analyzer Span	19.15	18.94	87	9.64		
Zero Gas Value	0	0	0	0		--
Analyzer Reads	0.005	0.03	0.017	0.013		--
Error (% of cal span)	0.0%	0.2%	0.0%	0.1%		PASS
High Gas Value	19.15	18.94	87	9.64		--
Analyzer Reads	19.188	18.947	87.173	9.658		--
Error (% of cal span)	0.2%	0.0%	0.2%	0.2%		PASS
Mid Gas Value	10.78	10.56	41.3	4.6		--
Analyzer Reads	10.869	10.609	41.309	4.606		--
Error (% of cal span)	0.5%	0.3%	0.0%	0.1%		PASS

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

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Fax: 714-542-6689

MONTROSE AIR QUALITY SERVICES

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, CA 92705
Customer PO Number: **79541336**

Certificate Issuance Date: **12/16/2020**
Certification Date: **12/16/2020**
Lot Number: **N70086034701**
Part Number: **NI 5.5CE-AS**
DocNumber: **296082**

CERTIFICATE OF ANALYSIS

Nitrogen, 5.5 Continuous Emission Monitoring Zero

Analytes	Specification	Analytical Results	Analytical Reference	Analytical Uncertainty
Nitrogen	**≥ 99.9995 %**	**≥ 99.9995 %**	**4**	**N/A**
Carbon Dioxide	**≤ 1 ppm**	**≤ 0.1 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: **12/12/2020**
Filling Method: **Pressure/Temperature**
Cylinder Pressure @ 70 F: **2000 psig**
Analysis Date: **12/15/2020**
Cylinder Volume: **141 ft3**
Valve Outlet Connection: **CGA 580**
Cylinder Number(s): **CC248864, CC248794, SA17192, CC257756, CC168269, SA3289, CC702520, CC167659, CC243762, CC110424, SA6076**
Analyzed Cylinder Number(s): **CC248864**

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 12-31-2020

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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MONTROSE

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: 08/10/2020
Praxair Order Number: 71393969
Part Number: NI CD10.5O6E-AS
Customer PO Number: 79385953

Fill Date: 08/04/2020
Lot Number: 70086021701
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

ProSpec EZ Cert

Expiration Date:	08/10/2028	NIST Traceable
Cylinder Number:	DT0016473	Expanded Uncertainty
10.56 %	Carbon dioxide	± 0.5 %
10.78 %	Oxygen	± 0.4 %
Balance	Nitrogen	

Certification Information:

Certification Date: 08/10/2020 *Term:* 96 Months *Expiration Date:* 08/10/2028

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: 10.5 %
Certified Concentration: 10.56 %
Instrument Used: Horiba VIA-510 S/N 20C194WK
Analytical Method: NDIR
Last Multipoint Calibration: 07/23/2020

Reference Standard: Type / Cylinder #: GMIS / CC134179
Concentration / Uncertainty: 16.02 % ±0.286%
Expiration Date: 07/10/2022
Traceable to: SRM # / Sample # / Cylinder #: SRM 1675b / 6-F-51 / CAL014538
SRM Concentration / Uncertainty: 13.963% / ±0.034%
SRM Expiration Date: 05/16/2022

First Analysis Data:								Date	08/10/2020
Z:	0	R:	16.02	C:	10.56	Conc:	10.56		
R:	16.02	Z:	0	C:	10.56	Conc:	10.56		
Z:	0	C:	10.58	R:	16.04	Conc:	10.58		
UOM:	%					Mean Test Assay:		10.56	%

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: 10.78 %
Instrument Used: OXYMAT 5E
Analytical Method: Paramagnetic
Last Multipoint Calibration: 07/23/2020

Reference Standard: Type / Cylinder #: NTRM / DT0010287
Concentration / Uncertainty: 9.875 % ±0.4%
Expiration Date: 11/18/2022
Traceable to: SRM # / Sample # / Cylinder #: NTRM / 170701 / NTRM DT0010287
SRM Concentration / Uncertainty: 9.875% / ±0.040%
SRM Expiration Date: 11/18/2022

First Analysis Data:								Date	08/10/2020
Z:	0	R:	9.88	C:	10.8	Conc:	10.79		
R:	9.88	Z:	0	C:	10.8	Conc:	10.79		
Z:	0	C:	10.78	R:	9.89	Conc:	10.77		
UOM:	%					Mean Test Assay:		10.78	%

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 Jose Vasquez

Certified By Jenna Lockman

O2 10.78
CO2 10.56
DT0016473
EXP. 8/10/2028
F22020

LO 11/12/2020

[illegible] 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 [illegible] 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 [illegible]nding 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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PGVP ID: F22019

MONTROSE AIR QUALITY SERVICES

OF ANALYSIS / EPA PROTOCOL GAS

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

Certificate Issuance Date: 11/14/2019
Praxair Order Number: 90362737
Part Number: NI CD19O2E-AS
Customer PO Number: VERBAL. MIKE MILLER

Fill Date: 11/11/2019
Lot Number: 70086931505
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure and Volume: 2000 psig 156 ft3

O2 19.15
CO2 18.94
DT0011386
Exp 11/15/27
F22019

Certified Concentration

Expiration Date:	11/15/2027	NIST Traceable
Cylinder Number:	DT0011386	Expanded Uncertainty
18.94 %	Carbon dioxide	± 0.5 %
19.15 %	Oxygen	± 0.1 %
Balance	Nitrogen	

ProSpec EZ Cert

Certification Information:

Certification Date: 11/15/2019 *Term:* 96 Months *Expiration Date:* 11/15/2027

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

Do Not Use [illegible] 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: 10/21/2019

First Analysis Data:							Date	11/15/2019
Z:	0	R:	19.98	C:	18.94	Conc:	18.94	
R:	19.98	Z:	0	C:	18.94	Conc:	18.94	
Z:	0	C:	18.96	R:	19.99	Conc:	18.96	
UOM:	%				Mean Test Assay:		18.94	%

Reference Standard: Type / Cylinder #: GMIS / CC149981
Concentration / Uncertainty: 19.98 % ±0.279%
Expiration Date: 06/07/2026
Traceable to: SRM # / Sample # / Cylinder #: RGM#CC28033 / N/A / RGM#CC28033
SRM Concentration / Uncertainty: 19.67% / ±0.04%
SRM Expiration Date: 07/15/2021

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:			%

2. ***Component:*** Oxygen

Requested Concentration: 19 %
Certified Concentration: 19.15 %
Instrument Used: OXYMAT 5E
Analytical Method: Paramagnetic
Last Multipoint Calibration: 10/21/2019

First Analysis Data:							Date	11/15/2019
Z:	0	R:	20.88	C:	19.15	Conc:	19.13	
R:	20.88	Z:	0	C:	19.17	Conc:	19.15	
Z:	0	C:	19.17	R:	20.9	Conc:	19.15	
UOM:	%				Mean Test Assay:		19.15	%

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 Jose Vasquez

Certified By Jenna Lockman

CR
12/16/19

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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OF ANALYSIS / EPA PROTOCOL GAS

MONTROSE

Montrose Air Quality Services, LLC
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NOx 41.3
DT0029993
EXP. 8·6·2022
F22019

Certificate Issuance Date: 08/06/2019
Praxair Order Number: 82720155
Part Number: NI NO42ME-AS

Fill Date: 07/25/2019
Lot Number: 70086920608
Cylinder Style & Outlet: AS CGA 660
Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

Expiration Date:	08/06/2022	NIST Traceable
Cylinder Number:	DT0029993	Expanded Uncertainty
41.2 ppm	Nitric oxide	± 0.9 %
Balance	Nitrogen	

ProSpec EZ Cert

For Reference Only: *NOx 41.3 ppm*

Certification Information: *Certification Date:* 08/06/2019 *Term:* 36 Months *Expiration Date:* 08/06/2022

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**

Requested Concentration: 42 ppm
Certified Concentration: 41.2 ppm
Instrument Used: Thermo Electron 42i-LS S/N 1030645077
Analytical Method: Chemiluminescence
Last Multipoint Calibration: 07/12/2019

Reference Standard: Type / Cylinder #: NTRM / CC506118
Concentration / Uncertainty: 49.23 ppm ±0.853%
Expiration Date: 07/18/2022
Traceable to: SRM # / Sample # / Cylinder #: NTRM#CC506118 / 18070107 / CC506118
SRM Concentration / Uncertainty: 49.23 ppm / ±0.42 ppm
SRM Expiration Date: 07/18/2022

First Analysis Data:				Date	07/30/2019
Z: 0	R: 49.2	C: 41.1	Conc: 41.2		
R: 49.2	Z: 0	C: 40.9	Conc: 41		
Z: 0	C: 41	R: 49.1	Conc: 41.1		
UOM: ppm		Mean Test Assay:	41.1 ppm		

Second Analysis Data:				Date	08/06/2019
Z: 0	R: 49.2	C: 41.2	Conc: 41.3		
R: 49.2	Z: 0	C: 41.4	Conc: 41.5		
Z: 0	C: 41.3	R: 49.1	Conc: 41.4		
UOM: ppm		Mean Test Assay:	41.4 ppm		

Analyzed By Henry Koung

Certified By Leeanna Flores

LO 8·16·19

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: 341723

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

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

Certificate Issuance Date: 01/29/2021
Praxair Order Number: 71560640
Part Number: NI NO85ME-AS
Customer PO Number: 79556791

Fill Date: 01/18/2021
Lot Number: 70086101808
Cylinder Style & Outlet: AS CGA 660
Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

ProSpec EZ Cert

Expiration Date:	01/29/2029	NIST Traceable
Cylinder Number:	CC244416	Expanded Uncertainty
86.9 ppm	Nitric oxide	± 0.6 ppm
Balance	Nitrogen	

For Reference Only: *NOx 87.0 ppm*

Certification Information: *Certification Date:* 01/29/2021 *Term:* 96 Months *Expiration Date:* 01/29/2029

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:*** **Nitric oxide**

Requested Concentration: 85 ppm
Certified Concentration: 86.9 ppm
Instrument Used: Thermo Electron 42i S/N 0726024326
Analytical Method: Chemiluminescence
Last Multipoint Calibration: 01/08/2021

Reference Standard: Type / Cylinder #: GMIS / CC703092
Concentration / Uncertainty: 97.0 ppm ±0.5 ppm
Expiration Date: 01/15/2028
Traceable to: SRM # / Sample # / Cylinder #: 1684b / 44-T-89 / FF9260
SRM Concentration / Uncertainty: 99.75 ppm / ±0.50 ppm
SRM Expiration Date: 01/25/2020

First Analysis Data:								Date	01/22/2021
Z:	0	R:	97	C:	86.8	Conc:	86.8		
R:	97	Z:	0	C:	86.8	Conc:	86.8		
Z:	0	C:	86.7	R:	97	Conc:	86.7		
UOM:	ppm					Mean Test Assay:	86.8	ppm	

Second Analysis Data:								Date	01/29/2021
Z:	0	R:	97	C:	86.8	Conc:	86.8		
R:	97	Z:	0	C:	87	Conc:	87		
Z:	0	C:	87	R:	97	Conc:	87		
UOM:	ppm					Mean Test Assay:	86.9	ppm	

Analyzed By Nelson Ma

Certified By Quinn Halles

NOX 87.0
CC244416
EXP. 1-29-2029
F22021

LO 2/15/2021

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: 315289

MONTROSE

Montrose Air Quality Services, LLC
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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: 10/16/2020
Praxair Order Number: 71450583
Part Number: AI NX45MZ1E-AS
Customer PO Number: 79444011

Fill Date: 10/05/2020
Lot Number: 70086027908
Cylinder Style & Outlet: AS CGA 660
Cylinder Pressure and Volume: 2000 psig 140 ft3

NO2 44.2
CC506464
EXP. 10/16/2021
F-22020

Certified Concentration

ProSpec EZ Cert

Expiration Date:	10/16/2021	NIST Traceable
Cylinder Number:	CC506464	Expanded Uncertainty
44.2 ppm	Nitrogen dioxide (as NOx)	± 1.6 %
Balance	Air	

For Reference Only: *HNO3 0.74 ppm*

Certification Information: *Certification Date:* 10/16/2020 *Term:* 12 Months *Expiration Date:* 10/16/2021

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.

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: 44.2 ppm
Instrument Used: MKS Multigas 2031 FTIR
Analytical Method: FTIR
Last Multipoint Calibration: 09/18/2020

Reference Standard: Type / Cylinder #: GMIS / GN0009634
Concentration / Uncertainty: 51.53 ppm ±1%
Expiration Date: 07/20/2021
Traceable to: SRM # / Sample # / Cylinder #: PRM#D791124 / N/A / PRM#D791124
SRM Concentration / Uncertainty: 50.0 ppm / ±0.5 ppm
SRM Expiration Date: 12/30/2020

First Analysis Data:								Date	10/12/2020
Z:	0	R:	51.5	C:	44.3	Conc:	44.5		
R:	51.2	Z:	0	C:	43.9	Conc:	44.1		
Z:	0	C:	44.1	R:	51.3	Conc:	44.3		
UOM:	ppm					Mean Test Assay:	44.3	ppm	

Second Analysis Data:								Date	10/16/2020
Z:	0	R:	51.2	C:	43.9	Conc:	44.1		
R:	51.4	Z:	0	C:	44	Conc:	44.2		
Z:	0	C:	44	R:	51.4	Conc:	44.2		
UOM:	ppm					Mean Test Assay:	44.1	ppm	

Analyzed By Leeanna Flores

Certified By Henry Koung

LO 10/27/20

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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MONTROSE

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: F22021

C OF ANALYSIS / EPA PROTOCOL GAS

Certificate Issuance Date: 02/20/2021
Praxair Order Number: 35007608
Part Number: NI CO4.7ME-AS
Customer PO Number: VERBAL; LUIS

Fill Date: 02/15/2021
Lot Number: 70086104603
Cylinder Style & Outlet: AS CGA 350
Cylinder Pressure and Volume: 2000 psig 140 ft3

CO 4.60 PPM
Exp: 2/20/29
DT0024950
F22021

Certified Concentration

Expiration Date:	02/20/2029	NIST Traceable
Cylinder Number:	DT0024950	Expanded Uncertainty
4.60 ppm	Carbon monoxide	± 0.04 ppm
Balance	Nitrogen	

ProSpec EZ Cert

Certification Information: *Certification Date:* 02/20/2021 *Term:* 96 Months *Expiration Date:* 02/20/2029

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: 4.7 ppm
Certified Concentration: 4.60 ppm
Instrument Used: Horiba VIA-510 S/N 43627990042
Analytical Method: NDIR
Last Multipoint Calibration: 01/29/2021

Reference Standard: Type / Cylinder #: GMIS / CC707274
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 / Uncertainty: 9.825 ppm / ±0.047 ppm
SRM Expiration Date: 06/24/2024

First Analysis Data:						Date	02/20/2021
Z:	0	R:	95.5	C:	44.2	Conc:	4.59
R:	95.5	Z:	0	C:	44.4	Conc:	4.61
Z:	0	C:	44.3	R:	95.6	Conc:	4.6
UOM:	ppm				Mean Test Assay:		4.6 ppm

Second Analysis Data:						Date	
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	ppm				Mean Test Assay:		ppm

Analyzed By Jose Vasquez

Certified By Amalia Real

PW 2/26/21

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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MONTROSE AIR QUALITY SERVICES

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

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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: F22018

E OF ANALYSIS / EPA PROTOCOL GAS

Certificate Modification Date: 11/29/2018
Praxair Order Number: 70789714
Part Number: NI CO9.5ME-AS

Fill Date: 11/15/2018
Lot Number: 70086831902
Cylinder Style & Outlet: AS CGA 350
Cylinder Pressure and Volume: 2000 psig 140 ft3

C09.64
ALM-046645
Exp 11/20/26
F 22018

Certified Concentration

ProSpec EZ Cert

Expiration Date:	11/20/2026		NIST Traceable
Cylinder Number:	ALM-046645		Expanded Uncertainty
9.64 ppm	Carbon monoxide		± 0.5 %
Balance	Nitrogen		

Certification Information: *Certification Date:* 11/20/2018 *Term:* 96 Months *Expiration Date:* 11/20/2026

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:* **Carbon monoxide**

Requested Concentration: 9.5 ppm
Certified Concentration: 9.64 ppm
Instrument Used: MKS Multigas 2031 FTIR
Analytical Method: FTIR
Last Multipoint Calibration: 11/19/2018

Reference Standard: Type / Cylinder #: GMIS / CC28034
Concentration / Uncertainty: 9.920 ppm ±0.56%
Expiration Date: 09/0[illegible]/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	11/20/2018
Z:	0	R:	9.536	C:	9.263	Conc:	9.63		
R:	9.538	Z:	0	C:	9.259	Conc:	9.63		
Z:	0	C:	9.273	R:	9.539	Conc:	9.64		
UOM:	ppm					Mean Test Assay:	9.64	ppm	

Second Analysis Data:								Date	
Z:	0	R:	0	C:	0	Conc:	0		
R:	0	Z:	0	C:	0	Conc:	0		
Z:	0	C:	0	R:	0	Conc:	0		
UOM:	ppm					Mean Test Assay:		ppm	

Analyzed By Danielle Burns

Certified By Jose Vasquez

CR
10/23/19

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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\23-WCS\2021\[23-WCS Semi Annual Cal 1-20-2021.xlsx]WCS
File Modified From: APEX 522 Series Meter box Calibration
Revised: 4/8/2005

C-5000
ID #: 23-WCS
Date: 1/20/2021
Bar. Pressure: 29.96 (in. Hg)
Performed By: L.Olivares
Meter Serial #:

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)
0.13	26.00	592.200	597.529	5.329	76.0	75.0	76.0	75.0	33	0.1552	13.5	72.0	72.0	72.0
0.13	26.00	597.529	602.855	5.326	76.0	75.0	77.0	75.0	33	0.1552	13.5	72.0	72.0	72.0
0.13	26.00	602.855	608.188	5.333	77.0	75.0	78.0	76.0	33	0.1552	13.5	72.0	72.0	72.0
0.58	12.00	575.500	580.811	5.311	78.0	74.0	79.0	74.0	48	0.3346	15.0	71.0	71.0	71.0
0.58	12.00	580.811	586.120	5.309	79.0	74.0	80.0	75.0	48	0.3346	15.0	71.0	71.0	71.0
0.58	12.00	586.120	591.432	5.312	80.0	75.0	80.0	75.0	48	0.3346	15.0	71.0	71.0	71.0
1.70	7.00	544.100	549.488	5.388	83.0	71.0	84.0	72.0	63	0.5918	12.0	69.0	69.0	69.0
1.70	7.00	549.488	554.870	5.382	84.0	72.0	85.0	73.0	63	0.5918	12.0	69.0	69.0	69.0
1.70	7.00	554.870	560.275	5.405	85.0	73.0	85.0	74.0	63	0.5918	12.0	69.0	69.0	69.0
3.00	5.00	527.600	532.668	5.068	76.0	68.0	80.0	69.0	73	0.7681	11.5	68.0	68.0	68.0
3.00	5.00	532.668	537.749	5.081	80.0	69.0	83.0	69.0	73	0.7681	11.5	68.0	68.0	68.0
3.00	5.00	537.749	542.819	5.070	83.0	69.0	85.0	70.0	73	0.7681	11.5	68.0	68.0	68.0

RY GAS METER		ORIFICE				DRY GAS METER CALIBRATION FACTOR	ORIFICE CALIBRATION FACTOR				
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)	Individual Run 0.95 < Y < 1.05?	Individual Orifice Ymax - Ymin < 0.010?	Orifice Average 0.98 < Y/Yd < 1.02?	Orifice Average dH@ - dH@ av < 0.155?
5.261	149.0	5.240	148.4	5.275		0.996	1.779	**Pass**			
5.256	148.8	5.240	148.4	5.275		0.997	1.779	**Pass**			
5.255	148.8	5.240	148.4	5.275		0.997	1.777	**Pass**			
					Average	**0.997**	**1.779**		**Pass**	**Pass**	**Pass**
5.242	148.4	5.220	147.8	5.245		0.996	1.707	**Pass**			
5.232	148.2	5.220	147.8	5.245		0.998	1.705	**Pass**			
5.230	148.1	5.220	147.8	5.245		0.998	1.704	**Pass**			
					Average	**0.997**	**1.705**		**Pass**	**Pass**	**Pass**
5.320	150.7	5.396	152.8	5.401		1.014	1.601	**Pass**			
5.304	150.2	5.396	152.8	5.401		1.017	1.598	**Pass**			
5.319	150.6	5.396	152.8	5.401		1.014	1.595	**Pass**			
					Average	**1.015**	**1.598**		**Pass**	**Pass**	**Pass**
5.060	143.3	5.008	141.8	5.003		0.990	1.683	**Pass**			
5.054	143.1	5.008	141.8	5.003		0.991	1.681	**Pass**			
5.029	142.4	5.008	141.8	5.003		0.996	1.680	**Pass**			
					Average	**0.992**	**1.681**		**Pass**	**Pass**	**Pass**

Average Yd: 1.000 **dH@: 1.691**

Q @ dH = 1: 0.577

SIGNED: Signature on File

Date: 1/20/2021

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\2021\[1P&M Semi Annual Cal 2-28-2021.xls]WCS
File Modified From: APEX 522 Series Meter box Calibration
Revised: 4/8/2005

Model #:
ID #: 1 P&M
Date: 2/28/2021
Bar. Pressure: 30.16 (in. Hg)
Performed By: L.Olivares
Meter Serial #: 8520465.00

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	416.600	421.770	5.170	68.0	67.0	69.0	67.0	33	0.1552	18.0	65.0	65.0	65.0
0.12	26.00	421.770	426.945	5.175	69.0	67.0	69.0	67.0	33	0.1552	18.0	65.0	65.0	65.0
0.12	26.00	426.945	432.118	5.173	69.0	67.0	70.0	68.0	33	0.1552	18.0	65.0	65.0	65.0
0.60	12.00	400.500	405.660	5.160	73.0	67.0	74.0	68.0	48	0.3346	19.0	65.0	65.0	65.0
0.60	12.00	405.660	410.825	5.165	74.0	68.0	74.0	68.0	48	0.3346	19.0	65.0	65.0	65.0
0.60	12.00	410.825	415.992	5.167	74.0	68.0	75.0	68.0	48	0.3346	19.0	65.0	65.0	65.0
1.90	7.00	375.900	381.250	5.350	77.0	65.0	77.0	66.0	63	0.5918	14.0	64.0	64.0	64.0
1.90	7.00	381.250	386.605	5.355	77.0	66.0	78.0	66.0	63	0.5918	14.0	64.0	64.0	64.0
1.90	7.00	386.605	391.958	5.353	78.0	66.0	79.0	66.0	63	0.5918	14.0	64.0	64.0	64.0
3.20	5.00	363.400	368.460	5.060	73.0	64.0	76.0	64.0	73	0.7681	13.0	64.0	64.0	64.0
3.20	5.00	368.460	373.510	5.050	76.0	64.0	78.0	65.0	73	0.7681	13.0	64.0	64.0	64.0
3.20	5.00	373.510	378.562	5.052	78.0	65.0	80.0	66.0	73	0.7681	13.0	64.0	64.0	64.0

DRY GAS METER		ORIFICE				DRY GAS METER CALIBRATION FACTOR	ORIFICE CALIBRATION FACTOR				
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)	Individual Run 0.95 < Y < 1.05?	Individual Orifice Ymax - Ymin < 0.010?	Orifice Average 0.98 < Y/Yd < 1.02?	Orifice Average dH@ - dH@ av < 0.155?
5.213	147.6	5.310	150.4	5.240		1.019	1.634	**Pass**			
5.216	147.7	5.310	150.4	5.240		1.018	1.634	**Pass**			
5.209	147.5	5.310	150.4	5.240		1.019	1.633	**Pass**			
					Average	**1.019**	**1.634**		**Pass**	**Pass**	**Pass**
5.182	146.8	5.285	149.7	5.215		1.020	1.756	**Pass**			
5.183	146.8	5.285	149.7	5.215		1.020	1.754	**Pass**			
5.182	146.8	5.285	149.7	5.215		1.020	1.754	**Pass**			
					Average	**1.020**	**1.755**		**Pass**	**Pass**	**Pass**
5.383	152.4	5.458	154.6	5.375		1.014	1.781	**Pass**			
5.383	152.4	5.458	154.6	5.375		1.014	1.779	**Pass**			
5.375	152.2	5.458	154.6	5.375		1.015	1.779	**Pass**			
					Average	**1.014**	**1.780**		**Pass**	**Pass**	**Pass**
5.126	145.2	5.060	143.3	4.984		0.987	1.785	**Pass**			
5.102	144.5	5.060	143.3	4.984		0.992	1.783	**Pass**			
5.089	144.1	5.060	143.3	4.984		0.994	1.780	**Pass**			
					Average	**0.991**	**1.783**		**Pass**	**Pass**	**Pass**

Average Yd: 1.011 **dH@: 1.738**

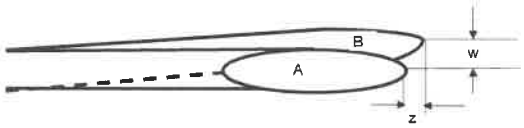
Q @ dH = 1: 0.569

SIGNED: Signature on File

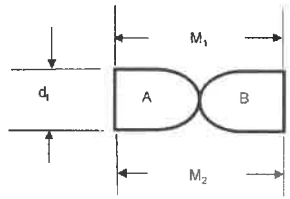
Date: 2/28/2021

MONTROSE

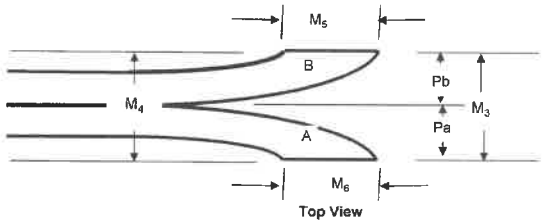
S Type Pitot Tube Dimensional Calibration Record



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
013	1/4/21	1/0/00	Y	Y	Y	0.370	0.948	0.948	1.005	0.955	0.415	0.410	0.0	3.5	1.3	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

MONTROSE AIR QUALITY SERVICES

THERMOCOUPLE CALIBRATION

Thermocouple ID: 13
Date: 1/4/2021
Performed By: RD/DA/RM/DH

Calibrated Digital Temperature Readout ID: PTC-66
T1 Reference Thermometer ID: 313010
T2 Reference Thermometer ID: 242196
T3 Reference Thermometer ID: 242167

T/C I.D.	Readout	T/C - Readout °F				Reference Thermometer °F				Difference		
13	I.D.	Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (OIL)	PTC-66	350	350	350	350	352	352	352	352	2.0	0.2%	Pass
T2 (Boiling H_2O)	PTC-66	211	211	211	211	212	212	212	212	1.0	0.1%	Pass
T1 (Ice/Water)	PTC-66	33	33	33	33	32	32	32	32	1.0	0.2%	Pass

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

MONTROSE
AIR QUALITY SERVICES

DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: PTC-42
Readout Description: Handheld
Date: 1/4/2021
Performed By: RD/DA/RM/DH

Calibrated Thermocouple ID: TC-CAL
T1 Reference Thermometer ID: 313010
T2 Reference Thermometer ID: 242196
T3 Reference Thermometer ID: 242167

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	353	353	353	353	352	352	352	352	1.0	0.1%	Pass
T2 (Boiling H_2O)	PTC-42	213	213	213	213	212	212	212	212	1.0	0.1%	Pass
T1 (Ice/Water)	PTC-42	32	32	32	32	32	32	32	32	0.0	0.0%	Pass

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

Thermocouple Source Readings

	T/C Source S/N	T/C - Readout °F 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	371	371	371	371	370	370	370	370	1.0	0.1%	Pass
T2 (~212 F)	129103	214	214	214	214	212	212	212	212	2.0	0.3%	Pass
T1 (~32 F)	129103	34	34	34	34	32	32	32	32	2.0	0.4%	Pass

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

MONTROSE AIR QUALITY SERVICES

DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: 23 WCS
Readout Description: Control Box
Date: 1/4/2021
Performed By: RD/DA/RM/DH

Calibrated Thermocouple ID: TC-CAL
T1 Reference Thermometer ID: 313010
T2 Reference Thermometer ID: 242196
T3 Reference Thermometer ID: 242167

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)	23 WCS	352	352	352	352	352	352	352	352	0.0	0.0%	Pass
T2 (Boiling H_2O)	23 WCS	213	213	213	213	212	212	212	212	1.0	0.1%	Pass
T1 (Ice/Water)	23 WCS	32	32	32	32	32	32	32	32	0.0	0.0%	Pass

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

Thermocouple Source Readings

	T/C Source S/N	T/C - Readout °F 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	375	375	375	375	370	370	370	370	5.0	0.6%	Pass
T2 (~212 F)	129103	212	212	212	212	212	212	212	212	0.0	0.0%	Pass
T1 (~32 F)	129103	33	33	33	33	32	32	32	32	1.0	0.2%	Pass

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

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		
3/10/2021 7:47	48.07	71.29	32.32	8.72	12.93	8.16	1.31	14.83 <56>	4.09 <56>	11.72	8.83	5632	1.94	0.54
3/10/2021 7:48	38.36	59.6	23.63	6.69	10.40	5.73	1.3	15.54 <56>	3.75 <56>	11.4	9.38	5159	2.02	0.49
3/10/2021 7:49	42.54	64.42	27.97	7.56	11.45	6.92	1.25	15.14 <56>	4.00 <56>	11.43	9.08	5508	1.89	0.50
3/10/2021 7:50	22.82	37.3	14.1	5.24	8.57	4.5	1.39	16.35 <56>	3.76 <56>	10.64	9.95	5174	2.27	0.52
3/10/2021 7:51	25.62	41.69	15.96	4.71	7.66	4.08	1.23	16.27 <56>	3.79 <56>	10.88	9.9	5217	2.00	0.47
3/10/2021 7:52	36.35	57.08	23.86	5.18	8.13	4.73	1.32	15.70 <56>	3.99 <56>	11.43	9.5	5497	2.07	0.53
3/10/2021 7:53	28.62	45.95	18.46	4.81	7.72	4.32	1.24	16.05 <56>	3.93 <56>	10.91	9.75	5403	1.99	0.49
3/10/2021 7:54	40.05	61.64	26.57	5.04	7.76	4.65	1.39	15.39 <56>	4.04 <56>	11.95	9.27	5557	2.14	0.56
3/10/2021 7:55	45.7	66.89	31.96	6.86	10.04	6.67	1.39	14.64 <56>	4.26 <56>	11.96	8.67	5857	2.03	0.59
3/10/2021 7:56	50.2	73.71	34.8	7.21	10.59	6.95	1.33	14.68 <56>	4.22 <56>	11.98	8.71	5806	1.95	0.56
3/10/2021 7:57	43.71	66.31	29.81	7.1	10.77	6.74	1.32	15.17 <56>	4.15 <56>	11.16	9.1	5713	2.00	0.55
3/10/2021 7:58	40.61	63.38	26.94	5.78	9.02	5.33	1.35	15.61 <56>	4.04 <56>	11.55	9.43	5556	2.11	0.55
3/10/2021 7:59	34.59	52.74	23.67	5.7	8.69	5.43	1.47	15.25 <56>	4.17 <56>	11.63	9.16	5732	2.24	0.61
3/10/2021 8:00	42.1	63.11	29.02	6.07	9.10	5.82	1.39	14.99 <56>	4.20 <56>	11.85	8.96	5774	2.08	0.58
3/10/2021 8:01	48.38	70.81	33.51	7.22	10.57	6.96	1.36	14.64 <56>	4.22 <56>	12.24	8.67	5802	1.99	0.57
3/10/2021 8:02	54.81	79.76	39.07	8.82	12.84	8.75	1.26	14.55 <56>	4.34 <56>	11.79	8.6	5971	1.83	0.55
3/10/2021 8:03	44.68	67.61	29.93	7.89	11.94	7.35	1.37	15.13 <56>	4.08 <56>	11.7	9.07	5610	2.07	0.56
3/10/2021 8:04	37.29	55.76	25.83	7.48	11.19	7.21	1.28	14.95 <56>	4.22 <56>	11.64	8.93	5803	1.91	0.54
3/10/2021 8:05	31.18	48.11	20.83	6.35	9.80	5.9	1.27	15.43 <56>	4.07 <56>	11.46	9.3	5596	1.96	0.52
3/10/2021 8:06	30.44	47.55	20.96	6.17	9.64	5.91	1.32	15.62 <56>	4.19 <56>	10.84	9.44	5767	2.06	0.55
3/10/2021 8:07	22.6	38.06	15.18	4.55	7.66	4.25	1.23	16.84 <56>	4.09 <56>	10.26	10.27	5626	2.07	0.50
3/10/2021 8:08	19.02	33.41	12.25	3.41	5.99	3.05	1.17	17.57 <56>	3.92 <56>	10.34	10.71	5393	2.06	0.46
3/10/2021 8:09	42.34	65.28	30.52	5.51	8.50	5.53	1.3	15.42 <56>	4.39 <56>	11.84	9.29	6038	2.00	0.57
3/10/2021 8:10	41.84	63.09	32.01	6.29	9.49	6.7	1.28	15.08 <56>	4.66 <56>	11.21	9.03	6409	1.93	0.60
3/10/2021 8:11	31.7	52.3	21.17	4.56	7.52	4.24	1.12	16.50 <56>	4.06 <56>	11.01	10.05	5593	1.85	0.46
3/10/2021 8:12	49.89	74.11	37.11	6.75	10.03	6.99	1.32	14.85 <56>	4.53 <56>	11.88	8.85	6231	1.96	0.60
3/10/2021 8:13	43.72	65.99	32.18	6.82	10.29	6.99	1.17	15.09 <56>	4.48 <56>	11.67	9.04	6166	1.77	0.52
3/10/2021 8:14	34.96	54.37	25.12	5.78	8.99	5.78	1.28	15.55 <56>	4.37 <56>	11.12	9.39	6018	1.99	0.56
3/10/2021 8:15	30.58	47.85	21.64	5.28	8.26	5.2	1.27	15.65 <56>	4.31 <56>	11.43	9.46	5928	1.99	0.55
3/10/2021 8:16	39.83	59.51	29.19	6.06	9.05	6.18	1.33	14.94 <56>	4.46 <56>	12.01	8.92	6138	1.99	0.59
3/10/2021 8:17	45.81	66.5	33.47	7.27	10.55	7.39	1.22	14.52 <56>	4.45 <56>	12.36	8.57	6120	1.77	0.54
3/10/2021 8:18	56.79	79.98	41.29	9.73	13.70	9.84	1.24	14.08 <56>	4.43 <56>	12.56	8.19	6090	1.75	0.55
3/10/2021 8:19	70.41	93.99	55.18	12.85	17.15	14.01	1.48	13.35 <56>	4.77 <56>	13.19	7.49	6564	1.98	0.71
3/10/2021 8:20	43.27	61.37	31.26	9.4	13.33	9.45	1.25	14.18 <56>	4.40 <56>	12.05	8.28	6052	1.77	0.55
3/10/2021 8:21	31.58	46.87	21.84	7.98	11.84	7.68	1.22	14.84 <56>	4.21 <56>	11.55	8.84	5792	1.81	0.51
3/10/2021 8:22	28.2	43.03	19.38	6.38	9.74	6.1	1.19	15.26 <56>	4.18 <56>	11.36	9.17	5755	1.82	0.50
3/10/2021 8:23	25.44	40.19	17.22	5.27	8.33	4.96	1.12	15.80 <56>	4.12 <56>	11.11	9.57	5670	1.77	0.46
3/10/2021 8:24	32.22	50.06	22.39	5.3	8.24	5.12	1.17	15.54 <56>	4.23 <56>	11.73	9.38	5821	1.82	0.49
3/10/2021 8:25	26.81	41.99	19.43	5.47	8.57	5.52	1.21	15.66 <56>	4.41 <56>	10.84	9.47	6070	1.89	0.53
3/10/2021 8:26	28.91	47	19.83	4.31	7.01	4.11	1.09	16.26 <56>	4.17 <56>	11.16	9.89	5744	1.77	0.45
3/10/2021 8:27	34.6	51.53	26.13	5.26	7.83	5.53	1.21	14.89 <56>	4.60 <56>	11.98	8.88	6326	1.80	0.56
3/10/2021 8:28	40.16	59.51	31.82	6.02	8.92	6.64	1.17	14.82 <56>	4.82 <56>	11.57	8.82	6637	1.73	0.56
3/10/2021 8:29	30.28	48.09	21.74	4.77	7.58	4.77	0.98	15.88 <56>	4.37 <56>	11.19	9.63	6015	1.56	0.43
3/10/2021 8:30	42.94	64.05	32.56	5.74	8.56	6.06	1.09	14.92 <56>	4.62 <56>	11.82	8.9	6352	1.63	0.50
3/10/2021 8:31	42.99	62.51	33.59	6.14	8.93	6.67	1.23	14.54 <56>	4.76 <56>	12.35	8.59	6544	1.79	0.58
3/10/2021 8:32	39.84	58.31	30.99	6.51	9.53	7.05	1.07	14.64 <56>	4.74 <56>	11.87	8.67	6516	1.57	0.51
3/10/2021 8:33	41.6	60.79	32.12	6.92	10.11	7.43	1.2	14.61 <56>	4.70 <56>	12.12	8.65	6468	1.75	0.56
3/10/2021 8:34	44.03	63.66	34.22	7.07	10.22	7.64	1.06	14.46 <56>	4.73 <56>	12.13	8.52	6509	1.53	0.50
3/10/2021 8:35	41.86	61.32	32.73	6.94	10.17	7.55	0.98	14.65 <56>	4.76 <56>	11.69	8.68	6549	1.44	0.47
3/10/2021 8:36	34.02	51.83	24.85	5.91	9.00	6.01	1.07	15.23 <56>	4.45 <56>	11.75	9.15	6118	1.63	0.48
3/10/2021 8:37	38.19	55.85	29.76	7.27	10.63	7.88	1.06	14.62 <56>	4.74 <56>	11.8	8.66	6527	1.55	0.50
3/10/2021 8:38	24.7	38.48	18.32	5.46	8.51	5.63	0.93	15.58 <56>	4.51 <56>	10.83	9.41	6211	1.45	0.42
3/10/2021 8:39	34.66	54	25.12	5.06	7.88	5.1	0.88	15.58 <56>	4.41 <56>	12.11	9.41	6071	1.37	0.39
3/10/2021 8:40	27.7	42.16	21.88	5.91	9.00	6.49	0.89	15.22 <56>	4.81 <56>	10.79	9.14	6615	1.35	0.43
3/10/2021 8:41	16.55	27.82	11.44	3.79	6.37	3.64	0.8	16.81 <56>	4.21 <56>	10.72	10.25	5788	1.34	0.34
3/10/2021 8:42	46.18	67.65	37.89	5.78	8.47	6.6	1.08	14.65 <56>	4.99 <56>	12.23	8.68	6873	1.58	0.54
3/10/2021 8:43	26.54	41.93	20.59	5.22	8.25	5.64	0.97	15.80 <56>	4.72 <56>	10.65	9.57	6499	1.53	0.46
3/10/2021 8:44	27.23	44.92	19.99	4.02	6.63	4.11	0.79	16.50 <56>	4.47 <56>	11.11	10.05	6150	1.30	0.35
3/10/2021 8:45	29.62	45.79	23.39	5.01	7.74	5.5	1.07	15.46 <56>	4.81 <56>	11.25	9.32	6615	1.65	0.51
3/10/2021 8:46	30.33	46.68	23.45	4.39	6.76	4.72	0.96	15.39 <56>	4.71 <56>	11.73	9.27	6477	1.48	0.45

Average	**37.10**	**56.11**	**26.66**	**6.21**	**9.40**	**6.20**	**1.19**		**11.54**	**9.16**	**5986.87**	**1.82**	**0.52**

Flow	kdscfh	5986.87
O2	% dry	9.16
CO2	% dry	11.54
NOx	ppm dry	37.10
NOx	ppm @ 3% O2	56.11
NOx	lb/hr	26.66
SO2	ppm dry	6.21
SO2	ppm @ 3% O2	9.40
SO2	lb/hr	6.20
CO	ppm dry	1.19
CO	ppm @ 3% O2	1.82
CO	lb/hr	0.52

