



Report:

Mercury Emission Testing at the Clean Harbors Sarnia Facility (June 2021)

Date: June 22, 2021



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EXECUTIVE SUMMARY

ORTECH Consulting Inc. (ORTECH) was requested by Clean Harbors Canada Inc. (Clean Harbors) to conduct a mercury emission testing program at the incineration facility located in Corunna, Ontario.

Mercury emission tests were performed at the Incinerator Exhaust Stack following the procedures outlined in US EPA Method 30B, “*Determination of Total Vapour Phase Mercury Emissions from Coal-Fired Combustion Sources Using Carbon Sorbent Traps*” to determine the amount of total vapour phase mercury present in the gas stream.

The test method states that the recovery spike must be within 50 to 150 percent of the expected mass collected in the traps during sampling. Six pairs of tube samples were collected during one day of testing on June 3, 2021. To ensure that at least one of the spike concentrations would fall within the concentration range requirements of the test method one tube from each of the six pairs of adsorbent tubes were spiked with increasing amounts of mercury, ranging from 100 ng to 2000 ng, by the analytical laboratory prior to commencing the test program.

The results of three of the pairs of tubes, including the spike that best represented the mercury concentration in the stack gas at the time of testing, are reported.

The average combustion gas values for each test period were obtained from the plant continuous emission monitoring (CEM) system. The average oxygen concentration for each test was used to determine the dry reference concentration adjusted to 11% oxygen.

The average mercury emission data from the triplicate total vapour phase mercury tests reported is provided below:

Mercury Parameter	Average
Dry Reference Concentration ($\mu\text{g}/\text{Rm}^3$)*	3.15
Dry Adjusted Concentration ($\mu\text{g}/\text{Rm}^3$)**	2.82

* reference conditions are 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen

During the emission testing program, the average powdered activated carbon (PAC) injection rate was 25.2 lb/hr and the average oxygen concentration measured during each of Test No. 1, Test No. 2 and Test No. 3 was 9.73%, 10.03% and 9.82%, respectively.

1. INTRODUCTION

ORTECH Consulting Inc. (ORTECH) was requested by Clean Harbors Canada Inc. (Clean Harbors) to conduct a mercury emission testing program at the incineration facility located in Corunna, Ontario.

Mercury emission tests were performed at the Incinerator Exhaust Stack following the procedures outlined in US EPA Method 30B to determine the amount of total vapour phase mercury present in the gas stream.

The average combustion gas values for each test period were obtained from the plant continuous emission monitoring (CEM) system. The average oxygen concentration for each test was used to determine the dry reference concentration adjusted to 11% oxygen.

Six pairs of adsorbent tubes were collected during one day of sampling on June 3, 2021. The spike tubes from each test pair were spiked with increasing amounts of mercury, ranging from 100 ng to 2000 ng, prior to commencing the test program to ensure that at least one of the spike concentrations would fall within the concentration range requirements of the test method. The test method states that the recovery spike must be within 50 to 150 percent of the expected mass collected in the traps during sampling. The results of three of the pairs of tubes, including the spike that best represented the mercury concentration in the stack gas at the time of testing, are reported.

All tables referenced herein are included in Appendix 1.

2. SAMPLING LOCATION

The Incinerator Exhaust Stack has an inside diameter of 1.52 meters at the sampling platform and 1.22 meters at the stack exit. The stack height above grade is 68.6 meters.

Mercury sampling was conducted at the breeching connecting the induced draft fan to the stack. Sampling was conducted at a single point in the center of the duct.

Previous testing programs conducted by ORTECH at the Clean Harbors Incinerator Exhaust Stack have shown that there is no stack gas stratification between the breeching connecting the induced draft fan to the stack and the stack sampling platform location.

3. SAMPLING METHODOLOGY

Mercury emission tests were performed following the procedures outlined in US EPA Method 30B, “Determination of Total Vapour Phase Mercury Emissions from Coal-Fired Combustion Sources Using Carbon Sorbent Traps”.

ORTECH used a dual probe assembly so that the mercury traps are positioned 1 to 2 inches apart. Each probe was heated to approximately 135°C to prevent condensation of the stack gas on the sampling media. The mercury traps used for sampling are specially designed for use at wet sources; each tube had an extended section of glass to allow for the heating of the stack gas before it comes into contact with the sampling media.

The sampling methodology is briefly described as follows. Each sorbent trap was removed from the clean sorbent trap storage container, the end caps were removed from the traps and the traps were attached to the end of the sampling probe and leak checked. The probe was inserted into the stack and the sample pumps were started. Stack gas was drawn through the traps and into the sampling probe and the sampled gas stream then passed through a series of empty impingers followed by a silica gel trap to remove any remaining traces of moisture prior to the pump and dry gas meter.

A run consisted of paired mercury traps, identified as either A or B, sampled simultaneously. In each tube pair one of either the A or B tube was spiked with a known quantity of mercury. Due to the variability in the mercury concentration in the stack gas and the necessity to have the spiked tubes prepared at least two weeks in advance of the testing program, six pairs of tubes were used for the sampling program to ensure that at least one of the spike concentrations would fall within the concentration range requirements of the test method.