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		
3/10/2021 9:09	25.88	40	18.99	5.24	8.1	5.35	0.89	15.46 <56>	4.47 <56>	11.07	9.32	6146	1.38	0.40
3/10/2021 9:10	27.26	43.14	19.44	5.21	8.25	5.17	0.71	15.83 <56>	4.34 <56>	11.23	9.59	5972	1.12	0.31
3/10/2021 9:11	30.65	47.13	22.47	5.28	8.12	5.39	0.55	15.38 <56>	4.46 <56>	11.46	9.26	6141	0.85	0.25
3/10/2021 9:12	48.32	70.21	36.36	6.94	10.08	7.26	0.69	14.53 <56>	4.58 <56>	12.7	8.58	6302	1.00	0.32
3/10/2021 9:13	51.43	71.31	41.51	8.92	12.37	10.02	0.59	13.87 <56>	4.91 <56>	12.31	7.99	6760	0.82	0.29
3/10/2021 9:14	35.45	53.28	26.22	6.66	10.01	6.85	0.46	15.03 <56>	4.50 <56>	11.42	8.99	6196	0.69	0.21
3/10/2021 9:15	35.7	56.1	25.99	5.97	9.38	6.05	0.53	15.72 <56>	4.43 <56>	10.9	9.51	6097	0.83	0.23
3/10/2021 9:16	31.68	49.92	22.44	5.07	7.99	5	0.62	15.76 <56>	4.31 <56>	11.62	9.54	5934	0.98	0.27
3/10/2021 9:17	40.16	59.46	32.13	6.28	9.3	6.99	0.59	14.81 <56>	4.87 <56>	11.48	8.81	6702	0.87	0.29
3/10/2021 9:18	16.54	28.69	11.89	4.52	7.84	4.52	0.38	17.34 <56>	4.37 <56>	9.5	10.58	6019	0.66	0.17
3/10/2021 9:19	17.79	31.47	12.15	3.26	5.77	3.1	0.39	17.69 <56>	4.16 <56>	10.85	10.78	5722	0.69	0.16
3/10/2021 9:20	36.06	53.83	28.34	5.38	8.03	5.88	0.75	14.93 <56>	4.78 <56>	12.15	8.91	6582	1.12	0.36
3/10/2021 9:21	39.16	56.71	31.92	7.66	11.09	8.69	0.52	14.48 <56>	4.96 <56>	11.78	8.54	6827	0.75	0.26
3/10/2021 9:22	39.06	57.93	30.26	6.53	9.68	7.04	0.59	14.83 <56>	4.71 <56>	11.94	8.83	6488	0.87	0.28
3/10/2021 9:23	45.44	65.75	35.82	7.69	11.13	8.43	0.53	14.47 <56>	4.80 <56>	12.4	8.53	6603	0.77	0.25
3/10/2021 9:24	35.2	51.65	27.2	8.23	12.08	8.85	0.56	14.67 <56>	4.70 <56>	11.76	8.7	6472	0.82	0.26
3/10/2021 9:25	35.27	55.19	24.68	7.56	11.83	7.36	0.51	15.65 <56>	4.26 <56>	10.95	9.46	5861	0.80	0.22
3/10/2021 9:26	30.9	47.11	22.12	6.68	10.19	6.65	0.48	15.25 <56>	4.36 <56>	11.6	9.16	5996	0.73	0.21
3/10/2021 9:27	33.56	50.87	24.12	6.72	10.19	6.72	0.37	15.16 <56>	4.37 <56>	11.67	9.09	6020	0.56	0.16
3/10/2021 9:28	45.61	67.36	33.82	8.05	11.89	8.3	0.56	14.77 <56>	4.51 <56>	11.77	8.78	6210	0.83	0.25
3/10/2021 9:29	40.22	60.7	29.55	8.21	12.39	8.39	0.42	15.09 <56>	4.47 <56>	11.42	9.04	6155	0.63	0.19
3/10/2021 9:30	22.88	36.73	15.84	5.78	9.28	5.57	0.31	16.05 <56>	4.21 <56>	10.87	9.75	5798	0.50	0.13
3/10/2021 9:31	35.23	54.65	24.51	6.24	9.68	6.04	0.38	15.51 <56>	4.24 <56>	11.89	9.36	5828	0.59	0.16
3/10/2021 9:32	35.66	52.58	25.4	7.63	11.25	7.56	0.44	14.74 <56>	4.33 <56>	11.8	8.76	5965	0.65	0.19
3/10/2021 9:33	43.87	62.92	31.87	8.57	12.29	8.66	0.41	14.34 <56>	4.42 <56>	12.2	8.42	6084	0.59	0.18
3/10/2021 9:34	35.96	53.33	25.51	7.9	11.72	7.8	0.25	14.83 <56>	4.32 <56>	11.55	8.83	5942	0.37	0.11
3/10/2021 9:35	30.34	46.86	21.31	6.67	10.3	6.52	0.27	15.44 <56>	4.27 <56>	11.25	9.31	5882	0.42	0.12
3/10/2021 9:36	28.71	45.44	19.42	6.02	9.53	5.66	0.34	15.83 <56>	4.12 <56>	11.37	9.59	5665	0.54	0.14
3/10/2021 9:37	35.7	53.08	26.02	7.36	10.94	7.46	0.36	14.87 <56>	4.44 <56>	11.92	8.86	6104	0.54	0.16
3/10/2021 9:38	30.94	46.62	22.75	7.07	10.65	7.23	0.41	15.07 <56>	4.48 <56>	11.38	9.02	6160	0.62	0.18
3/10/2021 9:39	27.72	44.11	19.58	5.6	8.91	5.5	0.32	15.91 <56>	4.30 <56>	10.91	9.65	5916	0.51	0.14
3/10/2021 9:40	24.22	39.59	16.49	5.02	8.21	4.76	0.24	16.35 <56>	4.14 <56>	10.86	9.95	5703	0.39	0.10
3/10/2021 9:41	41.27	62.39	30.58	6.6	9.98	6.8	0.22	15.12 <56>	4.51 <56>	11.76	9.06	6206	0.33	0.10
3/10/2021 9:42	34.58	52.72	25.05	6.52	9.94	6.57	0.18	15.25 <56>	4.41 <56>	11.63	9.16	6068	0.27	0.08
3/10/2021 9:43	36.93	57.18	26.71	6.3	9.76	6.34	0.19	15.48 <56>	4.40 <56>	11.08	9.34	6057	0.29	0.08
3/10/2021 9:44	36.38	57.58	24.93	5.68	8.99	5.41	0.1	15.83 <56>	4.17 <56>	11.27	9.59	5739	0.16	0.04
3/10/2021 9:45	45.37	67.28	32.6	6.88	10.2	6.88	0.31	14.83 <56>	4.37 <56>	11.92	8.83	6018	0.46	0.14
3/10/2021 9:46	41.59	61.17	30.24	7.08	10.41	7.16	0.24	14.71 <56>	4.43 <56>	11.89	8.73	6090	0.35	0.11
3/10/2021 9:47	29.53	46.41	20.03	5.78	9.08	5.46	0.15	15.72 <56>	4.13 <56>	10.88	9.51	5682	0.24	0.06
3/10/2021 9:48	32.02	50.95	21.35	5.09	8.1	4.72	0.13	15.91 <56>	4.06 <56>	11.24	9.65	5585	0.21	0.05
3/10/2021 9:49	37.57	57.87	25.46	5.64	8.69	5.32	0.26	15.40 <56>	4.12 <56>	11.59	9.28	5676	0.40	0.11
3/10/2021 9:50	50.68	73.4	36.81	7.83	11.34	7.91	0.27	14.48 <56>	4.42 <56>	12.18	8.54	6083	0.39	0.12
3/10/2021 9:51	44.84	66.11	32.71	8.09	11.93	8.21	0.06	14.74 <56>	4.44 <56>	11.55	8.76	6110	0.09	0.03
3/10/2021 9:52	27.85	43.54	19.2	6.06	9.47	5.81	0	15.63 <56>	4.20 <56>	11.12	9.45	5774	0.00	0.00
3/10/2021 9:53	27.18	42.71	18.81	6.09	9.57	5.87	0.1	15.72 <56>	4.21 <56>	11.27	9.51	5798	0.16	0.04
3/10/2021 9:54	37.68	57.6	26.36	7.21	11.02	7.02	0.18	15.29 <56>	4.26 <56>	11.81	9.19	5859	0.28	0.08
3/10/2021 9:55	51.72	75.33	37.84	10.18	14.83	10.36	0.18	14.56 <56>	4.45 <56>	12.14	8.61	6128	0.26	0.08
3/10/2021 9:56	50.9	74.32	37.79	10.52	15.36	10.87	0.12	14.60 <56>	4.52 <56>	11.67	8.64	6219	0.18	0.05
3/10/2021 9:57	40.72	62.84	29.32	8.18	12.62	8.2	0.12	15.43 <56>	4.38 <56>	11	9.3	6032	0.19	0.05
3/10/2021 9:58	29.97	47.73	20.33	6.11	9.73	5.77	0.08	15.93 <56>	4.13 <56>	11.42	9.66	5681	0.13	0.03
3/10/2021 9:59	32.1	48.45	23.19	7.22	10.9	7.26	0.24	15.09 <56>	4.40 <56>	11.66	9.04	6050	0.36	0.11
3/10/2021 10:00	23.57	37.57	16.02	6.2	9.88	5.86	0.07	15.94 <56>	4.14 <56>	10.55	9.67	5692	0.11	0.03
3/10/2021 10:01	35.18	55.38	22.58	6.19	9.75	5.53	0.05	15.74 <56>	3.91 <56>	11.78	9.53	5376	0.08	0.02
3/10/2021 10:02	48.94	70.36	34.69	10.03	14.42	9.89	0.14	14.38 <56>	4.32 <56>	11.97	8.45	5938	0.20	0.06
3/10/2021 10:03	42.39	63.55	28.1	8.88	13.31	8.19	0.03	14.99 <56>	4.03 <56>	11.82	8.96	5552	0.04	0.01
3/10/2021 10:04	48.7	70.99	33.38	9.68	14.11	9.23	0.04	14.58 <56>	4.17 <56>	12.13	8.62	5742	0.06	0.02
3/10/2021 10:05	28.9	45.3	18.65	7.67	12.02	6.88	0	15.67 <56>	3.93 <56>	10.45	9.48	5404	0.00	0.00
3/10/2021 10:06	34.14	54.08	21.33	6.69	10.6	5.81	0.03	15.84 <56>	3.80 <56>	11.6	9.6	5232	0.05	0.01
3/10/2021 10:07	38.85	57.57	25.71	8.56	12.68	7.88	0.13	14.82 <56>	4.03 <56>	12.11	8.82	5544	0.19	0.05
3/10/2021 10:08	43.79	64.41	30.03	9.7	14.27	9.26	0.02	14.71 <56>	4.17 <56>	11.59	8.73	5745	0.03	0.01

Average	**36.10**	**54.64**	**25.93**	**6.94**	**10.52**	**6.92**	**0.32**		**11.52**	**9.15**	**5988.87**	**0.48**	**0.14**

Flow	kdscfh	5988.87
O2	% dry	9.15
CO2	% dry	11.52
NOx	ppm dry	36.10
NOx	ppm @ 3% O2	54.64
NOx	lb/hr	25.93
SO2	ppm dry	6.94
SO2	ppm @ 3% O2	10.52
SO2	lb/hr	6.92
CO	ppm dry	0.32
CO	ppm @ 3% O2	0.48
CO	lb/hr	0.14

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		
3/10/2021 10:35	25.41	40.32	15.63	8.5	13.49	7.27	0.98	15.87 <56>	3.74 <56>	11.32	9.62	5152	1.56	0.37
3/10/2021 10:36	43.17	63.81	29.17	11.05	16.33	10.39	1.02	14.78 <56>	4.11 <56>	11.92	8.79	5660	1.51	0.42
3/10/2021 10:37	30.97	48.5	20.41	8.62	13.5	7.91	0.97	15.66 <56>	4.01 <56>	10.72	9.47	5521	1.52	0.39
3/10/2021 10:38	21.15	35.28	12.99	6.08	10.14	5.19	0.89	16.68 <56>	3.74 <56>	10.6	10.17	5143	1.48	0.33
3/10/2021 10:39	38.82	59.49	26.29	7.94	12.17	7.48	0.97	15.33 <56>	4.12 <56>	11.83	9.22	5673	1.49	0.40
3/10/2021 10:40	34.09	51.89	22.05	7.78	11.84	7	0.91	15.22 <56>	3.94 <56>	11.85	9.14	5419	1.39	0.36
3/10/2021 10:41	59.85	82.16	43.14	13.59	18.65	13.63	1.08	13.73 <56>	4.39 <56>	13.06	7.86	6037	1.48	0.47
3/10/2021 10:42	50.46	70.68	34.93	13.07	18.31	12.59	1	14.01 <56>	4.21 <56>	12.06	8.12	5799	1.40	0.42
3/10/2021 10:43	51.47	74.12	33.98	11.39	16.4	10.46	0.93	14.40 <56>	4.02 <56>	12.33	8.47	5530	1.34	0.37
3/10/2021 10:44	56.37	78.46	37.97	15.7	21.85	14.71	1.06	13.92 <56>	4.10 <56>	12.96	8.04	5642	1.48	0.43
3/10/2021 10:45	45.22	63.89	30.57	13.98	19.75	13.15	1.02	14.13 <56>	4.12 <56>	11.86	8.23	5663	1.44	0.42
3/10/2021 10:46	35.11	51.68	22.86	9.87	14.53	8.94	0.97	14.72 <56>	3.96 <56>	11.77	8.74	5454	1.43	0.38
3/10/2021 10:47	29.7	44.86	19.22	8.3	12.54	7.47	0.91	15.11 <56>	3.94 <56>	11.5	9.05	5420	1.37	0.36
3/10/2021 10:48	37.42	57.45	24.45	8.17	12.54	7.43	1.02	15.35 <56>	3.98 <56>	11.31	9.24	5474	1.57	0.41
3/10/2021 10:49	30.63	47.39	18.99	6.76	10.46	5.83	1.04	15.47 <56>	3.77 <56>	11.74	9.33	5194	1.61	0.39
3/10/2021 10:50	38.22	55.94	25.08	8.15	11.93	7.44	0.97	14.64 <56>	3.99 <56>	11.94	8.67	5497	1.42	0.39
3/10/2021 10:51	39.99	58.96	26.11	8.71	12.84	7.91	1.01	14.74 <56>	3.97 <56>	11.78	8.76	5468	1.49	0.40
3/10/2021 10:52	33.84	52.08	21.37	7.69	11.84	6.76	0.8	15.39 <56>	3.84 <56>	11.03	9.27	5289	1.23	0.31
3/10/2021 10:53	33.63	53.84	19.93	6.64	10.63	5.47	0.87	16.01 <56>	3.61 <56>	11.08	9.72	4963	1.39	0.31
3/10/2021 10:54	33.57	51.71	20.85	6.97	10.74	6.02	0.97	15.40 <56>	3.78 <56>	11.46	9.28	5202	1.49	0.37
3/10/2021 10:55	27.15	42.41	16.17	5.82	9.09	4.82	0.99	15.62 <56>	3.62 <56>	11.31	9.44	4988	1.55	0.36
3/10/2021 10:56	38.23	58.49	23.19	6.71	10.27	5.66	0.78	15.30 <56>	3.69 <56>	11.47	9.2	5081	1.19	0.29
3/10/2021 10:57	41.72	63.77	25.35	6.88	10.52	5.82	0.89	15.29 <56>	3.70 <56>	11.47	9.19	5089	1.36	0.33
3/10/2021 10:58	42.59	64.94	26.65	7.47	11.39	6.5	0.78	15.25 <56>	3.81 <56>	11.38	9.16	5241	1.19	0.30
3/10/2021 10:59	40.11	62.38	25.05	6.56	10.2	5.7	0.78	15.55 <56>	3.80 <56>	11.25	9.39	5232	1.21	0.30
3/10/2021 11:00	30.93	49.3	19.21	5.06	8.07	4.37	0.85	15.94 <56>	3.78 <56>	11.07	9.67	5202	1.35	0.32
3/10/2021 11:01	38.81	60.73	23.82	5.21	8.15	4.45	0.73	15.65 <56>	3.74 <56>	11.46	9.46	5141	1.14	0.27
3/10/2021 11:02	49.26	74.1	31.5	7.68	11.55	6.83	0.74	15.04 <56>	3.89 <56>	11.57	9	5356	1.11	0.29
3/10/2021 11:03	42.47	65.48	26.98	6.9	10.64	6.1	0.7	15.42 <56>	3.87 <56>	11.17	9.29	5321	1.08	0.27
3/10/2021 11:04	41.65	67.04	25.66	5.74	9.24	4.92	0.73	16.10 <56>	3.75 <56>	10.96	9.78	5160	1.18	0.27
3/10/2021 11:05	40.94	64.79	24.82	6.31	9.99	5.32	0.72	15.83 <56>	3.69 <56>	11.27	9.59	5078	1.14	0.27
3/10/2021 11:06	50.83	74.58	32.14	7.4	10.86	6.51	0.77	14.67 <56>	3.85 <56>	12.23	8.7	5297	1.13	0.30
3/10/2021 11:07	53.9	77.25	34.56	8.53	12.22	7.61	0.88	14.33 <56>	3.90 <56>	12.11	8.41	5370	1.26	0.34
3/10/2021 11:08	51.38	74.23	31.87	8.62	12.45	7.44	0.73	14.45 <56>	3.78 <56>	12.2	8.51	5196	1.05	0.28
3/10/2021 11:09	51.65	74.14	31.57	9.47	13.59	8.05	0.73	14.35 <56>	3.72 <56>	12.32	8.43	5120	1.05	0.27
3/10/2021 11:10	56.41	78.34	35.17	11.3	15.69	9.8	0.81	13.89 <56>	3.79 <56>	12.71	8.01	5222	1.12	0.31
3/10/2021 11:11	56.11	78.04	34.14	12.02	16.72	10.17	0.7	13.91 <56>	3.70 <56>	12.53	8.03	5096	0.97	0.26
3/10/2021 11:12	53.53	75.99	31.66	12.51	17.76	10.29	0.74	14.20 <56>	3.60 <56>	11.94	8.29	4954	1.05	0.27
3/10/2021 11:13	48.8	72.85	26.64	9.73	14.53	7.39	0.65	14.93 <56>	3.32 <56>	11.8	8.91	4573	0.97	0.22
3/10/2021 11:14	31.71	47.62	17.1	7.69	11.55	5.77	0.6	15.02 <56>	3.28 <56>	11.6	8.98	4518	0.90	0.20
3/10/2021 11:15	35.74	55.15	19.87	7.48	11.54	5.79	0.49	15.43 <56>	3.38 <56>	10.92	9.3	4657	0.76	0.17
3/10/2021 11:16	28.52	45.54	14.75	5.79	9.25	4.17	0.56	15.97 <56>	3.15 <56>	11.67	9.69	4333	0.89	0.18
3/10/2021 11:17	45.22	64.19	25.83	8.73	12.39	6.94	0.75	14.20 <56>	3.48 <56>	12.72	8.29	4785	1.06	0.26
3/10/2021 11:18	47.57	65.8	28.15	10.24	14.17	8.43	0.7	13.83 <56>	3.60 <56>	12.26	7.96	4956	0.97	0.25
3/10/2021 11:19	45.82	66.25	26.16	8.79	12.71	6.98	0.72	14.46 <56>	3.48 <56>	11.88	8.52	4782	1.04	0.25
3/10/2021 11:20	36.84	55.88	20.46	7.3	11.07	5.64	0.7	15.17 <56>	3.38 <56>	11.5	9.1	4651	1.06	0.24
3/10/2021 11:21	34.11	53	19.83	6.35	9.87	5.14	0.57	15.54 <56>	3.54 <56>	10.99	9.38	4870	0.89	0.20
3/10/2021 11:22	22.67	37.75	12.35	4.31	7.18	3.27	0.36	16.65 <56>	3.32 <56>	10.75	10.15	4562	0.60	0.12
3/10/2021 11:23	36.93	56.79	20.99	5.09	7.83	4.03	0.69	15.38 <56>	3.46 <56>	11.77	9.26	4761	1.06	0.24
3/10/2021 11:24	50.17	73.73	30.33	7.03	10.33	5.91	0.59	14.70 <56>	3.68 <56>	11.75	8.72	5064	0.87	0.22
3/10/2021 11:25	40.16	62.35	22.63	5.97	9.27	4.68	0.56	15.52 <56>	3.43 <56>	11.09	9.37	4719	0.87	0.19
3/10/2021 11:26	43.09	66.38	24.42	5.39	8.3	4.25	0.57	15.40 <56>	3.45 <56>	11.41	9.28	4746	0.88	0.20
3/10/2021 11:27	52.74	78.21	30.01	7.03	10.43	5.57	0.63	14.83 <56>	3.46 <56>	12.24	8.83	4766	0.93	0.22
3/10/2021 11:28	51.76	74.96	29.67	8.38	12.14	6.68	0.63	14.48 <56>	3.49 <56>	11.9	8.54	4802	0.91	0.22
3/10/2021 11:29	51.06	74.43	27.85	8.38	12.22	6.36	0.59	14.58 <56>	3.32 <56>	12.4	8.62	4568	0.86	0.20
3/10/2021 11:30	55.47	78.24	31.21	10.72	15.12	8.39	0.56	14.11 <56>	3.42 <56>	12.37	8.21	4713	0.79	0.19
3/10/2021 11:31	49.26	72.27	27.51	9.65	14.16	7.5	0.33	14.67 <56>	3.40 <56>	11.44	8.7	4678	0.48	0.11
3/10/2021 11:32	39.94	63.04	21.08	6.74	10.64	4.95	0.46	15.78 <56>	3.21 <56>	11.11	9.56	4421	0.73	0.15
3/10/2021 11:33	35.09	56.48	18.63	5.96	9.59	4.4	0.42	16.10 <56>	3.23 <56>	10.77	9.78	4446	0.68	0.14
3/10/2021 11:34	34.46	55.12	19.05	5.97	9.55	4.59	0.5	16.00 <56>	3.37 <56>	10.94	9.71	4631	0.80	0.17

Average	**41.56**	**62.08**	**25.33**	**8.20**	**12.21**	**7.00**	**0.77**		**11.66**	**8.99**	**5089.10**	**1.15**	**0.29**

Flow	kdscfh	5089.10
O2	% dry	8.99
CO2	% dry	11.66
NOx	ppm dry	41.56
NOx	ppm @ 3% O2	62.08
NOx	lb/hr	25.33
SO2	ppm dry	8.20
SO2	ppm @ 3% O2	12.21
SO2	lb/hr	7.00
CO	ppm dry	0.77
CO	ppm @ 3% O2	1.15
CO	lb/hr	0.29

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		
3/10/2021 11:55	41.88	63.58	24.43	8.8	13.36	7.14	0.45	15.18 <56>	3.55 <56>	11.78	9.11	4887	0.68	0.16
3/10/2021 11:56	57.48	81.53	34.55	12.42	17.62	10.39	0.64	14.18 <56>	3.66 <56>	12.57	8.28	5035	0.91	0.23
3/10/2021 11:57	62.07	84.62	38.96	17.31	23.6	15.12	0.66	13.63 <56>	3.82 <56>	12.65	7.77	5257	0.90	0.25
3/10/2021 11:58	53.73	74.9	30.92	14.36	20.02	11.5	0.58	13.94 <56>	3.50 <56>	12.84	8.06	4820	0.81	0.20
3/10/2021 11:59	43.05	60.58	26.23	14.53	20.45	12.32	0.58	14.07 <56>	3.71 <56>	11.72	8.18	5104	0.82	0.22
3/10/2021 12:00	29.78	47.09	15.63	8.86	14.01	6.47	0.31	15.81 <56>	3.19 <56>	11.14	9.58	4395	0.49	0.10
3/10/2021 12:01	31.87	48.68	17.12	8.9	13.59	6.65	0.32	15.27 <56>	3.27 <56>	11.61	9.18	4500	0.49	0.10
3/10/2021 12:02	44.65	65.24	24.17	11.77	17.2	8.87	0.28	14.61 <56>	3.30 <56>	12.23	8.65	4535	0.41	0.09
3/10/2021 12:03	48.41	68.34	27.46	13.64	19.26	10.76	0.43	14.12 <56>	3.45 <56>	12.31	8.22	4751	0.61	0.15
3/10/2021 12:04	41.01	60.97	21.82	10.37	15.42	7.68	0.23	14.87 <56>	3.24 <56>	11.53	8.86	4456	0.34	0.07
3/10/2021 12:05	43.13	64.6	23.31	10.15	15.2	7.63	0.39	14.98 <56>	3.29 <56>	11.86	8.95	4527	0.58	0.13
3/10/2021 12:06	44.44	66.29	24.11	11.12	16.59	8.39	0.29	14.92 <56>	3.30 <56>	11.89	8.9	4545	0.43	0.10
3/10/2021 12:07	50.91	72.38	28.93	12.68	18.03	10.03	0.4	14.22 <56>	3.46 <56>	12.4	8.31	4760	0.57	0.14
3/10/2021 12:08	52.8	75.55	31	12.97	18.56	10.59	0.37	14.31 <56>	3.57 <56>	11.73	8.39	4917	0.53	0.13
3/10/2021 12:09	41.99	65.7	22.25	9.22	14.43	6.8	0.16	15.65 <56>	3.23 <56>	11.24	9.46	4439	0.25	0.05
3/10/2021 12:10	49.68	76.07	27.27	10.33	15.82	7.89	0.33	15.31 <56>	3.34 <56>	11.56	9.21	4597	0.51	0.11
3/10/2021 12:11	47.61	71.68	26.85	10.25	15.43	8.04	0.28	15.05 <56>	3.43 <56>	11.73	9.01	4723	0.42	0.10
3/10/2021 12:12	45.91	68.77	26.13	9.72	14.56	7.7	0.36	14.98 <56>	3.46 <56>	11.64	8.95	4767	0.54	0.12
3/10/2021 12:13	53.29	78.9	30.44	10.09	14.94	8.02	0.43	14.81 <56>	3.48 <56>	11.99	8.81	4784	0.64	0.15
3/10/2021 12:14	50.76	75.22	28.92	10.24	15.17	8.12	0.19	14.82 <56>	3.47 <56>	11.75	8.82	4773	0.28	0.07
3/10/2021 12:15	45.44	69.34	25.13	8.97	13.69	6.9	0.18	15.26 <56>	3.37 <56>	11.29	9.17	4633	0.27	0.06
3/10/2021 12:16	45.54	70.21	24.36	8.43	13	6.27	0.11	15.42 <56>	3.26 <56>	11.48	9.29	4481	0.17	0.04
3/10/2021 12:17	44.29	66.73	24.4	8.54	12.87	6.55	0.22	15.07 <56>	3.35 <56>	11.63	9.02	4614	0.33	0.07
3/10/2021 12:18	41.28	62.67	22.39	8.15	12.37	6.15	0.2	15.18 <56>	3.30 <56>	11.48	9.11	4544	0.30	0.07
3/10/2021 12:19	50.02	74.37	27.51	9.23	13.72	7.06	0.14	14.87 <56>	3.35 <56>	11.89	8.86	4607	0.21	0.05
3/10/2021 12:20	44.59	67.3	23.7	9.23	13.93	6.83	0.12	15.09 <56>	3.24 <56>	11.61	9.04	4452	0.18	0.04
3/10/2021 12:21	42.36	65.59	22.26	7.94	12.29	5.81	0.11	15.48 <56>	3.20 <56>	11.06	9.34	4402	0.17	0.04
3/10/2021 12:22	40.06	63.85	20.84	6.72	10.71	4.86	0.14	15.94 <56>	3.17 <56>	10.79	9.67	4358	0.22	0.04
3/10/2021 12:23	34.3	55.66	17.41	5.56	9.02	3.93	0.01	16.23 <56>	3.09 <56>	11.13	9.87	4252	0.02	0.00
3/10/2021 12:24	35.89	55.24	19.4	6.33	9.74	4.76	0.26	15.39 <56>	3.29 <56>	11.43	9.27	4528	0.40	0.09
Average	**45.27**	**67.39**	**25.26**	**10.23**	**15.15**	**7.97**	**0.31**			**11.73**	**8.91**	**4648.10**	**0.45**	**0.11**

Flow	kdscfh	4648.10
O2	% dry	8.91
CO2	% dry	11.73
NOx	ppm dry	45.27
NOx	ppm @ 3% O2	67.39
NOx	lb/hr	25.26
SO2	ppm dry	10.23
SO2	ppm @ 3% O2	15.15
SO2	lb/hr	7.97
CO	ppm dry	0.31
CO	ppm @ 3% O2	0.45
CO	lb/hr	0.11

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		
3/10/2021 13:15	41.3	65.31	20.59	8.17	12.92	5.67	0.12	15.81 <56>	3.03 <56>	11.61	9.58	4175	0.19	0.04
3/10/2021 13:16	61.44	87.56	33.65	15.97	22.76	12.17	0.24	14.25 <56>	3.33 <56>	12.44	8.34	4588	0.34	0.08
3/10/2021 13:17	64.08	91.4	35.15	15.78	22.51	12.04	0.29	14.26 <56>	3.34 <56>	11.88	8.35	4595	0.41	0.10
3/10/2021 13:18	56	82.71	29.1	13.04	19.26	9.43	0.14	14.77 <56>	3.16 <56>	11.86	8.78	4352	0.21	0.04
3/10/2021 13:19	58.47	85.23	30.39	12.77	18.61	9.23	0.25	14.58 <56>	3.16 <56>	12.24	8.62	4353	0.36	0.08
3/10/2021 13:20	51.15	76.3	27.96	12.5	18.65	9.51	0.23	14.92 <56>	3.33 <56>	10.86	8.9	4579	0.34	0.08
3/10/2021 13:21	43.65	72.21	20.92	9.04	14.96	6.03	0.13	16.54 <56>	2.92 <56>	11.13	10.08	4015	0.22	0.04
3/10/2021 13:22	47.38	71.03	24.8	10.39	15.58	7.57	0.2	14.99 <56>	3.19 <56>	11.88	8.96	4385	0.30	0.06
3/10/2021 13:23	49.5	73.11	26.59	10.98	16.22	8.21	0.18	14.77 <56>	3.27 <56>	11.8	8.78	4500	0.27	0.06
3/10/2021 13:24	40.03	61.72	20.19	9.82	15.14	6.89	0.2	15.42 <56>	3.07 <56>	11.06	9.29	4225	0.31	0.06
3/10/2021 13:25	59.37	87.61	31.24	12.39	18.28	9.07	0.23	14.76 <56>	3.20 <56>	12.08	8.77	4408	0.34	0.07
3/10/2021 13:26	45.51	69.33	23.91	10.93	16.65	7.99	0.12	15.23 <56>	3.20 <56>	11.11	9.15	4400	0.18	0.04
3/10/2021 13:27	40.56	64.54	20.75	8.52	13.56	6.06	0.11	15.91 <56>	3.11 <56>	11	9.65	4285	0.18	0.03
3/10/2021 13:28	42.83	68.03	21.7	8.37	13.29	5.9	0.18	15.88 <56>	3.08 <56>	11.2	9.63	4244	0.29	0.06
3/10/2021 13:29	57.03	83.54	30.39	12.41	18.18	9.2	0.24	14.65 <56>	3.24 <56>	12.35	8.68	4463	0.35	0.08
3/10/2021 13:30	69.6	96.35	39.59	16.74	23.17	13.25	0.26	13.84 <56>	3.46 <56>	12.54	7.97	4764	0.36	0.09
3/10/2021 13:31	59.49	83.98	33.22	14.69	20.74	11.41	0.2	14.12 <56>	3.40 <56>	12.21	8.22	4678	0.28	0.07
3/10/2021 13:32	44.74	66.74	24.32	11.21	16.72	8.48	0.06	14.92 <56>	3.31 <56>	11.41	8.9	4554	0.09	0.02
3/10/2021 13:33	40.3	62.73	21.29	9.93	15.46	7.3	0.14	15.57 <56>	3.22 <56>	11.19	9.4	4425	0.22	0.05
3/10/2021 13:34	37.05	58.23	20.03	9.31	14.63	7	0.2	15.72 <56>	3.29 <56>	10.93	9.51	4529	0.31	0.07
3/10/2021 13:35	43.63	70.23	23	8.74	14.07	6.41	0.15	16.10 <56>	3.21 <56>	11	9.78	4415	0.24	0.05
3/10/2021 13:36	44.66	70.43	24.16	8.9	14.04	6.7	0.18	15.77 <56>	3.29 <56>	11.02	9.55	4532	0.28	0.06
3/10/2021 13:37	42.12	66.9	22.84	8.81	13.99	6.65	0.18	15.88 <56>	3.30 <56>	10.95	9.63	4542	0.29	0.06
3/10/2021 13:38	44.29	69.18	23.18	8.65	13.51	6.3	0.33	15.62 <56>	3.19 <56>	11.76	9.44	4384	0.52	0.11
3/10/2021 13:39	51.39	75.15	28.52	11.28	16.5	8.71	0.27	14.62 <56>	3.38 <56>	11.85	8.66	4649	0.39	0.09
3/10/2021 13:40	53.2	77.86	29.65	11.85	17.34	9.19	0.14	14.64 <56>	3.39 <56>	11.63	8.67	4669	0.20	0.05
3/10/2021 13:41	48.07	75.94	24.81	9.85	15.56	7.07	0.1	15.80 <56>	3.14 <56>	10.95	9.57	4323	0.16	0.03
3/10/2021 13:42	46.31	72.97	23.68	8.97	14.13	6.38	0.17	15.76 <56>	3.11 <56>	11.18	9.54	4283	0.27	0.05
3/10/2021 13:43	48.92	73.96	25.81	10.25	15.5	7.53	0.25	15.12 <56>	3.21 <56>	11.85	9.06	4420	0.38	0.08
3/10/2021 13:44	46.06	70.23	24.76	9.48	14.45	7.09	0.18	15.25 <56>	3.27 <56>	11.32	9.16	4502	0.27	0.06
Average	**49.27**	**74.35**	**26.21**	**10.99**	**16.55**	**8.15**	**0.19**			**11.54**	**9.09**	**4441.20**	**0.29**	**0.06**

Flow	kdscfh	4441.20
O2	% dry	9.09
CO2	% dry	11.54
NOx	ppm dry	49.27
NOx	ppm @ 3% O2	74.35
NOx	lb/hr	26.21
SO2	ppm dry	10.99
SO2	ppm @ 3% O2	16.55
SO2	lb/hr	8.15
CO	ppm dry	0.19
CO	ppm @ 3% O2	0.29
CO	lb/hr	0.06

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		
3/10/2021 14:05	50.55	78	28.7	10.16	15.68	8.02	0.08	15.43 <56>	3.46 <56>	11.82	9.3	4755	0.12	0.03
3/10/2021 14:06	59	85.38	37.15	13.47	19.49	11.8	0.25	14.47 <56>	3.83 <56>	11.95	8.53	5274	0.36	0.10
3/10/2021 14:07	52.09	78.35	31	11.56	17.39	9.57	0.2	15.04 <56>	3.62 <56>	11.51	9	4985	0.30	0.07
3/10/2021 14:08	51.27	75.72	31.8	11.77	17.38	10.16	0.23	14.77 <56>	3.78 <56>	11.93	8.78	5195	0.34	0.09
3/10/2021 14:09	55.03	79.89	34.1	12.9	18.73	11.12	0.06	14.52 <56>	3.77 <56>	12.2	8.57	5191	0.09	0.02
3/10/2021 14:10	56.58	79.37	37.51	15.17	21.28	13.99	0.33	14.03 <56>	4.04 <56>	12.16	8.14	5553	0.46	0.13
3/10/2021 14:11	32.85	50.82	20.01	9.94	15.38	8.42	0.03	15.47 <56>	3.71 <56>	10.97	9.33	5101	0.05	0.01
3/10/2021 14:12	31.09	49.25	19.85	9.31	14.75	8.27	0.21	15.84 <56>	3.89 <56>	11.03	9.6	5349	0.33	0.08
3/10/2021 14:13	25.65	39.96	17.18	9.48	14.77	8.83	0.26	15.58 <56>	4.08 <56>	11.31	9.41	5609	0.41	0.11
3/10/2021 14:14	23.02	35.71	15.76	9.18	14.24	8.74	0.22	15.51 <56>	4.17 <56>	11.25	9.36	5734	0.34	0.09
3/10/2021 14:15	20.63	32.62	14.01	8.19	12.95	7.74	0.12	15.81 <56>	4.13 <56>	11.07	9.58	5687	0.19	0.05
3/10/2021 14:16	30.96	48.57	21.33	9.27	14.54	8.88	0.16	15.69 <56>	4.19 <56>	11.45	9.49	5770	0.25	0.07
3/10/2021 14:17	29.47	45.59	21.2	9.7	15.01	9.71	0.12	15.47 <56>	4.38 <56>	11.03	9.33	6025	0.19	0.05
3/10/2021 14:18	24.33	39.74	16.95	7.9	12.9	7.66	0.03	16.33 <56>	4.24 <56>	10.35	9.94	5837	0.05	0.01
3/10/2021 14:19	29.89	48.38	20.82	7.95	12.87	7.7	0.04	16.18 <56>	4.24 <56>	11.41	9.84	5834	0.06	0.02
3/10/2021 14:20	36.21	55.54	27.21	9.09	13.94	9.5	0.13	15.34 <56>	4.57 <56>	11.25	9.23	6294	0.20	0.06
3/10/2021 14:21	37.44	58.28	27.26	8.63	13.43	8.74	0.21	15.57 <56>	4.43 <56>	11.34	9.4	6098	0.33	0.09
3/10/2021 14:22	37.65	57.6	28.29	9.47	14.49	9.9	0.13	15.30 <56>	4.57 <56>	11.32	9.2	6294	0.20	0.06
3/10/2021 14:23	45.57	70.68	33.59	10.48	16.26	10.75	0.11	15.51 <56>	4.49 <56>	11.22	9.36	6174	0.17	0.05
3/10/2021 14:24	49.97	74.85	36.68	10.5	15.73	10.72	0.16	14.98 <56>	4.47 <56>	12.2	8.95	6148	0.24	0.07
3/10/2021 14:25	35.72	53.37	26.5	10.22	15.27	10.55	0.22	14.94 <56>	4.52 <56>	11.28	8.92	6214	0.33	0.10
3/10/2021 14:26	33.3	51.39	23.12	9.23	14.24	8.92	0.2	15.43 <56>	4.23 <56>	11.41	9.3	5816	0.31	0.08
3/10/2021 14:27	29.26	45.11	20.52	8.67	13.37	8.46	0.32	15.42 <56>	4.27 <56>	11.11	9.29	5873	0.49	
3/10/2021 14:28	34.52	54.3	22.91	8.26	12.99	7.63	0.1	15.73 <56>	4.04 <56>	11.42	9.52	5559	0.16	
3/10/2021 14:29	36.17	53.95	25.17	9.24	13.78	8.94	0.12	14.92 <56>	4.24 <56>	11.64	8.9	5828	0.18	0.05
3/10/2021 14:30	42.77	64.23	29.04	9.19	13.8	8.68	0.16	15.02 <56>	4.13 <56>	11.63	8.98	5688	0.24	0.07
3/10/2021 14:31	37.74	56.44	24.61	8.56	12.8	7.76	0.07	14.95 <56>	3.97 <56>	11.87	8.93	5461	0.10	0.03
3/10/2021 14:32	42.61	62.11	28.9	10.16	14.81	9.59	0.2	14.58 <56>	4.13 <56>	11.66	8.62	5682	0.29	0.08
3/10/2021 14:33	36.06	55.55	21.9	8.02	12.35	6.78	0.01	15.40 <56>	3.70 <56>	11.57	9.28	5086	0.02	
3/10/2021 14:34	50.79	73.97	31.8	11.14	16.23	9.71	0.23	14.56 <56>	3.81 <56>	12.16	8.61	5245	0.33	
Average	**38.61**	**58.49**	**25.83**	**9.89**	**15.03**	**9.24**	**0.16**			**11.48**	**9.16**	**5645.30**	**0.24**	**0.06**

Flow	kdscfh	5645.30
O2	% dry	9.16
CO2	% dry	11.48
NOx	ppm dry	38.61
NOx	ppm @ 3% O2	58.49
NOx	lb/hr	25.83
SO2	ppm dry	9.89
SO2	ppm @ 3% O2	15.03
SO2	lb/hr	9.24
CO	ppm dry	0.16
CO	ppm @ 3% O2	0.24
CO	lb/hr	0.06

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		
3/10/2021 14:57	43.86	67.97	23.09	7.04	10.91	5.16	0.13	15.50 <56>	3.20 <56>	11.68	9.35	4409	0.20	0.04
3/10/2021 14:58	47.27	71.22	25.57	8.64	13.02	6.5	0.23	15.07 <56>	3.29 <56>	11.32	9.02	4531	0.35	0.08
3/10/2021 14:59	49.04	73.64	26.18	8.38	12.58	6.22	0.1	15.02 <56>	3.25 <56>	11.75	8.98	4471	0.15	0.03
3/10/2021 15:00	63.19	89.49	34.27	11.58	16.4	8.74	0.39	14.16 <56>	3.30 <56>	12.61	8.26	4543	0.55	0.13
3/10/2021 15:01	61.81	86.51	33.92	12.09	16.92	9.23	0.39	14.00 <56>	3.34 <56>	12.25	8.11	4597	0.55	0.13
3/10/2021 15:02	44.1	66.78	22.36	9.11	13.8	6.43	0.04	15.14 <56>	3.09 <56>	11.09	9.08	4247	0.06	0.01
3/10/2021 15:03	40.62	64.17	19.63	7.65	12.09	5.14	0.13	15.80 <56>	2.94 <56>	11.18	9.57	4047	0.21	0.04
3/10/2021 15:04	37.18	58.79	17.95	7.42	11.73	4.98	0.16	15.81 <56>	2.94 <56>	10.94	9.58	4043	0.25	0.05
3/10/2021 15:05	41.31	63.97	20.53	7.33	11.35	5.07	0.12	15.48 <56>	3.03 <56>	11.43	9.34	4163	0.19	0.04
3/10/2021 15:06	43	66.07	22.02	7.09	10.89	5.05	0.09	15.36 <56>	3.12 <56>	11.41	9.25	4290	0.14	0.03
3/10/2021 15:07	45.34	68.66	22.51	8.1	12.27	5.59	0.1	15.14 <56>	3.02 <56>	11.67	9.08	4158	0.15	0.03
3/10/2021 15:08	51.13	75.76	26.13	9.06	13.43	6.44	0.1	14.82 <56>	3.11 <56>	11.58	8.82	4281	0.15	0.03
3/10/2021 15:09	49.06	73.67	24.63	8.78	13.18	6.13	0.14	15.02 <56>	3.06 <56>	11.73	8.98	4205	0.21	0.04
3/10/2021 15:10	48.3	73.39	24.22	8.89	13.51	6.2	0.07	15.20 <56>	3.05 <56>	11.38	9.12	4200	0.11	0.02
3/10/2021 15:11	49.35	74.55	26.22	8.63	13.04	6.38	0.21	15.11 <56>	3.23 <56>	11.44	9.05	4451	0.32	0.07
3/10/2021 15:12	49.32	75.07	25.65	8.49	12.92	6.14	0.05	15.22 <56>	3.17 <56>	11.75	9.14	4357	0.08	0.02
3/10/2021 15:13	58.5	84.18	31.68	10.71	15.41	8.07	0.21	14.39 <56>	3.30 <56>	12.26	8.46	4536	0.30	0.07
3/10/2021 15:14	57.65	82.82	32.5	11.88	17.07	9.32	0.18	14.37 <56>	3.43 <56>	11.75	8.44	4722	0.26	0.06
3/10/2021 15:15	44.96	69.98	22.69	8.07	12.56	5.67	0.12	15.57 <56>	3.07 <56>	11.3	9.4	4228	0.19	0.04
3/10/2021 15:16	56.39	83.77	29.55	9.78	14.53	7.13	0.1	14.85 <56>	3.19 <56>	11.8	8.85	4390	0.15	0.03
3/10/2021 15:17	58.86	84.97	30.32	11.33	16.36	8.12	0.26	14.44 <56>	3.14 <56>	12.34	8.5	4314	0.38	0.08
3/10/2021 15:18	61.09	86.86	33.78	13.39	19.04	10.3	0.21	14.22 <56>	3.37 <56>	11.72	8.31	4631	0.30	0.07
3/10/2021 15:19	38.8	61.19	18.85	8.32	13.12	5.62	0.1	15.77 <56>	2.96 <56>	11	9.55	4070	0.16	0.03
3/10/2021 15:20	40.44	62.19	19.45	8.52	13.1	5.7	0.18	15.38 <56>	2.93 <56>	11.54	9.26	4028	0.28	0.05
3/10/2021 15:21	53.38	78.71	26.91	11.06	16.31	7.76	0.17	14.74 <56>	3.07 <56>	11.81	8.76	4223	0.25	0.05
3/10/2021 15:22	43.38	68.29	20.48	8.67	13.65	5.7	0.08	15.74 <56>	2.87 <56>	10.94	9.53	3955	0.13	0.02
3/10/2021 15:23	46.39	73.23	22.52	8.34	13.16	5.63	0	15.78 <56>	2.95 <56>	11.07	9.56	4066	0.00	0.00
3/10/2021 15:24	44.18	70.93	20.87	7.88	12.65	5.18	0.05	16.05 <56>	2.88 <56>	11.02	9.75	3957	0.08	0.01
3/10/2021 15:25	41.37	63.78	20.4	8.87	13.68	6.08	0.05	15.42 <56>	3.00 <56>	11.25	9.29	4130	0.08	0.02
3/10/2021 15:26	42.42	66.61	20.67	8.07	12.67	5.47	0.01	15.70 <56>	2.97 <56>	10.95	9.5	4082	0.02	0.00
Average	**48.39**	**72.91**	**24.85**	**9.11**	**13.71**	**6.51**	**0.14**			**11.53**	**9.06**	**4277.50**	**0.21**	**0.04**

Flow	kdscfh	4277.50
O2	% dry	9.06
CO2	% dry	11.53
NOx	ppm dry	48.39
NOx	ppm @ 3% O2	72.91
NOx	lb/hr	24.85
SO2	ppm dry	9.11
SO2	ppm @ 3% O2	13.71
SO2	lb/hr	6.51
CO	ppm dry	0.14
CO	ppm @ 3% O2	0.21
CO	lb/hr	0.04

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		
3/10/2021 15:49	53.15	80.35	25.62	12.54	18.96	8.41	0.1	15.12 <56>	2.93 <56>	12.22	9.06	4037	0.15	0.03
3/10/2021 15:50	62.77	89.46	30.84	16.19	23.07	11.07	0.14	14.25 <56>	2.99 <56>	12.04	8.34	4115	0.20	0.04
3/10/2021 15:51	69.43	98.79	34.71	16.87	24	11.73	0.09	14.23 <56>	3.04 <56>	12.04	8.32	4187	0.13	0.03
3/10/2021 15:52	51.1	78.25	23.18	11.54	17.67	7.28	0.03	15.31 <56>	2.76 <56>	11.25	9.21	3800	0.05	0.01
3/10/2021 15:53	50	76.17	22.76	11.78	17.95	7.46	0.13	15.23 <56>	2.77 <56>	11.38	9.15	3813	0.20	0.04
3/10/2021 15:54	45.52	70.55	21.08	10.77	16.69	6.94	0.11	15.50 <56>	2.82 <56>	11.06	9.35	3878	0.17	0.03
3/10/2021 15:55	43.64	70.44	19.33	9.52	15.37	5.87	0	16.14 <56>	2.70 <56>	10.87	9.81	3711	0.00	0.00
3/10/2021 15:56	46.62	73.14	22.1	9.39	14.73	6.19	0	15.69 <56>	2.89 <56>	11.18	9.49	3970	0.00	0.00
3/10/2021 15:57	52.56	80.97	25.28	10.14	15.62	6.79	0.03	15.40 <56>	2.93 <56>	11.37	9.28	4029	0.05	0.01
3/10/2021 15:58	61.53	92.01	30.05	11.71	17.51	7.96	0.15	14.95 <56>	2.97 <56>	11.87	8.93	4091	0.22	0.04
3/10/2021 15:59	56.17	84.28	28	11.94	17.92	8.28	0.09	15.00 <56>	3.03 <56>	11.31	8.97	4175	0.14	0.03
3/10/2021 16:00	51.12	79.71	24.25	10.04	15.65	6.63	0.09	15.59 <56>	2.89 <56>	11.27	9.42	3974	0.14	0.03
3/10/2021 16:01	52.93	82.89	25.49	10.48	16.41	7.02	0	15.66 <56>	2.93 <56>	11.05	9.47	4034	0.00	0.00
3/10/2021 16:02	57.28	90.66	27.01	10.66	16.87	6.99	0.02	15.83 <56>	2.87 <56>	11.19	9.59	3949	0.03	0.01
3/10/2021 16:03	64.2	96.98	32.51	13.8	20.85	9.72	0.02	15.11 <56>	3.08 <56>	11.46	9.05	4242	0.03	0.01
3/10/2021 16:04	60.21	91.34	30.72	13.46	20.42	9.55	0.13	15.17 <56>	3.11 <56>	11.59	9.1	4273	0.20	0.04
3/10/2021 16:05	51.58	78.18	26.29	11.92	18.07	8.45	0.13	15.16 <56>	3.10 <56>	11.4	9.09	4270	0.20	0.04
3/10/2021 16:06	60.27	88.94	31.35	13.58	20.04	9.83	0.35	14.76 <56>	3.17 <56>	12.15	8.77	4357	0.52	0.11
3/10/2021 16:07	62.83	92.34	33.71	14.82	21.78	11.06	0.19	14.70 <56>	3.27 <56>	11.39	8.72	4494	0.28	0.06
3/10/2021 16:08	46.41	76.92	22.27	9.62	15.94	6.42	0.01	16.57 <56>	2.92 <56>	10.11	10.1	4019	0.02	0.00
3/10/2021 16:09	46.58	76.35	23.02	9.11	14.93	6.26	0.07	16.39 <56>	3.01 <56>	11.08	9.98	4140	0.11	0.02
3/10/2021 16:10	49.71	79.45	24.64	9.48	15.15	6.54	0.04	15.98 <56>	3.02 <56>	10.96	9.7	4152	0.06	0.01
3/10/2021 16:11	51.23	78.44	26.37	10.41	15.94	7.46	0.16	15.31 <56>	3.13 <56>	11.65	9.21	4312	0.24	0.05
3/10/2021 16:12	59.11	87.81	32.07	13.51	20.07	10.2	0.12	14.85 <56>	3.30 <56>	11.52	8.85	4545	0.18	0.04
3/10/2021 16:13	45.96	72.17	23.16	10.72	16.83	7.51	0	15.70 <56>	3.07 <56>	10.86	9.5	4220	0.00	0.00
3/10/2021 16:14	50.97	79.06	24.99	10.63	16.49	7.25	0.13	15.51 <56>	2.98 <56>	11.56	9.36	4107	0.20	0.04
3/10/2021 16:15	59.41	88.4	31.03	14.26	21.22	10.36	0.15	14.88 <56>	3.18 <56>	11.66	8.87	4375	0.22	0.05
3/10/2021 16:16	43.66	68.43	21.85	10.95	17.16	7.62	0.01	15.67 <56>	3.05 <56>	10.96	9.48	4192	0.02	0.00
3/10/2021 16:17	47.36	75.22	23.18	10.51	16.69	7.16	0.04	15.88 <56>	2.98 <56>	11.05	9.63	4100	0.06	0.01
3/10/2021 16:18	61.57	92.85	30.98	13.98	21.08	9.79	0.15	15.08 <56>	3.06 <56>	11.72	9.03	4214	0.23	0.05
Average	**53.83**	**82.35**	**26.59**	**11.81**	**18.04**	**8.13**	**0.09**			**11.37**	**9.23**	**4125.83**	**0.13**	**0.03**

Flow	kdscfh	4125.83
O2	% dry	9.23
CO2	% dry	11.37
NOx	ppm dry	53.83
NOx	ppm @ 3% O2	82.35
NOx	lb/hr	26.59
SO2	ppm dry	11.81
SO2	ppm @ 3% O2	18.04
SO2	lb/hr	8.13
CO	ppm dry	0.09
CO	ppm @ 3% O2	0.13
CO	lb/hr	0.03

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		
3/10/2021 16:37	64.62	87.5	35.88	17.83	24.14	13.77	0.25	13.54 <56>	3.38 <56>	12.33	7.68	4651	0.34	0.08
3/10/2021 16:38	62.25	88.5	30.79	14.74	20.96	10.14	0.27	14.22 <56>	3.01 <56>	12.5	8.31	4143	0.38	0.08
3/10/2021 16:39	69.04	93.2	35.86	19.18	25.89	13.86	0.25	13.50 <56>	3.16 <56>	13	7.64	4351	0.34	0.08
3/10/2021 16:40	58.57	80.4	29.49	15.59	21.4	10.92	0.34	13.73 <56>	3.07 <56>	12.31	7.86	4218	0.47	0.10
3/10/2021 16:41	47.84	69.9	22.5	12.11	17.7	7.93	0.19	14.61 <56>	2.86 <56>	11.94	8.65	3940	0.28	0.05
3/10/2021 16:42	42.39	62.71	20.31	10.94	16.18	7.29	0.05	14.79 <56>	2.92 <56>	11.55	8.8	4014	0.07	0.01
3/10/2021 16:43	39.79	61.08	18.16	9.47	14.54	6.01	0	15.35 <56>	2.78 <56>	11.41	9.24	3823	0.00	0.00
3/10/2021 16:44	48.24	72.38	23.45	10.53	15.8	7.12	0.06	15.00 <56>	2.96 <56>	11.46	8.97	4071	0.09	0.02
3/10/2021 16:45	34.7	54.34	16.53	8.72	13.66	5.78	0.05	15.66 <56>	2.90 <56>	11.13	9.47	3991	0.08	0.01
3/10/2021 16:46	45.54	70.15	21.52	9.28	14.3	6.1	0.02	15.40 <56>	2.88 <56>	11.61	9.28	3958	0.03	0.01
3/10/2021 16:47	45.89	68.8	23.55	10.43	15.64	7.45	0	14.99 <56>	3.12 <56>	11.25	8.96	4298	0.00	0.00
3/10/2021 16:48	52.52	80.01	25.9	10.29	15.68	7.06	0.03	15.23 <56>	3.00 <56>	11.9	9.15	4130	0.05	0.01
3/10/2021 16:49	50.67	76.09	26.67	10.91	16.38	7.99	0.01	15.02 <56>	3.20 <56>	11.21	8.98	4409	0.02	0.00
3/10/2021 16:50	38.01	60.8	18.68	8.3	13.28	5.67	0	16.00 <56>	2.99 <56>	10.8	9.71	4116	0.00	0.00
3/10/2021 16:51	42.05	67.26	21.06	8.25	13.2	5.75	0.03	16.00 <56>	3.05 <56>	11.1	9.71	4195	0.05	0.01
3/10/2021 16:52	50.09	76.96	25.37	9.59	14.73	6.76	0.08	15.36 <56>	3.08 <56>	11.6	9.25	4242	0.12	0.02
3/10/2021 16:53	48.37	73.07	26.07	10.19	15.39	7.64	0.01	15.11 <56>	3.28 <56>	11.21	9.05	4514	0.02	0.00
3/10/2021 16:54	42.94	69.62	21.89	7.87	12.76	5.58	0	16.21 <56>	3.10 <56>	10.79	9.86	4270	0.00	0.00
3/10/2021 16:55	41.42	67.22	21.34	8.29	13.45	5.94	0.03	16.23 <56>	3.14 <56>	10.46	9.87	4315	0.05	0.01
3/10/2021 16:56	47.96	76.04	23.95	7.79	12.35	5.41	0.13	15.85 <56>	3.04 <56>	11.71	9.61	4183	0.21	0.04
3/10/2021 16:57	62.32	90.18	33.45	12.72	18.41	9.5	0.19	14.47 <56>	3.27 <56>	12.27	8.53	4496	0.27	0.06
3/10/2021 16:58	67.7	96.02	36.89	15.03	21.32	11.39	0.19	14.18 <56>	3.32 <56>	12.13	8.28	4564	0.27	0.06
3/10/2021 16:59	55.8	82.07	29.38	13.36	19.65	9.79	0.04	14.71 <56>	3.20 <56>	11.55	8.73	4410	0.06	0.01
3/10/2021 17:00	54.44	81.82	27.08	12.34	18.55	8.54	0	15.03 <56>	3.03 <56>	11.88	8.99	4167	0.00	0.00
3/10/2021 17:01	57.72	85.39	29.18	14.54	21.51	10.23	0.02	14.79 <56>	3.08 <56>	11.65	8.8	4234	0.03	0.01
3/10/2021 17:02	56.23	83.95	28.2	13.59	20.29	9.48	0.06	14.93 <56>	3.05 <56>	11.53	8.91	4201	0.09	0.02
3/10/2021 17:03	46.37	71.99	22.6	11.1	17.23	7.53	0	15.52 <56>	2.97 <56>	11.17	9.37	4082	0.00	0.00
3/10/2021 17:04	49.17	76.87	23.83	10.46	16.35	7.05	0	15.63 <56>	2.95 <56>	11.17	9.45	4059	0.00	0.00
3/10/2021 17:05	57.02	87.09	28.79	10.53	16.08	7.4	0.02	15.27 <56>	3.07 <56>	11.64	9.18	4229	0.03	0.01
3/10/2021 17:06	48.82	75.08	23.98	10.38	15.96	7.09	0.09	15.38 <56>	2.99 <56>	11.35	9.26	4114	0.14	0.03
Average	**50.95**	**76.22**	**25.75**	**11.48**	**17.09**	**8.07**	**0.08**			**11.59**	**8.99**	**4212.93**	**0.12**	**0.02**

Flow	kdscfh	4212.93
O2	% dry	8.99
CO2	% dry	11.59
NOx	ppm dry	50.95
NOx	ppm @ 3% O2	76.22
NOx	lb/hr	25.75
SO2	ppm dry	11.48
SO2	ppm @ 3% O2	17.09
SO2	lb/hr	8.07
CO	ppm dry	0.08
CO	ppm @ 3% O2	0.12
CO	lb/hr	0.02

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		
3/10/2021 17:35	59.59	90.4	30.04	13.2	20.02	9.26	0	15.17 <56>	3.07 <56>	11.21	9.1	4222	0.00	0.00
3/10/2021 17:36	46.54	76.08	21.97	9.69	15.84	6.36	0	16.35 <56>	2.87 <56>	10.62	9.95	3954	0.00	0.00
3/10/2021 17:37	38	64.29	17.81	7.72	13.06	5.03	0	16.92 <56>	2.85 <56>	10.13	10.32	3926	0.00	0.00
3/10/2021 17:38	43.55	71.72	20.64	7.7	12.68	5.08	0	16.47 <56>	2.88 <56>	10.92	10.03	3969	0.00	0.00
3/10/2021 17:39	56.04	87.08	28.7	10.18	15.82	7.25	0	15.54 <56>	3.12 <56>	11.23	9.38	4290	0.00	0.00
3/10/2021 17:40	46.27	74.75	22.44	8.28	13.38	5.59	0	16.16 <56>	2.95 <56>	10.85	9.82	4062	0.00	0.00
3/10/2021 17:41	60.72	94.02	30.25	9.9	15.33	6.86	0	15.48 <56>	3.03 <56>	11.61	9.34	4173	0.00	0.00
3/10/2021 17:42	59.53	89.85	30.52	10.73	16.19	7.65	0.06	15.09 <56>	3.12 <56>	11.48	9.04	4294	0.09	0.02
3/10/2021 17:43	56.76	87.06	28.25	10.64	16.32	7.37	0.06	15.34 <56>	3.03 <56>	11.46	9.23	4169	0.09	0.02
3/10/2021 17:44	68.42	100.22	35.05	14.3	20.95	10.19	0.21	14.65 <56>	3.12 <56>	12.09	8.68	4291	0.31	0.07
3/10/2021 17:45	60.08	88.95	30	13.27	19.65	9.22	0.16	14.81 <56>	3.04 <56>	11.37	8.81	4183	0.24	0.05
3/10/2021 17:46	58.43	89.24	27.76	12.01	18.34	7.94	0.01	15.27 <56>	2.89 <56>	11.76	9.18	3980	0.02	0.00
3/10/2021 17:47	50.66	78.31	24.33	11.9	18.39	7.95	0.08	15.46 <56>	2.92 <56>	10.75	9.32	4022	0.12	0.02
3/10/2021 17:48	49.68	80.4	22.17	9.83	15.91	6.1	0	16.18 <56>	2.72 <56>	10.92	9.84	3738	0.00	0.00
3/10/2021 17:49	52.54	81.78	24.67	11.3	17.59	7.38	0	15.57 <56>	2.86 <56>	11.49	9.4	3933	0.00	0.00
3/10/2021 17:50	50.32	80.06	24.22	9.99	15.9	6.69	0.01	15.91 <56>	2.93 <56>	10.4	9.65	4031	0.02	0.00
3/10/2021 17:51	54.17	87.28	24.72	9.88	15.92	6.27	0	16.11 <56>	2.78 <56>	11.69	9.79	3822	0.00	0.00
3/10/2021 17:52	62.54	90.5	31.55	14.49	20.97	10.17	0.06	14.47 <56>	3.07 <56>	12.09	8.53	4226	0.09	0.02
3/10/2021 17:53	61.55	90.38	30.85	13.47	19.78	9.39	0	14.68 <56>	3.05 <56>	11.69	8.71	4198	0.00	0.00
3/10/2021 17:54	56.72	86.41	27.28	11.99	18.27	8.02	0.03	15.23 <56>	2.93 <56>	11.51	9.15	4029	0.05	0.01
3/10/2021 17:55	51.56	80.11	25.18	11.14	17.31	7.57	0	15.54 <56>	2.97 <56>	10.8	9.38	4091	0.00	0.00
3/10/2021 17:56	50.32	81.88	23.15	9.74	15.85	6.24	0	16.27 <56>	2.80 <56>	11.09	9.9	3854	0.00	0.00
3/10/2021 17:57	58.71	88.76	28.72	11.98	18.11	8.15	0.01	15.12 <56>	2.98 <56>	11.72	9.06	4097	0.02	0.00
3/10/2021 17:58	58.54	89.18	29.34	12.51	19.06	8.72	0.08	15.23 <56>	3.05 <56>	11.14	9.15	4198	0.12	0.02
3/10/2021 17:59	49.97	79.79	24.55	10.23	16.34	6.99	0.11	15.97 <56>	2.99 <56>	10.8	9.69	4115	0.18	0.03
3/10/2021 18:00	44.64	72.64	21.38	8.89	14.47	5.92	0.37	16.27 <56>	2.91 <56>	10.94	9.9	4011	0.60	0.11
3/10/2021 18:01	59.33	89.55	29.79	11.85	17.88	8.28	0.46	15.09 <56>	3.06 <56>	11.85	9.04	4205	0.69	0.14
3/10/2021 18:02	55.61	85.3	26.83	12.02	18.44	8.07	0.33	15.34 <56>	2.94 <56>	11.01	9.23	4041	0.51	0.10
3/10/2021 18:03	51.01	79.33	24.29	11.53	17.93	7.64	0.26	15.55 <56>	2.90 <56>	11.3	9.39	3988	0.40	0.08
3/10/2021 18:04	50.59	81.36	23.6	9.9	15.92	6.42	0.29	16.08 <56>	2.84 <56>	10.69	9.77	3907	0.47	0.08
Average	**54.08**	**83.89**	**26.34**	**11.01**	**17.05**	**7.46**	**0.09**			**11.22**	**9.39**	**4067.30**	**0.13**	**0.03**

Flow	kdscfh	4067.30
O2	% dry	9.39
CO2	% dry	11.22
NOx	ppm dry	54.08
NOx	ppm @ 3% O2	83.89
NOx	lb/hr	26.34
SO2	ppm dry	11.01
SO2	ppm @ 3% O2	17.05
SO2	lb/hr	7.46
CO	ppm dry	0.09
CO	ppm @ 3% O2	0.13
CO	lb/hr	0.03

Appendix B.1.2
Unit 1 Plant Process Data

6:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	35.543	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	23.789	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	749.875	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.879	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	198.205	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	202.766	LBS/HR
EX-MW	GENERATOR MW GROSS	47.506	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	949.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	689.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	1129.315	LBS/HR

5:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	19.000	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	22.338	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	811.217	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	124.749	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	193.504	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	202.010	LBS/HR
EX-MW	GENERATOR MW GROSS	47.376	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	894.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	652.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	829.165	LBS/HR

4:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	25.447	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	23.211	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	302.954	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.503	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	193.294	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	200.427	LBS/HR
EX-MW	GENERATOR MW GROSS	46.868	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	837.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	625.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	1684.171	LBS/HR

3:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	30.665	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	26.068	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	421.883	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.094	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	204.040	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	207.794	LBS/HR
EX-MW	GENERATOR MW GROSS	48.791	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	783.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	604.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	468.867	LBS/HR

2:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	14.972	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	23.206	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	638.458	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.848	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	197.986	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	204.414	LBS/HR
EX-MW	GENERATOR MW GROSS	47.795	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	716.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	566.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	657.664	LBS/HR

1:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	20.042	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	26.388	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	486.859	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	124.749	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	195.519	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	205.213	LBS/HR
EX-MW	GENERATOR MW GROSS	47.588	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	677.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	534.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	630.315	LBS/HR

12:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	28.693	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	27.375	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	893.841	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.126	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	201.610	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	201.543	LBS/HR
EX-MW	GENERATOR MW GROSS	48.222	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	604.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	467.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	955.239	LBS/HR

11:00 AM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	26.381	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	25.116	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	1080.371	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.094	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	203.080	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	202.347	LBS/HR
EX-MW	GENERATOR MW GROSS	48.189	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	551.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	421.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	665.166	LBS/HR

10:00 AM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	25.408	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	25.720	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	647.059	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.503	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	192.742	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	206.341	LBS/HR
EX-MW	GENERATOR MW GROSS	47.636	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	505.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	379.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	862.716	LBS/HR

9:00 AM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	38.638	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	25.107	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	915.123	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	124.749	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	203.657	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	201.963	LBS/HR
EX-MW	GENERATOR MW GROSS	48.335	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	438.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	316.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	983.996	LBS/HR

8:00 AM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	31.182	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	17.828	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	1316.976	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.094	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	197.492	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	204.202	LBS/HR
EX-MW	GENERATOR MW GROSS	48.010	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	384.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	272.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	1697.924	LBS/HR

7:00 AM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	21.943	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	21.917	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	1727.159	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.094	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	194.655	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	203.458	LBS/HR
EX-MW	GENERATOR MW GROSS	47.604	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	337.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	246.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	1708.354	LBS/HR

Operator Window #4: Graphic 910 (Recall 4 of 6)

Window Select Redraw Zoom ?

BOILER #1 FUEL FEED

9J-910

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	298
O2 CORRECTED	322
BIOMASS	325
MINIMUM REQUIRED BIOMASS	243
GAS	-2
BTU FACTOR C	2600

FIC-1250A

BLR1 WOOD MASTER

AUTO N LOCAL 1

1000 648 0 647 SP

OUT 67 % A C M

FIC-1206

BLR1 PET COKE

MANUAL L LOCAL 1

340.0 0.0 0.0 0.0 SP

OUT 0.0 % SPTR A M

FIC-1207A

BLR1 GAS LANCE

MANUAL N LOCAL 1

132 0 0 0 SP

OUT 10 % SPTR A C M

PERCENT TO A SIDE 50 % C

	A	B
MMBTU LIMIT C	500.0 307.2	500.0 307.2
PERCENT TO ABC C / PERCENT TO GHI C	50.0 %	50.0 %

	ABC C	DEF C	GHI C	JKL C
MMBTU LIMIT	250 154	250 154	250 154	250 154
	75.7 %	73.5 %	75.1 %	74.7 %

Operator Window #4: Graphic 910 (Recall 4 of 6)

Window Select Redraw Zoom ?

BOILER #1 FUEL FEED

9J-910

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	303
O2 CORRECTED	300
BIOMASS	295
MINIMUM REQUIRED BIOMASS	223
GAS	1
BTU FACTOR C	2600

FIC-1250A

BLR1 WOOD MASTER

AUTO N LOCAL 1

1000 589 0 591

SP

OUT 62 %

A C M

FIC-1206

BLR1 PET COKE

MANUAL L LOCAL 1

340.0 0.0 0.0 0.0

SP

OUT 0.0 % SPTR

A M

FIC-1207A

BLR1 GAS LANCE

MANUAL N LOCAL 1

132 0 0 0

SP

OUT 10 % SPTR

A C M

PERCENT TO A SIDE 50 % C

	A	B
MMBTU LIMIT C	500.0 280.5	500.0 280.5
PERCENT TO ABC / GHI C	50.0 %	50.0 %
MMBTU LIMIT	ABC C 250 141 / C DEF 250 141	GHI C 250 141 / C JKL 250 141
	ABC C 68.9 % / C DEF 66.5 %	GHI C 68.3 % / C JKL 65.0 %

3-10-21 1600

Operator Window #4: Graphic 910 (Recall 4 of 6)

Window Select Redraw Zoom ?

BOILER #1 FUEL FEED

9J-910

AREA1 AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	297
O2 CORRECTED	366
BIOMASS	360
MINIMUM REQUIRED BIOMASS	269
GAS	-1
BTU FACTOR C	2600

FIC-1250A

BLR1 WOOD MASTER

AUTO N LOCAL 1

1000 716 0 717 SP

OUT 75 % A C M

PERCENT TO A SIDE 50 % C

FIC-1206

BLR1 PET COKE

MANUAL L LOCAL 1

340.0 0.0 0.0 0.0 SP

OUT 0.0 % SPTR A M

FIC-1207A

BLR1 GAS LANCE

MANUAL N LOCAL 1

132 0 0 0 SP

OUT 10 % SPTR A C M

	A	B
MMBTU LIMIT C	500.0 343.2	500.0 343.2
PERCENT TO ABC / GHI C	50.0 %	50.0 %

MMBTU LIMIT	ABC C	DEF C	GHI C	JKL C
	250	250	250	250
	171	171	171	171
	83.4 %	81.3 %	83.1 %	82.4 %

Operator Window #4: Graphic 910 (Recall 1 of 3)

3-10-21 1500

Window Select Redraw Zoom ?

BOILER #1 FUEL FEED

9J-910

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	306
O2 CORRECTED	358
BIOMASS	355
MINIMUM REQUIRED BIOMASS	257
GAS	2
BTU FACTOR C	2600

FIC-1250A

BLR1 WOOD MASTER

AUTO N LOCAL 1

1000 705 0 714 SP

OUT 75 % A C M

PERCENT TO A SIDE 50 % C

FIC-1206

BLR1 PET COKE

MANUAL L LOCAL 1

340.0 0.0 0.0 0.0 SP

OUT 0.0 % SPTR A M

FIC-1207A

BLR1 GAS LANCE

MANUAL N LOCAL 1

132 0 0 0 SP

OUT 10 % SPTR A C M

	A	B
MMBTU LIMIT C	500.0 341.9	500.0 341.9
PERCENT TO ABC / GHI C	50.0 %	50.0 %
MMBTU LIMIT	ABC C 250 172 / C DEF 250 172	GHI C 250 172 / C JKL 250 172
	ABC C 82.5 % / C DEF 80.5 %	GHI C 82.1 % / C JKL 81.9 %

Operator Window #4: Graphic 910 (Recall 1 of 3)

Window Select Redraw Zoom ?

2-19-21 1900

BOILER #1 FUEL FEED

9J-910

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	305
O2 CORRECTED	302
BIOMASS	304
MINIMUM REQUIRED BIOMASS	227
GAS	3
BTU FACTOR C	2000

FIC-1250A

BLR1 WOOD MASTER

N 1 AUTO LOCAL

1000 617 0 614 SP

OUT 64 % A C M

PERCENT TO A SIDE 50 % C

FIC-1206

BLR1 PET COKE

L 1 MANUAL LOCAL

340.0 0.0 0.0 0.0 SP

OUT 0.0 % SPTR A M

FIC-1207A

BLR1 GAS LANCE

N 1 MANUAL LOCAL

132 0 0 0 SP

OUT 10 % SPTR A C M

A

MMBTU LIMIT C 500.0 292.4

PERCENT TO ABC C 50.0 %

MMBTU LIMIT ABC C 250 146 | C DEF 250 146

ABC C 72.1 % | C DEF 69.8 %

B

MMBTU LIMIT C 500.0 292.4

PERCENT TO GHI C 50.0 %

MMBTU LIMIT GHI C 250 146 | C JKL 250 146

GHI C 71.6 % | C JKL 71.1 %

3-10-21 1300

Operator Window #4: Graphic 910 (Recall 1 of 3)

Window Select Redraw Zoom ?

BOILER #1 FUEL FEED

9J-910

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	300
O2 CORRECTED	315
BIOMASS	314
MINIMUM REQUIRED BIOMASS	237
GAS	-0
BTU FACTOR C	2600

FIC-1250A

BLR1 WOOD MASTER

AUTO N LOCAL 1

1000 635 0 629 SP

OUT 65 % A C M

PERCENT TO A SIDE 50 % C

FIC-1206

BLR1 PET COKE

MANUAL L LOCAL 1

340.0 0.0 0.0 0.0 SP

OUT 0.0 % SPTR A M

FIC-1207A

BLR1 GAS LANCE

MANUAL N LOCAL 1

132 0 0 0 SP

OUT 10 % SPTR A C M

	A	B
MMBTU LIMIT C	500.0 301.4	500.0 301.4
PERCENT TO ABC / GHI C	50.0 %	50.0 %
MMBTU LIMIT	ABC C 250 150 / DEF C 250 150	GHI C 250 150 / JKL C 250 150
	ABC C 74.1 % / DEF C 71.8 %	GHI C 73.7 % / JKL C 73.0 %

3-10-21 1200

Operator Window #4: Graphic 910 (Recall 1 of 3)

Window Select Redraw Zoom ?

BOILER #1 FUEL FEED

9J-910

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	305
O2 CORRECTED	293
BIOMASS	295
MINIMUM REQUIRED BIOMASS	220
GAS	-1
BTU FACTOR C	2600

FIC-1250A

BLR1 WOOD MASTER

AUTO N LOCAL 1

1000 585 587 0 SP

OUT 61 % A C M

PERCENT TO A SIDE 50 % C

FIC-1206

BLR1 PET COKE

MANUAL L LOCAL 1

340.0 0.0 0.0 0.0 SP

OUT 0.0 % SPTR A M

FIC-1207A

BLR1 GAS LANCE

MANUAL N LOCAL 1

132 0 0 0 SP

OUT 10 % SPTR A C M

	A	B
MMBTU LIMIT C	500.0 279.3	500.0 279.3
PERCENT TO ABC / GHI C	50.0 %	50.0 %
MMBTU LIMIT	ABC C 250 140 / C DEF 250 140	GHI C 250 140 / C JKL 250 140
	ABC C 69.7 % / C DEF 66.3 %	GHI C 68.0 % / C JKL 67.6 %

Operator Window #4: Graphic 910

3-10-21 1100

Window Select Redraw Zoom ?

BOILER #1 FUEL FEED

9J-910

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	295
O2 CORRECTED	338
BIOMASS	338
MINIMUM REQUIRED BIOMASS	255
GAS	3
BTU FACTOR C	2600

FIC-1250A

BLR1 WOOD MASTER

AUTO N LOCAL 1

1000 660 0 674 SP

OUT 71 % A C M

PERCENT TO A SIDE 50 % C

FIC-1206

BLR1 PET COKE

MANUAL L LOCAL 1

340.0 0.0 0.0 0.0 SP

OUT 0.0 % SPTR A M

FIC-1207A

BLR1 GAS LANCE

MANUAL N LOCAL 1

132 0 0 0 SP

OUT 10 % SPTR A C M

	A	B
MMBTU LIMIT C	500.0 323.6	500.0 323.6
PERCENT TO ABC / GHI C	50.0 %	50.0 %

	ABC C	C DEF	GHI C	C JKL
MMBTU LIMIT	250 163	250 163	250 163	250 163
	ABC C 77.5 %	C DEF 75.3 %	GHI C 77.0 %	C JKL 76.8 %

Operator Window #4: Graphic 910

3-10-21 1000

Window Select Redraw Zoom ?

BOILER #1 FUEL FEED

9J-910

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	300
O2 CORRECTED	332
BIOMASS	330
MINIMUM REQUIRED	
BIOMASS	247
GAS	-3
BTU FACTOR C	2600

FIC-1250A

BLR1 WOOD MASTER

AUTO N LOCAL 1

1000 654 0 654 SP

OUT 68 % A C M

PERCENT TO A SIDE 50 % C

FIC-1206

BLR1 PET COKE

MANUAL L LOCAL 1

340.0 0.0 0.0 0.0 SP

OUT 0.0 % SPTR A M

FIC-1207A

BLR1 GAS LANCE

MANUAL N LOCAL 1

132 0 0 0 SP

OUT 10 % SPTR A C M

	A	B
MMBTU LIMIT C	500.0 314.4	500.0 314.4
PERCENT TO ABC C	50.0 %	50.0 %
MMBTU LIMIT	ABC C 250 156 / C DEF 250 156	GHI C 250 156 / C JKL 250 156
	ABC C 76.2 % / C DEF 74.0 %	GHI C 75.7 % / C JKL 75.2 %

Operator Window #4: Graphic 910 (Recall 2 of 10)

3-10-21 0900

Window Select Redraw Zoom ?

BOILER #1 FUEL FEED

9J-910

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	303
O2 CORRECTED	323
BIOMASS	322
MINIMUM REQUIRED BIOMASS	241
GAS	-1
BTU FACTOR C	2600

FIC-1250A

BLR1 WOOD MASTER

AUTO N LOCAL 1

1000 647 0 645 SP

OUT 67 % A C M

PERCENT TO A SIDE 50 % C

FIC-1206

BLR1 PET COKE

MANUAL L LOCAL 1

340.0 0.0 0.0 0.0 SP

OUT 0.0 % SPTR A M

FIC-1207A

BLR1 GAS LANCE

MANUAL N LOCAL 1

132 0 0 0 SP

OUT 10 % SPTR A C M

	A	B
MMBTU LIMIT C	500.0 305.6	500.0 305.6
PERCENT TO ABC C / PERCENT TO GHI C	60.0 %	60.0 %
MMBTU LIMIT	ABC C 250 153 / C DEF 250 153	GHI C 250 153 / C JKL 250 153
	ABC C 75.4 % / C DEF 73.1 %	GHI C 74.9 % / C JKL 74.2 %

Operator Window #4: Graphic 910 (Recall 2 of 10)

3-15-21 0800

Window Select Redraw Zoom ?

BOILER #1 FUEL FEED

9J-910

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	393
O2 CORRECTED	349
BIOMASS	348
MINIMUM REQUIRED	
BIOMASS	264
GAS	-2
BTU FACTOR C	2600

FIC-1250A

BLR1 WOOD MASTER

AUTO N LOCAL 1

1000 703 0 698 SP

OUT 72 % A C M

PERCENT TO A SIDE 50 % C

FIC-1206

BLR1 PET COKE

MANUAL L LOCAL 1

340.0 0.0 0.0 0.0 SP

OUT 0.0 % SPTR A M

FIC-1207A

BLR1 GAS LANCE

MANUAL N LOCAL 1

132 0 0 0 SP

OUT 10 % SPTR A C M

	A	B
MMBTU LIMIT C	600.0 352.3	600.0 352.3
PERCENT TO ABC / GHI C	60.0 %	60.0 %
MMBTU LIMIT	ABC C 250 165	GHI C 250 165
	C DEF 250 165	C JKL 250 165
	ABC C 81.5 %	GHI C 81.2 %
	C DEF 79.5 %	C JKL 80.5 %

3-10-21 0700

Operator Window #4: Graphic 910

Window Select Redraw Zoom ?

BOILER #1 FUEL FEED

9J-910

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 140 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	296
O2 CORRECTED	303
BIOMASS	297
MINIMUM REQUIRED BIOMASS	227
GAS	0
BTU FACTOR C	2000

FIC-1250A

BLR1 WOOD MASTER

AUTO N 1 LOCAL

1000 600 0 602 SP

OUT 63 % A C M

PERCENT TO A SIDE 50 % C

FIC-1206

BLR1 PET COKE

MANUAL L 1 LOCAL

340.0 0.0 0.0 0.0 SP

OUT 0.0 % SPTR A M

FIC-1207A

BLR1 GAS LANCE

MANUAL N 1 LOCAL

132 0 0 0 SP

OUT 10 % SPTR A C M

	A	B
MMBTU LIMIT C	500.0 284.6	500.0 284.6
PERCENT TO ABC C / PERCENT TO GHI C	50.0 %	50.0 %
MMBTU LIMIT	ABC C 250 143 / DEF C 250 143	GHI C 250 143 / JKL C 250 143
	ABC C 70.1 % / DEF C 67.9 %	GHI C 69.5 % / JKL C 69.2 %

Operator Window #4: Graphic 101 (Recall 3 of 6)

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C 200.00

HS-1000B BOILER MASTER NET MW SETPOINT

C 43.93

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-1000
BLR1 MASTER
AUTO N LOCAL 1
300.00 / 201.46 / 0.00 — 200.00 KLB/HR
SP
OUT 45.72 %
A C M

FIC-1520
BLR1 AIR MASTER
AUTO N LOCAL 1
6000 / 3275 / 0 — 3279 KSCFH
SP
OUT 82 %
A C M

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1710.2 / 0.0 — 1702.3 KSCFH
SP
OUT 40.0 %
A C M

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1575.2 / 0.0 — 1571.0 KSCFH
SP
OUT 28.1 %
A C M

PIC-1420
BLR1 FURNACE PRESSURE
AUTO N LOCAL 1
15.00 / -2.72 / -15.00 — -2.65 IN H2O
SP
OUT 67.09 %
A C M

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO N LOCAL 1
25.00 / 6.05 / 0.00 — 6.30 %
SP
OUT 56.93 %
A C M

FIC-1250A
BLR1 WOOD MASTER
AUTO N LOCAL 1
1000 / 646 / 0 — 645
SP
OUT 67 %
A C M

FIC-1207A
BLR1 GAS LANCE
MANUAL N LOCAL 1
132 / 0 / 0 — 0
SP
OUT 10 % SPTR
A C M

FIC-1206
BLR1 PET COKE
MANUAL L LOCAL 1
340.0 / 0.0 / 0.0 — 0.0
SP
OUT 0.0 % SPTR
A M

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL N LOCAL 1
95.0 / 22.8 / 0.0 — 29.0 IN H2O
SP
OUT 60.0 %
A M

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO N LOCAL 1
100.0 / 75.5 / 0.0 — 70.0 %
SP
OUT 70.9 %
A M

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO N LOCAL 1
100.0 / 73.1 / 0.0 — 70.0 %
SP
OUT 70.9 %
A M

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO N LOCAL 1
100.0 / 74.9 / 0.0 — 70.0 %
SP
OUT 70.8 %
A M

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO N LOCAL 1
100.0 / 74.4 / 0.0 — 70.0 %
SP
OUT 70.8 %
A M

100.0 C HIC-1202 WOOD FEED%

0.0 C HIC-1206 PET COKE %

143.0 C HIC-1206HL PC HI LIMIT

2593.0 C HS-1200 BTU FACTOR AUTO / MANUAL

2600.0 C HIC-1201 BTU FACTOR

1559.2 TI-1405 COMB MID TEMP

1620.2 TI-1421 CYC #1 OUT TEMP

Operator Window #4: Graphic 101 (Recall 3 of 6)

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C

200.00

HS-1000B BOILER MASTER NET M.W. SETPOINT

C

44.29

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C

STM

HIC-1000
BLR1 MASTER
AUTO N LOCAL 1
300.00 202.51 0.00 200.00 KLB/HR
OUT 48.46 %

FIC-1520
BLR1 AIR MASTER
AUTO N LOCAL 1
6000 3330 0 3331 KSCFH
OUT 83 %

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 1723.7 0.0 1731.1 KSCFH
OUT 40.9 %

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 1598.8 0.0 1598.0 KSCFH
OUT 30.4 %

PIC-1420
BLR1 FURNACE PRESSURE
AUTO N LOCAL 1
15.00 -2.49 -15.00 -2.91 IN H2O
OUT 84.00 %

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO N LOCAL 1
25.00 5.35 0.00 6.10 %
OUT 51.21 %

FIC-1250A
BLR1 WOOD MASTER
AUTO N LOCAL 1
1000 611 0 613
OUT 64 %

FIC-1207A
BLR1 GAS LANCE
MANUAL N LOCAL 1
132 0 0 0
OUT 10 % SPTR

FIC-1206
BLR1 PET COKE
MANUAL L LOCAL 1
340.0 0.0 0.0 0.0
OUT 0.0 % SPTR

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL N LOCAL 1
95.0 31.6 0.0 29.0 IN H2O
OUT 60.0 %

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO N LOCAL 1
100.0 71.6 0.0 70.0 %
OUT 67.5 %

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO N LOCAL 1
100.0 69.1 0.0 70.0 %
OUT 67.5 %

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO N LOCAL 1
100.0 70.9 0.0 70.0 %
OUT 67.5 %

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO N LOCAL 1
100.0 70.8 0.0 70.0 %
OUT 67.5 %

101.0	C	HIC-1202 WOOD FEED%
0.0	C	HIC-1206 PET COKE %
140.6	C	HIC-1206HL PC HI LIMIT
2600.0	C	HS-1200 BTU FACTOR AUTO / MANUAL
2600.0	C	HIC-1201 BTU FACTOR
1542.4		TI-1405 COMB MID TEMP
1019.8		TI-1421 CYC #1 OUT TEMP

Operator Window #4: Graphic 101 (Recall 3 of 6)

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C

200.00

HS-1000B BOILER MASTER NET M.W. SETPOINT

C

43.01

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C

STM

HIC-1000
BLR1 MASTER
AUTO N LOCAL 1
300.00 / 199.19 / 0.00 — 200.00 KLB/HR
OUT 45.06 %

FIC-1520
BLR1 AIR MASTER
AUTO N LOCAL 1
6000 / 3261 / 0 — 3261 KSCFH
OUT 82 %

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1693.2 / 0.0 — 1696.7 KSCFH
OUT 39.8 %

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1591.5 / 0.0 — 1566.1 KSCFH
OUT 28.8 %

PIC-1420
BLR1 FURNACE PRESSURE
AUTO N LOCAL 1
15.00 / -2.07 / -15.00 — -2.75 IN H2O
OUT 67.21 %

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO N LOCAL 1
25.00 / 4.56 / 0.00 — 6.20 %
OUT 64.01 %

FIC-1250A
BLR1 WOOD MASTER
AUTO N LOCAL 1
1000 / 698 / 0 — 696
OUT 72 %

FIC-1207A
BLR1 GAS LANCE
MANUAL N LOCAL 1
132 / 0 / 0 — 0
OUT 10 % SPTR

FIC-1206
BLR1 PET COKE
MANUAL L LOCAL 1
340.0 / 0.0 / 0.0 — 0.0
OUT 0.0 % SPTR

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL N LOCAL 1
95.0 / 31.8 / 0.0 — 29.0 IN H2O
OUT 60.0 %

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO N LOCAL 1
100.0 / 81.2 / 0.0 — 70.0 %
OUT 76.5 %

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO N LOCAL 1
100.0 / 79.2 / 0.0 — 70.0 %
OUT 76.4 %

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO N LOCAL 1
100.0 / 81.0 / 0.0 — 70.0 %
OUT 76.5 %

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO N LOCAL 1
100.0 / 80.3 / 0.0 — 70.0 %
OUT 76.5 %

100.0 — HIC-1202 WOOD FEED%

0.0 — HIC-1206 PET COKE %

140.0 — HIC-1206HL PC HI LIMIT

2600.0 — HS-1200 BTU FACTOR AUTO / MANUAL

2600.0 — HIC-1201 BTU FACTOR

1542.8 — TI-1405 COMB MID TEMP

1611.4 — TI-1421 CYC #1 OUT TEMP

Operator Window #4: Graphic 101

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C 200.00

HS-1000B BOILER MASTER NET M.W. SETPOINT

C 43.47

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-1000
BLR1 MASTER
AUTO LOCAL
300.00 / 201.79 / 0.00 — 200.00 KLB/HR
OUT 50.25 %

FIC-1520
BLR1 AIR MASTER
AUTO LOCAL
6000 / 3359 / 0 — 3364 KSCFH
OUT 84 %

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO LOCAL
4000.0 / 1750.7 / 0.0 — 1745.4 KSCFH
OUT 41.6 %

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO LOCAL
4000.0 / 1615.6 / 0.0 — 1611.0 KSCFH
OUT 31.3 %

PIC-1420
BLR1 FURNACE PRESSURE
AUTO LOCAL
15.00 / -2.80 / -15.00 — -3.07 IN H2O
OUT 81.15 %

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO LOCAL
25.00 / 6.16 / 0.00 — 6.40 %
OUT 59.33 %

FIC-1250A
BLR1 WOOD MASTER
AUTO LOCAL
1000 / 670 / 0 — 676
OUT 71 %

FIC-1207A
BLR1 GAS LANCE
MANUAL LOCAL
132 / 0 / 0 — 0
OUT 10 % SPTR

FIC-1206
BLR1 PET COKE
MANUAL LOCAL
340.0 / 0.0 / 0.0 — 0.0
OUT 0.0 % SPTR

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL LOCAL
95.0 / 31.5 / 0.0 — 29.0 IN H2O
OUT 60.0 %

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO LOCAL
100.0 / 78.4 / 0.0 — 70.0 %
OUT 74.3 %

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO LOCAL
100.0 / 76.2 / 0.0 — 70.0 %
OUT 74.3 %

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO LOCAL
100.0 / 76.0 / 0.0 — 70.0 %
OUT 74.3 %

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO LOCAL
100.0 / 77.4 / 0.0 — 70.0 %
OUT 74.2 %

100.0 HIC-1202 WOOD FEED%

0.0 HIC-1206 PET COKE %

140.0 HIC-1206HL PC HI LIMIT

2600.0 HS-1200 BTU FACTOR AUTO / MANUAL

2609.0 HIC-1201 BTU FACTOR

1545.8 TI-1405 COMB MID TEMP

1612.9 TI-1421 CYC #1 OUT TEMP

Operator Window #4: Graphic 101

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C

200.00

HS-1000B BOILER MASTER NET M.W. SETPOINT

C

44.25

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C

STM

HIC-1000
BLR1 MASTER
AUTO N LOCAL 1
300.00 / 201.66 / 0.00 — 200.00 KLB/HR
OUT 50.83 %

FIC-1520
BLR1 AIR MASTER
AUTO N LOCAL 1
6000 / 3379 / 0 — 3373 KSCFH
OUT 84 %

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1754.2 / 0.0 — 1757.6 KSCFH
OUT 42.1 %

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1614.6 / 0.0 — 1620.7 KSCFH
OUT 31.5 %

PIC-1420
BLR1 FURNACE PRESSURE
AUTO N LOCAL 1
15.00 / -2.76 / -15.00 — -2.92 IN H2O
OUT 71.67 %

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO N LOCAL 1
25.00 / 6.05 / 0.00 — 6.70 %
OUT 50.33 %

FIC-1250A
BLR1 WOOD MASTER
AUTO N LOCAL 1
1000 / 622 / 0 — 618
OUT 64 %

FIC-1207A
BLR1 GAS LANCE
MANUAL N LOCAL 1
132 / 0 / 0 — 0
OUT 10 % SPTR

FIC-1206
BLR1 PET COKE
MANUAL L LOCAL 1
340.0 / 0.0 / 0.0 — 0.0
OUT 0.0 % SPTR

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL N LOCAL 1
95.0 / 31.8 / 0.0 — 29.0 IN H2O
OUT 60.0 %

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO N LOCAL 1
100.0 / 72.6 / 0.0 — 70.0 %
OUT 68.1 %

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO N LOCAL 1
100.0 / 70.3 / 0.0 — 70.0 %
OUT 68.1 %

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO N LOCAL 1
100.0 / 73.2 / 0.0 — 70.0 %
OUT 67.8 %

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO N LOCAL 1
100.0 / 71.7 / 0.0 — 70.0 %
OUT 68.1 %

100.0	B	HIC-1202 WOOD FEED%
0.0	D	HIC-1206 PET COKE %
140.0	C	HIC-1206HL PC HI LIMIT
2600.0	G	HS-1200 BTU FACTOR AUTO / MANUAL
2600.0	A	HIC-1201 BTU FACTOR
1564.7		TI-1405 COMB MID TEMP
1615.5		TI-1421 CYC #1 OUT TEMP

Operator Window #4: Graphic 101

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C 200.00

HS-1000B BOILER MASTER NET M.W. SETPOINT

C 43.30

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-1000
BLR1 MASTER
AUTO N LOCAL 1
300.00 / 198.21 / 0.00 — 200.00 KLB/HR
OUT 47.29 %