Each test run was sixty minutes in duration at an approximate sampling rate of one liter per minute.

Throughout each test, the following information was measured and recorded for each sampling train:

- Elapsed sampling time
- Dry gas meter volume
- Dry gas meter temperatures
- Control module orifice pressure
- Sampling pump vacuum

At the start and finish of each sampling run the sampling trains were leak-checked. The leakage rate for each train must not exceed 4% of the average sampling rate for the collection period. If a trap pair did not have an acceptable initial leak check, the leak was found and repaired and/or the traps were replaced with a new pair until no leak was discernible. All the leak checks performed for the traps used showed no discernible leak through the test train.

Field testing data sheets for the mercury tests are provided in Appendix 2.

All of the sampling equipment used during the emission testing program was calibrated following the applicable reference method. Equipment calibration data is provided in Appendix 3.

4. ANALYSIS METHODOLOGY

At the end of each successful sampling run, the mercury traps were removed from the test train, capped and placed in their appropriate sample container. Each trap was labeled prior to being shipped to Ohio Lumex for analysis.

The traps were analyzed by thermal decomposition with atomic absorption following the procedures detailed in US EPA Method 7473 (direct thermal desorption with atomic absorption and no gold amalgamation). The method is applicable for total mercury “direct” testing of 40 CFR Part 75 Appendix K and EPA Method 30B sorbent traps.

The analysis is briefly described as follows. The sorbent trap tube end cap is removed; the glass wool plug closest to the appropriate carbon bed is carefully removed and separated from the carbon fraction. The sorbent is transferred into a quartz ladle and then covered with anhydrous sodium carbonate. The ladle is inserted into the heated analyzer thermo catalytic conversion chamber. Mercury is converted from a bound state to the atomic state by thermal decomposition in the furnace and is then detected by atomic absorption. The mercury concentration is measured and recorded using an automated data acquisition system. Both the glass wool plug and the sorbent of each bed are analyzed for the trap and the final mercury mass is the sum of the measurements.

The Ohio Lumex analytical report for total vapour phase mercury is provided in Appendix 4.

5. QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

The analysis of samples for mercury was performed by thermal decomposition with atomic absorption. Specific analytical QC procedures for the mercury analysis are summarized below:

- Calibrations are performed on the day of the analysis.
- Three or more calibration points are used for the calibration curve.
- The field samples analyzed must fall within a calibrated range.
- For each calibration curve, $R^2 \geq 0.99$, and the analyzer response must be within $\pm 10\%$ for each standard used in the calibration.
- Following calibration, a second source standard is analyzed. The measured value of the independently prepared standard must be within $\pm 10\%$ of the expected value.
- A blank analysis is conducted prior to analyzing the samples and must be less than the method detection limit.
- At the end of each set of analysis, a calibration standard is tested which must be within $\pm 10\%$ of the expected value.

Six unspiked mercury traps and six pre-spiked mercury traps were ordered approximately two weeks before the field testing program from Ohio Lumex. The pre-spiked mercury traps were spiked with known quantities of mercury ranging from 100 ng to 2000 ng in order to ensure that at least one of the traps met the spiking criterion stated in the test method. The recovery spike must be within 50 to 150 percent of the expected mass collected in the traps during sampling according to the test method. The spiking levels for the field recovery traps was estimated using mercury emission data from previous testing programs conducted between 2014 and 2020. The pre-spiked mercury traps for Test No. 1 (100 ng) and Test No. 2 (250 ng) were used for spike recovery determination as the concentrations best fit the requirements of the QA/QC criteria. The average mercury collected for Test No. 1, Test No. 2 and Test No. 3 (180 ng) was within $\pm 50\%$ of the spike concentrations for Test No. 1 and Test No. 2.

The field spike recovery provides specific verification of the performance of the combined sampling and analytical approach for the test program. Six sets of paired samples, one of each pair which is spiked with a known quantity of mercury, were collected. The samples were analyzed and the spike concentrations for Test No. 1 and Test No. 2 fell within the spike range criterion stated in the sampling method. The spike recovery for Test No. 1 was 95.9% and the spike recovery for Test No. 2 was 105.5%. US EPA Method 30B requires the spike recovery to be between 85% and 115%.

US EPA Method 30B requires the paired sorbent trap agreement to be $\leq 10\%$ relative deviation for mercury concentrations greater than $1 \mu\text{g}/\text{Rm}^3$ or $\leq 20\%$ relative deviation for mercury concentrations less than $1 \mu\text{g}/\text{Rm}^3$. If the paired trap agreement is greater than the above stated limits the run is not valid. All of the traps collected during the test program had concentrations greater than $1 \mu\text{g}/\text{Rm}^3$. The average dry reference mercury concentration ranged from a low of $2.82 \mu\text{g}/\text{Rm}^3$ (Tube Pair No. 2) to a high of $3.44 \mu\text{g}/\text{Rm}^3$ (Tube Pair No. 1) for the three tests reported. The paired trap agreement was 1.0% for Test No. 1, 4.2% for Test No. 2, and 4.6% for Test No. 3.