FIC-1520
BLR1 AIR MASTER
AUTO N LOCAL 1
6000 / 3302 / 0 — 3311 KSCFH
OUT 83 %

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1723.9 / 0.0 — 1715.9 KSCFH
OUT 40.5 %

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1692.2 / 0.0 — 1585.7 KSCFH
OUT 29.3 %

PIC-1420
BLR1 FURNACE PRESSURE
AUTO N LOCAL 1
15.00 / -2.77 / -15.00 — -2.83 IN H2O
OUT 76.03 %

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO N LOCAL 1
25.00 / 5.88 / 0.00 — 6.30 %
OUT 55.35 %

FIC-1250A
BLR1 WOOD MASTER
AUTO N LOCAL 1
1000 / 642 / 0 — 640
OUT 66 %

FIC-1207A
BLR1 GAS LANCE
MANUAL N LOCAL 1
132 / 0 / 0 — 0
OUT 10 % SPTR

FIC-1206
BLR1 PET COKE
MANUAL L LOCAL 1
340.0 / 0.0 / 0.0 — 0.0
OUT 0.0 % SPTR

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL N LOCAL 1
95.0 / 32.2 / 0.0 — 29.0 IN H2O
OUT 60.0 %

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO N LOCAL 1
100.0 / 74.9 / 0.0 — 70.0 %
OUT 70.1 %

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO N LOCAL 1
100.0 / 72.6 / 0.0 — 70.0 %
OUT 70.2 %

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO N LOCAL 1
100.0 / 74.5 / 0.0 — 70.0 %
OUT 70.2 %

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO N LOCAL 1
100.0 / 73.9 / 0.0 — 70.0 %
OUT 70.1 %

100.0 C HIC-1202 WOOD FEED%

0.0 C HIC-1206 PET COKE %

140.0 C HIC-1206HL PC HI LIMIT

2600.0 C HS-1200 BTU FACTOR AUTO / MANUAL

2600.0 C HIC-1201 BTU FACTOR

1534.0 TI-1405 COMB MID TEMP

1512.3 TI-1421 CYC #1 OUT TEMP

Operator Window #4: Graphic 101

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C 200.00

HS-1000B BOILER MASTER NET M.W. SETPOINT

C 43.85

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-1000
BLR1 MASTER
AUTO N LOCAL 1
300.00 204.24 0.00 200.00 KLB/HR
OUT 50.33 %

FIC-1520
BLR1 AIR MASTER
AUTO N LOCAL 1
6000 3365 0 3365 KSCFH
OUT 84 %

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 1747.2 0.0 1750.4 KSCFH
OUT 42.1 %

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 1610.8 0.0 1615.3 KSCFH
OUT 30.9 %

PIC-1420
BLR1 FURNACE PRESSURE
AUTO N LOCAL 1
15.00 -2.74 -15.00 -3.00 IN H2O
OUT 77.54 %

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO N LOCAL 1
25.00 5.91 0.00 6.30 %
OUT 50.34 %

FIC-1250A
BLR1 WOOD MASTER
AUTO N LOCAL 1
1000 615 0 612
OUT 63 %

FIC-1207A
BLR1 GAS LANCE
MANUAL N LOCAL 1
132 0 0 0
OUT 10 % SPTR

FIC-1206
BLR1 PET COKE
MANUAL L LOCAL 1
340.0 0.0 0.0 0.0
OUT 0.0 % SPTR

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL N LOCAL 1
95.0 31.4 0.0 29.0 IN H2O
OUT 60.0 %

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO N LOCAL 1
100.0 71.7 0.0 70.0 %
OUT 66.9 %

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO N LOCAL 1
100.0 66.2 0.0 70.0 %
OUT 66.8 %

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO N LOCAL 1
100.0 70.8 0.0 70.0 %
OUT 66.8 %

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO N LOCAL 1
100.0 70.8 0.0 70.0 %
OUT 66.8 %

100.0	C	HIC-1202 WOOD FEED%
0.0	C	HIC-1206 PET COKE %
140.0	C	HIC-1206HL PC HI LIMIT
2600.0	C	HS-1200 BTU FACTOR AUTO / MANUAL
2600.0	C	HIC-1201 BTU FACTOR
1555.3		TI-1405 COMB MID TEMP
1613.3		TI-1421 CYC #1 OUT TEMP

Operator Window #4: Graphic 101

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C 200.00

HS-1000B BOILER MASTER NET MW. SETPOINT

C 42.98

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-1000
BLR1 MASTER
AUTO N LOCAL 1
300.00 200.07 0.00 200.00 KLB/HR SP
OUT 45.92 % A C M

FIC-1520
BLR1 AIR MASTER
AUTO N LOCAL 1
6000 3283 0 3286 KSCFH SP
OUT 82 % A C M

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 1716.7 0.0 1707.1 KSCFH SP
OUT 40.4 % A C M

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 1584.6 0.0 1575.6 KSCFH SP
OUT 28.4 % A C M

PIC-1420
BLR1 FURNACE PRESSURE
AUTO N LOCAL 1
15.00 -2.73 -15.00 -2.69 IN H2O SP
OUT 68.54 % A C M

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO N LOCAL 1
25.00 6.14 0.00 6.10 % SP
OUT 63.70 % A C M

FIC-1250A
BLR1 WOOD MASTER
AUTO N LOCAL 1
1000 681 0 697 SP
OUT 73 % A C M

FIC-1207A
BLR1 GAS LANCE
MANUAL N LOCAL 1
132 0 0 0 SP
OUT 10 % SPTR A C M

FIC-1206
BLR1 PET COKE
MANUAL L LOCAL 1
340.0 0.0 0.0 0.0 SP
OUT 0.0 % SPTR A M

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL N LOCAL 1
95.0 32.3 0.0 29.0 IN H2O SP
OUT 60.0 % A M

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO N LOCAL 1
100.0 79.8 0.0 70.0 % SP
OUT 75.8 % A M

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO N LOCAL 1
100.0 77.3 0.0 70.0 % SP
OUT 75.8 % A M

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO N LOCAL 1
100.0 79.8 0.0 70.0 % SP
OUT 75.8 % A M

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO N LOCAL 1
100.0 76.5 0.0 70.0 % SP
OUT 76.4 % A M

100.0 C HIC-1202 WOOD FEED%

0.0 C HIC-1206 PET COKE %

140.0 C HIC-1206HL PC HI LIMIT

2000.0 C HS-1200 BTU FACTOR AUTO / MANUAL

2800.0 C HIC-1201 BTU FACTOR

1527.3 TI-1405 COMB MID TEMP

1611.0 TI-1421 CYC #1 OUT TEMP

Operator Window #4: Graphic 101

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C

201.00

HS-1000B BOILER MASTER NET M.W. SETPOINT

C

43.48

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C

STM

HIC-1000
BLR1 MASTER
AUTO N LOCAL 1
300.00 / 198.52 / 0.00 — 201.00 KLB/HR
OUT 46.63 %

FIC-1520
BLR1 AIR MASTER
AUTO N LOCAL 1
6000 / 3292 / 0 — 3293 KSCFH
OUT 82 %

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1709.9 / 0.0 — 1712.4 KSCFH
OUT 41.0 %

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1580.6 / 0.0 — 1581.1 KSCFH
OUT 29.6 %

PIC-1420
BLR1 FURNACE PRESSURE
AUTO N LOCAL 1
15.00 / -2.06 / -15.00 — -2.71 IN H2O
OUT 65.11 %

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO N LOCAL 1
25.00 / 4.61 / 0.00 — 6.40 %
OUT 58.87 %

FIC-1250A
BLR1 WOOD MASTER
AUTO N LOCAL 1
1000 / 669 / 0 — 666
OUT 69 %

FIC-1207A
BLR1 GAS LANCE
MANUAL N LOCAL 1
132 / 0 / 0 — 0
OUT 10 % SPTR

FIC-1206
BLR1 PET COKE
MANUAL L LOCAL 1
340.0 / 0.0 / 0.0 — 0.0
OUT 0.0 % SPTR

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL N LOCAL 1
95.0 / 31.0 / 0.0 — 29.0 IN H2O
OUT 60.0 %

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO N LOCAL 1
100.0 / 78.0 / 0.0 — 70.0 %
OUT 72.9 %

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO N LOCAL 1
100.0 / 75.7 / 0.0 — 70.0 %
OUT 72.9 %

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO N LOCAL 1
100.0 / 77.4 / 0.0 — 70.0 %
OUT 72.9 %

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO N LOCAL 1
100.0 / 76.9 / 0.0 — 70.0 %
OUT 72.9 %

100.0	HIC-1202 WOOD FEED%
0.0	HIC-1206 PET COKE %
140.0	HIC-1206HL PC HI LIMIT
2000.0	HS-1200 BTU FACTOR AUTO / MANUAL
2000.0	HIC-1201 BTU FACTOR
1529.7	TI-1405 COMB MID TEMP
1610.2	TI-1421 CYC #1 OUT TEMP

Operator Window #4: Graphic 101

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C 200.00

HS-1000B BOILER MASTER NET M.W. SETPOINT

C 42.88

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-1000
BLR1 MASTER
AUTO N LOCAL 1
300.00 199.18 0.00 200.00 KLB/HR
OUT 48.51 %

FIC-1520
BLR1 AIR MASTER
AUTO N LOCAL 1
6000 3339 0 3330 KSCFH
OUT 83 %

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 1743.2 0.0 1733.0 KSCFH
OUT 41.0 %

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 1599.2 0.0 1600.3 KSCFH
OUT 30.3 %

PIC-1420
BLR1 FURNACE PRESSURE
AUTO N LOCAL 1
15.00 -2.73 -15.00 -2.81 IN H2O
OUT 64.44 %

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO N LOCAL 1
25.00 6.20 0.00 6.50 %
OUT 55.94 %

FIC-1250A
BLR1 WOOD MASTER
AUTO N LOCAL 1
1000 652 0 648
OUT 67 %

FIC-1207A
BLR1 GAS LANCE
MANUAL N LOCAL 1
132 0 0 0
OUT 10 % SPTR

FIC-1206
BLR1 PET COKE
MANUAL L LOCAL 1
340.0 0.0 0.0 0.0
OUT 0.0 % SPTR

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL N LOCAL 1
95.0 32.0 0.0 29.0 IN H2O
OUT 60.0 %

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO N LOCAL 1
100.0 76.9 0.0 70.0 %
OUT 70.9 %

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO N LOCAL 1
100.0 75.6 0.0 70.0 %
OUT 70.9 %

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO N LOCAL 1
100.0 75.5 0.0 70.0 %
OUT 70.9 %

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO N LOCAL 1
100.0 74.9 0.0 70.0 %
OUT 70.9 %

100.0	C	HIC-1202 WOOD FEED%
0.0	C	HIC-1206 PET COKE %
140.0	C	HIC-1206HL PC HI LIMIT
2600.0	C	HS-1200 BTU FACTOR AUTO / MANUAL
2600.0	C	HIC-1201 BTU FACTOR
1553.4		TI-1405 COMB MID TEMP
1620.6		TI-1421 CYC #1 OUT TEMP

Operator Window #4: Graphic 101

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C 200.00

HS-1000B BOILER MASTER NET MW. SETPOINT

C 44.15

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-1000
BLR1 MASTER
AUTO N LOCAL 1
300.00 202.47 0.00 200.00 KLB/HR SP
OUT 48.88 % A C M

FIC-1520
BLR1 AIR MASTER
AUTO N LOCAL 1
6000 3339 0 3338 KSCFH SP
OUT 83 % A C M

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 1742.0 0.0 1735.2 KSCFH SP
OUT 41.6 % A C M

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 1624.5 0.0 1602.6 KSCFH SP
OUT 30.3 % A C M

PIC-1420
BLR1 FURNACE PRESSURE
AUTO N LOCAL 1
15.00 -2.70 -15.00 -3.00 IN H2O SP
OUT 67.93 % A C M

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO N LOCAL 1
25.00 6.22 0.00 6.30 % SP
OUT 64.04 % A C M

FIC-1250A
BLR1 WOOD MASTER
AUTO N LOCAL 1
1000 712 0 708 SP
OUT 74 % A C M

FIC-1207A
BLR1 GAS LANCE
MANUAL N LOCAL 1
132 0 0 0 SP
OUT 10 % SPTR A C M

FIC-1206
BLR1 PET COKE
MANUAL L LOCAL 1
340.0 0.0 0.0 0.0 SP
OUT 0.0 % SPTR A M

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL N LOCAL 1
95.0 31.8 0.0 29.0 IN H2O SP
OUT 60.0 % A M

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO N LOCAL 1
100.0 32.8 0.0 70.0 % SP
OUT 77.7 % A M

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO N LOCAL 1
100.0 80.4 0.0 70.0 % SP
OUT 77.5 % A M

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO N LOCAL 1
100.0 82.2 0.0 70.0 % SP
OUT 77.5 % A M

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO N LOCAL 1
100.0 81.6 0.0 70.0 % SP
OUT 77.5 % A M

100.0 C HIC-1202 WOOD FEED%

0.0 C HIC-1206 PET COKE %

140.0 C HIC-1206HL PC HI LIMIT

2600.0 C HS-1200 BTU FACTOR AUTO / MANUAL

2600.0 C HIC-1201 BTU FACTOR

1540.9 TI-1405 COMB MID TEMP

1614.5 TI-1421 CYC #1 OUT TEMP

Operator Window #4: Graphic 101

Window Select Redraw Zoom ?

BLR #1 MASTER

1A-101

AREA

BLR#1

HS-1000A BOILER MASTER STEAM FLOW SETPOINT

C

200.00

HS-1000B BOILER MASTER NET M.W. SETPOINT

D

43.24

HS-1000 BOILER MASTER S.P. SOURCE SELECTOR

C

STM

HIC-1000
BLR1 MASTER
AUTO N LOCAL 1
300.00 / 201.96 / 0.00 — 200.00 KLB/HR
SP
OUT 45.80 %
A C M

FIC-1520
BLR1 AIR MASTER
AUTO N LOCAL 1
6000 / 3278 / 0 — 3276 KSCFH
SP
OUT 82 %
A C M

FIC-1505
BLR1 PRIM AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1690.6 / 0.0 — 1704.3 KSCFH
SP
OUT 39.8 %
A C M

FIC-1515
BLR1 SECON AIR FAN VANE KSCFH
AUTO N LOCAL 1
4000.0 / 1532.6 / 0.0 — 1572.9 KSCFH
SP
OUT 27.8 %
A C M

PIC-1420
BLR1 FURNACE PRESSURE
AUTO N LOCAL 1
15.00 / -2.88 / -15.00 — -2.70 IN H2O
SP
OUT 57.28 %
A C M

AIC-1101
BLR1 02 TRIM CONTROLLER
AUTO N LOCAL 1
25.00 / 6.77 / 0.00 — 6.50 %
SP
OUT 51.45 %
A C M

FIC-1250A
BLR1 WOOD MASTER
AUTO N LOCAL 1
1000 / 605 / 0 — 607
SP
OUT 63 %
A C M

FIC-1207A
BLR1 GAS LANCE
MANUAL N LOCAL 1
132 / 0 — 0
SP
OUT 10 % SPTR
A C M

FIC-1206
BLR1 PET COKE
MANUAL L LOCAL 1
340.0 / 0.0 / 0.0 — 0.0
SP
OUT 0.0 % SPTR
A M

PDIC-1413
BLR1 UPPER COMBUSTOR DP
MANUAL N LOCAL 1
95.0 / 32.7 / 0.0 — 29.0 IN H2O
SP
OUT 60.0 %
A M

FIC-1201
BLR1 SCREW FDR ABC FLOW %
AUTO N LOCAL 1
100.0 / 70.8 / 0.0 — 70.0 %
SP
OUT 66.1 %
A M

FIC-1261
BLR1 SCREW FDR DEF FLOW %
AUTO N LOCAL 1
100.0 / 66.4 / 0.0 — 70.0 %
SP
OUT 66.2 %
A M

FIC-1231
BLR1 SCREW FDR GHI FLOW %
AUTO N LOCAL 1
100.0 / 70.0 / 0.0 — 70.0 %
SP
OUT 66.2 %
A M

FIC-1291
BLR1 SCREW FDR JKL FLOW %
AUTO N LOCAL 1
100.0 / 69.6 / 0.0 — 70.0 %
SP
OUT 66.2 %
A M

100.0 — HIC-1202 WOOD FEED%

0.0 — HIC-1206 PET COKE %

140.0 — HIC-1206HL PC HI LIMIT

2600.0 — HS-1200 BTU FACTOR AUTO / MANUAL

2600.0 — HIC-1201 BTU FACTOR

1678.5 — TI-1405 COMB MID TEMP

1630.7 — TI-1421 CYC #1 OUT TEMP

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	Stack Flow kdscf/hr 1-Min		
3/7/2021 8:21	40.64	59.38	26.25	12.09	17.67	10.87	0	14.61 <56>	3.93 <56>	11.74	8.65	5411	0.00	0.00
3/7/2021 8:22	39.24	60.03	24.11	10.07	15.41	8.61	0	15.30 <56>	3.74 <56>	11.26	9.2	5146	0.00	0.00
3/7/2021 8:23	38.39	59.81	23.56	7.75	12.07	6.62	0	15.58 <56>	3.74 <56>	10.98	9.41	5140	0.00	0.00
3/7/2021 8:24	36.83	59.77	21.9	6.02	9.77	4.98	0	16.23 <56>	3.62 <56>	10.69	9.87	4980	0.00	0.00
3/7/2021 8:25	40.78	63.92	25.55	6.32	9.91	5.51	0	15.67 <56>	3.81 <56>	11.09	9.48	5248	0.00	0.00
3/7/2021 8:26	38.26	58.29	23.61	7.24	11.03	6.22	0	15.23 <56>	3.76 <56>	11.54	9.15	5168	0.00	0.00
3/7/2021 8:27	39.95	57.35	26.61	11.05	15.86	10.24	0	14.35 <56>	4.06 <56>	11.97	8.43	5580	0.00	0.00
3/7/2021 8:28	38.79	59.04	24.14	9.26	14.09	8.02	0	15.22 <56>	3.79 <56>	11.37	9.14	5212	0.00	0.00
3/7/2021 8:29	39.95	60.86	24.58	8.86	13.50	7.59	0	15.23 <56>	3.75 <56>	11.43	9.15	5154	0.00	0.00
3/7/2021 8:30	39.11	57.2	25.26	8.73	12.77	7.84	0	14.62 <56>	3.93 <56>	11.76	8.66	5409	0.00	0.00
3/7/2021 8:31	40.1	58.45	25.94	8.79	12.81	7.91	0	14.58 <56>	3.94 <56>	11.84	8.62	5418	0.00	0.00
3/7/2021 8:32	40.46	58.83	25.39	11.3	16.43	9.87	0	14.54 <56>	3.82 <56>	11.96	8.59	5256	0.00	0.00
3/7/2021 8:33	44.6	61.32	30.07	18.94	26.04	17.77	0	13.75 <56>	4.10 <56>	12.51	7.88	5647	0.00	0.00
3/7/2021 8:34	43.7	61.69	28.09	16.81	23.73	15.03	0	14.12 <56>	3.91 <56>	12.32	8.22	5384	0.00	0.00
3/7/2021 8:35	42.59	61.38	26.68	16.72	24.10	14.57	0	14.41 <56>	3.81 <56>	11.92	8.48	5247	0.00	0.00
3/7/2021 8:36	44.71	64.7	28.31	15.71	22.73	13.84	0	14.47 <56>	3.85 <56>	11.8	8.53	5304	0.00	0.00
3/7/2021 8:37	42.25	64.09	25.78	10.42	15.81	8.84	0	15.17 <56>	3.71 <56>	11.36	9.1	5110	0.00	0.00
3/7/2021 8:38	37.94	59.31	22.55	8.94	13.98	7.39	0	15.63 <56>	3.62 <56>	11.22	9.45	4978	0.00	0.00
3/7/2021 8:39	37.3	58.06	22.39	9.41	14.65	7.86	0	15.57 <56>	3.65 <56>	11.09	9.4	5027	0.00	0.00
3/7/2021 8:40	38.07	55.86	24.06	9.32	13.67	8.2	0	14.67 <56>	3.85 <56>	11.8	8.7	5294	0.00	0.00
3/7/2021 8:41	40.72	58.55	26.36	11.58	16.65	10.43	0	14.38 <56>	3.94 <56>	11.96	8.45	5422	0.00	0.00
3/7/2021 8:42	40.61	58.81	25.61	12.69	18.38	11.13	0	14.48 <56>	3.84 <56>	12.04	8.54	5282	0.00	0.00
3/7/2021 8:43	42.94	63.11	26.81	14.41	21.18	12.52	0	14.70 <56>	3.80 <56>	11.64	8.72	5230	0.00	0.00
3/7/2021 8:44	38.09	57.83	23.35	10.66	16.18	9.09	0	15.18 <56>	3.73 <56>	11.33	9.11	5134	0.00	0.00
3/7/2021 8:45	39.5	59.07	24.22	8.2	12.26	6.99	0	14.95 <56>	3.73 <56>	11.77	8.93	5135	0.00	0.00
3/7/2021 8:46	41.86	59.8	27.11	9.98	14.26	8.99	0	14.29 <56>	3.94 <56>	12.06	8.37	5424	0.00	0.00
3/7/2021 8:47	41.03	62.03	24.87	10.62	16.06	8.96	0	15.12 <56>	3.69 <56>	11.37	9.06	5078	0.00	0.00
3/7/2021 8:48	41.59	61.32	26.1	10.37	15.29	9.06	0	14.74 <56>	3.82 <56>	11.83	8.76	5257	0.00	0.00
3/7/2021 8:49	39.53	59.56	24.24	9.94	14.98	8.48	0	15.07 <56>	3.73 <56>	11.37	9.02	5137	0.00	0.00
3/7/2021 8:50	39.32	57.22	24.78	10.84	15.78	9.5	0	14.55 <56>	3.84 <56>	12.01	8.6	5278	0.00	0.00
3/7/2021 8:51	39.85	57.85	25.22	12.51	18.16	11.02	0	14.52 <56>	3.85 <56>	11.83	8.57	5301	0.00	0.00
3/7/2021 8:52	40.31	57.54	25.89	12.33	17.60	11.02	0	14.27 <56>	3.91 <56>	12.2	8.36	5379	0.00	0.00
3/7/2021 8:53	40.2	58.84	25.11	12.37	18.10	10.75	0	14.64 <56>	3.80 <56>	11.67	8.67	5231	0.00	0.00
3/7/2021 8:54	39.71	59.78	24.21	10.47	15.76	8.88	0	15.05 <56>	3.71 <56>	11.42	9.01	5106	0.00	0.00
3/7/2021 8:55	38.93	59.26	23.75	8.76	13.33	7.43	0	15.22 <56>	3.71 <56>	11.39	9.14	5109	0.00	0.00
3/7/2021 8:56	38.18	56.9	23.51	8.12	12.10	6.96	0	14.90 <56>	3.75 <56>	11.83	8.89	5157	0.00	0.00
3/7/2021 8:57	38.46	55.92	24.29	9.44	13.73	8.3	0	14.54 <56>	3.85 <56>	11.79	8.59	5291	0.00	0.00
3/7/2021 8:58	40.5	59.96	25.38	9.94	14.72	8.67	0	14.81 <56>	3.81 <56>	11.67	8.81	5249	0.00	0.00
3/7/2021 8:59	39.87	58.26	24.53	9.98	14.58	8.54	0	14.61 <56>	3.75 <56>	11.98	8.65	5154	0.00	0.00
3/7/2021 9:00	43.75	61.57	28.72	14.12	19.87	12.9	0	14.07 <56>	4.00 <56>	12.17	8.18	5499	0.00	0.00
3/7/2021 9:01	40.31	59	25.01	10.08	14.75	8.7	0	14.64 <56>	3.78 <56>	11.83	8.67	5197	0.00	0.00
3/7/2021 9:02	39.63	59.41	24.21	8.29	12.43	7.05	0	14.99 <56>	3.72 <56>	11.44	8.96	5117	0.00	0.00
3/7/2021 9:03	40.23	60.21	24.63	5.99	8.96	5.1	0	14.97 <56>	3.73 <56>	11.64	8.94	5128	0.00	0.00
3/7/2021 9:04	39.32	59.65	24.18	6.92	10.50	5.92	0	15.17 <56>	3.74 <56>	11.31	9.1	5150	0.00	0.00
3/7/2021 9:05	37.04	56.77	22.36	6.06	9.29	5.09	0	15.33 <56>	3.67 <56>	11.37	9.22	5056	0.00	0.00
3/7/2021 9:06	40.49	59.95	25.46	6.91	10.23	6.04	0	14.81 <56>	3.83 <56>	11.68	8.81	5266	0.00	0.00
3/7/2021 9:07	39.39	60.73	23.8	7.5	11.56	6.3	0	15.42 <56>	3.68 <56>	11.15	9.29	5060	0.00	0.00
3/7/2021 9:08	40.53	57.76	26.31	9.24	13.17	8.35	0	14.25 <56>	3.95 <56>	12.35	8.34	5438	0.00	0.00
3/7/2021 9:09	42.09	59.37	27.67	10.94	15.43	10.01	0	14.11 <56>	4.00 <56>	12.1	8.21	5506	0.00	0.00
3/7/2021 9:10	40.72	59.74	25.22	8.84	12.97	7.62	0	14.67 <56>	3.77 <56>	11.77	8.7	5187	0.00	0.00
3/7/2021 9:11	41.28	61.68	25.86	8.72	13.03	7.6	0	14.94 <56>	3.81 <56>	11.46	8.92	5248	0.00	0.00
3/7/2021 9:12	37.57	60.53	22.11	5.54	8.93	4.54	0	16.11 <56>	3.58 <56>	10.74	9.79	4929	0.00	0.00
3/7/2021 9:13	34.43	55.27	20.19	4.24	6.81	3.46	0	16.05 <56>	3.57 <56>	10.94	9.75	4912	0.00	0.00
3/7/2021 9:14	37.72	58.21	23.29	4.84	7.47	4.16	0	15.43 <56>	3.76 <56>	11.27	9.3	5172	0.00	0.00
3/7/2021 9:15	39.61	58.36	24.95	6.44	9.49	5.64	0	14.73 <56>	3.83 <56>	11.82	8.75	5277	0.00	0.00
3/7/2021 9:16	41.93	60.48	27.06	9.62	13.88	8.64	0	14.42 <56>	3.93 <56>	11.88	8.49	5405	0.00	0.00
3/7/2021 9:17	41.71	62.22	25.9	9.07	13.53	7.84	0	14.92 <56>	3.78 <56>	11.48	8.9	5202	0.00	0.00
3/7/2021 9:18	41.92	62.01	26.15	8.87	13.12	7.7	0	14.79 <56>	3.80 <56>	11.78	8.8	5226	0.00	0.00
3/7/2021 9:19	41.57	61.04	26.12	8.55	12.55	7.47	0	14.68 <56>	3.82 <56>	11.8	8.71	5263	0.00	0.00
3/7/2021 9:20	37.84	58.29	23	5.35	8.24	4.53	0	15.40 <56>	3.70 <56>	11.11	9.28	5092	0.00	0.00

Average	**40.07**	**59.55**	**25.04**	**9.72**	**14.36**	**8.49**	**0.00**	**11.63**	**8.86**	**5229.95**	**0.00**	**0.00**

Flow	kdscfh	5229.95
O2	% dry	8.86
CO2	% dry	11.63
NOx	ppm dry	40.07
NOx	ppm @ 3% O2	59.55
NOx	lb/hr	25.04
SO2	ppm dry	9.72
SO2	ppm @ 3% O2	14.36
SO2	lb/hr	8.49
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00
CO	lb/hr	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	Stack Flow kdscf/hr 1-Min		
3/8/2021 9:36	39.2	61.02	23.03	8.27	12.87	6.76	0.44	15.57 <56>	3.58 <56>	11.42	9.4	4922	0.68	0.16
3/8/2021 9:37	38.51	58.97	23.25	8.32	12.74	6.99	0.41	15.31 <56>	3.67 <56>	11.48	9.21	5056	0.63	0.15
3/8/2021 9:38	36.29	57.64	21.52	7.41	11.77	6.11	0.25	15.88 <56>	3.61 <56>	10.95	9.63	4967	0.40	0.09
3/8/2021 9:39	34.98	55.41	20.33	5.88	9.31	4.75	0.28	15.84 <56>	3.54 <56>	11.41	9.6	4867	0.44	0.10
3/8/2021 9:40	40.5	58.75	25.87	7.47	10.84	6.64	0.44	14.51 <56>	3.89 <56>	12.21	8.56	5351	0.64	0.17
3/8/2021 9:41	39.74	57.83	25.2	9.04	13.16	7.98	0.41	14.55 <56>	3.86 <56>	12.2	8.6	5312	0.60	0.16
3/8/2021 9:42	41.02	59.55	25.5	10.49	15.23	9.07	0.3	14.52 <56>	3.78 <56>	12.18	8.57	5206	0.44	0.11
3/8/2021 9:43	41.33	60.44	25.96	10.89	15.93	9.52	0.36	14.62 <56>	3.82 <56>	11.88	8.66	5261	0.53	0.14
3/8/2021 9:44	40.5	61.23	24.15	9	13.61	7.47	0.23	15.12 <56>	3.63 <56>	11.79	9.06	4995	0.35	0.08
3/8/2021 9:45	43	63.3	26.56	11.68	17.19	10.04	0.22	14.72 <56>	3.76 <56>	11.92	8.74	5174	0.32	0.08
3/8/2021 9:46	39.02	58.3	24.18	9.97	14.90	8.59	0.35	14.94 <56>	3.77 <56>	11.73	8.92	5190	0.52	0.13
3/8/2021 9:47	38.95	60.68	22.75	8.17	12.73	6.64	0.22	15.58 <56>	3.56 <56>	11.35	9.41	4893	0.34	0.08
3/8/2021 9:48	42.05	61.6	26.43	8.6	12.60	7.52	0.25	14.65 <56>	3.83 <56>	12.21	8.68	5265	0.37	0.10
3/8/2021 9:49	42.51	62.63	26.14	10.48	15.44	8.96	0.25	14.73 <56>	3.74 <56>	11.96	8.75	5150	0.37	0.09
3/8/2021 9:50	42.34	62.02	26.52	11.24	16.46	9.8	0.23	14.65 <56>	3.81 <56>	11.92	8.68	5247	0.34	0.09
3/8/2021 9:51	42.81	62.35	26.13	11.42	16.63	9.7	0.29	14.56 <56>	3.72 <56>	12.38	8.61	5113	0.42	0.11
3/8/2021 9:52	44.48	65.1	28.27	13.54	19.82	11.97	0.25	14.64 <56>	3.87 <56>	11.67	8.67	5324	0.37	0.10
3/8/2021 9:53	38.89	61.28	22.47	8.82	13.90	7.09	0.19	15.76 <56>	3.52 <56>	11.3	9.54	4839	0.30	0.07
3/8/2021 9:54	38.59	57.66	23.52	9.6	14.34	8.14	0.15	14.94 <56>	3.71 <56>	11.87	8.92	5105	0.22	0.06
3/8/2021 9:55	40.7	61.12	25.25	10.71	16.08	9.25	0.09	15.02 <56>	3.78 <56>	11.67	8.98	5197	0.14	0.03
3/8/2021 9:56	39.63	62.67	23.06	9.1	14.39	7.37	0.07	15.81 <56>	3.54 <56>	11.21	9.58	4874	0.11	0.02
3/8/2021 9:57	40	61.46	24.8	8.79	13.51	7.58	0.03	15.36 <56>	3.77 <56>	11.56	9.25	5194	0.05	0.01
3/8/2021 9:58	39.45	62.22	23.13	8.29	13.07	6.76	0	15.77 <56>	3.57 <56>	11.39	9.55	4911	0.00	0.00
3/8/2021 9:59	40.86	58.65	25.83	10.42	14.96	9.17	0.12	14.35 <56>	3.85 <56>	12.45	8.43	5296	0.17	0.05
3/8/2021 10:00	46.53	63.48	31.58	15.35	20.94	14.49	0.13	13.64 <56>	4.13 <56>	13.01	7.78	5684	0.18	0.05
3/8/2021 10:01	44.51	64.05	27.86	14.55	20.94	12.67	0.07	14.39 <56>	3.81 <56>	12.15	8.46	5242	0.10	0.03
3/8/2021 10:02	44.02	63.91	27.26	11.34	16.46	9.77	0.03	14.52 <56>	3.77 <56>	12.02	8.57	5187	0.04	0.01
3/8/2021 10:03	40.64	62.23	24.74	9.51	14.56	8.05	0	15.31 <56>	3.71 <56>	11.32	9.21	5099	0.00	0.00
3/8/2021 10:04	36.72	59.54	20.56	6.69	10.85	5.21	0.02	16.21 <56>	3.41 <56>	11.13	9.86	4690	0.03	0.01
3/8/2021 10:05	35.41	52.69	22.37	6.69	9.95	5.88	0.05	14.88 <56>	3.85 <56>	11.81	8.87	5291	0.07	0.02
3/8/2021 10:06	35.62	54.5	21.24	7.19	11.00	5.96	0.03	15.30 <56>	3.63 <56>	11.7	9.2	4994	0.05	0.01
3/8/2021 10:07	40.79	59.12	25.73	9.35	13.55	8.21	0.07	14.49 <56>	3.84 <56>	12.09	8.55	5284	0.10	0.03
3/8/2021 10:08	41.59	60.57	26.63	10.76	15.67	9.59	0.05	14.56 <56>	3.90 <56>	12.07	8.61	5363	0.07	0.02
3/8/2021 10:09	38.93	61.72	22.54	7.37	11.68	5.94	0	15.85 <56>	3.52 <56>	11.15	9.61	4850	0.00	0.00
3/8/2021 10:10	37.82	58.06	23.08	7.11	10.92	6.04	0	15.35 <56>	3.71 <56>	11.62	9.24	5112	0.00	0.00
3/8/2021 10:11	41.34	63.41	24.48	7.63	11.70	6.29	0	15.34 <56>	3.60 <56>	11.63	9.23	4960	0.00	0.00
3/8/2021 10:12	41.51	59.35	26.68	9.16	13.10	8.19	0	14.30 <56>	3.91 <56>	12.36	8.38	5383	0.00	0.00
3/8/2021 10:13	39.87	57.6	24.99	9.15	13.22	7.98	0	14.45 <56>	3.82 <56>	12.35	8.51	5250	0.00	0.00
3/8/2021 10:14	41.24	60.41	25.6	9.35	13.70	8.08	0	14.65 <56>	3.78 <56>	11.79	8.68	5200	0.00	0.00
3/8/2021 10:15	41.37	62.33	25.35	8.39	12.64	7.15	0	15.07 <56>	3.73 <56>	11.76	9.02	5133	0.00	0.00
3/8/2021 10:16	38.38	61.34	21.97	7.03	11.24	5.6	0	15.98 <56>	3.48 <56>	11	9.7	4795	0.00	0.00
3/8/2021 10:17	40.12	59.3	24.83	7.39	10.92	6.36	0.24	14.78 <56>	3.77 <56>	12.12	8.79	5184	0.35	0.09
3/8/2021 10:18	42.5	63.03	26.53	8.85	13.12	7.69	0	14.83 <56>	3.80 <56>	11.75	8.83	5229	0.00	0.00
3/8/2021 10:19	40.38	61.83	23.91	7.91	12.11	6.52	0.03	15.31 <56>	3.60 <56>	11.66	9.21	4960	0.05	0.01
3/8/2021 10:20	40.68	59.54	25.44	8.85	12.95	7.7	0	14.64 <56>	3.81 <56>	12.23	8.67	5238	0.00	0.00
3/8/2021 10:21	43.13	64.12	26.66	10.16	15.10	8.74	0	14.87 <56>	3.76 <56>	11.7	8.86	5177	0.00	0.00
3/8/2021 10:22	41.61	61.71	25.41	8.79	13.04	7.47	0	14.83 <56>	3.72 <56>	12.12	8.83	5115	0.00	0.00
3/8/2021 10:23	43.16	63.53	26.95	7.69	11.32	6.68	0	14.72 <56>	3.80 <56>	11.83	8.74	5231	0.00	0.00
3/8/2021 10:24	40.64	61.91	24.03	8.13	12.39	6.69	0	15.23 <56>	3.60 <56>	11.58	9.15	4953	0.00	0.00
3/8/2021 10:25	44.08	64.57	28.09	10.02	14.68	8.88	0	14.65 <56>	3.88 <56>	12.04	8.68	5337	0.00	0.00
3/8/2021 10:26	39.91	64.83	23.17	8.36	13.58	6.75	0	16.24 <56>	3.53 <56>	10.75	9.88	4862	0.00	0.00
3/8/2021 10:27	38.34	60.47	22.37	7.25	11.43	5.89	0	15.77 <56>	3.55 <56>	11.48	9.55	4887	0.00	0.00
3/8/2021 10:28	39.34	56.56	25.47	9	12.94	8.11	0	14.38 <56>	3.94 <56>	12.36	8.45	5424	0.00	0.00
3/8/2021 10:29	42.54	61.31	26.55	10.72	15.45	9.31	0	14.41 <56>	3.80 <56>	12.36	8.48	5227	0.00	0.00
3/8/2021 10:30	43.08	60.48	28.03	13.18	18.50	11.93	0	14.04 <56>	3.96 <56>	12.4	8.15	5450	0.00	0.00
3/8/2021 10:31	44.15	65.04	26.98	9.84	14.50	8.37	0	14.73 <56>	3.72 <56>	11.97	8.75	5119	0.00	0.00
3/8/2021 10:32	41.01	60.92	24.93	8.58	12.75	7.26	0	14.85 <56>	3.70 <56>	11.9	8.85	5092	0.00	0.00
3/8/2021 10:33	42.06	64.13	25.1	9.9	15.09	8.22	0	15.25 <56>	3.63 <56>	11.44	9.16	4999	0.00	0.00
3/8/2021 10:34	37.89	58.37	22.56	8.74	13.46	7.24	0	15.40 <56>	3.62 <56>	11.45	9.28	4988	0.00	0.00
3/8/2021 10:35	40.7	61.07	24.92	8.42	12.63	7.17	0	15.00 <56>	3.73 <56>	11.78	8.97	5129	0.00	0.00

Average	**40.62**	**60.82**	**24.91**	**9.27**	**13.83**	**7.93**	**0.11**	**11.80**	**8.95**	**5130.45**	**0.16**	**0.04**

Flow	kdscfh	5130.45
O2	% dry	8.95
CO2	% dry	11.80
NOx	ppm dry	40.62
NOx	ppm @ 3% O2	60.82
NOx	lb/hr	24.91
SO2	ppm dry	9.27
SO2	ppm @ 3% O2	13.83
SO2	lb/hr	7.93
CO	ppm dry	0.11
CO	ppm @ 3% O2	0.16
CO	lb/hr	0.04

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		
3/8/2021 10:53	39.29	58.61	23.71	8.68	12.95	7.29	0	14.92 <56>	3.67 <56>	12.11	8.9	5054	0.00	0.00
3/8/2021 10:54	43.18	59.69	28.34	13.98	19.32	12.77	0	13.82 <56>	4.00 <56>	12.72	7.95	5498	0.00	0.00
3/8/2021 10:55	41.97	59.72	26.98	13.54	19.27	12.11	0	14.23 <56>	3.91 <56>	12.25	8.32	5385	0.00	0.00
3/8/2021 10:56	41.99	63.75	24.27	10.89	16.53	8.76	0	15.18 <56>	3.52 <56>	11.85	9.11	4841	0.00	0.00
3/8/2021 10:57	43.11	63.72	26.72	13.28	19.63	11.45	0	14.78 <56>	3.77 <56>	11.54	8.79	5192	0.00	0.00
3/8/2021 10:58	38.23	61.54	22.19	8.39	13.51	6.78	0	16.10 <56>	3.53 <56>	10.83	9.78	4862	0.00	0.00
3/8/2021 10:59	38.47	60.94	22.17	7.17	11.36	5.75	0	15.84 <56>	3.51 <56>	11.65	9.6	4828	0.00	0.00
3/8/2021 11:00	38.57	58.31	23.62	8.84	13.36	7.53	0	15.12 <56>	3.73 <56>	11.54	9.06	5129	0.00	0.00
3/8/2021 11:01	37.3	57.02	22.81	6.45	9.86	5.49	0	15.29 <56>	3.72 <56>	11.55	9.19	5123	0.00	0.00
3/8/2021 11:02	38.55	61.34	22.34	6.27	9.98	5.06	0	15.91 <56>	3.53 <56>	11.15	9.65	4855	0.00	0.00
3/8/2021 11:03	39.96	62.14	24.38	7.95	12.36	6.75	0	15.55 <56>	3.71 <56>	11.21	9.39	5110	0.00	0.00
3/8/2021 11:04	39.67	62.51	23.31	7.07	11.14	5.78	0	15.76 <56>	3.58 <56>	11.44	9.54	4921	0.00	0.00
3/8/2021 11:05	40.98	59.83	25.81	8.82	12.88	7.73	0	14.60 <56>	3.83 <56>	12.44	8.64	5275	0.00	0.00
3/8/2021 11:06	43.52	62.92	27.97	13.73	19.85	12.28	0	14.46 <56>	3.91 <56>	11.84	8.52	5384	0.00	0.00
3/8/2021 11:07	39.43	61.16	23.31	9.53	14.78	7.84	0	15.51 <56>	3.60 <56>	11.33	9.36	4952	0.00	0.00
3/8/2021 11:08	41.24	63.36	25.11	9.56	14.69	8.1	0	15.36 <56>	3.71 <56>	11.5	9.25	5101	0.00	0.00
3/8/2021 11:09	38.36	60.39	22.2	8.33	13.11	6.71	0	15.74 <56>	3.52 <56>	11.35	9.53	4848	0.00	0.00
3/8/2021 11:10	42.22	61.49	27.27	10.41	15.16	9.35	0	14.56 <56>	3.93 <56>	12.13	8.61	5410	0.00	0.00
3/8/2021 11:11	41.43	62.69	24.71	10.24	15.49	8.5	0.66	15.13 <56>	3.63 <56>	11.8	9.07	4996	1.00	0.24
3/8/2021 11:12	43.8	63.07	27.54	13.56	19.53	11.86	0.46	14.40 <56>	3.83 <56>	12.17	8.47	5267	0.66	0.18
3/8/2021 11:13	42.74	63.59	26.42	12.08	17.97	10.39	0	14.88 <56>	3.76 <56>	11.66	8.87	5177	0.00	0.00
3/8/2021 11:14	39.47	61.12	22.98	9.37	14.51	7.59	0	15.48 <56>	3.54 <56>	11.67	9.34	4877	0.00	0.00
3/8/2021 11:15	39.32	58.85	23.82	10.17	15.22	8.57	0.7	14.97 <56>	3.69 <56>	11.78	8.94	5075	1.05	0.26
3/8/2021 11:16	40.98	61.03	25.08	10.25	15.26	8.73	1.11	14.89 <56>	3.73 <56>	11.81	8.88	5127	1.65	0.41
3/8/2021 11:17	43.11	62.08	26.33	11.85	17.06	10.07	1.05	14.40 <56>	3.72 <56>	12.57	8.47	5116	1.51	0.39
3/8/2021 11:18	47.95	66.59	31.06	16.85	23.40	15.18	1.21	13.89 <56>	3.94 <56>	12.46	8.01	5425	1.68	0.48
3/8/2021 11:19	45.55	68.69	27.85	13.67	20.61	11.63	1.06	15.08 <56>	3.72 <56>	11.24	9.03	5122	1.60	0.39
3/8/2021 11:20	38.62	61.83	21.39	8.62	13.80	6.64	0.94	16.01 <56>	3.37 <56>	11.48	9.72	4639	1.51	0.32
3/8/2021 11:21	42.4	60.72	27.07	10.85	15.54	9.64	1.05	14.32 <56>	3.89 <56>	12.4	8.4	5347	1.50	0.41
3/8/2021 11:22	41.36	62.53	24.93	10.92	16.51	9.16	1.05	15.12 <56>	3.67 <56>	11.45	9.06	5048	1.59	0.39
3/8/2021 11:23	41.05	61.59	24.39	9.94	14.91	8.22	1.01	15.00 <56>	3.62 <56>	11.93	8.97	4976	1.52	0.37
3/8/2021 11:24	43.13	61.22	27.12	11.93	16.93	10.44	0.97	14.20 <56>	3.83 <56>	12.49	8.29	5266	1.38	0.37
3/8/2021 11:25	45.14	62.98	28.83	13.91	19.41	12.36	1.02	13.95 <56>	3.89 <56>	12.67	8.07	5349	1.42	0.40
3/8/2021 11:26	44.44	63.59	27.6	12.52	17.91	10.82	1.1	14.31 <56>	3.78 <56>	12.1	8.39	5203	1.57	0.42
3/8/2021 11:27	43.8	63.38	26.32	10.63	15.38	8.89	0.86	14.47 <56>	3.66 <56>	12.43	8.53	5033	1.24	0.31
3/8/2021 11:28	44.45	61.68	27.98	13.08	18.15	11.46	1.03	13.88 <56>	3.83 <56>	12.76	8	5273	1.43	0.39
3/8/2021 11:29	44.87	63.14	27.91	14.28	20.10	12.36	1.01	14.07 <56>	3.79 <56>	12.31	8.18	5211	1.42	0.38
3/8/2021 11:30	43.11	63.83	25.93	11.49	17.01	9.62	0.91	14.81 <56>	3.66 <56>	11.76	8.81	5038	1.35	0.33
3/8/2021 11:31	37.86	59.76	21.67	8.12	12.82	6.47	0.71	15.78 <56>	3.48 <56>	11.12	9.56	4795	1.12	0.25
3/8/2021 11:32	35.03	55.64	20.29	7.69	12.21	6.2	0.84	15.88 <56>	3.53 <56>	11.22	9.63	4852	1.33	0.30
3/8/2021 11:33	35.83	56.81	20.84	7.41	11.75	6	0.95	15.85 <56>	3.54 <56>	11.16	9.61	4872	1.51	0.34
3/8/2021 11:34	37.04	55.76	22.62	8.75	13.17	7.43	0.88	15.05 <56>	3.72 <56>	11.88	9.01	5115	1.32	0.33
3/8/2021 11:35	40.85	59.02	25.25	10.06	14.53	8.65	0.97	14.45 <56>	3.76 <56>	12.29	8.51	5178	1.40	0.36
3/8/2021 11:36	43.92	60.8	28.3	13.89	19.23	12.45	0.99	13.84 <56>	3.92 <56>	12.77	7.97	5397	1.37	0.39
3/8/2021 11:37	47.36	65.36	30.28	16.39	22.62	14.58	0.91	13.80 <56>	3.89 <56>	12.82	7.93	5355	1.26	0.35
3/8/2021 11:38	45.3	63.5	28.46	15.52	21.75	13.57	0.92	14.02 <56>	3.82 <56>	12.41	8.13	5263	1.29	0.35
3/8/2021 11:39	40.87	60.56	24.59	12.34	18.29	10.33	0.84	14.82 <56>	3.66 <56>	11.58	8.82	5040	1.24	0.31
3/8/2021 11:40	37.83	59.87	21.72	9.36	14.81	7.48	0.67	15.83 <56>	3.49 <56>	11.22	9.59	4809	1.06	0.23
3/8/2021 11:41	34.08	54.42	19.42	7.29	11.64	5.78	0.69	15.97 <56>	3.47 <56>	11.21	9.69	4774	1.10	0.24
3/8/2021 11:42	36.59	57.66	21.62	8.08	12.73	6.64	0.63	15.76 <56>	3.60 <56>	11.08	9.54	4949	0.99	0.23
3/8/2021 11:43	35.82	56.69	20.95	7.29	11.54	5.93	0.66	15.83 <56>	3.56 <56>	11.3	9.59	4900	1.04	0.24
3/8/2021 11:44	38.8	57.92	23.62	8.88	13.26	7.52	0.77	14.93 <56>	3.70 <56>	11.95	8.91	5098	1.15	0.29
3/8/2021 11:45	42.08	60.21	26.6	11.27	16.13	9.91	0.88	14.31 <56>	3.85 <56>	12.38	8.39	5295	1.26	0.34
3/8/2021 11:46	43.35	62.43	27.46	12.03	17.32	10.6	0.76	14.40 <56>	3.86 <56>	12.22	8.47	5306	1.09	0.29
3/8/2021 11:47	43.28	65.54	26.11	10.61	16.07	8.91	0.69	15.14 <56>	3.67 <56>	11.46	9.08	5053	1.04	0.25
3/8/2021 11:48	38.66	61.51	22.48	8.09	12.87	6.55	0.7	15.91 <56>	3.54 <56>	10.88	9.65	4871	1.11	0.25
3/8/2021 11:49	37.07	60.32	21.35	5.39	8.77	4.32	0.54	16.27 <56>	3.51 <56>	10.97	9.9	4825	0.88	0.19
3/8/2021 11:50	38.7	60.93	22.49	6.23	9.81	5.04	0.82	15.74 <56>	3.54 <56>	11.53	9.53	4868	1.29	0.29
3/8/2021 11:51	40.3	60.37	25.16	9.06	13.57	7.87	0.77	14.98 <56>	3.80 <56>	11.62	8.95	5229	1.15	0.29
3/8/2021 11:52	38.55	59.33	22.84	8.1	12.47	6.68	0.88	15.39 <56>	3.61 <56>	11.52	9.27	4963	1.35	0.32

Average	**40.87**	**61.12**	**24.86**	**10.35**	**15.36**	**8.81**	**0.58**		**11.80**	**8.94**	**5085.67**	**0.86**	**0.21**

Flow	kdscfh	5085.67
O2	% dry	8.94
CO2	% dry	11.80
NOx	ppm dry	40.87
NOx	ppm @ 3% O2	61.12
NOx	lb/hr	24.86
SO2	ppm dry	10.35
SO2	ppm @ 3% O2	15.36
SO2	lb/hr	8.81
CO	ppm dry	0.58
CO	ppm @ 3% O2	0.86
CO	lb/hr	0.21

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		
3/8/2021 12:16	43.27	64.81	25.62	11.09	16.61	9.13	0.87	14.98 <56>	3.60 <56>	11.93	8.95	4959	1.30	0.31
3/8/2021 12:17	39.79	60.46	23.87	10.36	15.74	8.65	0.98	15.20 <56>	3.65 <56>	11.41	9.12	5024	1.49	0.36
3/8/2021 12:18	41.96	65.88	23.71	9.38	14.73	7.37	0.91	15.70 <56>	3.44 <56>	11.38	9.5	4733	1.43	0.31
3/8/2021 12:19	46.71	67.27	29.29	12.23	17.61	10.67	0.96	14.40 <56>	3.82 <56>	12.31	8.47	5252	1.38	0.37
3/8/2021 12:20	45.24	66.65	27.7	12.47	18.37	10.62	1.03	14.73 <56>	3.73 <56>	11.87	8.75	5128	1.52	0.38
3/8/2021 12:21	45.51	67.44	27.21	12.5	18.52	10.4	1.07	14.82 <56>	3.64 <56>	12.1	8.82	5008	1.59	0.39
3/8/2021 12:22	47.98	68.54	30.23	14.86	21.23	13.03	1.17	14.29 <56>	3.84 <56>	12.15	8.37	5278	1.67	0.45
3/8/2021 12:23	42.72	63.72	25.69	12.45	18.57	10.42	1.16	14.92 <56>	3.66 <56>	11.85	8.9	5037	1.73	0.42
3/8/2021 12:24	40.12	62.29	23.35	11.42	17.73	9.25	0.97	15.52 <56>	3.54 <56>	11.1	9.37	4875	1.51	0.34
3/8/2021 12:25	36.92	56.68	21.66	9.44	14.49	7.71	1.09	15.35 <56>	3.57 <56>	11.63	9.24	4915	1.67	0.39
3/8/2021 12:26	38.28	56.68	23.36	10.18	15.07	8.64	1.21	14.81 <56>	3.71 <56>	11.87	8.81	5112	1.79	0.45
3/8/2021 12:27	39.58	58.12	24.02	10.89	15.99	9.19	1.19	14.68 <56>	3.69 <56>	12.07	8.71	5083	1.75	0.44
3/8/2021 12:28	43.24	61.28	27.17	12.33	17.47	10.78	1.34	14.17 <56>	3.83 <56>	12.34	8.27	5264	1.90	0.51
3/8/2021 12:29	44.59	62.7	28.13	13.73	19.31	12.05	1.27	14.06 <56>	3.84 <56>	12.59	8.17	5284	1.79	0.49
3/8/2021 12:30	43.01	62.04	26.34	12.9	18.61	10.99	1.2	14.42 <56>	3.73 <56>	12.07	8.49	5129	1.73	0.45
3/8/2021 12:31	40.33	60.82	23.96	10.43	15.73	8.62	1.14	15.08 <56>	3.62 <56>	11.48	9.03	4977	1.72	0.41
3/8/2021 12:32	37.78	58.75	21.63	8.37	13.02	6.67	1.16	15.55 <56>	3.48 <56>	11.47	9.39	4795	1.80	0.40
3/8/2021 12:33	35.76	54.94	21.38	7.83	12.03	6.51	1.09	15.36 <56>	3.64 <56>	11.37	9.25	5007	1.67	0.40
3/8/2021 12:34	38.29	59.76	22.24	7.8	12.17	6.3	1.11	15.61 <56>	3.54 <56>	11.55	9.43	4865	1.73	0.39
3/8/2021 12:35	39.37	59.12	23.89	9.03	13.56	7.62	1.26	15.02 <56>	3.69 <56>	11.7	8.98	5082	1.89	0.47
3/8/2021 12:36	41.32	62.21	24.9	6.67	10.04	5.59	1.21	15.05 <56>	3.67 <56>	11.53	9.01	5048	1.82	0.44
3/8/2021 12:37	42.25	60.94	26.36	8.33	12.02	7.23	1.25	14.42 <56>	3.80 <56>	12.42	8.49	5225	1.80	0.47
3/8/2021 12:38	42.82	62.26	26.2	10.36	15.06	8.82	1.36	14.54 <56>	3.72 <56>	11.91	8.59	5125	1.98	0.51
3/8/2021 12:39	44.76	65.51	27.77	10.92	15.98	9.43	1.21	14.64 <56>	3.78 <56>	11.86	8.67	5197	1.77	0.46
3/8/2021 12:40	41.16	63.08	24.01	9.2	14.1	7.47	1.22	15.33 <56>	3.55 <56>	11.75	9.22	4887	1.87	0.43
3/8/2021 12:41	38.66	59.4	23.05	9.28	14.26	7.7	1.3	15.36 <56>	3.63 <56>	11.18	9.25	4994	2.00	0.47
3/8/2021 12:42	41.08	62.85	24.23	8.87	13.57	7.28	1.25	15.30 <56>	3.59 <56>	11.68	9.2	4941	1.91	0.45
3/8/2021 12:43	41.77	61.54	25.56	10.61	15.63	9.03	1.35	14.73 <56>	3.72 <56>	11.9	8.75	5125	1.99	0.50
3/8/2021 12:44	41.61	60.36	25.94	10.79	15.65	9.36	1.37	14.51 <56>	3.79 <56>	12.18	8.56	5222	1.99	0.52
3/8/2021 12:45	39.37	58.92	23.53	10.25	15.34	8.52	1.34	14.97 <56>	3.64 <56>	11.75	8.94	5006	2.01	0.49
Average	**41.51**	**61.83**	**25.07**	**10.50**	**15.61**	**8.84**	**1.17**			**11.81**	**8.89**	**5052.57**	**1.74**	**0.43**

Flow	kdscfh	5052.57
O2	% dry	8.89
CO2	% dry	11.81
NOx	ppm dry	41.51
NOx	ppm @ 3% O2	61.83
NOx	lb/hr	25.07
SO2	ppm dry	10.50
SO2	ppm @ 3% O2	15.61
SO2	lb/hr	8.84
CO	ppm dry	1.17
CO	ppm @ 3% O2	1.74
CO	lb/hr	0.43

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		
3/8/2021 13:01	45.33	69.65	26.95	11.28	17.33	9.33	1.25	15.36 <56>	3.62 <56>	11.09	9.25	4979	1.92	0.45
3/8/2021 13:02	40.19	65.28	22.56	7.52	12.21	5.87	1.13	16.24 <56>	3.42 <56>	11.05	9.88	4701	1.84	0.39
3/8/2021 13:03	40.74	61.33	24.39	8.31	12.51	6.92	1.3	15.05 <56>	3.64 <56>	11.98	9.01	5014	1.96	0.47
3/8/2021 13:04	41.69	60.77	25.68	11.09	16.17	9.5	1.33	14.58 <56>	3.75 <56>	11.94	8.62	5159	1.94	0.50
3/8/2021 13:05	42.34	61.77	26.64	11.75	17.14	10.29	1.36	14.59 <56>	3.83 <56>	11.91	8.63	5270	1.98	0.52
3/8/2021 13:06	40.27	62.25	23.33	9.98	15.43	8.04	1.18	15.46 <56>	3.53 <56>	11.38	9.32	4852	1.82	0.42
3/8/2021 13:07	41.57	62.95	24.91	10.24	15.51	8.54	1.26	15.14 <56>	3.65 <56>	11.65	9.08	5019	1.91	0.46
3/8/2021 13:08	38.6	59.98	22.92	9.61	14.93	7.94	1.24	15.54 <56>	3.61 <56>	11.13	9.38	4974	1.93	0.45
3/8/2021 13:09	37.21	59.15	21.61	7.91	12.57	6.39	1.22	15.90 <56>	3.54 <56>	11.19	9.64	4865	1.94	0.43
3/8/2021 13:10	36.37	57.41	21.23	7.49	11.82	6.08	1.23	15.78 <56>	3.55 <56>	11.06	9.56	4890	1.94	0.44
3/8/2021 13:11	41.86	61.98	25.84	9.7	14.36	8.33	1.26	14.81 <56>	3.76 <56>	11.99	8.81	5171	1.87	0.47
3/8/2021 13:12	43.25	63.3	26.83	11.92	17.45	10.29	1.3	14.64 <56>	3.78 <56>	12.18	8.67	5196	1.90	0.49
3/8/2021 13:13	41.33	60.59	25.34	11.53	16.9	9.83	1.18	14.66 <56>	3.73 <56>	11.93	8.69	5135	1.73	0.44
3/8/2021 13:14	43.71	63.46	26.89	12.19	17.7	10.43	1.2	14.52 <56>	3.74 <56>	12.1	8.57	5153	1.74	0.45
3/8/2021 13:15	44.43	65.19	27.24	12.83	18.82	10.94	1.31	14.67 <56>	3.73 <56>	11.93	8.7	5135	1.92	0.49
3/8/2021 13:16	42.26	63.57	25.06	11.37	17.1	9.38	1.2	15.04 <56>	3.61 <56>	11.67	9	4967	1.81	0.43
3/8/2021 13:17	43.57	65.21	25.76	11.15	16.69	9.17	1.22	14.97 <56>	3.60 <56>	11.76	8.94	4953	1.83	0.44
3/8/2021 13:18	43.65	63.37	27.22	11.85	17.2	10.28	1.19	14.52 <56>	3.80 <56>	12.11	8.57	5223	1.73	0.45
3/8/2021 13:19	42.2	64.62	25.05	10.77	16.49	8.89	1.16	15.31 <56>	3.61 <56>	11.38	9.21	4972	1.78	0.42
3/8/2021 13:20	40.44	63.72	23.6	9.3	14.65	7.55	1.17	15.76 <56>	3.55 <56>	11.13	9.54	4888	1.84	0.42
3/8/2021 13:21	41	65	24.11	8.47	13.43	6.93	1.05	15.85 <56>	3.58 <56>	11.15	9.61	4925	1.66	0.38
3/8/2021 13:22	41.1	63.75	23.85	6.75	10.47	5.45	1.14	15.51 <56>	3.53 <56>	11.47	9.36	4860	1.77	0.40
3/8/2021 13:23	44.89	64.8	28.7	11.43	16.5	10.17	1.22	14.44 <56>	3.89 <56>	12.15	8.5	5356	1.76	0.47
3/8/2021 13:24	41.51	62.7	24.76	10.75	16.24	8.92	0.96	15.11 <56>	3.63 <56>	11.62	9.05	4997	1.45	0.35
3/8/2021 13:25	43.66	64.22	26.72	12.92	19	11	1.25	14.71 <56>	3.73 <56>	11.92	8.73	5126	1.84	0.47
3/8/2021 13:26	45.09	64.93	27.93	13.38	19.27	11.53	1.27	14.40 <56>	3.77 <56>	12.47	8.47	5189	1.83	0.48
3/8/2021 13:27	46.5	65.44	29.17	16.52	23.25	14.42	1.26	14.07 <56>	3.82 <56>	12.45	8.18	5255	1.77	0.48
3/8/2021 13:28	44.67	64.22	27.95	16.98	24.41	14.78	1.11	14.38 <56>	3.81 <56>	11.87	8.45	5241	1.60	0.42
3/8/2021 13:29	38.39	59.44	22.63	10.7	16.57	8.77	1.02	15.48 <56>	3.59 <56>	11.26	9.34	4937	1.58	0.37
3/8/2021 13:30	36.18	56.86	20.34	8.71	13.69	6.81	1.06	15.72 <56>	3.42 <56>	11.44	9.51	4708	1.67	0.36
Average	**41.80**	**62.90**	**25.17**	**10.81**	**16.19**	**9.09**	**1.20**			**11.68**	**9.01**	**5037.00**	**1.81**	**0.44**

Flow	kdscfh	5037.00
O2	% dry	9.01
CO2	% dry	11.68
NOx	ppm dry	41.80
NOx	ppm @ 3% O2	62.90
NOx	lb/hr	25.17
SO2	ppm dry	10.81
SO2	ppm @ 3% O2	16.19
SO2	lb/hr	9.09
CO	ppm dry	1.20
CO	ppm @ 3% O2	1.81
CO	lb/hr	0.44

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		
3/8/2021 13:49	40.28	59.59	23.86	10.13	14.99	8.35	0.92	14.79 <56>	3.61 <56>	11.86	8.8	4962	1.36	0.33
3/8/2021 13:50	44	63.82	26.91	11.06	16.04	9.41	0.98	14.51 <56>	3.72 <56>	12.02	8.56	5122	1.42	0.36
3/8/2021 13:51	42.52	62.13	25.39	11.11	16.23	9.23	1.01	14.61 <56>	3.63 <56>	12.2	8.65	5002	1.48	0.37
3/8/2021 13:52	46.74	66.09	28.99	13.89	19.64	11.99	0.89	14.14 <56>	3.78 <56>	12.43	8.24	5196	1.26	0.34
3/8/2021 13:53	40.04	60.03	23.94	11.58	17.36	9.63	0.96	14.99 <56>	3.64 <56>	11.28	8.96	5008	1.44	0.35
3/8/2021 13:54	40.32	62.06	23.35	8.49	13.07	6.84	0.9	15.39 <56>	3.52 <56>	11.62	9.27	4850	1.39	0.32
3/8/2021 13:55	37.98	59.9	22.25	8.3	13.09	6.77	0.9	15.77 <56>	3.57 <56>	10.94	9.55	4907	1.42	0.32
3/8/2021 13:56	37.48	60.66	21.47	6.74	10.91	5.37	0.86	16.18 <56>	3.49 <56>	11.02	9.84	4799	1.39	0.30
3/8/2021 13:57	35.95	57.56	21.08	6.6	10.57	5.38	1.07	16.01 <56>	3.57 <56>	10.93	9.72	4912	1.71	0.38
3/8/2021 13:58	37.65	58	22.49	6.23	9.6	5.18	1.03	15.40 <56>	3.64 <56>	11.69	9.28	5003	1.59	0.37
3/8/2021 13:59	42.67	63.49	26.08	8.77	13.05	7.46	1.04	14.88 <56>	3.72 <56>	11.84	8.87	5119	1.55	0.39
3/8/2021 14:00	42.16	61.5	26.53	10.23	14.92	8.96	0.85	14.59 <56>	3.83 <56>	11.91	8.63	5270	1.24	0.33
3/8/2021 14:01	39.61	60.14	23.56	8.35	12.68	6.91	0.95	15.18 <56>	3.62 <56>	11.7	9.11	4982	1.44	0.34
3/8/2021 14:02	41.81	61.29	25.58	9.3	13.63	7.92	0.92	14.66 <56>	3.72 <56>	12.06	8.69	5125	1.35	0.34
3/8/2021 14:03	43.71	62.19	27.27	11.04	15.71	9.58	0.96	14.23 <56>	3.80 <56>	12.45	8.32	5225	1.37	0.36
3/8/2021 14:04	45.65	64.09	28.57	14.03	19.7	12.22	0.94	14.04 <56>	3.81 <56>	12.34	8.15	5242	1.32	0.36
3/8/2021 14:05	48.21	69.2	29.92	14.01	20.11	12.1	0.86	14.35 <56>	3.78 <56>	12.1	8.43	5199	1.23	0.32
3/8/2021 14:06	42.48	65.55	25.01	10.79	16.65	8.84	0.79	15.43 <56>	3.58 <56>	11.39	9.3	4932	1.22	0.28
3/8/2021 14:07	39.86	63.31	22.35	8.86	14.07	6.91	0.72	15.88 <56>	3.41 <56>	11.08	9.63	4696	1.14	0.25
3/8/2021 14:08	41.01	60.22	25.59	9.78	14.36	8.49	0.83	14.68 <56>	3.80 <56>	11.93	8.71	5226	1.22	0.32
3/8/2021 14:09	39.22	60.42	23.07	8.63	13.29	7.06	0.84	15.40 <56>	3.58 <56>	11.46	9.28	4927	1.29	0.30
3/8/2021 14:10	41.47	60.95	25.37	9.28	13.64	7.9	0.87	14.70 <56>	3.72 <56>	12.21	8.72	5124	1.28	0.32
3/8/2021 14:11	39.66	58.67	24.08	10.51	15.55	8.88	0.92	14.79 <56>	3.70 <56>	11.73	8.8	5085	1.36	0.34
3/8/2021 14:12	41.79	61.42	25.05	10.19	14.98	8.5	0.83	14.70 <56>	3.65 <56>	12.05	8.72	5021	1.22	0.30
3/8/2021 14:13	41.43	59.38	25.93	11.63	16.67	10.13	0.86	14.33 <56>	3.81 <56>	12.06	8.41	5242	1.23	0.33
3/8/2021 14:14	40.57	59.48	24.6	9.92	14.54	8.37	0.89	14.66 <56>	3.69 <56>	12.07	8.69	5079	1.30	0.33
3/8/2021 14:15	43.11	63.72	25.83	10.15	15	8.46	0.74	14.78 <56>	3.65 <56>	11.88	8.79	5018	1.09	0.27
3/8/2021 14:16	43.4	64.74	26.37	10.56	15.75	8.93	0.79	14.92 <56>	3.70 <56>	11.68	8.9	5090	1.18	0.29
3/8/2021 14:17	38.15	59.85	21.68	8.12	12.74	6.42	0.67	15.69 <56>	3.46 <56>	11.33	9.49	4759	1.05	0.23
3/8/2021 14:18	42.44	62.68	25.48	9.48	14	7.92	0.8	14.77 <56>	3.65 <56>	11.88	8.78	5029	1.18	0.29
Average	**41.38**	**61.74**	**24.92**	**9.93**	**14.75**	**8.34**	**0.89**			**11.77**	**8.91**	**5038.37**	**1.32**	**0.32**

Flow	kdscfh	5038.37
O2	% dry	8.91
CO2	% dry	11.77
NOx	ppm dry	41.38
NOx	ppm @ 3% O2	61.74
NOx	lb/hr	24.92
SO2	ppm dry	9.93
SO2	ppm @ 3% O2	14.75
SO2	lb/hr	8.34
CO	ppm dry	0.89
CO	ppm @ 3% O2	1.32
CO	lb/hr	0.32

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		
3/8/2021 14:33	43.99	63.15	27.13	11.42	16.39	9.8	0.64	14.35 <56>	3.75 <56>	12.08	8.43	5165	0.92	0.24
3/8/2021 14:34	41.76	62.5	24.99	10.12	15.15	8.43	0.71	14.97 <56>	3.64 <56>	11.57	8.94	5012	1.06	0.26
3/8/2021 14:35	41.35	63.21	24.11	9.36	14.31	7.59	0.65	15.29 <56>	3.55 <56>	11.54	9.19	4883	0.99	0.23
3/8/2021 14:36	42.09	62.06	25.35	10	14.74	8.38	0.61	14.74 <56>	3.67 <56>	12.04	8.76	5044	0.90	0.22
3/8/2021 14:37	44.68	63.73	27.97	11.68	16.66	10.17	0.78	14.26 <56>	3.81 <56>	12.35	8.35	5244	1.11	0.30
3/8/2021 14:38	41.25	60.42	24.73	10.69	15.66	8.92	0.67	14.65 <56>	3.65 <56>	11.81	8.68	5021	0.98	0.24
3/8/2021 14:39	44.61	64.04	27.65	10.97	15.75	9.46	0.77	14.35 <56>	3.77 <56>	12.4	8.43	5191	1.11	0.29
3/8/2021 14:40	44.91	67.1	26.57	12.39	18.51	10.2	0.72	14.94 <56>	3.60 <56>	11.69	8.92	4956	1.08	0.26
3/8/2021 14:41	39.72	60.2	23.49	10.39	15.75	8.55	0.67	15.16 <56>	3.60 <56>	11.48	9.09	4954	1.02	0.24
3/8/2021 14:42	36.67	55.3	21.51	8.7	13.12	7.1	0.79	15.08 <56>	3.57 <56>	11.83	9.03	4913	1.19	0.28
3/8/2021 14:43	43.38	61.38	27.24	12.66	17.91	11.06	0.91	14.15 <56>	3.82 <56>	12.45	8.25	5260	1.29	0.35
3/8/2021 14:44	42.07	61.12	25.49	12.66	18.39	10.67	1	14.53 <56>	3.69 <56>	11.95	8.58	5076	1.45	0.37
3/8/2021 14:45	42.05	62.1	25.72	12.17	17.97	10.36	0.7	14.77 <56>	3.72 <56>	11.8	8.78	5123	1.03	0.26
3/8/2021 14:46	38.32	61.13	21.66	8.82	14.07	6.94	0.55	15.95 <56>	3.44 <56>	10.95	9.68	4734	0.88	0.19
3/8/2021 14:47	39.96	59.07	24.08	9.31	13.76	7.8	0.78	14.78 <56>	3.67 <56>	12.12	8.79	5047	1.15	0.29
3/8/2021 14:48	44.55	63.39	28.09	12.81	18.23	11.24	0.71	14.23 <56>	3.84 <56>	12.18	8.32	5281	1.01	0.27
3/8/2021 14:49	47.06	67.07	29.06	13.59	19.37	11.68	0.72	14.25 <56>	3.76 <56>	12.55	8.34	5173	1.03	0.27
3/8/2021 14:50	44.47	62.78	27.6	13.4	18.92	11.57	0.72	14.12 <56>	3.78 <56>	12.4	8.22	5198	1.02	0.27
3/8/2021 14:51	38.38	55.63	23.35	11.34	16.44	9.6	0.54	14.49 <56>	3.70 <56>	11.97	8.55	5096	0.78	0.20
3/8/2021 14:52	34.64	52.06	20.43	7.43	11.17	6.1	0.5	15.03 <56>	3.59 <56>	11.63	8.99	4941	0.75	0.18
3/8/2021 14:53	36.45	54.19	21.51	7.06	10.5	5.8	0.58	14.87 <56>	3.59 <56>	11.93	8.86	4944	0.86	0.21
3/8/2021 14:54	39.05	57.48	23.74	9.06	13.34	7.66	0.58	14.72 <56>	3.70 <56>	11.8	8.74	5092	0.85	0.21
3/8/2021 14:55	40.54	60.22	24.31	9.49	14.1	7.92	0.59	14.85 <56>	3.65 <56>	12.01	8.85	5022	0.88	0.22
3/8/2021 14:56	41.42	62.36	24.68	10.18	15.33	8.44	0.51	15.05 <56>	3.63 <56>	11.47	9.01	4991	0.77	0.18
3/8/2021 14:57	38.46	59.86	22.51	8.75	13.62	7.12	0.45	15.57 <56>	3.56 <56>	11.2	9.4	4902	0.70	0.16
3/8/2021 14:58	37.89	58.52	22.31	7.4	11.43	6.06	0.52	15.44 <56>	3.58 <56>	11.49	9.31	4932	0.80	0.19
3/8/2021 14:59	38.28	58.77	22.79	7.31	11.22	6.06	0.44	15.35 <56>	3.62 <56>	11.41	9.24	4987	0.68	0.16
3/8/2021 15:00	38.55	57.74	22.88	7.74	11.59	6.39	0.57	14.98 <56>	3.61 <56>	12.04	8.95	4972	0.85	0.21
3/8/2021 15:01	41.27	58.35	26.23	9.8	13.86	8.67	0.54	14.14 <56>	3.87 <56>	12.36	8.24	5324	0.76	0.21
3/8/2021 15:02	42.03	61.07	25.66	10.42	15.14	8.85	0.58	14.53 <56>	3.72 <56>	12.03	8.58	5113	0.84	0.22
Average	**41.00**	**60.53**	**24.76**	**10.24**	**15.08**	**8.62**	**0.65**			**11.88**	**8.78**	**5053.03**	**0.96**	**0.24**

Flow	kdscfh	5053.03
O2	% dry	8.78
CO2	% dry	11.88
NOx	ppm dry	41.00
NOx	ppm @ 3% O2	60.53
NOx	lb/hr	24.76
SO2	ppm dry	10.24
SO2	ppm @ 3% O2	15.08
SO2	lb/hr	8.62
CO	ppm dry	0.65
CO	ppm @ 3% O2	0.96
CO	lb/hr	0.24

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		
3/8/2021 15:19	37.31	58.18	21.39	7.12	11.1	5.68	0.23	15.59 <56>	3.49 <56>	11.6	9.42	4802	0.36	0.08
3/8/2021 15:20	37.87	56.21	23.09	7.85	11.65	6.66	0.32	14.84 <56>	3.71 <56>	11.8	8.84	5108	0.47	0.12
3/8/2021 15:21	41.24	61.83	24.36	9.58	14.36	7.87	0.18	14.99 <56>	3.60 <56>	11.67	8.96	4948	0.27	0.06
3/8/2021 15:22	42.35	60.74	26.68	10.65	15.28	9.33	0.26	14.34 <56>	3.83 <56>	12.22	8.42	5276	0.37	0.10
3/8/2021 15:23	42.87	63	26	9.44	13.87	7.97	0.2	14.70 <56>	3.69 <56>	11.99	8.72	5080	0.29	0.07
3/8/2021 15:24	40	60.52	23.87	10.42	15.77	8.65	0.18	15.13 <56>	3.63 <56>	11.51	9.07	4998	0.27	0.07
3/8/2021 15:25	41.75	63.23	24.69	9.45	14.31	7.77	0.17	15.14 <56>	3.60 <56>	11.82	9.08	4953	0.26	0.06
3/8/2021 15:26	40.05	59.49	23.96	10.62	15.78	8.84	0.28	14.85 <56>	3.64 <56>	11.73	8.85	5010	0.42	0.10
3/8/2021 15:27	42.07	61.07	26.2	10.51	15.26	9.11	0.21	14.52 <56>	3.79 <56>	12.08	8.57	5217	0.30	0.08
3/8/2021 15:28	40.71	60.12	24.56	10.11	14.93	8.49	0.19	14.77 <56>	3.67 <56>	11.93	8.78	5054	0.28	0.07
3/8/2021 15:29	42.38	62.95	25.85	11.42	16.96	9.69	0.17	14.85 <56>	3.71 <56>	11.66	8.85	5110	0.25	0.06
3/8/2021 15:30	42.34	62.69	25.49	10.46	15.49	8.76	0.21	14.81 <56>	3.66 <56>	12.06	8.81	5043	0.31	0.08
3/8/2021 15:31	42.46	61.15	26.29	11.48	16.53	9.89	0.36	14.40 <56>	3.77 <56>	12.19	8.47	5187	0.52	0.14
3/8/2021 15:32	42.14	60.15	25.99	11.85	16.92	10.17	0.32	14.27 <56>	3.75 <56>	12.3	8.36	5165	0.46	0.12
3/8/2021 15:33	47.21	66.96	29.35	13.54	19.2	11.71	0.29	14.18 <56>	3.78 <56>	12.38	8.28	5207	0.41	0.11
3/8/2021 15:34	45.35	65.25	27.66	11.5	16.55	9.76	0.09	14.39 <56>	3.71 <56>	12.13	8.46	5108	0.13	0.03
3/8/2021 15:35	41.52	60.82	25.32	10.23	14.99	8.68	0.12	14.65 <56>	3.71 <56>	11.89	8.68	5107	0.18	0.04
3/8/2021 15:36	37.88	59.12	21.72	9.38	14.64	7.48	0.11	15.61 <56>	3.49 <56>	11.23	9.43	4803	0.17	0.04
3/8/2021 15:37	36.29	56.49	21.03	8.61	13.4	6.94	0.18	15.57 <56>	3.53 <56>	11.34	9.4	4854	0.28	0.06
3/8/2021 15:38	38.1	57.6	22.63	9.28	14.03	7.67	0.19	15.12 <56>	3.62 <56>	11.67	9.06	4976	0.29	0.07
3/8/2021 15:39	39.7	58.34	24.49	9.7	14.26	8.33	0.1	14.70 <56>	3.75 <56>	11.95	8.72	5167	0.15	0.04
3/8/2021 15:40	37.59	55.24	22.64	10.28	15.11	8.61	0.09	14.70 <56>	3.67 <56>	12.14	8.72	5045	0.13	0.03
3/8/2021 15:41	47.22	65.88	29.86	15.99	22.31	14.07	0.12	13.95 <56>	3.85 <56>	12.53	8.07	5297	0.17	0.05
3/8/2021 15:42	48.59	67.01	31.1	16.94	23.36	15.08	0.26	13.79 <56>	3.90 <56>	12.73	7.92	5361	0.36	0.10
3/8/2021 15:43	45.89	66.46	27.7	14.76	21.38	12.4	0.05	14.48 <56>	3.67 <56>	12.11	8.54	5056	0.07	0.02
3/8/2021 15:44	43.54	63.57	25.89	12.75	18.62	10.55	0	14.60 <56>	3.62 <56>	12	8.64	4980	0.00	0.00
3/8/2021 15:45	42.29	61.25	25.81	12.61	18.26	10.71	0.08	14.48 <56>	3.71 <56>	11.96	8.54	5112	0.12	0.03
3/8/2021 15:46	41	59.96	24.43	11.49	16.8	9.52	0	14.62 <56>	3.63 <56>	12.15	8.66	4990	0.00	0.00
3/8/2021 15:47	40.42	58.21	24.46	12.29	17.7	10.35	0	14.40 <56>	3.68 <56>	12.15	8.47	5069	0.00	0.00
3/8/2021 15:48	43.4	60.79	26.84	14.26	19.97	12.27	0.09	14.01 <56>	3.77 <56>	12.65	8.12	5181	0.13	0.03
Average	**41.72**	**61.14**	**25.31**	**11.15**	**16.29**	**9.43**	**0.17**			**11.99**	**8.70**	**5075.47**	**0.25**	**0.06**

Flow	kdscfh	5075.47
O2	% dry	8.70
CO2	% dry	11.99
NOx	ppm dry	41.72
NOx	ppm @ 3% O2	61.14
NOx	lb/hr	25.31
SO2	ppm dry	11.15
SO2	ppm @ 3% O2	16.29
SO2	lb/hr	9.43
CO	ppm dry	0.17
CO	ppm @ 3% O2	0.25
CO	lb/hr	0.06

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		
3/8/2021 16:05	45.97	62.62	30.24	14.08	19.18	12.89	0	13.62 <56>	4.00 <56>	12.54	7.76	5510	0.00	
3/8/2021 16:06	43.06	64.23	24.99	10.29	15.35	8.31	0	14.92 <56>	3.53 <56>	11.87	8.9	4862	0.00	
3/8/2021 16:07	44.22	64.99	26.31	10.57	15.53	8.75	0	14.70 <56>	3.62 <56>	11.8	8.72	4984	0.00	0.00
3/8/2021 16:08	42	61.52	25.37	9.73	14.25	8.18	0	14.65 <56>	3.68 <56>	11.97	8.68	5059	0.00	0.00
3/8/2021 16:09	37.77	57.93	22.19	8.29	12.72	6.78	0	15.34 <56>	3.58 <56>	11.33	9.23	4921	0.00	0.00
3/8/2021 16:10	35.69	56.74	20.16	6.58	10.46	5.17	0	15.90 <56>	3.44 <56>	11.15	9.64	4732	0.00	0.00
3/8/2021 16:11	40.76	59.9	24.63	7.52	11.05	6.32	0	14.70 <56>	3.68 <56>	12.26	8.72	5061	0.00	0.00
3/8/2021 16:12	40.69	59.12	25.21	9.18	13.34	7.91	0	14.53 <56>	3.77 <56>	11.88	8.58	5189	0.00	0.00
3/8/2021 16:13	40.05	59.64	23.85	8.02	11.94	6.65	0	14.89 <56>	3.63 <56>	11.67	8.88	4989	0.00	0.00
3/8/2021 16:14	38.8	59.06	23.23	7.19	10.94	5.99	0	15.22 <56>	3.64 <56>	11.28	9.14	5015	0.00	0.00
3/8/2021 16:15	37.8	60.2	21.61	5.98	9.52	4.76	0	15.93 <56>	3.48 <56>	11.18	9.66	4788	0.00	0.00
3/8/2021 16:16	39.15	58.06	23.58	6.51	9.65	5.45	0	14.83 <56>	3.67 <56>	12.11	8.83	5044	0.00	0.00
3/8/2021 16:17	42.65	62.02	26.6	8.48	12.33	7.36	0	14.54 <56>	3.80 <56>	11.88	8.59	5224	0.00	0.00
3/8/2021 16:18	39.23	60.02	23.54	7.28	11.14	6.08	0	15.30 <56>	3.65 <56>	11.41	9.2	5027	0.00	0.00
3/8/2021 16:19	39.86	61.3	22.87	6.89	10.6	5.5	0	15.38 <56>	3.49 <56>	11.77	9.26	4806	0.00	0.00
3/8/2021 16:20	47.55	65.47	30.69	10.87	14.97	9.76	0	13.77 <56>	3.93 <56>	12.74	7.9	5406	0.00	0.00
3/8/2021 16:21	49.13	67.49	31.92	13.51	18.56	12.21	0	13.74 <56>	3.95 <56>	12.57	7.87	5442	0.00	0.00
3/8/2021 16:22	44.62	64	26.81	10.86	15.58	9.08	0	14.34 <56>	3.66 <56>	12.33	8.42	5033	0.00	0.00
3/8/2021 16:23	44.82	64.08	27.66	11.66	16.67	10.01	0	14.30 <56>	3.76 <56>	11.97	8.38	5169	0.00	0.00
3/8/2021 16:24	39.96	58.25	23.58	9.67	14.1	7.94	0	14.58 <56>	3.59 <56>	12.25	8.62	4942	0.00	0.00
3/8/2021 16:25	39.47	57.58	24	10.2	14.88	8.63	0	14.59 <56>	3.70 <56>	11.7	8.63	5094	0.00	0.00
3/8/2021 16:26	35.95	54.03	20.85	7.96	11.96	6.42	0	15.03 <56>	3.53 <56>	11.87	8.99	4859	0.00	0.00
3/8/2021 16:27	39.08	57.86	23.36	8.83	13.07	7.34	0	14.81 <56>	3.64 <56>	11.77	8.81	5007	0.00	0.00
3/8/2021 16:28	40.11	60.33	23.82	8.81	13.25	7.28	0	15.04 <56>	3.62 <56>	11.62	9	4975	0.00	0.00
3/8/2021 16:29	39.07	59.47	22.93	8.62	13.12	7.04	0	15.22 <56>	3.57 <56>	11.55	9.14	4915	0.00	0.00
3/8/2021 16:30	38.94	57.7	23.25	8.52	12.62	7.08	0	14.82 <56>	3.63 <56>	12.01	8.82	5001	0.00	0.00
3/8/2021 16:31	43.6	62.79	27.33	11.25	16.2	9.81	0	14.40 <56>	3.82 <56>	12.31	8.47	5251	0.00	0.00
3/8/2021 16:32	43.19	67.28	24.82	11.37	17.71	9.09	0	15.58 <56>	3.50 <56>	10.9	9.41	4814	0.00	0.00
3/8/2021 16:33	41.04	60.86	24.57	10.05	14.9	8.37	0	14.83 <56>	3.64 <56>	12.11	8.83	5014	0.00	0.00
3/8/2021 16:34	43.01	61.94	26.53	12.24	17.63	10.5	0	14.40 <56>	3.75 <56>	12.17	8.47	5166	0.00	0.00
Average	**41.24**	**60.88**	**24.88**	**9.37**	**13.77**	**7.89**	**0.00**			**11.87**	**8.79**	**5043.30**	**0.00**	**0.00**

Flow	kdscfh	5043.30
O2	% dry	8.79
CO2	% dry	11.87
NOx	ppm dry	41.24
NOx	ppm @ 3% O2	60.88
NOx	lb/hr	24.88
SO2	ppm dry	9.37
SO2	ppm @ 3% O2	13.77
SO2	lb/hr	7.89
CO	ppm dry	0.00
CO	ppm @ 3% O2	0.00
CO	lb/hr	0.00

Appendix B.2.2
Unit 2 Plant Process Data

4:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	26.577	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	24.609	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	346.770	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.126	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	179.349	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	196.119	LBS/HR
EX-MW	GENERATOR MW GROSS	44.937	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	866.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	570.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	950.238	LBS/HR

3:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	28.366	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	28.831	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	416.875	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	124.749	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	181.863	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	207.143	LBS/HR
EX-MW	GENERATOR MW GROSS	46.840	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	817.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	527.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	886.693	LBS/HR

2:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	25.073	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	26.257	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	490.736	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.094	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	183.164	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	201.501	LBS/HR
EX-MW	GENERATOR MW GROSS	46.189	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	757.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	488.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	1009.002	LBS/HR

1:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	13.788	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	26.242	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	540.811	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.094	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	189.331	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	199.010	LBS/HR
EX-MW	GENERATOR MW GROSS	46.282	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	710.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	488.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	691.423	LBS/HR

12:00 PM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	39.381	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	29.835	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	789.935	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.503	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	201.041	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	204.316	LBS/HR
EX-MW	GENERATOR MW GROSS	48.222	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	659.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	467.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	708.927	LBS/HR

11:00 AM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	31.412	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	27.341	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	623.435	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	124.372	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	197.511	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	199.254	LBS/HR
EX-MW	GENERATOR MW GROSS	47.425	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	604.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	435.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	816.454	LBS/HR

10:00 AM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	24.509	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	25.594	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	634.702	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.879	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	194.789	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	201.904	LBS/HR
EX-MW	GENERATOR MW GROSS	47.555	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	548.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	391.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	1076.789	LBS/HR

9:00 AM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	41.144	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	24.641	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	1141.713	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.126	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	202.333	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	198.149	LBS/HR
EX-MW	GENERATOR MW GROSS	47.913	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	493.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	341.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	1132.783	LBS/HR

8:00 AM

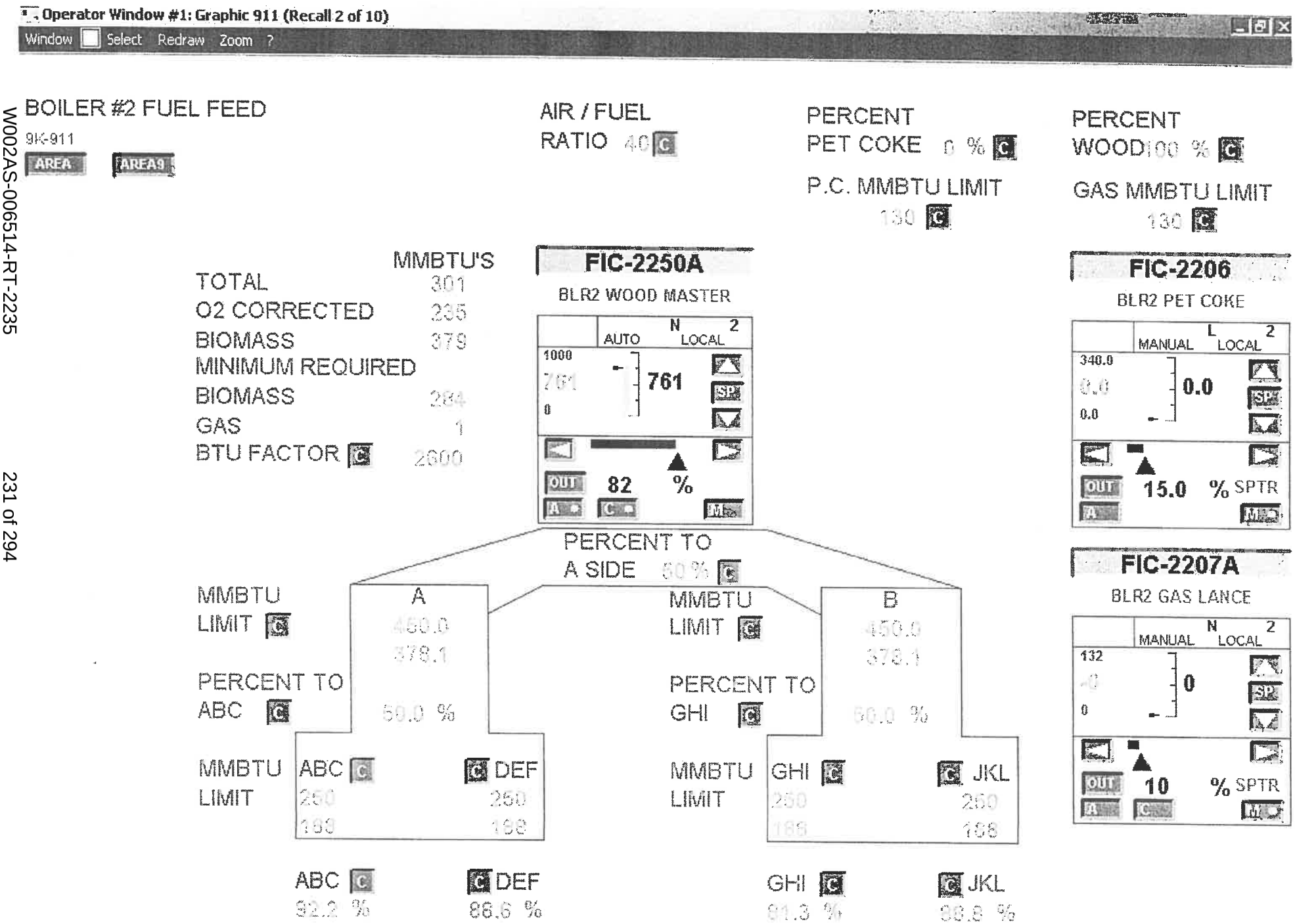
CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	28.630	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	27.717	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	1156.735	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.126	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	200.770	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	208.320	LBS/HR
EX-MW	GENERATOR MW GROSS	48.526	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	436.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	304.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	1548.274	LBS/HR

7:00 AM

CEM 15 MINUTE REPORT

TAG	DESCRIPTION	VALUE	E/U
HIC-1704	#NULL!	#NULL!	LBS/HR
FIC-1753	BLR1 NOX LBS/HR CONTROL	29.532	LBS/HR
FIC-2753	BLR2 NOX LBS/HR CONTROL	24.343	LBS/HR
SI-1345	#1 LIMESTONE FEED RATE	1124.187	LBS/HR
PI-93	700# HEADER STM INLET PRESS "A"	125.126	PSI
FI-1040	BLR1 OUTLET STEAM LBS/HR	197.832	LBS/HR
FI-2040	BLR2 OUTLET STEAM LBS/HR	203.170	LBS/HR
EX-MW	GENERATOR MW GROSS	47.864	MEGWAT
FQI2-6105	B2 DAILY TOTAL FLOW	385.000	TONS
FQI2-6120	B3 DAILY TOTAL FLOW	273.000	TONS
SI-2345	fpget("SI-2345.C_DESC")	1277.819	LBS/HR


Operator Window #1: Graphic 911 (Recall 2 of 10)
Window Select Redraw Zoom ?
BOILER #2 FUEL FEED
9K-911
AREA
AREA9
AIR / FUEL RATIO 40
PERCENT PET COKE 0 %
P.C. MMBTU LIMIT 130
PERCENT WOOD 100 %
GAS MMBTU LIMIT 130
MMBTU'S
TOTAL 301
O2 CORRECTED 235
BIOMASS 379
MINIMUM REQUIRED BIOMASS 284
GAS 1
BTU FACTOR 2600
FIC-2250A
BLR2 WOOD MASTER
AUTO N LOCAL 2
1000
761
0
761
SP
OUT
82 %
A
C
M
PERCENT TO A SIDE 50 %
MMBTU LIMIT
A
450.0
378.1
PERCENT TO ABC
50.0 %
MMBTU LIMIT
ABC
250
188
DEF
250
188
ABC
92.2 %
DEF
88.6 %
MMBTU LIMIT
B
450.0
378.1
PERCENT TO GHI
50.0 %
MMBTU LIMIT
GHI
250
188
JKL
250
188
GHI
81.3 %
JKL
88.8 %
FIC-2206
BLR2 PET COKE
MANUAL L LOCAL 2
340.0
0.0
0.0
0.0
SP
OUT
15.0 % SPTR
A
M
FIC-2207A
BLR2 GAS LANCE
MANUAL N LOCAL 2
132
0
0
SP
OUT
10 % SPTR
A
C
M

Operator Window #1: Graphic 911

Window Select Redraw Zoom ?

BOILER #2 FUEL FEED

9K-911

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 130 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	301
O2 CORRECTED	304
BIOMASS	384
MINIMUM REQUIRED BIOMASS	298
GAS	0
BTU FACTOR C	2900

FIC-2250A

BLR2 WOOD MASTER

AUTO N LOCAL 2

1000 769 0 769 SP

OUT 83 % A C M

FIC-2206

BLR2 PET COKE

MANUAL L LOCAL 2

340.0 0.0 0.0 0.0 SP

OUT 15.0 % SPTR A M

FIC-2207A

BLR2 GAS LANCE

MANUAL N LOCAL 2

132 0 0 0 SP

OUT 10 % SPTR A C M

PERCENT TO A SIDE 50 % C

	A	B
MMBTU LIMIT C	450.0 379.7	450.0 379.7
PERCENT TO ABC / GHI C	50.0 %	50.0 %

	ABC C	DEF C	GHI C	JKL C
MMBTU LIMIT	250 190	250 190	250 190	250 190
	93.1 %	89.6 %	82.1 %	89.7 %

3/8/21
1500

Operator Window #1: Graphic 911

Window Select Redraw Zoom ?

BOILER #2 FUEL FEED

9K-911

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 130 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	301
O2 CORRECTED	304
BIOMASS	384
MINIMUM REQUIRED BIOMASS	258
GAS	0
BTU FACTOR C	2600

FIC-2250A

BLR2 WOOD MASTER

AUTO N LOCAL 2

1000 769 0 769 SP

OUT 83 % A C M

FIC-2206

BLR2 PET COKE

MANUAL L LOCAL 2

340.0 0.0 0.0 0.0 SP

OUT 15.0 % SPTR A M

FIC-2207A

BLR2 GAS LANCE

MANUAL N LOCAL 2

132 0 0 0 SP

OUT 10 % SPTR A C M

PERCENT TO A SIDE 50 % C

	A	B
MMBTU LIMIT C	450.0 379.7	450.0 379.7
PERCENT TO ABC / GHI C	50.0 %	50.0 %

	ABC C	DEF C	GHI C	JKL C
MMBTU LIMIT	250 190	250 190	250 190	250 190
	93.1 %	89.6 %	82.1 %	89.7 %

3/8/21
1400

Operator Window #1: Graphic 911

Window Select Redraw Zoom ?

BOILER #2 FUEL FEED

9K-911

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 130 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	301
O2 CORRECTED	316
BIOMASS	374
MINIMUM REQUIRED BIOMASS	291
GAS	2
BTU FACTOR C	2600

FIC-2250A

BLR2 WOOD MASTER

AUTO N LOCAL 2

1000 748 0 748 SP

OUT 81 % A C M

FIC-2206

BLR2 PET COKE

MANUAL L LOCAL 2

340.0 0.0 0.0 0.0 SP

OUT 15.0 % SPTR A M

FIC-2207A

BLR2 GAS LANCE

MANUAL N LOCAL 2

132 0 0 0 SP

OUT 10 % SPTR A C M

PERCENT TO A SIDE 50 % C

	A	B
MMBTU LIMIT C	450.0 367.3	450.0 367.3
PERCENT TO ABC / GHI C	50.0 %	50.0 %

	ABC C	DEF C	GHI C	JKL C
MMBTU LIMIT	250 184	250 184	250 184	250 184
	90.7 %	87.1 %	79.9 %	87.3 %

3/8/21
1300

Operator Window #1: Graphic 911

Window Select Redraw Zoom ?

BOILER #2 FUEL FEED

9K-911

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 130 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	301
O2 CORRECTED	310
BIOMASS	255
MINIMUM REQUIRED BIOMASS	266
GAS	0
BTU FACTOR C	2600

FIC-2250A

BLR2 WOOD MASTER

AUTO N LOCAL 2

1000 709 0 710 SP

OUT 77 % A C M

FIC-2206

BLR2 PET COKE

MANUAL L LOCAL 2

340.0 0.0 0.0 0.0 SP

OUT 15.0 % SPTR A M

FIC-2207A

BLR2 GAS LANCE

MANUAL N LOCAL 2

132 0 0 0 SP

OUT 10 % SPTR A C M

PERCENT TO A SIDE 50 % C

	A	B
MMBTU LIMIT C	450.0 346.6	450.0 346.6
PERCENT TO ABC C	50.0 %	50.0 %

	ABC C	C DEF	GHI C	C JKL
MMBTU LIMIT	250 175	250 175	250 175	250 175
	ABC C 86.1 %	C DEF 82.6 %	GHI C 75.6 %	C JKL 62.7 %

3/8/21
1200

Operator Window #1: Graphic 911

Window Select Redraw Zoom ?

BOILER #2 FUEL FEED

9K-911

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 130 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	301
O2 CORRECTED	312
BIOMASS	302
MINIMUM REQUIRED BIOMASS	282
GAS	-1
BTU FACTOR C	2000

FIC-2250A

BLR2 WOOD MASTER

AUTO N LOCAL 2

1000 754 0

SP

OUT 81 %

A C M

FIC-2206

BLR2 PET COKE

MANUAL L LOCAL 2

340.0 0.0 0.0

SP

OUT 15.0 % SPTR

A M

FIC-2207A

BLR2 GAS LANCE

MANUAL N LOCAL 2

132 0 0

SP

OUT 10 % SPTR

A C M

PERCENT TO A SIDE 50 % C

	A	B
MMBTU LIMIT C	450.0 376.8	450.0 376.8
PERCENT TO ABC / GHI C	50.0 %	50.0 %

	ABC C	DEF C	GHI C	JKL C
MMBTU LIMIT	250 186	250 186	250 186	250 186
	91.5 %	87.9 %	60.6 %	69.0 %

3/8/21
1100

Operator Window #1: Graphic 911

Window Select Redraw Zoom ?

BOILER #2 FUEL FEED

9K-911

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 130 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	301
O2 CORRECTED	326
BIOMASS	340
MINIMUM REQUIRED BIOMASS	255
GAS	0
BTU FACTOR C	2600

FIC-2250A

BLR2 WOOD MASTER

AUTO N LOCAL 2

1000 680 0 679 SP

OUT 73 % A C M

PERCENT TO A SIDE 50 % C

FIC-2206

BLR2 PET COKE

MANUAL L LOCAL 2

340.0 0.0 0.0 0.0 SP

OUT 15.0 % SPTR A M

FIC-2207A

BLR2 GAS LANCE

MANUAL N LOCAL 2

132 0 0 0 SP

OUT 10 % SPTR A C M

	A	B
MMBTU LIMIT C	460.0 336.4	460.0 336.4
PERCENT TO ABC C2	50.0 %	50.0 %

	ABC C	C DEF	GHI C	C JKL
MMBTU LIMIT	250 167	250 167	250 167	250 167
	ABC C 82.7 %	C DEF 79.2 %	GHI C 72.4 %	C JKL 79.4 %

3/8/21
1000

Operator Window #1: Graphic 911

Window Select Redraw Zoom ?

BOILER #2 FUEL FEED

9K-911

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 130 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	301
O2 CORRECTED	307
BIOMASS	391
MINIMUM REQUIRED BIOMASS	295
GAS	0
BTU FACTOR C	2600

FIC-2250A

BLR2 WOOD MASTER

AUTO N LOCAL 2

1000 764 0 778 SP

OUT 84 % A C M

PERCENT TO A SIDE 50 % C

FIC-2206

BLR2 PET COKE

MANUAL L LOCAL 2

340.0 0.0 0.0 0.0 SP

OUT 15.0 % SPTR A M

FIC-2207A

BLR2 GAS LANCE

MANUAL N LOCAL 2

132 -6 0 0 SP

OUT 10 % SPTR A C M

	A	B
MMBTU LIMIT C	450.0 386.2	450.0 386.2
PERCENT TO ABC / GHI C	50.0 %	50.0 %

	ABC C	C DEF	GHI C	C JKL
MMBTU LIMIT	250 192	250 192	250 192	250 192
	94.7 %	91.5 %	83.8 %	91.5 %

3/8/21
0900

Operator Window #1: Graphic 911

Window Select Redraw Zoom ?

BOILER #2 FUEL FEED

9K-911

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 130 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 130 C

	MMBTU'S
TOTAL	301
O2 CORRECTED	326
BIOMASS	366
MINIMUM REQUIRED BIOMASS	275
GAS	0
BTU FACTOR C	2600

FIC-2250A

BLR2 WOOD MASTER

AUTO N LOCAL 2

1000 730 0 733 SP

OUT 79 % A C M

FIC-2206

BLR2 PET COKE

MANUAL L LOCAL 2

340.0 0.0 0.0 0.0 SP

OUT 15.0 % SPTR A M

FIC-2207A

BLR2 GAS LANCE

MANUAL N LOCAL 2

132 -0 0 0 SP

OUT 10 % SPTR A C M

PERCENT TO A SIDE 60 % C

	A	B
MMBTU LIMIT C	460.0 360.0	460.0 360.0
PERCENT TO ABC / GHI C	50.0 %	50.0 %

	ABC C	DEF C	GHI C	JKL C
MMBTU LIMIT	250 180	250 180	250 180	250 180
	88.6 %	85.2 %	77.9 %	85.1 %

3/8/21
0800

Operator Window #1: Graphic 911

Window Select Redraw Zoom ?

BOILER #2 FUEL FEED

9K-911

AREA AREA9

AIR / FUEL RATIO 40 C

PERCENT PET COKE 0 % C

P.C. MMBTU LIMIT 130 C

PERCENT WOOD 100 % C

GAS MMBTU LIMIT 120 C

	MMBTU'S
TOTAL	301
O2 CORRECTED	330
BIOMASS	300
MINIMUM REQUIRED BIOMASS	268
GAS	2
BTU FACTOR C	2600

FIC-2250A

BLR2 WOOD MASTER

AUTO N LOCAL 2

1000 724 0 — 724 SP

OUT 78 % A C M

FIC-2206

BLR2 PET COKE

MANUAL L LOCAL 2

340.0 0.0 0.0 — 0.0 SP

OUT 15.0 % SPTR A M

FIC-2207A

BLR2 GAS LANCE

MANUAL N LOCAL 2

132 -0 0 — 0 SP

OUT 10 % SPTR A C M

PERCENT TO A SIDE 50 % C

	A	B
MMBTU LIMIT C	450.0 365.0	450.0 365.0
PERCENT TO ABC / GHI C	50.0 %	50.0 %

MMBTU LIMIT	ABC C	DEF C	GHI C	JKL C
	250	250	250	250
	179	179	179	179
	ABC C 97.8 %	DEF C 84.5 %	GHI C 77.2 %	JKL C 84.5 %

3/8/21

0700

Operator Window #1: Graphic 201 (Recall 4 of 10)

Window Select Redraw Zoom ?

BLR #2 MASTER

2A-201

AREA

BLR#2

HS-2000A BOILER MASTER STEAM FLOW SETPOINT

C 201.47

HS-2000B BOILER MASTER NET M.W. SETPOINT

C 40.24

HS-2000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-2000
BLR2 MASTER
MANUAL N LOCAL 2
300.00 201.82 201.82 0.00 KLB/HR
OUT 48.00 % SPTR A C M

FIC-2520
BLR2 AIR MASTER
AUTO N LOCAL 2
6000.0 3321.3 3321.3 0.0 KSCFH
OUT 83.0 % A C M

FIC-2505
BLR2 PRIMARY AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 1735.4 1727.1 0.0 KSCFH
OUT 40.8 % A C M

FIC-2515
BLR2 SECOND AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 1595.5 1594.3 0.0 KSCFH
OUT 29.1 % A C M

PIC-2420
BLR2 FURNACE PRESSURE
AUTO N LOCAL 2
15.00 -2.38 -2.84 -15.00 IN H2O
OUT 62.53 % A C M

AIC-2101
BLR2 02 TRIM CONTROLLER
AUTO N LOCAL 2
25.00 5.37 6.50 0.00 %
OUT 66.35 % A C M

FIC-2250A
BLR2 WOOD MASTER
AUTO N LOCAL 2
1000 725 721 0
OUT 78 % A C M

FIC-2207A
BLR2 GAS LANCE
MANUAL N LOCAL 2
132 0 0 0
OUT 10 % SPTR A C M

FIC-2206
BLR2 PET COKE
MANUAL L LOCAL 2
340.0 0.0 0.0 0.0
OUT 15.0 % SPTR A M

PDIC-2413
BLR2 UPPER COMBUSTOR DP
MANUAL N LOCAL 2
95.0 41.2 30.0 0.0 IN H2O
OUT 70.0 % A M

FIC-2201
BLR2 SCREW FDR ABC FLOW %
AUTO N LOCAL 2
100.0 88.0 0.0 0.0 %
OUT 82.3 % A M

FIC-2261
BLR2 SCREW FDR DEF FLOW %
AUTO N LOCAL 2
100.0 84.5 0.0 0.0 %
OUT 82.3 % A M

FIC-2231
BLR2 SCREW FDR GHI FLOW %
AUTO N LOCAL 2
100.0 77.2 0.0 0.0 %
OUT 82.3 % A M

FIC-2291
BLR2 SCREW FDR JKL FLOW %
AUTO N LOCAL 2
100.0 84.6 0.0 0.0 %
OUT 82.3 % A M

100.0	C	HIC-2202 WOOD FEED%
0.0	C	HIC-2206 PET COKE %
130.0	C	HIC-2206HL PC HI LIMIT
2800.0	C	HS-2200 BTU FACTOR AUTO / MANUAL
2600.0	C	HIC-2201 BTU FACTOR
1577.1		TI-2405 COMB MID TEMP
1503.1		TI-2421 CYC #2 OUT TEMP

Operator Window #1: Graphic 201 (Recall 4 of 10)

Window Select Redraw Zoom ?

BLR #2 MASTER

2A-201

AREA

BLR#2

HS-2000A BOILER MASTER STEAM FLOW SETPOINT

C

202.34

HS-2000B BOILER MASTER NET MW. SETPOINT

C

41.52

HS-2000 BOILER MASTER S.P. SOURCE SELECTOR

C

STM

HIC-2000
BLR2 MASTER
MANUAL LOCAL
300.00 / 201.89 / 0.00 — 201.89 KLB/HR
OUT 48.00 % SPTR

FIC-2520
BLR2 AIR MASTER
AUTO LOCAL
6000.0 / 3321.3 / 0.0 — 3321.3 KSCFH
OUT 83.0 %

FIC-2505
BLR2 PRIMARY AIR FAN VANE KSCFH
AUTO LOCAL
4000.0 / 1728.0 / 0.0 — 1727.1 KSCFH
OUT 41.0 %

FIC-2515
BLR2 SECOND AIR FAN VANE KSCFH
AUTO LOCAL
4000.0 / 1593.2 / 0.0 — 1594.3 KSCFH
OUT 28.8 %

PIC-2420
BLR2 FURNACE PRESSURE
AUTO LOCAL
15.00 / -3.11 / -15.00 — -2.68 IN H2O
OUT 59.65 %

AIC-2101
BLR2 02 TRIM CONTROLLER
AUTO LOCAL
25.00 / 8.14 / 0.00 — 6.50 %
OUT 63.17 %

FIC-2250A
BLR2 WOOD MASTER
AUTO LOCAL
1000 / 666 / 0 — 696
OUT 75 %

FIC-2207A
BLR2 GAS LANCE
MANUAL LOCAL
132 / -0 / 0 — 0
OUT 10 % SPTR

FIC-2206
BLR2 PET COKE
MANUAL LOCAL
340.0 / 0.0 / 0.0 — 0.0
OUT 15.0 % SPTR

PDIC-2413
BLR2 UPPER COMBUSTOR DP
MANUAL LOCAL
95.0 / 41.4 / 0.0 — 30.0 IN H2O
OUT 70.0 %

FIC-2201
BLR2 SCREW FDR ABC FLOW %
AUTO LOCAL
100.0 / 93.7 / 0.0 — 0.0 %
OUT 78.8 %

FIC-2261
BLR2 SCREW FDR DEF FLOW %
AUTO LOCAL
100.0 / 80.3 / 0.0 — 0.0 %
OUT 78.9 %

FIC-2231
BLR2 SCREW FDR GHI FLOW %
AUTO LOCAL
100.0 / 73.2 / 0.0 — 0.0 %
OUT 78.8 %

FIC-2291
BLR2 SCREW FDR JKL FLOW %
AUTO LOCAL
100.0 / 80.3 / 0.0 — 0.0 %
OUT 78.9 %

105.0	HIC-2202 WOOD FEED%
0.0	HIC-2206 PET COKE %
130.0	HIC-2206HL PC HI LIMIT
2600.0	HS-2200 BTU FACTOR AUTO / MANUAL
2600.0	HIC-2201 BTU FACTOR
1603.7	TI-2405 COMB MID TEMP
1502.0	TI-2421 CYC #2 OUT TEMP

3/8/21

1500

Operator Window #1: Graphic 201 (Recall 2 of 10)

Window Select Redraw Zoom ?

BLR #2 MASTER

2A-201

AREA

BLR#2

HS-2000A BOILER MASTER STEAM FLOW SETPOINT

C 202.70

HS-2000B BOILER MASTER NET M.W. SETPOINT

C 41.72

HS-2000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-2000
BLR2 MASTER
MANUAL N LOCAL 2
300.00 202.46 0.00 KLB/HR
OUT 48.00 % SPTR

FIC-2520
BLR2 AIR MASTER
AUTO N LOCAL 2
6000.0 3321.3 0.0 KSCFH
OUT 83.0 %

FIC-2505
BLR2 PRIMARY AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 1717.5 1727.1 0.0 KSCFH
OUT 41.4 %

FIC-2515
BLR2 SECOND AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 1576.8 1594.3 0.0 KSCFH
OUT 29.0 %

PIC-2420
BLR2 FURNACE PRESSURE
AUTO N LOCAL 2
15.00 -2.68 -2.75 -15.00 IN H2O
OUT 61.21 %

AIC-2101
BLR2 02 TRIM CONTROLLER
AUTO N LOCAL 2
25.00 6.19 6.50 0.00 %
OUT 72.83 %

FIC-2250A
BLR2 WOOD MASTER
AUTO N LOCAL 2
1000 767 768 0
OUT 83 %

FIC-2207A
BLR2 GAS LANCE
MANUAL N LOCAL 2
132 -9 0 0
OUT 10 % SPTR

FIC-2206
BLR2 PET COKE
MANUAL L LOCAL 2
340.0 0.0 0.0 0.0
OUT 15.0 % SPTR

PDIC-2413
BLR2 UPPER COMBUSTOR DP
MANUAL N LOCAL 2
95.0 40.7 30.0 0.0 IN H2O
OUT 70.0 %

FIC-2201
BLR2 SCREW FDR ABC FLOW %
AUTO N LOCAL 2
100.0 92.9 0.0 0.0 %
OUT 87.3 %

FIC-2261
BLR2 SCREW FDR DEF FLOW %
AUTO N LOCAL 2
100.0 89.3 0.0 0.0 %
OUT 87.3 %

FIC-2231
BLR2 SCREW FDR GHI FLOW %
AUTO N LOCAL 2
100.0 81.8 0.0 0.0 %
OUT 87.4 %

FIC-2291
BLR2 SCREW FDR JKL FLOW %
AUTO N LOCAL 2
100.0 89.4 0.0 0.0 %
OUT 87.4 %

100.0	C HIC-2202 WOOD FEED%
0.0	C HIC-2206 PET COKE %
130.0	C HIC-2206HL PC HI LIMIT
2600.0	C HS-2200 BTU FACTOR AUTO / MANUAL
2600.0	C HIC-2201 BTU FACTOR
1595.3	TI-2405 COMB MID TEMP
1498.3	TI-2421 CYC #2 OUT TEMP

3/8/21
1400

Operator Window #1: Graphic 201 (Recall 2 of 10)

Window Select Redraw Zoom ?

W002AS-006514-RT-2235

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BLR #2 MASTER

2A-201

AREA

BLR#2

HS-2000A BOILER MASTER STEAM FLOW SETPOINT

C 196.36

HS-2000B BOILER MASTER NET M.W. SETPOINT

C 41.72

HS-2000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-2000
BLR2 MASTER
MANUAL N LOCAL 2
300.00 / 196.37 / 0.00 — 196.37 KLB/HR
OUT 48.00 % SPTR

FIC-2520
BLR2 AIR MASTER
AUTO N LOCAL 2
6000.0 / 3321.3 / 0.0 — 3321.3 KSCFH
OUT 83.0 %

FIC-2505
BLR2 PRIMARY AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 / 1727.7 / 0.0 — 1727.1 KSCFH
OUT 39.9 %

FIC-2515
BLR2 SECOND AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 / 1603.2 / 0.0 — 1594.3 KSCFH
OUT 28.4 %

PIC-2420
BLR2 FURNACE PRESSURE
AUTO N LOCAL 2
15.00 / -2.92 / -15.00 — -2.65 IN H2O
OUT 59.45 %

AIC-2101
BLR2 02 TRIM CONTROLLER
AUTO N LOCAL 2
25.00 / 6.99 / 0.00 — 6.60 %
OUT 73.14 %

FIC-2250A
BLR2 WOOD MASTER
AUTO N LOCAL 2
1000 / 773 / 0 — 772
OUT 83 %

FIC-2207A
BLR2 GAS LANCE
MANUAL N LOCAL 2
132 / 0 / 0 — 0
OUT 10 % SPTR

FIC-2206
BLR2 PET COKE
MANUAL L LOCAL 2
340.0 / 0.0 / 0.0 — 0.0
OUT 15.0 % SPTR

PDIC-2413
BLR2 UPPER COMBUSTOR DP
MANUAL N LOCAL 2
95.0 / 49.2 / 0.0 — 30.0 IN H2O
OUT 70.0 %

FIC-2201
BLR2 SCREW FDR ABC FLOW %
AUTO N LOCAL 2
100.0 / 95.5 / 0.0 — 0.0 %
OUT 87.8 %

FIC-2261
BLR2 SCREW FDR DEF FLOW %
AUTO N LOCAL 2
100.0 / 90.1 / 0.0 — 0.0 %
OUT 87.9 %

FIC-2231
BLR2 SCREW FDR GHI FLOW %
AUTO N LOCAL 2
100.0 / 82.5 / 0.0 — 0.0 %
OUT 87.8 %

FIC-2291
BLR2 SCREW FDR JKL FLOW %
AUTO N LOCAL 2
100.0 / 90.1 / 0.0 — 0.0 %
OUT 87.7 %

150.0	HIC-2202 WOOD FEED%
0.0	HIC-2206 PET COKE %
130.0	HIC-2206HL PC HI LIMIT
2600.0	HS-2200 BTU FACTOR AUTO / MANUAL
2600.0	HIC-2201 BTU FACTOR
1575.7	TI-2405 COMB MID TEMP
1498.7	TI-2421 CYC #2 OUT TEMP

3/8/21
1300

Operator Window #1: Graphic 201 (Recall 2 of 10)

Window Select Redraw Zoom ?

BLR #2 MASTER

2A-201

AREA

BLR#2

HS-2000A BOILER MASTER STEAM FLOW SETPOINT

C 201.97

HS-2000B BOILER MASTER NET M.W. SETPOINT

C 42.22

HS-2000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-2000
BLR2 MASTER
MANUAL N LOCAL 2
300.00 201.93 201.93 0.00 KLB/HR
OUT 48.00 % SPTR

FIC-2520
BLR2 AIR MASTER
AUTO N LOCAL 2
6000.0 3321.3 3321.3 0.0 KSCFH
OUT 83.0 %

FIC-2505
BLR2 PRIMARY AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 1718.9 1727.1 0.0 KSCFH
OUT 40.1 %

FIC-2515
BLR2 SECOND AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 1607.9 1594.3 0.0 KSCFH
OUT 28.8 %

PIC-2420
BLR2 FURNACE PRESSURE
AUTO N LOCAL 2
15.00 -2.52 -2.78 -15.00 IN H2O
OUT 63.13 %

AIC-2101
BLR2 02 TRIM CONTROLLER
AUTO N LOCAL 2
25.00 5.32 6.60 0.00 %
OUT 60.17 %

FIC-2250A
BLR2 WOOD MASTER
AUTO N LOCAL 2
1000 683 678 0 %
OUT 73 %

FIC-2207A
BLR2 GAS LANCE
MANUAL N LOCAL 2
132 0 0 %
OUT 10 % SPTR

FIC-2206
BLR2 PET COKE
MANUAL L LOCAL 2
340.0 0.0 0.0 0.0 %
OUT 15.0 % SPTR

PDIC-2413
BLR2 UPPER COMBUSTOR DP
MANUAL N LOCAL 2
95.0 30.0 0.0 IN H2O
OUT 70.0 %

FIC-2201
BLR2 SCREW FDR ABC FLOW %
AUTO N LOCAL 2
100.0 82.9 0.0 0.0 %
OUT 77.2 %

FIC-2261
BLR2 SCREW FDR DEF FLOW %
AUTO N LOCAL 2
100.0 79.7 0.0 0.0 %
OUT 77.5 %

FIC-2231
BLR2 SCREW FDR GHI FLOW %
AUTO N LOCAL 2
100.0 72.6 0.0 0.0 %
OUT 77.2 %

FIC-2291
BLR2 SCREW FDR JKL FLOW %
AUTO N LOCAL 2
100.0 79.8 0.0 0.0 %
OUT 77.5 %

100.0	C HIC-2202 WOOD FEED%
0.0	C HIC-2206 PET COKE %
130.0	C HIC-2206HL PC HI LIMIT
2600.0	C HS-2200 BTU FACTOR AUTO / MANUAL
2600.0	C HIC-2201 BTU FACTOR
1501.2	TI-2405 COMB MID TEMP
1498.2	TI-2421 CYC #2 OUT TEMP

3/8/21
1200

Operator Window #1: Graphic 201 (Recall 2 of 10)

Window Select Redraw Zoom ?

BLR #2 MASTER

2A-201

AREA

BLR#2

HS-2000A BOILER MASTER STEAM FLOW SETPOINT

C 199.81

HS-2000B BOILER MASTER NET M.W. SETPOINT

C 42.86

HS-2000 BOILER MASTER S.P. SOURCE SELECTOR

C CTM

HIC-2000
BLR2 MASTER
MANUAL N LOCAL 2
300.00 199.93 199.93 0.00 KLB/HR
OUT 48.00 % SPTR

FIC-2520
BLR2 AIR MASTER
AUTO N LOCAL 2
6000.0 3321.3 3321.3 0.0 KSCFH
OUT 83.0 %

FIC-2505
BLR2 PRIMARY AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 1725.8 1727.1 0.0 KSCFH
OUT 39.0 %

FIC-2515
BLR2 SECOND AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 1593.2 1594.3 0.0 KSCFH
OUT 28.5 %

PIC-2420
BLR2 FURNACE PRESSURE
AUTO N LOCAL 2
15.00 -2.67 -2.66 -15.00 IN H2O
OUT 60.02 %

AIC-2101
BLR2 02 TRIM CONTROLLER
AUTO N LOCAL 2
25.00 6.19 6.60 0.00 %
OUT 71.42 %

FIC-2250A
BLR2 WOOD MASTER
AUTO N LOCAL 2
1000 760 758 0
OUT 82 %

FIC-2207A
BLR2 GAS LANCE
MANUAL N LOCAL 2
132 0 0
OUT 10 % SPTR

FIC-2206
BLR2 PET COKE
MANUAL L LOCAL 2
340.0 0.0 0.0 0.0
OUT 15.0 % SPTR

PDIC-2413
BLR2 UPPER COMBUSTOR DP
MANUAL N LOCAL 2
95.0 30.6 30.0 0.0 IN H2O
OUT 70.0 %

FIC-2201
BLR2 SCREW FDR ABC FLOW %
AUTO N LOCAL 2
100.0 91.9 0.0 0.0 %
OUT 86.4 %

FIC-2261
BLR2 SCREW FDR DEF FLOW %
AUTO N LOCAL 2
100.0 88.5 0.0 0.0 %
OUT 86.4 %

FIC-2231
BLR2 SCREW FDR GHI FLOW %
AUTO N LOCAL 2
100.0 91.1 0.0 0.0 %
OUT 86.5 %

FIC-2291
BLR2 SCREW FDR JKL FLOW %
AUTO N LOCAL 2
100.0 88.6 0.0 0.0 %
OUT 86.4 %

100.0	C	HIC-2202 WOOD FEED%
0.0	C	HIC-2206 PET COKE %
130.0	C	HIC-2206HL PC HI LIMIT
2600.0	C	HS-2300 BTU FACTOR AUTO / MANUAL
2600.0	C	HIC-2201 BTU FACTOR
1576.1		TI-2405 COMB MID TEMP
1495.5		TI-2421 CYC #2 OUT TEMP

3/8/21
1100

Operator Window #1: Graphic 201 (Recall 2 of 10)

Window Select Redraw Zoom ?

W002AS-006514-RT-2235

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BLR #2 MASTER

2A-201

AREA

BLR#2

HS-2000A BOILER MASTER STEAM FLOW SETPOINT

C 200.57

HS-2000B BOILER MASTER NET MW. SETPOINT

C 42.32

HS-2000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-2000
BLR2 MASTER
MANUAL LOCAL
300.00 200.57 0.00 KLB/HR
200.57 SP
OUT 48.00 % SPTR

FIC-2520
BLR2 AIR MASTER
AUTO LOCAL
6000.0 3321.3 0.0 KSCFH
3321.3 SP
OUT 83.0 %

FIC-2505
BLR2 PRIMARY AIR FAN VANE KSCFH
AUTO LOCAL
4000.0 1728.9 0.0 KSCFH
1727.1 SP
OUT 38.8 %

FIC-2515
BLR2 SECOND AIR FAN VANE KSCFH
AUTO LOCAL
4000.0 1604.6 0.0 KSCFH
1594.3 SP
OUT 28.5 %

PIC-2420
BLR2 FURNACE PRESSURE
AUTO LOCAL
15.00 -2.82 -15.00 IN H2O
-2.73 SP
OUT 61.76 %

AIC-2101
BLR2 02 TRIM CONTROLLER
AUTO LOCAL
25.00 5.75 0.00 %
6.60 SP
OUT 58.66 %

FIC-2250A
BLR2 WOOD MASTER
AUTO LOCAL
1000 667 0
666 SP
OUT 72 %

FIC-2207A
BLR2 GAS LANCE
MANUAL LOCAL
132 -0 0
0 SP
OUT 10 % SPTR

FIC-2206
BLR2 PET COKE
MANUAL LOCAL
340.0 0.0 0.0
0.0 SP
OUT 15.0 % SPTR

PDIC-2413
BLR2 UPPER COMBUSTOR DP
MANUAL LOCAL
95.0 37.7 0.0 IN H2O
30.0 SP
OUT 70.0 %

FIC-2201
BLR2 SCREW FDR ABC FLOW %
AUTO LOCAL
100.0 81.1 0.0 %
0.0 SP
OUT 75.7 %

FIC-2261
BLR2 SCREW FDR DEF FLOW %
AUTO LOCAL
100.0 77.5 0.0 %
0.0 SP
OUT 75.7 %

FIC-2231
BLR2 SCREW FDR GHI FLOW %
AUTO LOCAL
100.0 70.9 0.0 %
0.0 SP
OUT 75.8 %

FIC-2291
BLR2 SCREW FDR JKL FLOW %
AUTO LOCAL
100.0 77.8 0.0 %
0.0 SP
OUT 75.7 %

100.0 C HIC-2202 WOOD FEED%

0.0 C HIC-2206 PET COKE %

130.0 C HIC-2206HL PC HI LIMIT

2600.0 C HS-2200 BTU FACTOR AUTO / MANUAL

2600.0 C HIC-2201 BTU FACTOR

1676.1 TI-2405 COMB MID TEMP

1497.6 TI-2421 CYC #2 OUT TEMP

3/8/21
1000

Operator Window #1: Graphic 201 (Recall 2 of 10)

Window Select Redraw Zoom ?

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BLR #2 MASTER

2A-201

AREA

BLR#2

HS-2000A BOILER MASTER STEAM FLOW SETPOINT

C 200.25

HS-2000B BOILER MASTER NET MW. SETPOINT

C 43.45

HS-2000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-2000
BLR2 MASTER
MANUAL LOCAL
300.00 / 200.10 / 0.00 — 200.10 KLB/HR
OUT 48.00 % SPTR

FIC-2520
BLR2 AIR MASTER
AUTO LOCAL
6000.0 / 3321.3 / 0.0 — 3321.3 KSCFH
OUT 83.0 %

FIC-2505
BLR2 PRIMARY AIR FAN VANE KSCFH
AUTO LOCAL
4000.0 / 1715.3 / 0.0 — 1727.1 KSCFH
OUT 38.1 %

FIC-2515
BLR2 SECOND AIR FAN VANE KSCFH
AUTO LOCAL
4000.0 / 1593.1 / 0.0 — 1594.3 KSCFH
OUT 28.2 %

PIC-2420
BLR2 FURNACE PRESSURE
AUTO LOCAL
15.00 / -2.70 / -15.00 — -2.80 IN H2O
OUT 60.54 %

AIC-2101
BLR2 02 TRIM CONTROLLER
AUTO LOCAL
25.00 / 6.66 / 0.00 — 6.60 %
OUT 71.48 %

FIC-2250A
BLR2 WOOD MASTER
AUTO LOCAL
1000 / 758 / 0 — 758
OUT 82 %

FIC-2207A
BLR2 GAS LANCE
MANUAL LOCAL
132 / 0 / 0 — 0
OUT 10 % SPTR

FIC-2206
BLR2 PET COKE
MANUAL LOCAL
340.0 / 0.0 / 0.0 — 0.0
OUT 15.0 % SPTR

PDIC-2413
BLR2 UPPER COMBUSTOR DP
MANUAL LOCAL
95.0 / 37.1 / 0.0 — 30.0 IN H2O
OUT 70.0 %

FIC-2201
BLR2 SCREW FDR ABC FLOW %
AUTO LOCAL
100.0 / 91.9 / 0.0 — 0.0 %
OUT 86.3 %

FIC-2261
BLR2 SCREW FDR DEF FLOW %
AUTO LOCAL
100.0 / 88.4 / 0.0 — 0.0 %
OUT 86.3 %

FIC-2231
BLR2 SCREW FDR GHI FLOW %
AUTO LOCAL
100.0 / 80.9 / 0.0 — 0.0 %
OUT 86.4 %

FIC-2291
BLR2 SCREW FDR JKL FLOW %
AUTO LOCAL
100.0 / 89.4 / 0.0 — 0.0 %
OUT 86.4 %

100.0	C	HIC-2202 WOOD FEED%
0.0	C	HIC-2206 PET COKE %
130.0	C	HIC-2206HL PC HI LIMIT
2600.0	C	HS-2200 BTU FACTOR AUTO / MANUAL
2600.0	C	HIC-2201 BTU FACTOR
1574.8		TI-2405 COMB MID TEMP
1497.8		TI-2421 CYC #2 OUT TEMP

3/8/21
0900

Operator Window #1: Graphic 201 (Recall 2 of 10)

Window Select Redraw Zoom ?

BLR #2 MASTER

2A-201

AREA

BLR#2

HS-2000A BOILER MASTER STEAM FLOW SETPOINT

C

205.2A

HS-2000B BOILER MASTER NET MW. SETPOINT

C

43.39

HS-2000 BOILER MASTER S.P. SOURCE SELECTOR

C

STM

HIC-2000
BLR2 MASTER
MANUAL N LOCAL 2
300.00 204.93 0.00 KLB/HR 204.93 SP
OUT 48.00 % SPTR
A C M

FIC-2520
BLR2 AIR MASTER
AUTO N LOCAL 2
6000.0 3321.3 0.0 KSCFH 3321.3 SP
OUT 83.0 %
A C M

FIC-2505
BLR2 PRIMARY AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 1737.3 0.0 KSCFH 1727.1 SP
OUT 37.7 %
A C M

FIC-2515
BLR2 SECOND AIR FAN VANE KSCFH
AUTO N LOCAL 2
4000.0 1594.4 0.0 KSCFH 1594.3 SP
OUT 28.4 %
A C M

PIC-2420
BLR2 FURNACE PRESSURE
AUTO N LOCAL 2
15.00 -2.75 -15.00 IN H2O -2.78 SP
OUT 59.28 %
A C M

AIC-2101
BLR2 02 TRIM CONTROLLER
AUTO N LOCAL 2
25.00 6.67 0.00 % 6.60 SP
OUT 65.68 %
A C M

FIC-2250A
BLR2 WOOD MASTER
AUTO N LOCAL 2
1000 717 0 716 SP
OUT 77 %
A C M

FIC-2207A
BLR2 GAS LANCE
MANUAL N LOCAL 2
132 -0 0 0 SP
OUT 10 % SPTR
A C M

FIC-2206
BLR2 PET COKE
MANUAL L LOCAL 2
340.0 0.0 0.0 0.0 SP
OUT 15.0 % SPTR
A M

PDIC-2413
BLR2 UPPER COMBUSTOR DP
MANUAL N LOCAL 2
95.0 97.2 0.0 IN H2O 30.0 SP
OUT 70.0 %
A M

FIC-2201
BLR2 SCREW FDR ABC FLOW %
AUTO N LOCAL 2
100.0 67.0 0.0 % 0.0 SP
OUT 81.5 %
A M

FIC-2261
BLR2 SCREW FDR DEF FLOW %
AUTO N LOCAL 2
100.0 63.6 0.0 % 0.0 SP
OUT 81.5 %
A M

FIC-2231
BLR2 SCREW FDR GHI FLOW %
AUTO N LOCAL 2
100.0 76.4 0.0 % 0.0 SP
OUT 81.5 %
A M

FIC-2291
BLR2 SCREW FDR JKL FLOW %
AUTO N LOCAL 2
100.0 83.6 0.0 % 0.0 SP
OUT 81.5 %
A M

100.0 C HIC-2202 WOOD FEED%

0.0 C HIC-2206 PET COKE %

130.0 C HIC-2206HL PC HI LIMIT

2300.0 C HS-2200 BTU FACTOR AUTO / MANUAL

2500.0 C HIC-2201 BTU FACTOR

1588.2 TI-2405 COMB MID TEMP

1499.8 TI-2421 CYC #2 OUT TEMP

3/8/21
0800

Operator Window #1: Graphic 201 (Recall 2 of 10)

Window Select Redraw Zoom ?

W002AS-006514-RT-2235

BLR #2 MASTER

2A-201

AREA

BLR#2

HS-2000A BOILER MASTER STEAM FLOW SETPOINT

C 202.88

HS-2000B BOILER MASTER NET M.W. SETPOINT

C 43.49

HS-2000 BOILER MASTER S.P. SOURCE SELECTOR

C STM

HIC-2000 BLR2 MASTER — MANUAL N LOCAL 2 — 300.00 / 202.91 / 0.00 KLB/HR — 202.91 — OUT 47.48 % SPTR

FIC-2520 BLR2 AIR MASTER — AUTO N LOCAL 2 — 6000.0 / 3311.6 / 0.0 KSCFH — 3311.6 — OUT 82.8 %

FIC-2505 BLR2 PRIMARY AIR FAN VANE KSCFH — AUTO N LOCAL 2 — 4000.0 / 1722.1 / 0.0 KSCFH — 1722.1 — OUT 37.8 %

FIC-2515 BLR2 SECOND AIR FAN VANE KSCFH — AUTO N LOCAL 2 — 4000.0 / 1589.6 / 0.0 KSCFH — 1589.6 — OUT 28.0 %

PIC-2420 BLR2 FURNACE PRESSURE — AUTO N LOCAL 2 — 15.00 / -2.53 / -15.00 IN H2O — -2.75 — OUT 60.47 %

AIC-2101 BLR2 02 TRIM CONTROLLER — AUTO N LOCAL 2 — 25.00 / 6.38 / 0.00 % — 6.60 — OUT 67.38 %

FIC-2250A BLR2 WOOD MASTER — AUTO N LOCAL 2 — 1000 / 727 / 0 — 727 — OUT 79 %

FIC-2207A BLR2 GAS LANCE — MANUAL N LOCAL 2 — 132 / 0 / 0 — 0 — OUT 10 % SPTR

FIC-2206 BLR2 PET COKE — MANUAL L LOCAL 2 — 340.0 / 0.0 / 0.0 — 0.0 — OUT 15.0 % SPTR

PDIC-2413 BLR2 UPPER COMBUSTOR DP — MANUAL N LOCAL 2 — 95.0 / 37.2 / 0.0 IN H2O — 30.0 — OUT 70.0 %

FIC-2201 BLR2 SCREW FDR ABC FLOW % — AUTO N LOCAL 2 — 100.0 / 88.1 / 0.0 % — 0.0 — OUT 82.8 %

FIC-2261 BLR2 SCREW FDR DEF FLOW % — AUTO N LOCAL 2 — 100.0 / 84.7 / 0.0 % — 0.0 — OUT 82.8 %

FIC-2231 BLR2 SCREW FDR GHI FLOW % — AUTO N LOCAL 2 — 100.0 / 77.7 / 0.0 % — 0.0 — OUT 82.7 %

FIC-2291 BLR2 SCREW FDR JKL FLOW % — AUTO N LOCAL 2 — 100.0 / 84.8 / 0.0 % — 0.0 — OUT 82.8 %

100.0	C HIC-2202 WOOD FEED%
0.0	C HIC-2206 PET COKE %
130.0	C HIC-2206HL PC HI LIMIT
2600.0	C HS-2200 BTU FACTOR AUTO / MANUAL
2600.0	C HIC-2201 BTU FACTOR
1580.4	TI-2405 COMB MID TEMP
1497.1	TI-2421 CYC #2 OUT TEMP

3/8/21

0700

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. <u>Stack Gas Corrected Concentration</u>

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

2. <u>Relative Accuracy Calculations</u>

   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

$$CC = {}_{t0.975}\ \frac{S_d}{\sqrt{n}}$$

   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. <u>Bias Adjustment Factor</u>

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

4. <u>Nomenclature</u>

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:	3/10/2021
Start Time:	7:46
Station:	Desert View Power
Unit:	#1
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	1.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	910.8	731.4	179.4
2/H2O	711.1	710.4	0.7
3/Empty	638.4	638.4	0.0
4/S.G.	866.9	857.1	9.8
Rinse		50.0	-50.0
Total			139.9

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	660.100	60	61
		61	62
Stop	698.957	62	64
Total	38.857		61.7

Summary

Sample Volume:	40.153	dscf
H_2O Volume :	6.603	scf
Moisture Content:	14.1	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.10	1.0488	357	73.32
4	0.98	0.9899	358	69.25
3	0.84	0.9165	360	64.19
2	1.00	1.0000	360	70.04
1	0.95	0.9747	358	68.18
5	1.40	1.1832	357	82.72
4	1.20	1.0954	358	76.63
3	0.85	0.9220	359	64.53
2	0.82	0.9055	360	63.42
1	0.80	0.8944	360	62.64
5	0.90	0.9487	357	66.32
4	0.90	0.9487	358	66.36
3	0.94	0.9695	356	67.74
2	0.92	0.9592	357	67.06
1	0.98	0.9899	355	69.12
5	1.00	1.0000	357	69.91
4	1.10	1.0488	358	73.37
3	1.30	1.1402	359	79.81
2	1.00	1.0000	360	70.04
1	1.00	1.0000	358	69.95
5	1.40	1.1832	357	82.72
4	1.20	1.0954	358	76.63
3	1.30	1.1402	359	79.81
2	1.20	1.0954	358	76.63
1	1.00	1.0000	358	69.95
5	1.40	1.1832	357	82.72
4	1.40	1.1832	358	82.77
3	1.30	1.1402	356	79.66
2	1.20	1.0954	358	76.63
1	1.10	1.0488	357	73.32
Average	1.0747	1.0367	357.9	72.51

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	0.01	0.01	0.02	0.01
Pre Test Span Direct	10.87	10.43	41.49	4.61
Pre-test Zero	0.04	0.11	0.06	0.12
Pre-test Span	10.84	10.44	41.21	4.61
0-30 min	9.10	11.60	35.05	0.24
Post Test Zero Direct	0.01	0.03	0.02	0.03
Post Test Span Direct	10.87	10.47	41.46	4.65
Post-test Zero	0.03	0.11	0.04	0.14
Post-test Span	10.84	10.52	41.19	4.64
Average	9.10	11.60	35.05	0.24
Corr. Results	9.04	11.70	35.13	0.12
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.5%	-0.7%	0.2%	0.1%
Pre-Test Zero Bias	0.2%	0.5%	0.1%	1.1%
Pre-Test Span Bias	-0.2%	0.1%	-0.3%	0.0%
Post-Test Zero Bias	0.1%	0.4%	0.0%	1.1%
Post-Test Span Bias	-0.2%	0.3%	-0.3%	-0.1%
Zero Drift	-0.1%	0.0%	0.0%	0.2%
Span Drift	0.0%	0.5%	0.0%	0.4%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.040	% dry
	7.764	% wet
CO_2:	11.700	% dry
	10.047	% wet
NO_x:	35.130	ppm dry
	30.169	ppm wet
	23.750	lb/hr
SO_2:	5.9667267	ppm dry
SO2:	5.612	lb/hr
CO:	0.12	ppm dry
	0.10	ppm wet
	0.050	lb/hr
H_2O:	14.1	%
MW:	28.51	lb/lb-mole
Flow:	168,989	wacfm
	94.38	mdscfm
	5662.65	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5662.65	5986.87	-324.21	-5.7%
O_2	% dry	9.04	9.2	-0.12	-1.4%
CO_2	% dry	11.70	11.5	0.16	1.3%
NO_x	ppm dry	35.13	37.1	-1.97	-5.6%
NO_x	ppm @ 3% O_2	53.02	56.1	-3.09	-5.8%
NO_x	lb/hr	23.75	26.66	-2.91	-12.2%
SO_2	ppm dry	5.97	6.21	-0.25	-4.1%
SO_2	ppm @ 3% O_2	9.01	9.40	-0.40	-4.4%
SO_2	lb/hr	5.61	6.198	-0.585	-10.4%
CO	ppm dry	0.12	1.19	-1.07	
CO	ppm @ 3% O_2	0.18	1.82	-1.64	
CO	lb/hr	0.050	0.518	-0.47	

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	511.9	
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:	2-RA-U1	
Date:	3/10/2021	
Start Time:	9:08	
Station:	Desert View Power	
Unit:	#1	
Test Condition:	Full Load	
Performed By:	DW	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	1.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	845.9	655.2	190.7
2/H2O	730.0	728.6	1.4
3/Empty	592.9	591.9	1.0
4/S.G.	896.3	881.1	15.2
Rinse		50.0	-50.0
Total			158.3

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	700.100	70	71
		74	76
Stop	743.024	75	78
Total	42.924		74.0

Summary

Sample Volume:	43.332	dscf
H_2O Volume :	7.472	scf
Moisture Content:	14.7	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.20	1.0954	362	76.92
4	1.00	1.0000	364	70.31
3	0.98	0.9899	365	69.64
2	1.00	1.0000	366	70.39
1	0.96	0.9798	368	69.05
5	1.40	1.1832	368	83.39
4	1.20	1.0954	369	77.25
3	0.92	0.9592	370	67.68
2	0.96	0.9798	368	69.05
1	0.83	0.9110	369	64.25
5	0.94	0.9695	365	68.21
4	0.98	0.9899	369	69.81
3	0.92	0.9592	368	67.60
2	0.93	0.9644	369	68.01
1	1.00	1.0000	368	70.48
5	1.00	1.0000	368	70.48
4	1.10	1.0488	368	73.92
3	1.30	1.1402	369	80.40
2	1.10	1.0488	370	74.01
1	1.20	1.0954	369	77.25
5	1.50	1.2247	368	86.32
4	1.20	1.0954	369	77.25
3	1.30	1.1402	368	80.36
2	1.30	1.1402	369	80.40
1	1.00	1.0000	370	70.56
5	1.40	1.1832	368	83.39
4	1.30	1.1402	369	80.40
3	1.30	1.1402	368	80.36
2	1.20	1.0954	369	77.25
1	1.20	1.0954	368	77.20
Average	1.1141	1.0555	367.9	74.39

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.60
Pre Test Zero Direct	0.01	0.03	0.02	0.03
Pre Test Span Direct	10.87	10.47	41.46	4.65
Pre-test Zero	0.03	0.11	0.04	0.14
Pre-test Span	10.84	10.52	41.19	4.64
0-30 min	9.06	11.45	34.11	0.25
Post Test Zero Direct	0.00	-0.03	0.02	-0.01
Post Test Span Direct	10.82	10.23	41.40	4.56
Post-test Zero	0.02	0.03	0.07	0.11
Post-test Span	10.78	10.25	41.13	4.55
Average	9.06	11.45	34.11	0.25
Corr. Results	9.03	11.65	34.22	0.13
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.5%	-0.5%	0.2%	0.6%
Pre-Test Zero Bias	0.1%	0.4%	0.0%	1.1%
Pre-Test Span Bias	-0.2%	0.3%	-0.3%	-0.1%
Post-Test Zero Bias	0.1%	0.3%	0.1%	1.2%
Post-Test Span Bias	-0.2%	0.1%	-0.3%	-0.1%
Zero Drift	0.0%	-0.4%	0.0%	-0.3%
Span Drift	-0.3%	-1.4%	-0.1%	-0.9%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.031	% dry
	7.703	% wet
CO_2:	11.648	% dry
	9.935	% wet
NO_x:	34.221	ppm dry
	29.188	ppm wet
	23.286	lb/hr
SO_2:	6.733102	ppm dry
	6.374	lb/hr
CO:	0.13	ppm dry
	0.11	ppm wet
	0.055	lb/hr
H_2O:	14.7	%
MW:	28.43	lb/lb-mole
Flow:	173,350	wacfm
	94.992	mdscfm
	5699.54	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5699.54	5988.87	-289.33	-5.1%
O_2	% dry	9.03	9.2	-0.12	-1.3%
CO_2	% dry	11.65	11.5	0.13	1.1%
NO_x	ppm dry	34.22	36.1	-1.88	-5.5%
NO_x	ppm @ 3% O_2	51.61	54.6	-3.03	-5.9%
NO_x	lb/hr	23.29	25.9	-2.65	-11.4%
SO_2	ppm dry	6.73	6.94	-0.21	-3.1%
SO_2	ppm @ 3% O_2	10.15	10.52	-0.37	-3.6%
SO_2	lb/hr	6.374	6.921	-0.546	-8.6%
CO	ppm dry	0.13	0.32	-0.18	
CO	ppm @ 3% O_2	0.20	0.48	-0.28	
CO	lb/hr	0.055	0.142		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	513.1	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.77	

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

PRE-TEST INFORMATION
GENERAL

Test:	3-RA-U1
Date:	3/10/2021
Start Time:	10:34
Station:	Desert View Power
Unit:	#1
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	1.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	927.7	737.1	190.6
2/H2O	712.6	711.1	1.5
3/Empty	639.9	639.6	0.3
4/S.G.	877.0	866.9	10.1
Rinse		50.0	-50.0
Total			152.5

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	745.000	73	76
		74	77
Stop	786.418	78	78
Total	41.418		76.0

Summary

Sample Volume:	41.655	dscf
H_2O Volume :	7.198	scf
Moisture Content:	14.7	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.30	1.1402	371	80.48
4	0.99	0.9950	372	70.28
3	0.98	0.9899	373	69.96
2	1.10	1.0488	372	74.08
1	0.97	0.9849	371	69.52
5	1.40	1.1832	370	83.47
4	1.30	1.1402	371	80.48
3	0.94	0.9695	372	68.48
2	0.97	0.9849	371	69.52
1	0.82	0.9055	372	63.96
5	0.96	0.9798	371	69.16
4	0.99	0.9950	372	70.28
3	0.93	0.9644	372	68.11
2	0.92	0.9592	371	67.71
1	1.10	1.0488	372	74.08
5	1.10	1.0488	371	74.03
4	1.20	1.0954	372	77.37
3	1.30	1.1402	371	80.48
2	1.10	1.0488	371	74.03
1	1.20	1.0954	372	77.37
5	1.50	1.2247	372	86.51
4	1.20	1.0954	371	77.33
3	1.30	1.1402	372	80.53
2	1.20	1.0954	371	77.33
1	1.10	1.0488	370	73.99
5	1.40	1.1832	369	83.42
4	1.30	1.1402	370	80.44
3	1.20	1.0954	371	77.33
2	1.20	1.0954	371	77.33
1	1.10	1.0488	370	73.99
Average	1.1297	1.0629	371.2	75.04

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.60
Pre Test Zero Direct	0.00	-0.03	0.02	-0.01
Pre Test Span Direct	10.82	10.23	41.40	4.56
Pre-test Zero	0.02	0.03	0.07	0.11
Pre-test Span	10.78	10.25	41.13	4.55
0-30 min	8.84	11.34	39.62	0.17
Post Test Zero Direct	-0.01	-0.03	0.04	-0.06
Post Test Span Direct	10.75	10.04	41.24	4.43
Post-test Zero	0.01	0.04	0.08	0.08
Post-test Span	10.72	10.04	40.88	4.42
Average	8.84	11.34	39.62	0.17
Corr. Results	8.86	11.80	39.91	0.08
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.2%	-1.8%	0.1%	-0.4%
Pre-Test Zero Bias	0.1%	0.3%	0.1%	1.2%
Pre-Test Span Bias	-0.2%	0.1%	-0.3%	-0.1%
Post-Test Zero Bias	0.1%	0.3%	0.0%	1.5%
Post-Test Span Bias	-0.2%	0.0%	-0.4%	-0.1%
Zero Drift	0.0%	0.1%	0.0%	-0.3%
Span Drift	-0.3%	-1.1%	-0.3%	-1.3%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.859	% dry
	7.554	% wet
CO_2:	11.803	% dry
	10.064	% wet
NO_x:	39.905	ppm dry
	34.025	ppm wet
	27.273	lb/hr
SO_2:	7.4129918	ppm dry
	7.049	lb/hr
CO:	0.08	ppm dry
	0.07	ppm wet
	0.033	lb/hr
H_2O:	14.7	%
MW:	28.44	lb/lb-mole
Flow:	174,864	wacfm
	95.41	mdscfm
	5724.72	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5724.72	5089	635.62	11.1%
O_2	% dry	8.86	9.0	-0.13	-1.5%
CO_2	% dry	11.80	11.7	0.14	1.2%
NO_x	ppm dry	39.91	41.6	-1.66	-4.2%
NO_x	ppm @ 3% O_2	59.32	62.1	-2.75	-4.6%
NO_x	lb/hr	27.27	25.33	1.94	7.1%
SO_2	ppm dry	7.41	8.20	-0.78	-10.6%
SO_2	ppm @ 3% O_2	11.02	12.21	-1.19	-10.8%
SO_2	lb/hr	7.049	7.004	0.045	0.6%
CO	ppm dry	0.08	0.77	-0.69	
CO	ppm @ 3% O_2	0.12	1.15	-1.04	
CO	lb/hr	0.033	0.288	-0.26	

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	503.1	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.99	

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

PRE-TEST INFORMATION
GENERAL

Test:	4-RA-U1
Date:	3/10/2021
Start Time:	11:54
Station:	Desert View Power
Unit:	#1
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	785.2	647.1	138.1
2/H2O	742.2	739.9	2.3
3/Empty	596.1	594.4	1.7
4/S.G.	907.6	896.3	11.3
Rinse		50.0	-50.0
Total			103.4

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	788.000	80	83
		80	81
Stop	815.337	79	82
Total	27.337		80.8

Summary

Sample Volume:	27.314	dscf
H_2O Volume :	4.880	scf
Moisture Content:	15.2	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.30	1.1402	371	80.54
4	0.97	0.9849	372	69.61
3	0.96	0.9798	372	69.25
2	1.00	1.0000	371	70.64
1	0.95	0.9747	370	68.81
5	1.40	1.1832	371	83.58
4	1.20	1.0954	371	77.38
3	0.95	0.9747	370	68.81
2	0.98	0.9899	371	69.93
1	0.87	0.9327	370	65.85
5	0.98	0.9899	372	69.97
4	1.10	1.0488	371	74.09
3	0.92	0.9592	371	67.75
2	0.90	0.9487	370	66.97
1	1.10	1.0488	371	74.09
5	1.10	1.0488	371	74.09
4	1.20	1.0954	370	77.33
3	1.20	1.0954	371	77.38
2	1.00	1.0000	372	70.68
1	1.00	1.0000	371	70.64
5	1.40	1.1832	371	83.58
4	1.30	1.1402	372	80.59
3	1.20	1.0954	373	77.47
2	1.00	1.0000	372	70.68
1	1.10	1.0488	371	74.09
5	1.40	1.1832	370	83.53
4	1.30	1.1402	371	80.54
3	1.30	1.1402	371	80.54
2	1.20	1.0954	371	77.38
1	1.00	1.0000	370	70.60
Average	1.1037	1.0506	371.0	74.21

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.60
Pre Test Zero Direct	-0.01	-0.03	0.04	-0.06
Pre Test Span Direct	10.75	10.04	41.24	4.43
Pre-test Zero	0.01	0.04	0.08	0.08
Pre-test Span	10.72	10.04	40.88	4.42
0-30 min	8.78	11.45	43.18	0.15
Post Test Zero Direct	-0.01	0.07	0.02	0.00
Post Test Span Direct	10.81	10.32	41.29	4.51
Post-test Zero	0.01	0.12	0.05	0.06
Post-test Span	10.77	10.28	40.77	4.52
Average	8.78	11.45	43.18	0.15
Corr. Results	8.81	11.91	43.69	0.08
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	-0.2%	-2.8%	-0.1%	-1.7%
Pre-Test Zero Bias	0.1%	0.3%	0.0%	1.5%
Pre-Test Span Bias	-0.2%	0.0%	-0.4%	-0.1%
Post-Test Zero Bias	0.1%	0.3%	0.0%	0.7%
Post-Test Span Bias	-0.2%	-0.2%	-0.6%	0.1%
Zero Drift	0.0%	0.4%	0.0%	-0.2%
Span Drift	0.3%	1.3%	-0.1%	1.0%
CAL STATUS	PASS	FAIL	PASS	PASS

TEST SUMMARY

O_2:	8.805	% dry
	7.470	% wet
CO_2:	11.910	% dry
	10.105	% wet
NO_x:	43.692	ppm dry
	37.068	ppm wet
	29.394	lb/hr
SO_2:	9.3564202	ppm dry
	8.758	lb/hr
CO:	0.08	ppm dry
	0.06	ppm wet
	0.031	lb/hr
H_2O:	15.2	%
MW:	28.40	lb/lb-mole
Flow:	172,946	wacfm
	93.92	mdscfm
	5635.02	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5635.02	4648.10	986.92	17.5%
O_2	% dry	8.81	8.9	-0.11	-1.2%
CO_2	% dry	11.91	11.7	0.18	1.5%
NO_x	ppm dry	43.69	45.3	-1.58	-3.6%
NO_x	ppm @ 3% O_2	64.66	67.4	-2.73	-4.2%
NO_x	lb/hr	29.39	25.2633	4.13	14.1%
SO_2	ppm dry	9.36	10.23	-0.87	-9.3%
SO_2	ppm @ 3% O_2	13.85	15.15	-1.31	-9.4%
SO_2	lb/hr	8.758	7.974	0.783	8.9%
CO	ppm dry	0.08	0.31	-0.23	
CO	ppm @ 3% O_2	0.11	0.45	-0.34	
CO	lb/hr	0.031	0.106		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	459.4	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.71	

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

PRE-TEST INFORMATION
GENERAL

Test:	5-RA-U1
Date:	3/10/2021
Start Time:	13:14
Station:	Desert View Power
Unit:	#1
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	872.0	731.6	140.4
2/H2O	715.3	713.8	1.5
3/Empty	640.6	639.3	1.3
4/S.G.	949.1	939.9	9.2
Rinse		50.0	-50.0
Total			102.4

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	816.400	88	90
		74	77
Stop	841.944	73	75
Total	25.544		79.5

Summary

Sample Volume:	25.586	dscf
H_2O Volume :	4.833	scf
Moisture Content:	15.9	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.90	0.9487	355	66.50
4	0.97	0.9849	356	69.08
3	0.96	0.9798	357	68.76
2	0.60	0.7746	357	54.36
1	0.60	0.7746	356	54.33
5	0.80	0.8944	355	62.69
4	0.80	0.8944	354	62.65
3	0.95	0.9747	355	68.32
2	0.98	0.9899	356	69.43
1	0.60	0.7746	354	54.26
5	0.98	0.9899	356	69.43
4	1.00	1.0000	357	70.18
3	0.92	0.9592	358	67.35
2	0.90	0.9487	358	66.62
1	0.80	0.8944	356	62.73
5	0.90	0.9487	354	66.45
4	0.90	0.9487	355	66.50
3	0.80	0.8944	356	62.73
2	0.60	0.7746	357	54.36
1	0.50	0.7071	355	49.56
5	0.90	0.9487	356	66.54
4	0.80	0.8944	357	62.77
3	0.60	0.7746	358	54.39
2	0.60	0.7746	357	54.36
1	0.50	0.7071	355	49.56
5	0.90	0.9487	355	66.50
4	0.90	0.9487	356	66.54
3	0.80	0.8944	357	62.77
2	0.80	0.8944	356	62.73
1	0.60	0.7746	357	54.36
Average	0.7872	0.8872	356.0	62.23

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.60
Pre Test Zero Direct	-0.01	-0.01	0.02	0.00
Pre Test Span Direct	10.81	10.41	41.29	4.51
Pre-test Zero	0.01	0.04	0.05	0.06
Pre-test Span	10.77	10.42	40.77	4.52
0-30 min	9.00	11.57	47.36	0.25
Post Test Zero Direct	0.00	-0.02	0.02	0.05
Post Test Span Direct	10.84	10.50	41.14	4.69
Post-test Zero	0.04	0.06	0.07	0.15
Post-test Span	10.80	10.48	41.16	4.69
Average	9.00	11.57	47.36	0.25
Corr. Results	8.99	11.70	47.76	0.15
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.1%	-0.8%	0.0%	-0.9%
Pre-Test Zero Bias	0.1%	0.3%	0.0%	0.7%
Pre-Test Span Bias	-0.2%	0.0%	-0.6%	0.1%
Post-Test Zero Bias	0.2%	0.4%	0.1%	1.1%
Post-Test Span Bias	-0.2%	-0.1%	0.0%	0.0%
Zero Drift	0.1%	0.1%	0.0%	0.9%
Span Drift	0.2%	0.3%	0.4%	1.8%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.994	% dry
	7.565	% wet
CO_2:	11.699	% dry
	9.840	% wet
NO_x:	47.764	ppm dry
	40.175	ppm wet
	27.203	lb/hr
SO_2:	10.18895	ppm dry
	8.074	lb/hr
CO:	0.15	ppm dry
	0.12	ppm wet
	0.051	lb/hr
H_2O:	15.9	%
MW:	28.29	lb/lb-mole
Flow:	145,014	wacfm
	79.51	mdscfm
	4770.41	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	4770.41	4441.20	329.21	6.9%
O_2	% dry	8.99	9.1	-0.09	-1.0%
CO_2	% dry	11.70	11.5	0.16	1.3%
NO_x	ppm dry	47.76	49.3	-1.51	-3.2%
NO_x	ppm @ 3% O_2	71.81	74.4	-2.54	-3.5%
NO_x	lb/hr	27.20	26.21	1.00	3.7%
SO_2	ppm dry	10.19	10.99	-0.80	-7.9%
SO_2	ppm @ 3% O_2	15.32	16.55	-1.23	-8.0%
SO_2	lb/hr	8.074	8.148	-0.074	-0.9%
CO	ppm dry	0.15	0.19	-0.04	
CO	ppm @ 3% O_2	0.22	0.29	-0.07	
CO	lb/hr	0.051	0.061	-0.01	

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	445.6	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.85	

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

PRE-TEST INFORMATION
GENERAL

Test:	6-RA-U1
Date:	3/10/2021
Start Time:	14:04
Station:	Desert View Power
Unit:	#1
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	760.5	638.5	122.0
2/H2O	750.4	749.9	0.5
3/Empty	595.5	595.2	0.3
4/S.G.	916.3	907.6	8.7
Rinse		50.0	-50.0
Total			81.5

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	844.100	70	72
		73	75
Stop	869.487	74	76
Total	25.387		73.3

Summary

Sample Volume:	25.723	dscf
H_2O Volume :	3.847	scf
Moisture Content:	13.0	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.30	1.1402	365	79.91
4	0.99	0.9950	366	69.78
3	0.98	0.9899	364	69.34
2	1.10	1.0488	365	73.51
1	0.97	0.9849	364	68.99
5	1.40	1.1832	364	82.88
4	1.30	1.1402	365	79.91
3	0.94	0.9695	366	67.99
2	0.97	0.9849	367	69.11
1	0.82	0.9055	364	63.43
5	0.96	0.9798	364	68.63
4	0.99	0.9950	365	69.74
3	0.93	0.9644	366	67.63
2	0.92	0.9592	364	67.18
1	1.10	1.0488	365	73.51
5	1.10	1.0488	364	73.46
4	1.20	1.0954	365	76.78
3	1.30	1.1402	366	79.96
2	1.10	1.0488	364	73.46
1	1.20	1.0954	365	76.78
5	1.50	1.2247	364	85.79
4	1.20	1.0954	365	76.78
3	1.30	1.1402	364	79.86
2	1.20	1.0954	364	76.73
1	1.10	1.0488	364	73.46
5	1.40	1.1832	364	82.88
4	1.30	1.1402	365	79.91
3	1.20	1.0954	366	76.82
2	1.20	1.0954	365	76.78
1	1.10	1.0488	364	73.46
Average	1.1297	1.0629	364.8	74.48

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.60
Pre Test Zero Direct	0.00	-0.02	0.02	0.05
Pre Test Span Direct	10.84	10.50	41.14	4.69
Pre-test Zero	0.04	0.06	0.07	0.15
Pre-test Span	10.80	10.48	41.16	4.69
0-30 min	9.09	11.59	36.62	0.28
Post Test Zero Direct	0.00	-0.03	0.02	0.07
Post Test Span Direct	10.87	10.50	41.41	4.72
Post-test Zero	0.03	0.05	0.04	0.16
Post-test Span	10.81	10.49	41.07	4.72
Average	9.09	11.59	36.62	0.28
Corr. Results	9.06	11.68	36.78	0.13
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.3%	-0.3%	-0.2%	0.9%
Pre-Test Zero Bias	0.2%	0.4%	0.1%	1.1%
Pre-Test Span Bias	-0.2%	-0.1%	0.0%	0.0%
Post-Test Zero Bias	0.1%	0.4%	0.0%	1.0%
Post-Test Span Bias	-0.3%	0.0%	-0.4%	0.0%
Zero Drift	0.0%	0.0%	0.0%	0.1%
Span Drift	0.0%	0.0%	-0.1%	0.3%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.061	% dry
	7.882	% wet
CO_2:	11.681	% dry
	10.161	% wet
NO_x:	36.781	ppm dry
	31.996	ppm wet
	25.657	lb/hr
SO_2:	9.1542669	ppm dry
	8.884	lb/hr
CO:	0.13	ppm dry
	0.11	ppm wet
	0.054	lb/hr
H_2O:	13.0	%
MW:	28.64	lb/lb-mole
Flow:	173,571	wacfm
	97.38	mdscfm
	5842.77	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5842.77	5645.30	197.47	3.4%
O_2	% dry	9.06	9.2	-0.10	-1.1%
CO_2	% dry	11.68	11.5	0.20	1.7%
NO_x	ppm dry	36.78	38.6	-1.83	-5.0%
NO_x	ppm @ 3% O_2	55.61	58.5	-2.88	-5.2%
NO_x	lb/hr	25.66	25.8290	-0.17	-0.7%
SO_2	ppm dry	9.15	9.89	-0.74	-8.1%
SO_2	ppm @ 3% O_2	13.84	15.03	-1.19	-8.6%
SO_2	lb/hr	8.884	9.241	-0.357	-4.0%
CO	ppm dry	0.13	0.16	-0.03	
CO	ppm @ 3% O_2	0.19	0.24	-0.05	
CO	lb/hr	0.054	0.064		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	439.5	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.61	

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

PRE-TEST INFORMATION
GENERAL

Test:	7-RA-U1
Date:	3/10/2021
Start Time:	14:56
Station:	Desert View Power
Unit:	#1
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	681.5	731.1	-49.6
2/H2O	907.6	717.2	190.4
3/Empty	641.0	639.6	1.4
4/S.G.	956.6	949.1	7.5
Rinse		50.0	-50.0
Total			99.7

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	870.700	75	77
		74	77
Stop	897.444	75	78
Total	26.744		76.0

Summary

Sample Volume:	26.963	dscf
H_2O Volume :	4.706	scf
Moisture Content:	14.9	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.90	0.9487	365	66.75
4	0.97	0.9849	368	69.42
3	0.96	0.9798	370	69.15
2	0.60	0.7746	371	54.70
1	0.60	0.7746	371	54.70
5	0.80	0.8944	370	63.12
4	0.80	0.8944	371	63.16
3	0.95	0.9747	370	68.79
2	0.98	0.9899	373	69.99
1	0.60	0.7746	371	54.70
5	0.98	0.9899	371	69.91
4	1.00	1.0000	372	70.66
3	0.92	0.9592	371	67.73
2	0.80	0.8944	371	63.16
1	0.80	0.8944	370	63.12
5	0.80	0.8944	371	63.16
4	0.80	0.8944	372	63.20
3	0.80	0.8944	372	63.20
2	0.60	0.7746	371	54.70
1	0.50	0.7071	370	49.90
5	0.90	0.9487	371	66.99
4	0.80	0.8944	372	63.20
3	0.60	0.7746	372	54.73
2	0.60	0.7746	372	54.73
1	0.50	0.7071	371	49.93
5	0.90	0.9487	371	66.99
4	0.90	0.9487	372	67.03
3	0.80	0.8944	371	63.16
2	0.80	0.8944	372	63.20
1	0.60	0.7746	372	54.73
Average	0.7776	0.8818	370.9	62.27

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.60
Pre Test Zero Direct	0.00	-0.03	0.02	0.07
Pre Test Span Direct	10.87	10.50	41.41	4.72
Pre-test Zero	0.03	0.05	0.04	0.16
Pre-test Span	10.81	10.49	41.07	4.72
0-30 min	9.00	11.66	46.52	0.28
Post Test Zero Direct	0.00	-0.02	0.02	0.00
Post Test Span Direct	10.86	10.54	41.28	4.74
Post-test Zero	0.04	0.06	0.08	0.17
Post-test Span	10.82	10.54	40.99	4.72
Average	9.00	11.66	46.52	0.28
Corr. Results	8.97	11.72	46.84	0.11
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.5%	-0.3%	0.1%	1.2%
Pre-Test Zero Bias	0.1%	0.4%	0.0%	1.0%
Pre-Test Span Bias	-0.3%	0.0%	-0.4%	0.0%
Post-Test Zero Bias	0.2%	0.4%	0.1%	1.7%
Post-Test Span Bias	-0.2%	0.0%	-0.3%	-0.2%
Zero Drift	0.1%	0.1%	0.0%	0.1%
Span Drift	0.1%	0.2%	-0.1%	-0.1%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.967	% dry
	7.635	% wet
CO_2:	11.723	% dry
	9.981	% wet
NO_x:	46.839	ppm dry
	39.879	ppm wet
	26.536	lb/hr
SO_2:	8.8615174	ppm dry
	6.985	lb/hr
CO:	0.11	ppm dry
	0.10	ppm wet
	0.039	lb/hr
H_2O:	14.9	%
MW:	28.42	lb/lb-mole
Flow:	145,104	wacfm
	79.09	mdscfm
	4745.32	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	4745.32	4277.50	467.82	9.9%
O_2	% dry	8.97	9.1	-0.10	-1.1%
CO_2	% dry	11.72	11.5	0.19	1.6%
NO_x	ppm dry	46.84	48.4	-1.55	-3.3%
NO_x	ppm @ 3% O_2	70.26	72.9	-2.65	-3.8%
NO_x	lb/hr	26.54	24.8517	1.68	6.3%
SO_2	ppm dry	8.86	9.11	-0.24	-2.8%
SO_2	ppm @ 3% O_2	13.29	13.71	-0.42	-3.2%
SO_2	lb/hr	6.985	6.505	0.480	6.9%
CO	ppm dry	0.11	0.14	-0.03	
CO	ppm @ 3% O_2	0.17	0.21	-0.04	
CO	lb/hr	0.039	0.044		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	449.4	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	2.59	

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

PRE-TEST INFORMATION
GENERAL

Test:	8-RA-U1
Date:	3/10/2021
Start Time:	15:48
Station:	Desert View Power
Unit:	#1
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	789.2	650.5	138.7
2/H2O	737.6	736.4	1.2
3/Empty	595.0	594.4	0.6
4/S.G.	924.5	916.3	8.2
Rinse		50.0	-50.0
Total			98.7

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	898.200	76	78
		73	75
Stop	924.318	72	75
Total	26.118		74.8

Summary

Sample Volume:	26.389	dscf
H_2O Volume :	4.659	scf
Moisture Content:	15.0	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.89	0.9434	371	66.66
4	0.88	0.9381	372	66.33
3	0.85	0.9220	371	65.15
2	0.61	0.7810	372	55.22
1	0.60	0.7746	371	54.73
5	0.82	0.9055	372	64.03
4	0.81	0.9000	371	63.60
3	0.94	0.9695	372	68.55
2	0.95	0.9747	371	68.87
1	0.63	0.7937	370	56.05
5	0.97	0.9849	371	69.59
4	1.00	1.0000	372	70.71
3	0.81	0.9000	372	63.63
2	0.80	0.8944	371	63.20
1	0.80	0.8944	370	63.16
5	0.81	0.9000	371	63.60
4	0.92	0.9592	372	67.82
3	0.81	0.9000	371	63.60
2	0.62	0.7874	370	55.61
1	0.53	0.7280	371	51.44
5	0.87	0.9327	371	65.91
4	0.80	0.8944	372	63.24
3	0.60	0.7746	371	54.73
2	0.60	0.7746	372	54.77
1	0.52	0.7211	371	50.96
5	0.87	0.9327	371	65.91
4	0.86	0.9274	372	65.57
3	0.81	0.9000	371	63.60
2	0.80	0.8944	370	63.16
1	0.62	0.7874	371	55.64
Average	0.7738	0.8797	371.2	62.17

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.60
Pre Test Zero Direct	0.00	-0.02	0.02	0.00
Pre Test Span Direct	10.86	10.54	41.28	4.74
Pre-test Zero	0.04	0.06	0.08	0.17
Pre-test Span	10.82	10.54	40.99	4.72
0-30 min	9.16	11.52	51.94	0.20
Post Test Zero Direct	0.01	-0.01	0.02	0.00
Post Test Span Direct	10.84	10.54	41.31	4.57
Post-test Zero	0.04	0.04	0.06	0.10
Post-test Span	10.81	10.54	41.04	4.56
Average	9.16	11.52	51.94	0.20
Corr. Results	9.13	11.55	52.31	0.07
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.4%	-0.1%	0.0%	1.4%
Pre-Test Zero Bias	0.2%	0.4%	0.1%	1.7%
Pre-Test Span Bias	-0.2%	0.0%	-0.3%	-0.2%
Post-Test Zero Bias	0.2%	0.3%	0.0%	1.1%
Post-Test Span Bias	-0.2%	0.0%	-0.3%	-0.1%
Zero Drift	0.0%	-0.1%	0.0%	-0.7%
Span Drift	0.0%	0.0%	0.1%	-1.6%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.125	% dry
	7.756	% wet
CO_2:	11.546	% dry
	9.814	% wet
NO_x:	52.313	ppm dry
	44.463	ppm wet
	29.530	lb/hr
SO_2:	10.470892	ppm dry
	8.223	lb/hr
CO:	0.07	ppm dry
	0.06	ppm wet
	0.024	lb/hr
H_2O:	15.0	%
MW:	28.38	lb/lb-mole
Flow:	144,878	wacfm
	78.80	mdscfm
	4728.14	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	4728.14	4125.83	602.30	12.7%
O_2	% dry	9.13	9.2	-0.10	-1.1%
CO_2	% dry	11.55	11.4	0.17	1.5%
NO_x	ppm dry	52.31	53.8	-1.52	-2.9%
NO_x	ppm @ 3% O_2	79.53	82.4	-2.82	-3.6%
NO_x	lb/hr	29.53	26.5947	2.93	9.9%
SO_2	ppm dry	10.47	11.81	-1.34	-12.8%
SO_2	ppm @ 3% O_2	15.92	18.04	-2.12	-13.3%
SO_2	lb/hr	8.223	8.127	0.097	1.2%
CO	ppm dry	0.07	0.09	-0.02	
CO	ppm @ 3% O_2	0.11	0.13	-0.03	
CO	lb/hr	0.024	0.027		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	447.2	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	3.01	

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

PRE-TEST INFORMATION
GENERAL

Test:	9-RA-U1
Date:	3/10/2021
Start Time:	16:36
Station:	Desert View Power
Unit:	#1
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	867.3	729.4	137.9
2/H2O	718.4	715.4	3.0
3/Empty	639.7	639.2	0.5
4/S.G.	963.2	956.6	6.6
Rinse		50.0	-50.0
Total			98.0

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	921.000	73	75
		74	76
Stop	951.638	75	78
Total	30.638		75.2

Summary

Sample Volume:	30.937	dscf
H_2O Volume :	4.626	scf
Moisture Content:	13.0	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.74	0.8602	358	60.02
4	0.70	0.8367	359	58.41
3	0.68	0.8246	360	57.61
2	0.62	0.7874	361	55.04
1	0.53	0.7280	362	50.92
5	0.83	0.9110	362	63.72
4	0.72	0.8485	362	59.35
3	0.63	0.7937	363	55.55
2	0.60	0.7746	362	54.18
1	0.52	0.7211	361	50.41
5	0.93	0.9644	362	67.45
4	0.82	0.9055	363	63.38
3	0.78	0.8832	362	61.77
2	0.54	0.7348	361	51.37
1	0.52	0.7211	362	50.44
5	0.83	0.9110	361	63.68
4	0.79	0.8888	363	62.21
3	0.72	0.8485	364	59.42
2	0.51	0.7141	362	49.95
1	0.50	0.7071	362	49.46
5	0.82	0.9055	362	63.34
4	0.73	0.8544	363	59.80
3	0.52	0.7211	362	50.44
2	0.43	0.6557	362	45.87
1	0.40	0.6325	361	44.21
5	0.78	0.8832	362	61.77
4	0.72	0.8485	362	59.35
3	0.59	0.7681	361	53.69
2	0.51	0.7141	362	49.95
1	0.48	0.6928	361	48.43
Average	0.6422	0.8014	361.7	56.04

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.60
Pre Test Zero Direct	0.01	-0.01	0.02	0.00
Pre Test Span Direct	10.84	10.54	41.31	4.57
Pre-test Zero	0.04	0.04	0.06	0.10
Pre-test Span	10.81	10.54	41.04	4.56
0-30 min	8.91	11.79	49.19	0.19
Post Test Zero Direct	0.01	0.02	0.02	0.01
Post Test Span Direct	10.87	10.56	41.25	4.58
Post-test Zero	0.03	0.07	0.04	0.10
Post-test Span	10.82	10.56	41.03	4.58
Average	8.91	11.79	49.19	0.19
Corr. Results	8.87	11.81	49.51	0.09
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.3%	-0.1%	0.0%	-0.3%
Pre-Test Zero Bias	0.2%	0.3%	0.0%	1.1%
Pre-Test Span Bias	-0.2%	0.0%	-0.3%	-0.1%
Post-Test Zero Bias	0.1%	0.3%	0.0%	1.0%
Post-Test Span Bias	-0.3%	0.0%	-0.3%	0.0%
Zero Drift	0.0%	0.2%	0.0%	0.0%
Span Drift	0.0%	0.1%	0.0%	0.2%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.873	% dry
	7.719	% wet
CO_2:	11.811	% dry
	10.275	% wet
NO_x:	49.514	ppm dry
	43.073	ppm wet
	26.085	lb/hr
SO_2:	9.8048616	ppm dry
	7.187	lb/hr
CO:	0.09	ppm dry
	0.08	ppm wet
	0.029	lb/hr
H_2O:	13.0	%
MW:	28.65	lb/lb-mole
Flow:	130,595	wacfm
	73.55	mdscfm
	4412.80	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	4412.80	4212.93	199.87	4.5%
O_2	% dry	8.87	9.0	-0.11	-1.3%
CO_2	% dry	11.81	11.6	0.22	1.9%
NO_x	ppm dry	49.51	50.9	-1.44	-2.9%
NO_x	ppm @ 3% O_2	73.69	76.2	-2.53	-3.4%
NO_x	lb/hr	26.09	25.75	0.34	1.3%
SO_2	ppm dry	9.80	11.48	-1.67	-17.1%
SO_2	ppm @ 3% O_2	14.59	17.09	-2.50	-17.1%
SO_2	lb/hr	7.187	8.072	-0.886	-12.3%
CO	ppm dry	0.09	0.08	0.01	
CO	ppm @ 3% O_2	0.13	0.12	0.02	
CO	lb/hr	0.029	0.025		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	469.1	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	3.15	

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

PRE-TEST INFORMATION
GENERAL

Test:	10-RA-U1
Date:	3/10/2021
Start Time:	17:34
Station:	Desert View Power
Unit:	#1
Test Condition:	Full Load
Performed By:	DW

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.11	"Hg
Meter No.	1 P&M	
Meter Y_d:	1.0110	
Meter Pressure:	2.5	iwg
Pstack:	0.48	iwg
Pstack:	30.14	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	783.4	652.9	130.5
2/H2O	733.5	733.1	0.4
3/Empty	593.4	593.0	0.4
4/S.G.	883.4	893.0	-9.6
Rinse		50.0	-50.0
Total			71.7

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	952.600	74	77
		72	75
Stop	974.654	70	72
Total	22.054		73.3

Summary

Sample Volume:	22.346	dscf
H_2O Volume :	3.384	scf
Moisture Content:	13.2	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.68	0.8246	362	57.74
4	0.67	0.8185	363	57.35
3	0.69	0.8307	364	58.23
2	0.60	0.7746	365	54.33
1	0.52	0.7211	364	50.55
5	0.70	0.8367	365	58.69
4	0.69	0.8307	364	58.23
3	0.61	0.7810	365	54.79
2	0.60	0.7746	364	54.30
1	0.48	0.6928	364	48.57
5	0.72	0.8485	363	59.45
4	0.70	0.8367	362	58.58
3	0.69	0.8307	363	58.20
2	0.51	0.7141	362	50.00
1	0.47	0.6856	361	47.97
5	0.70	0.8367	360	58.51
4	0.70	0.8367	361	58.55
3	0.66	0.8124	362	56.88
2	0.50	0.7071	363	49.54
1	0.45	0.6708	364	47.03
5	0.70	0.8367	364	58.65
4	0.70	0.8367	363	58.62
3	0.61	0.7810	366	54.82
2	0.55	0.7416	365	52.02
1	0.48	0.6928	367	48.66
5	0.71	0.8426	368	59.21
4	0.62	0.7874	369	55.37
3	0.53	0.7280	368	51.16
2	0.50	0.7071	367	49.66
1	0.44	0.6633	364	46.50
Average	0.6023	0.7761	364.1	54.41

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.60
Pre Test Zero Direct	0.01	0.02	0.02	0.01
Pre Test Span Direct	10.87	10.56	41.25	4.58
Pre-test Zero	0.03	0.07	0.04	0.10
Pre-test Span	10.82	10.56	41.03	4.58
0-30 min	9.31	11.43	52.36	0.19
Post-test Zero	0.01	0.03	0.02	0.01
Post-test Span	10.87	10.61	41.31	4.61
Post Test Zero Direct	0.05	0.09	0.07	0.11
Post Test Span Direct	10.83	10.60	40.98	4.59
Average	9.31	11.43	52.36	0.19
Corr. Results	9.25	11.41	52.53	0.13
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.5%	0.0%	-0.1%	-0.2%
Pre-Test Zero Bias	0.1%	0.3%	0.0%	1.0%
Pre-Test Span Bias	-0.3%	0.0%	-0.3%	0.0%
Post-Test Zero Bias	-0.2%	-0.3%	-0.1%	-1.0%
Post-Test Span Bias	0.2%	0.0%	0.4%	0.1%
Zero Drift	-0.1%	-0.2%	0.0%	-0.9%
Span Drift	0.3%	0.3%	0.3%	0.3%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	9.254	% dry
	8.037	% wet
CO_2:	11.411	% dry
	9.910	% wet
NO_x:	52.527	ppm dry
	45.618	ppm wet
	26.743	lb/hr
SO_2:	12.178251	ppm dry
	8.626	lb/hr
CO:	0.13	ppm dry
	0.12	ppm wet
	0.041	lb/hr
H_2O:	13.2	%
MW:	28.59	lb/lb-mole
Flow:	126,787	wacfm
	71.07	mdscfm
	4264.48	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	4264.48	4067.30	197.18	4.6%
O_2	% dry	9.25	9.4	-0.14	-1.5%
CO_2	% dry	11.41	11.2	0.19	1.7%
NO_x	ppm dry	52.53	54.1	-1.55	-3.0%
NO_x	ppm @ 3% O_2	80.74	83.9	-3.15	-3.9%
NO_x	lb/hr	26.74	26.34	0.41	1.5%
SO_2	ppm dry	12.18	11.01	1.17	9.6%
SO_2	ppm @ 3% O_2	18.72	17.05	1.66	8.9%
SO_2	lb/hr	8.626	7.459	1.167	13.5%
CO	ppm dry	0.13	0.09	0.05	
CO	ppm @ 3% O_2	0.20	0.13	0.07	
CO	lb/hr	0.041	0.026		

SOx Titration Summary

	B1/2	Probe
N BaCl2	0.0096712	
Total VOL (ml)	411.7	
Aliquot VOL (ml)	20	
Titrant VOL (ml)	3.22	

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:	3/8/2021	
Start Time:	8:20	
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	1.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	917.7	732.8	184.9
2/H2O	712.5	710.6	1.9
3/Empty	638.9	638.6	0.3
4/S.G.	917.1	905.2	11.9
Rinse		50.0	-50.0
Total			149.0

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	450.500	74	75
		73	75
Stop	492.982	78	80
Total	42.482		75.8

Summary

Sample Volume:	42.316	dscf
H_2O Volume :	7.033	scf
Moisture Content:	14.3	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.00	1.0000	328	68.62
4	0.97	0.9849	330	67.67
3	0.95	0.9747	331	67.01
2	0.82	0.9055	332	62.30
1	0.77	0.8775	330	60.29
5	0.98	0.9899	329	67.98
4	0.99	0.9950	330	68.36
3	0.83	0.9110	331	62.64
2	0.80	0.8944	333	61.57
1	0.77	0.8775	332	60.37
5	0.85	0.9220	330	63.35
4	0.85	0.9220	331	63.39
3	0.95	0.9747	333	67.10
2	0.97	0.9849	331	67.71
1	0.99	0.9950	330	68.36
5	1.00	1.0000	329	68.67
4	1.10	1.0488	331	72.11
3	1.20	1.0954	332	75.36
2	1.00	1.0000	332	68.80
1	0.93	0.9644	331	66.30
5	1.40	1.1832	330	81.30
4	1.30	1.1402	331	78.39
3	1.20	1.0954	333	75.41
2	1.30	1.1402	332	78.44
1	1.10	1.0488	331	72.11
5	1.40	1.1832	332	81.40
4	1.30	1.1402	331	78.39
3	1.30	1.1402	333	78.49
2	1.20	1.0954	332	75.36
1	1.10	1.0488	331	72.11
Average	1.0359	1.0178	331.1	69.98

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	0.00	0.00	0.01	0.00
Pre Test Span Direct	10.86	10.41	41.56	4.60
Pre-test Zero	0.01	0.11	0.25	0.10
Pre-test Span	10.83	10.41	41.22	4.58
0-60 min	8.89	11.63	38.26	0.22
Post Test Zero Direct	-0.01	0.00	0.01	-0.02
Post Test Span Direct	10.82	10.38	41.33	4.52
Post-test Zero	0.01	0.13	0.06	0.09
Post-test Span	10.80	10.37	41.10	4.52
Average	8.89	11.63	38.26	0.22
Corr. Results	8.86	11.83	38.39	0.13
Cal Error <2%, Bias <5%; Drift <3%				
Calibration Error	0.4%	-0.8%	0.3%	0.0%
Pre-Test Zero Bias	0.1%	0.6%	0.3%	1.0%
Pre-Test Span Bias	-0.2%	0.0%	-0.4%	-0.3%
Post-Test Zero Bias	0.1%	0.7%	0.1%	1.2%
Post-Test Span Bias	-0.1%	0.0%	-0.3%	0.0%
Zero Drift	0.0%	0.1%	-0.2%	-0.1%
Span Drift	-0.2%	-0.2%	-0.1%	-0.5%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.859	% dry
CO_2:	11.834	% dry
NO_x:	38.386	ppm dry
	25.885	lb/hr
SO_2:	8.6636472	ppm dry
SO2:	8.128	lb/hr
CO:	0.13	ppm dry
	0.052	lb/hr
H_2O:	14.3	%
MW:	28.50	lb/lb-mole
Flow:	163,079	wacfm
	94.14	mdscfm
	5648.30	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5648.30	5229.95	418.35	7.4%
O_2	% dry	8.86	8.9	0.00	0.0%
CO_2	% dry	11.83	11.6	0.20	1.7%
NO_x	ppm dry	38.39	40.1	-1.68	-4.4%
NO_x	ppm @ 3% O_2	57.06	59.6	-2.49	-4.4%
NO_x	lb/hr	25.89	25.04	0.85	3.3%
SO_2	ppm dry	8.66	9.72	-1.05	-12.2%
SO_2	ppm @ 3% O_2	12.88	14.36	-1.48	-11.5%
SO_2	lb/hr	8.13	8.486	-0.358	-4.4%
CO	ppm dry	0.13	0.00	0.13	
CO	ppm @ 3% O_2	0.19	0.00	0.19	
CO	lb/hr	0.052	0.000		

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	459.4
Aliquot VOL (ml)	20
Titrant VOL (ml)	3.88

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

PRE-TEST INFORMATION
GENERAL

Test:	2-RA-U2
Date:	3/8/2021
Start Time:	9:35
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	1.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	804.9	635.7	169.2
2/H2O	747.1	742.3	4.8
3/Empty	595.0	592.0	3.0
4/S.G.	859.0	839.6	19.4
Rinse		50.0	-50.0
Total			146.4

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	494.000	83	85
		85	88
Stop	537.198	86	87
Total	43.198		85.7

Summary

Sample Volume:	42.254	dscf
H_2O Volume :	6.910	scf
Moisture Content:	14.1	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	1.00	1.0000	333	68.81
4	0.98	0.9899	334	68.16
3	0.94	0.9695	335	66.79
2	0.83	0.9110	336	62.80
1	0.76	0.8718	333	59.98
5	0.97	0.9849	334	67.81
4	0.95	0.9747	335	67.15
3	0.85	0.9220	336	63.56
2	0.82	0.9055	334	62.35
1	0.78	0.8832	332	60.73
5	0.86	0.9274	332	63.77
4	0.88	0.9381	332	64.50
3	0.94	0.9695	333	66.71
2	0.92	0.9592	334	66.04
1	0.98	0.9899	333	68.11
5	1.00	1.0000	332	68.76
4	1.10	1.0488	334	72.21
3	1.30	1.1402	333	78.45
2	1.00	1.0000	333	68.81
1	0.96	0.9798	331	67.33
5	1.40	1.1832	332	81.36
4	1.20	1.0954	333	75.37
3	1.30	1.1402	334	78.50
2	1.20	1.0954	332	75.33
1	1.00	1.0000	333	68.81
5	1.40	1.1832	331	81.31
4	1.40	1.1832	332	81.36
3	1.30	1.1402	334	78.50
2	0.98	0.9899	331	68.03
1	0.97	0.9849	333	67.77
Average	1.0242	1.0120	333.1	69.64

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Analyzer Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	-0.01	0.00	0.01	-0.02
Pre Test Span Direct	10.82	10.38	41.33	4.52
Pre-test Zero	0.01	0.13	0.06	0.09
Pre-test Span	10.80	10.37	41.10	4.52
0-60 min	8.83	11.68	38.88	0.22
Post Test Zero Direct	-0.01	0.07	0.02	0.11
Post Test Span Direct	10.82	10.48	41.16	4.54
Post-test Zero	0.01	0.13	0.07	0.08
Post-test Span	10.80	10.44	40.96	4.52
Average	8.83	11.68	38.88	0.22
Corr. Results	8.82	11.87	39.14	0.14
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.2%	-1.0%	0.0%	-0.8%
Pre-Test Zero Bias	0.1%	0.7%	0.1%	1.2%
Pre-Test Span Bias	-0.1%	0.0%	-0.3%	0.0%
Post-Test Zero Bias	0.1%	0.3%	0.1%	-0.3%
Post-Test Span Bias	-0.1%	-0.3%	-0.2%	-0.2%
Zero Drift	0.0%	0.0%	0.0%	-0.1%
Span Drift	0.0%	0.4%	-0.2%	-0.1%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.816	% dry
CO_2:	11.873	% dry
NO_x:	39.136	ppm dry
	26.254	lb/hr
SO_2:	8.592399	ppm dry
	8.020	lb/hr
CO:	0.14	ppm dry
	0.057	lb/hr
H_2O:	14.1	%
MW:	28.53	lb/lb-mole
Flow:	162,287	wacfm
	93.65	mdscfm
	5619.04	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5619.04	5130.45	488.59	8.7%
O_2	% dry	8.82	8.9	-0.13	-1.5%
CO_2	% dry	11.87	11.8	0.07	0.6%
NO_x	ppm dry	39.14	40.6	-1.48	-3.8%
NO_x	ppm @ 3% O_2	57.97	60.8	-2.84	-4.9%
NO_x	lb/hr	26.25	24.9	1.35	5.1%
SO_2	ppm dry	8.59	9.27	-0.67	-7.8%
SO_2	ppm @ 3% O_2	12.73	13.83	-1.10	-8.6%
SO_2	lb/hr	8.020	7.933	0.087	1.1%
CO	ppm dry	0.14	0.11	0.03	
CO	ppm @ 3% O_2	0.20	0.16	0.04	
CO	lb/hr	0.057	0.041		

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	422.3
Aliquot VOL (ml)	20
Titrant VOL (ml)	4.18

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

PRE-TEST INFORMATION
GENERAL

Test:	3-RA-U2
Date:	3/8/2021
Start Time:	10:52
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	1.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	905.6	731.7	173.9
2/H2O	724.9	719.8	5.1
3/Empty	640.0	638.9	1.1
4/S.G.	925.6	917.1	8.5
Rinse		50.0	-50.0
Total			138.6

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	538.500	84	85
		85	90
Stop	581.334	87	90
Total	42.834		86.8

Summary

Sample Volume:	41.808	dscf
H_2O Volume :	6.542	scf
Moisture Content:	13.5	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.97	0.9849	330	67.55
4	0.96	0.9798	331	67.25
3	0.92	0.9592	332	65.87
2	0.81	0.9000	331	61.77
1	0.75	0.8660	331	59.44
5	0.98	0.9899	332	67.99
4	0.92	0.9592	333	65.92
3	0.83	0.9110	332	62.57
2	0.81	0.9000	334	61.89
1	0.74	0.8602	332	59.08
5	0.87	0.9327	332	64.06
4	0.85	0.9220	331	63.28
3	0.93	0.9644	332	66.23
2	0.91	0.9539	331	65.47
1	0.96	0.9798	332	67.29
5	0.98	0.9899	331	67.94
4	1.10	1.0488	333	72.08
3	1.20	1.0954	332	75.23
2	0.99	0.9950	332	68.33
1	0.95	0.9747	331	66.90
5	1.40	1.1832	332	81.26
4	1.20	1.0954	333	75.28
3	1.20	1.0954	332	75.23
2	1.10	1.0488	331	71.98
1	1.00	1.0000	330	68.59
5	1.20	1.0954	332	75.23
4	1.40	1.1832	331	81.21
3	1.20	1.0954	332	75.23
2	1.30	1.1402	331	78.26
1	1.00	1.0000	330	68.59
Average	1.0070	1.0035	331.6	68.90

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	-0.01	0.07	0.02	0.11
Pre Test Span Direct	10.82	10.48	41.16	4.54
Pre-test Zero	0.01	0.13	0.07	0.08
Pre-test Span	10.80	10.44	40.96	4.52
0-60 min	8.84	11.76	39.13	0.20
Post Test Zero Direct	-0.01	0.01	0.02	-0.02
Post Test Span Direct	10.83	10.43	41.21	4.54
Post-test Zero	0.01	0.09	0.06	0.08
Post-test Span	10.80	10.45	40.75	4.52
Average	8.84	11.76	39.13	0.20
Corr. Results	8.82	11.91	39.56	0.13
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.2%	-0.4%	-0.2%	-0.6%
Pre-Test Zero Bias	0.1%	0.3%	0.1%	-0.3%
Pre-Test Span Bias	-0.1%	-0.3%	-0.2%	-0.2%
Post-Test Zero Bias	0.1%	0.4%	0.1%	1.0%
Post-Test Span Bias	-0.1%	0.1%	-0.5%	-0.2%
Zero Drift	0.0%	-0.2%	0.0%	0.0%
Span Drift	0.0%	0.1%	-0.2%	0.0%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.819	% dry
CO_2:	11.914	% dry
NO_x:	39.556	ppm dry
	26.465	lb/hr
SO_2:	8.9189176	ppm dry
	8.302	lb/hr
CO:	0.13	ppm dry
	0.053	lb/hr
H_2O:	13.5	%
MW:	28.60	lb/lb-mole
Flow:	160,567	wacfm
	93.40	mdscfm
	5604.05	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5604.05	5085.67	518.39	9.3%
O_2	% dry	8.82	8.9	-0.12	-1.4%
CO_2	% dry	11.91	11.8	0.11	1.0%
NO_x	ppm dry	39.56	40.9	-1.31	-3.3%
NO_x	ppm @ 3% O_2	58.61	61.1	-2.51	-4.3%
NO_x	lb/hr	26.47	24.8648	1.60	6.0%
SO_2	ppm dry	8.92	10.35	-1.43	-16.0%
SO_2	ppm @ 3% O_2	13.21	15.36	-2.15	-16.3%
SO_2	lb/hr	8.302	8.810	-0.507	-6.1%
CO	ppm dry	0.13	0.58	-0.45	
CO	ppm @ 3% O_2	0.19	0.86	-0.67	
CO	lb/hr	0.053	0.214	-0.16	

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	428.6
Aliquot VOL (ml)	20
Titrant VOL (ml)	4.23

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

PRE-TEST INFORMATION
GENERAL

Test:	4-RA-U2
Date:	3/8/2021
Start Time:	12:15
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	2.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	771.7	640.9	130.8
2/H2O	751.2	745.6	5.6
3/Empty	595.1	593.5	1.6
4/S.G.	868.7	859.0	9.7
Rinse		50.0	-50.0
Total			97.7

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	584.000	94	96
		95	97
Stop	612.038	95	97
Total	28.038		95.7

Summary

Sample Volume:	26.997	dscf
H_2O Volume :	4.611	scf
Moisture Content:	14.6	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.98	0.9899	333	68.19
4	0.94	0.9695	334	66.83
3	0.91	0.9539	335	65.79
2	0.82	0.9055	334	62.41
1	0.74	0.8602	333	59.25
5	0.96	0.9798	332	67.45
4	0.91	0.9539	331	65.63
3	0.84	0.9165	332	63.09
2	0.80	0.8944	331	61.53
1	0.75	0.8660	332	59.62
5	0.88	0.9381	331	64.54
4	0.84	0.9165	332	63.09
3	0.92	0.9592	333	66.07
2	0.90	0.9487	334	65.39
1	0.95	0.9747	334	67.18
5	0.98	0.9899	334	68.23
4	1.20	1.0954	335	75.55
3	1.00	1.0000	335	68.97
2	0.98	0.9899	336	68.32
1	0.96	0.9798	334	67.53
5	1.30	1.1402	334	78.59
4	1.20	1.0954	335	75.55
3	1.10	1.0488	336	72.38
2	1.10	1.0488	335	72.34
1	1.00	1.0000	334	68.93
5	1.20	1.0954	335	75.55
4	1.30	1.1402	336	78.69
3	1.40	1.1832	337	81.71
2	1.10	1.0488	338	72.47
1	1.10	1.0488	335	72.34
Average	0.9955	0.9977	334.0	68.77

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	-0.01	0.01	0.02	-0.02
Pre Test Span Direct	10.83	10.43	41.21	4.54
Pre-test Zero	0.01	0.09	0.06	0.08
Pre-test Span	10.80	10.45	40.75	4.52
0-30 min	8.78	11.79	39.69	0.22
Post Test Zero Direct	-0.01	0.07	0.01	-0.02
Post Test Span Direct	10.82	10.49	41.18	4.56
Post-test Zero	0.01	0.14	0.07	0.08
Post-test Span	10.78	10.50	40.96	4.54
Average	8.78	11.79	39.69	0.22
Corr. Results	8.77	11.90	40.12	0.15
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.3%	-0.7%	-0.1%	-0.7%
Pre-Test Zero Bias	0.1%	0.4%	0.1%	1.0%
Pre-Test Span Bias	-0.1%	0.1%	-0.5%	-0.2%
Post-Test Zero Bias	0.1%	0.4%	0.1%	1.0%
Post-Test Span Bias	-0.2%	0.1%	-0.3%	-0.2%
Zero Drift	0.0%	0.3%	0.0%	0.1%
Span Drift	-0.1%	0.3%	0.2%	0.2%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.773	% dry
CO_2:	11.901	% dry
NO_x:	40.123	ppm dry
	26.388	lb/hr
SO_2:	9.8280025	ppm dry
	8.993	lb/hr
CO:	0.15	ppm dry
	0.059	lb/hr
H_2O:	14.6	%
MW:	28.47	lb/lb-mole
Flow:	160,270	wacfm
	91.81	mdscfm
	5508.71	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5508.71	5052.57	456.14	8.3%
O_2	% dry	8.77	8.9	-0.12	-1.3%
CO_2	% dry	11.90	11.8	0.09	0.7%
NO_x	ppm dry	40.12	41.5	-1.39	-3.5%
NO_x	ppm @ 3% O_2	59.22	61.8	-2.61	-4.4%
NO_x	lb/hr	26.39	25.0667	1.32	5.0%
SO_2	ppm dry	9.83	10.50	-0.67	-6.8%
SO_2	ppm @ 3% O_2	14.51	15.61	-1.10	-7.6%
SO_2	lb/hr	8.993	8.835	0.158	1.8%
CO	ppm dry	0.15	1.17	-1.02	
CO	ppm @ 3% O_2	0.22	1.74	-1.52	
CO	lb/hr	0.059	0.429		

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	414.8
Aliquot VOL (ml)	20
Titrant VOL (ml)	3.11

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

PRE-TEST INFORMATION
GENERAL

Test:	5-RA-U2
Date:	3/8/2021
Start Time:	13:00
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	2.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	860.9	733.6	127.3
2/H2O	724.3	716.9	7.4
3/Empty	640.4	639.4	1.0
4/S.G.	931.9	925.6	6.3
Rinse		50.0	-50.0
Total			92.0

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	614.000	95	97
		96	98
Stop	642.728	97	100
Total	28.728		97.2

Summary

Sample Volume:	27.587	dscf
H_2O Volume :	4.342	scf
Moisture Content:	13.6	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.99	0.9950	334	68.45
4	0.94	0.9695	335	66.74
3	0.92	0.9592	336	66.07
2	0.83	0.9110	335	62.71
1	0.76	0.8718	334	59.97
5	0.94	0.9695	336	66.78
4	0.92	0.9592	335	66.03
3	0.84	0.9165	336	63.13
2	0.82	0.9055	334	62.30
1	0.74	0.8602	332	59.11
5	0.88	0.9381	333	64.49
4	0.85	0.9220	334	63.43
3	0.94	0.9695	335	66.74
2	0.91	0.9539	334	65.63
1	0.92	0.9592	336	66.07
5	0.96	0.9798	334	67.41
4	1.10	1.0488	335	72.20
3	1.00	1.0000	336	68.88
2	0.97	0.9849	334	67.76
1	0.95	0.9747	332	66.97
5	1.30	1.1402	334	78.44
4	1.10	1.0488	335	72.20
3	1.20	1.0954	336	75.46
2	1.00	1.0000	337	68.93
1	0.98	0.9899	335	68.15
5	1.20	1.0954	334	75.36
4	1.40	1.1832	335	81.45
3	1.30	1.1402	336	78.54
2	1.10	1.0488	334	72.15
1	0.98	0.9899	332	68.02
Average	0.9854	0.9927	334.6	68.32

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	-0.01	0.07	0.01	-0.02
Pre Test Span Direct	10.82	10.49	41.18	4.56
Pre-test Zero	0.01	0.14	0.07	0.08
Pre-test Span	10.78	10.50	40.96	4.54
0-30 min	8.90	11.69	39.94	0.23
Post Test Zero Direct	-0.01	0.07	0.01	-0.01
Post Test Span Direct	10.81	10.50	41.22	4.55
Post-test Zero	0.01	0.15	0.07	0.08
Post-test Span	10.77	10.51	40.93	4.54
Average	8.90	11.69	39.94	0.23
Corr. Results	8.90	11.77	40.28	0.15
Cal Error <2%, Bias <5%; Drift <3%				
Calibration Error	0.2%	-0.4%	-0.1%	-0.4%
Pre-Test Zero Bias	0.1%	0.4%	0.1%	1.0%
Pre-Test Span Bias	-0.2%	0.1%	-0.3%	-0.2%
Post-Test Zero Bias	0.1%	0.4%	0.1%	1.0%
Post-Test Span Bias	-0.2%	0.1%	-0.3%	-0.1%
Zero Drift	0.0%	0.1%	0.0%	0.0%
Span Drift	-0.1%	0.0%	0.0%	0.0%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.904	% dry
CO_2:	11.772	% dry
NO_x:	40.284	ppm dry
	26.603	lb/hr
SO_2:	9.6373763	ppm dry
	8.855	lb/hr
CO:	0.15	ppm dry
	0.060	lb/hr
H_2O:	13.6	%
MW:	28.58	lb/lb-mole
Flow:	159,210	wacfm
	92.19	mdscfm
	5531.47	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5531.47	5037.00	494.47	8.9%
O_2	% dry	8.90	9.0	-0.11	-1.2%
CO_2	% dry	11.77	11.7	0.09	0.8%
NO_x	ppm dry	40.28	41.8	-1.52	-3.8%
NO_x	ppm @ 3% O_2	60.11	62.9	-2.79	-4.6%
NO_x	lb/hr	26.60	25.1737	1.43	5.4%
SO_2	ppm dry	9.64	10.81	-1.18	-12.2%
SO_2	ppm @ 3% O_2	14.38	16.19	-1.81	-12.6%
SO_2	lb/hr	8.855	9.092	-0.237	-2.7%
CO	ppm dry	0.15	1.20	-1.05	
CO	ppm @ 3% O_2	0.22	1.81	-1.58	
CO	lb/hr	0.060	0.440	-0.38	

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	450.4
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.87

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

PRE-TEST INFORMATION
GENERAL

Test:	6-RA-U2
Date:	3/8/2021
Start Time:	13:48
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	2.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	778.4	652.7	125.7
2/H2O	743.0	738.4	4.6
3/Empty	595.1	594.6	0.5
4/S.G.	880.9	869.5	11.4
Rinse		50.0	-50.0
Total			92.2

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	644.000	96	100
		99	100
Stop	672.437	98	100
Total	28.437		98.8

Summary

Sample Volume:	27.226	dscf
H_2O Volume :	4.352	scf
Moisture Content:	13.8	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.97	0.9849	335	67.81
4	0.93	0.9644	336	66.44
3	0.89	0.9434	335	64.96
2	0.83	0.9110	336	62.77
1	0.77	0.8775	334	60.38
5	0.93	0.9644	335	66.40
4	0.90	0.9487	334	65.28
3	0.84	0.9165	335	63.10
2	0.81	0.9000	334	61.93
1	0.77	0.8775	334	60.38
5	0.87	0.9327	333	64.14
4	0.85	0.9220	334	63.44
3	0.92	0.9592	334	66.00
2	0.90	0.9487	333	65.24
1	0.89	0.9434	332	64.83
5	0.97	0.9849	331	67.64
4	1.00	1.0000	332	68.72
3	1.00	1.0000	332	68.72
2	0.98	0.9899	331	67.99
1	0.93	0.9644	332	66.27
5	1.30	1.1402	331	78.31
4	1.00	1.0000	332	68.72
3	1.20	1.0954	333	75.33
2	1.00	1.0000	331	68.68
1	0.97	0.9849	331	67.64
5	1.20	1.0954	332	75.28
4	1.30	1.1402	333	78.41
3	1.00	1.0000	334	68.81
2	1.00	1.0000	333	68.77
1	0.96	0.9798	331	67.29
Average	0.9584	0.9790	333.1	67.32

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	-0.01	0.07	0.01	-0.01
Pre Test Span Direct	10.81	10.50	41.22	4.55
Pre-test Zero	0.01	0.15	0.07	0.08
Pre-test Span	10.77	10.51	40.93	4.54
0-30 min	8.80	11.78	39.53	0.22
Post Test Zero Direct	-0.01	0.04	0.02	-0.01
Post Test Span Direct	10.81	10.45	41.25	4.56
Post-test Zero	0.01	0.13	0.08	0.09
Post-test Span	10.78	10.48	40.99	4.55
Average	8.80	11.78	39.53	0.22
Corr. Results	8.80	11.87	39.86	0.14
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.2%	-0.3%	-0.1%	-0.5%
Pre-Test Zero Bias	0.1%	0.4%	0.1%	1.0%
Pre-Test Span Bias	-0.2%	0.1%	-0.3%	-0.1%
Post-Test Zero Bias	0.1%	0.4%	0.1%	1.0%
Post-Test Span Bias	-0.2%	0.1%	-0.3%	-0.1%
Zero Drift	0.0%	-0.1%	0.0%	0.0%
Span Drift	0.1%	-0.2%	0.1%	0.1%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.804	% dry
CO_2:	11.871	% dry
NO_x:	39.857	ppm dry
	25.932	lb/hr
SO_2:	9.1732823	ppm dry
	8.304	lb/hr
CO:	0.14	ppm dry
	0.057	lb/hr
H_2O:	13.8	%
MW:	28.56	lb/lb-mole
Flow:	156,890	wacfm
	90.83	mdscfm
	5449.73	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5449.73	5038.37	411.36	7.5%
O_2	% dry	8.80	8.9	-0.11	-1.2%
CO_2	% dry	11.87	11.8	0.10	0.8%
NO_x	ppm dry	39.86	41.4	-1.52	-3.8%
NO_x	ppm @ 3% O_2	58.98	61.7	-2.76	-4.7%
NO_x	lb/hr	25.93	24.9217	1.01	3.9%
SO_2	ppm dry	9.17	9.93	-0.75	-8.2%
SO_2	ppm @ 3% O_2	13.57	14.75	-1.18	-8.7%
SO_2	lb/hr	8.304	8.337	-0.033	-0.4%
CO	ppm dry	0.14	0.89	-0.74	
CO	ppm @ 3% O_2	0.21	1.32	-1.11	
CO	lb/hr	0.057	0.325		

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	436.8
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.78

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

PRE-TEST INFORMATION
GENERAL

Test:	7-RA-U2
Date:	3/8/2021
Start Time:	14:32
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	2.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	866.4	737.1	129.3
2/H2O	725.0	720.3	4.7
3/Empty	639.1	638.2	0.9
4/S.G.	937.2	931.9	5.3
Rinse		50.0	-50.0
Total			90.2

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	674.000	100	101
		98	100
Stop	702.271	97	99
Total	28.271		99.2

Summary

Sample Volume:	27.051	dscf
H_2O Volume :	4.257	scf
Moisture Content:	13.6	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.97	0.9849	328	67.47
4	0.92	0.9592	333	65.92
3	0.90	0.9487	334	65.24
2	0.82	0.9055	335	62.31
1	0.74	0.8602	334	59.16
5	0.92	0.9592	335	66.00
4	0.91	0.9539	336	65.68
3	0.82	0.9055	337	62.39
2	0.79	0.8888	335	61.16
1	0.76	0.8718	334	59.95
5	0.88	0.9381	333	64.47
4	0.84	0.9165	332	62.95
3	0.91	0.9539	334	65.60
2	0.89	0.9434	335	64.92
1	0.87	0.9327	330	63.98
5	0.97	0.9849	331	67.60
4	1.00	1.0000	332	68.68
3	1.10	1.0488	331	71.99
2	0.95	0.9747	332	66.94
1	0.92	0.9592	331	65.83
5	1.40	1.1832	333	81.31
4	1.00	1.0000	334	68.77
3	1.10	1.0488	335	72.17
2	1.00	1.0000	334	68.77
1	0.98	0.9899	331	67.95
5	1.30	1.1402	332	78.31
4	1.20	1.0954	331	75.19
3	1.00	1.0000	332	68.68
2	0.98	0.9899	333	68.03
1	0.95	0.9747	331	66.90
Average	0.9547	0.9771	332.9	67.14

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	-0.01	0.04	0.02	-0.01
Pre Test Span Direct	10.81	10.45	41.25	4.56
Pre-test Zero	0.01	0.13	0.08	0.09
Pre-test Span	10.78	10.48	40.99	4.55
0-30 min	8.69	11.87	39.30	0.24
Post Test Zero Direct	-0.01	0.02	0.01	-0.01
Post Test Span Direct	10.82	10.43	41.02	4.57
Post-test Zero	0.01	0.10	0.08	0.10
Post-test Span	10.78	10.45	40.89	4.55
Average	8.69	11.87	39.30	0.24
Corr. Results	8.68	12.00	39.64	0.15
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.2%	-0.6%	-0.1%	-0.5%
Pre-Test Zero Bias	0.1%	0.4%	0.1%	1.0%
Pre-Test Span Bias	-0.2%	0.1%	-0.3%	-0.1%
Post-Test Zero Bias	0.1%	0.4%	0.1%	1.1%
Post-Test Span Bias	-0.2%	0.1%	-0.1%	-0.2%
Zero Drift	0.0%	-0.1%	0.0%	0.1%
Span Drift	0.0%	-0.1%	-0.1%	0.0%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.684	% dry
CO_2:	11.995	% dry
NO_x:	39.644	ppm dry
	25.785	lb/hr
SO_2:	9.699572	ppm dry
	8.777	lb/hr
CO:	0.15	ppm dry
	0.058	lb/hr
H_2O:	13.6	%
MW:	28.60	lb/lb-mole
Flow:	156,472	wacfm
	90.80	mdscfm
	5447.87	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5447.87	5053.03	394.84	7.2%
O_2	% dry	8.68	8.8	-0.10	-1.1%
CO_2	% dry	12.00	11.9	0.11	0.9%
NO_x	ppm dry	39.64	41.0	-1.35	-3.4%
NO_x	ppm @ 3% O_2	58.09	60.5	-2.44	-4.2%
NO_x	lb/hr	25.78	24.7613	1.02	4.0%
SO_2	ppm dry	9.70	10.24	-0.54	-5.5%
SO_2	ppm @ 3% O_2	14.21	15.08	-0.87	-6.1%
SO_2	lb/hr	8.777	8.620	0.158	1.8%
CO	ppm dry	0.15	0.65	-0.50	
CO	ppm @ 3% O_2	0.21	0.96	-0.74	
CO	lb/hr	0.058	0.239		

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	444.5
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.87

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

PRE-TEST INFORMATION
GENERAL

Test:	8-RA-U2
Date:	3/8/2021
Start Time:	15:18
Station:	Desert View Power
Unit:	Unit 2
Test Condition:	Full Load
Performed By:	RD

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	2.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	773.0	646.8	126.2
2/H2O	747.5	744.4	3.1
3/Empty	595.0	593.7	1.3
4/S.G.	892.0	880.9	11.1
Rinse		50.0	-50.0
Total			91.7

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	704.000	97	98
		94	96
Stop	732.208	93	95
Total	28.208		95.5

Summary

Sample Volume:	27.169	dscf
H_2O Volume :	4.328	scf
Moisture Content:	13.7	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.98	0.9899	328	67.82
4	0.91	0.9539	330	65.44
3	0.89	0.9434	331	64.76
2	0.83	0.9110	332	62.58
1	0.75	0.8660	332	59.48
5	0.94	0.9695	332	66.59
4	0.90	0.9487	333	65.20
3	0.83	0.9110	334	62.65
2	0.78	0.8832	333	60.70
1	0.76	0.8718	332	59.88
5	0.89	0.9434	334	64.88
4	0.82	0.9055	335	62.32
3	0.90	0.9487	334	65.24
2	0.85	0.9220	333	63.37
1	0.84	0.9165	332	62.95
5	0.98	0.9899	334	68.08
4	1.00	1.0000	333	68.73
3	1.00	1.0000	332	68.69
2	0.93	0.9644	334	66.32
1	0.89	0.9434	335	64.92
5	1.30	1.1402	334	78.41
4	1.00	1.0000	335	68.82
3	1.00	1.0000	334	68.77
2	1.00	1.0000	336	68.86
1	0.97	0.9849	332	67.65
5	1.30	1.1402	331	78.26
4	1.10	1.0488	334	72.13
3	1.10	1.0488	335	72.17
2	1.00	1.0000	332	68.69
1	0.94	0.9695	330	66.51
Average	0.9419	0.9705	332.9	66.70

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	-0.01	0.02	0.01	-0.01
Pre Test Span Direct	10.82	10.43	41.02	4.57
Pre-test Zero	0.01	0.10	0.08	0.10
Pre-test Span	10.78	10.45	40.89	4.55
0-30 min	8.60	11.99	40.25	0.23
Post Test Zero Direct	-0.01	0.05	0.01	0.00
Post Test Span Direct	10.81	10.48	41.13	4.59
Post-test Zero	0.01	0.13	0.07	0.10
Post-test Span	10.79	10.49	41.02	4.56
Average	8.60	11.99	40.25	0.23
Corr. Results	8.59	12.11	40.58	0.13
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.2%	-0.7%	-0.3%	-0.4%
Pre-Test Zero Bias	0.1%	0.4%	0.1%	1.1%
Pre-Test Span Bias	-0.2%	0.1%	-0.1%	-0.2%
Post-Test Zero Bias	0.1%	0.4%	0.1%	1.0%
Post-Test Span Bias	-0.1%	0.1%	-0.1%	-0.2%
Zero Drift	0.0%	0.2%	0.0%	0.0%
Span Drift	0.0%	0.2%	0.2%	0.1%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.590	% dry
CO_2:	12.111	% dry
NO_x:	40.582	ppm dry
	26.178	lb/hr
SO_2:	10.460943	ppm dry
	9.388	lb/hr
CO:	0.13	ppm dry
	0.052	lb/hr
H_2O:	13.7	%
MW:	28.59	lb/lb-mole
Flow:	155,430	wacfm
	90.05	mdscfm
	5403.06	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5403.06	5075.47	327.60	6.1%
O_2	% dry	8.59	8.7	-0.11	-1.2%
CO_2	% dry	12.11	12.0	0.13	1.0%
NO_x	ppm dry	40.58	41.7	-1.14	-2.8%
NO_x	ppm @ 3% O_2	59.01	61.1	-2.13	-3.6%
NO_x	lb/hr	26.18	25.3117	0.87	3.3%
SO_2	ppm dry	10.46	11.15	-0.69	-6.6%
SO_2	ppm @ 3% O_2	15.21	16.29	-1.08	-7.1%
SO_2	lb/hr	9.388	9.434	-0.045	-0.5%
CO	ppm dry	0.13	0.17	-0.04	
CO	ppm @ 3% O_2	0.19	0.25	-0.06	
CO	lb/hr	0.052	0.062		

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	447.2
Aliquot VOL (ml)	20
Titrant VOL (ml)	3.09

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

PRE-TEST INFORMATION
GENERAL

Test:	9-RA-U2	
Date:	3/8/2021	
Start Time:	16:04	
Station:	Desert View Power	
Unit:	Unit 2	
Test Condition:	Full Load	
Performed By:	RD	

PRE-TEST INFORMATION
SAMPLE TRAIN

Barom. Pressure:		psi
	30.14	"Hg
Meter No.	23-WCS	
Meter Y_d:	1.0000	
Meter Pressure:	2.5	iwg
Pstack:	0.55	iwg
Pstack:	30.18	"Hg
Cp:	0.84	
Tref:	68	°F
Stack Area:	38.84	ft^2

METHOD 4 DATA
Impingers

#/Matl.	End	Start	Diff.
1/H2O	871.8	738.6	133.2
2/H2O	718.2	715.0	3.2
3/Empty	639.2	638.5	0.7
4/S.G.	880.8	870.8	10.0
Rinse		50.0	-50.0
Total			97.1

Dry Gas Meter

Time	Vol.	Tm(in)	Tm(out)
Start	734.000	85	88
		86	89
Stop	761.664	86	88
Total	27.664		87.0

Summary

Sample Volume:	27.059	dscf
H_2O Volume :	4.583	scf
Moisture Content:	14.5	%

METHOD 2 DATA

Point	dP (in. H_2O)	dP^2 (in. H_2O^2)	Temp (°F)	Velocity (fps)
5	0.97	0.9849	334	67.86
4	0.92	0.9592	336	66.17
3	0.90	0.9487	336	65.45
2	0.81	0.9000	335	62.05
1	0.74	0.8602	334	59.27
5	0.93	0.9644	334	66.44
4	0.89	0.9434	335	65.04
3	0.82	0.9055	336	62.47
2	0.77	0.8775	333	60.42
1	0.76	0.8718	332	59.99
5	0.88	0.9381	331	64.51
4	0.82	0.9055	333	62.35
3	0.91	0.9539	334	65.73
2	0.86	0.9274	332	63.81
1	0.83	0.9110	331	62.65
5	0.97	0.9849	332	67.77
4	1.00	1.0000	331	68.77
3	1.10	1.0488	334	72.26
2	0.92	0.9592	335	66.13
1	0.86	0.9274	335	63.94
5	1.20	1.0954	336	75.57
4	1.00	1.0000	335	68.94
3	1.10	1.0488	334	72.26
2	0.97	0.9849	335	67.90
1	0.96	0.9798	334	67.51
5	1.40	1.1832	332	81.42
4	1.10	1.0488	331	72.13
3	1.00	1.0000	333	68.86
2	1.00	1.0000	332	68.81
1	0.92	0.9592	330	65.92
Average	0.9391	0.9691	333.5	66.75

METHOD 3A, 6C, 7E DATA

	O_2	CO_2	NO_x	CO
Span	19.15	18.94	87.00	9.64
Actual Span Value	10.78	10.56	41.3	4.6
Pre Test Zero Direct	-0.01	0.05	0.01	0.00
Pre Test Span Direct	10.81	10.48	41.13	4.59
Pre-test Zero	0.01	0.13	0.07	0.10
Pre-test Span	10.79	10.49	41.02	4.56
0-30 min	8.68	11.89	39.73	0.24
Post Test Zero Direct	-0.01	0.02	0.00	0.00
Post Test Span Direct	10.83	10.47	41.34	4.60
Post-test Zero	0.01	0.10	0.04	0.10
Post-test Span	10.79	10.49	41.09	4.57
Average	8.68	11.89	39.73	0.24
Corr. Results	8.67	11.99	39.96	0.15
Cal Error <2%, Bias <5%; Drift <3%				
Calibrtion Error	0.1%	-0.4%	-0.2%	-0.1%
Pre-Test Zero Bias	0.1%	0.4%	0.1%	1.0%
Pre-Test Span Bias	-0.1%	0.1%	-0.1%	-0.2%
Post-Test Zero Bias	0.1%	0.4%	0.0%	1.0%
Post-Test Span Bias	-0.2%	0.1%	-0.3%	-0.3%
Zero Drift	0.0%	-0.2%	0.0%	0.0%
Span Drift	0.0%	0.0%	0.1%	0.0%
CAL STATUS	PASS	PASS	PASS	PASS

TEST SUMMARY

O_2:	8.666	% dry
CO_2:	11.989	% dry
NO_x:	39.962	ppm dry
	25.555	lb/hr
SO_2:	10.097087	ppm dry
	8.983	lb/hr
CO:	0.15	ppm dry
	0.059	lb/hr
H_2O:	14.5	%
MW:	28.49	lb/lb-mole
Flow:	155,548	wacfm
	89.27	mdscfm
	5356.34	kdscfh

RELATIVE ACCURACY DATA

Parameter	Units	Ref. Meth	CEMS	Diff.	Diff. %
Flow	kdscfh	5356.34	5043.30	313.04	5.8%
O_2	% dry	8.67	8.8	-0.12	-1.4%
CO_2	% dry	11.99	11.9	0.12	1.0%
NO_x	ppm dry	39.96	41.2	-1.28	-3.2%
NO_x	ppm @ 3% O_2	58.47	60.9	-2.41	-4.1%
NO_x	lb/hr	25.55	24.88	0.67	2.6%
SO_2	ppm dry	10.10	9.37	0.73	7.2%
SO_2	ppm @ 3% O_2	14.77	13.77	1.00	6.8%
SO_2	lb/hr	8.983	7.889	1.095	12.2%
CO	ppm dry	0.15	0.00	0.15	
CO	ppm @ 3% O_2	0.22	0.00	0.22	
CO	lb/hr	0.059	0.000		

SOx Titration Summary

	B1/2
N BaCl2	0.0096899
Total VOL (ml)	481.3
Aliquot VOL (ml)	20
Titrant VOL (ml)	2.76

APPENDIX D
QUALITY ASSURANCE

Appendix D.1
Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (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

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

Performance Data

Performance data are available for review.

Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, will be 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 ΔH@	--
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	+/- 1.5%

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

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, 4, 5, 6, 8, 17, 20

100 (CO_2, CO, NOx, O_2, SO_2, THC)

Catherine Dunwoody, Chief
Monitoring and Laboratory Division

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

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

September 9, 2020

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, 2020, and ending September 30, 2021 for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

Methods 1-4	Methods 5.1, 5.2, 5.3, 6.1
Methods 10.1 and 100.1	Methods 25.1 and 25.3 (Sampling)
USEPA CTM-030 and ASTM D6522-00	Rule 1121/ 1146.2 Protocol

Rule 1420/1420.1/1420.2 – (Lead) Source and Ambient Sampling

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

Laundry Building of VA Greater Los Angeles Healthcare System
508 Constitution Avenue
Los Angeles, CA 90049

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, Glenn Kasai. He may be reached by telephone at (909) 396-2271, or via e-mail at gkasai@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar
Program Supervisor
Source Test Engineering

DS:GK/gk
Attachment

200909 LapRenewalRev.doc

Cleaning the air that we breathe...

MONTROSE AIR QUALITY SERVICES

STAC
STACK TESTING ACCREDITATION COUNCIL

A2LA
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 11th day of February 2020.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 28, 2022

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

MONTROSE AIR QUALITY SERVICES

Appendix D.3
Individual QI Certifications

CERTIFICATE OF COMPLETION

John Peterson

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

Source Evaluation Society Group 1: EPA Manual Gas Volume and Flow Measurements and Isokinetic Particulate Sampling Methods

Certificate Number: 002-2017-177

Tate Strickler

Tate Strickler, Accreditation Director

DATE OF ISSUE: 2/23/17

DATE OF EXPIRATION: 2/23/22

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CERTIFICATE OF COMPLETION

John Peterson

This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):

Source Evaluation Society Group 3: EPA Gaseous Pollutants Instrumental Methods

Certificate Number: 002-2017-179

Tate Strickler, Accreditation Director

DATE OF ISSUE: 1/5/17

DATE OF EXPIRATION: 1/5/22

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

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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
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