6. RESULTS

Six mercury test runs were collected during one day of sampling on June 3, 2021. A run consisted of paired mercury traps, identified as either A or B, sampled simultaneously. The spike tubes from each test pair were spiked with increasing amounts of mercury, ranging from 100 ng to 2000 ng, prior to commencing the test program to ensure that at least one of the spike concentrations would fall within the concentration range requirements of the test method. The results for Test No. 1, Test No. 2 and Test No. 3 are reported.

The sampling schedule is summarized in Table 1. This information includes test dates and times for each of the mercury test runs performed. All test times match plant time.

Mercury emission sample analyses for Test No. 1, Test No. 2 and Test No. 3 are provided in Table 2. Mercury was detected in Section 1 of each trap in quantities greater than the method detection limit (0.51 ng) in all of the traps. Mercury was also collected in Section 2 in all six traps in quantities greater than the method detection limit. However, the amount detected in Section 2 was less than 0.6% of the mercury collected in Section 1 in all traps, indicating that there was no breakthrough or potential loss of mercury. US EPA Method 30B recommends that $\leq 10\%$ of the total mercury collected should be collected in Section 2 for mercury concentrations greater than $1 \mu\text{g}/\text{Rm}^3$ or $\leq 20\%$ of the total mercury collected should be collected in Section 2 for mercury concentrations less than $1 \mu\text{g}/\text{Rm}^3$.

Included in Table 2 are the mercury concentration calculations for Test No. 1, Test No. 2 and Test No. 3. The average oxygen concentration measured by the Clean Harbors CEM system for each test was used to determine the dry reference concentration adjusted to 11% oxygen.

Six unspiked mercury traps and six pre-spiked mercury traps were ordered approximately two weeks before the field testing program from Ohio Lumex. The pre-spiked mercury traps were spiked with known quantities of mercury ranging from 100 ng to 2000 ng in order to ensure that at least one of the traps met the spiking criterion stated in the test method. The pre-spiked mercury traps for Test No. 1 (100 ng) and Test No. 2 (250 ng) were used for spike recovery determination as the concentrations best fit the requirements of the QA/QC criteria.

US EPA Method 30B states that it is acceptable to use the field recovery runs as test runs for emission testing as long as they meet the paired trap agreement criteria. The mass of the mercury spike initially present in each of the spiked traps was subtracted from the total mercury collected in Section 1 of the trap. The difference represents the amount of mercury in the stack gas.

The paired trap agreement was 1.0% for Test No. 1, 4.2% for Test No. 2, and 4.6% for Test No. 3. The mercury emission data from the total vapour phase mercury tests is provided below:

Mercury Parameter	Test 1	Test 2	Test 3	Average
Dry Reference Conc. ($\mu\text{g}/\text{Rm}^3$)*	3.44	2.82	3.17	3.15
Dry Adjusted Conc. ($\mu\text{g}/\text{Rm}^3$ **)	3.05	2.57	2.83	2.82

* reference conditions are 25°C and 1 atmosphere

** at 25°C and 1 atmosphere, adjusted to 11% oxygen

The incinerator exhaust stack mercury concentration limit as stated in Environmental Compliance Approval No. 8-1030-94-006 (formerly Certificate of Approval (Air) No. 8-1030-94-006) is $50 \mu\text{g}/\text{Rm}^3$ adjusted to 11% oxygen. The mercury concentrations were below this limit during the test program.

The spiked mercury trap recovery calculations are shown in Table 3; the spike recovery for Test No. 1 was 95.9% and the spike recovery for Test No. 2 was 105.5%. US EPA Method 30B requires the spike recovery to be between 85% and 115%.

7. FACILITY PROCESS DATA

Incinerator process data was supplied by Clean Harbors personnel for the emission test periods. The process data is provided in Appendix 5 as average values for each test for the following process parameters:

- incinerator feed rates (rich, lean, emulsion and alkaline streams)
- volumetric flowrates (secondary air and stack gases)
- temperatures (primary zone, secondary zone, spray dryer inlet and outlet, stack gases)
- pressures (burner, spray dryer outlet, baghouse differential)
- combustion gas stack concentrations (O₂ and SO₂)
- stack gas opacity
- carbon injection rate

During the emission testing program, the average powdered activated carbon (PAC) injection rate was 25.2 lb/hr and the average oxygen concentration measured during each of Test No. 1, Test No. 2 and Test No. 3 was 9.73%, 10.03% and 9.82%, respectively.

APPENDIX 1

**Data Tables
(2 pages)**

Table 1: Mercury Test Schedule

Test Number	Test Date	Sampling Period		Sampling Time
		Start	Finish	min
1	June 3, 2021	8:50	9:50	60
2	June 3, 2021	10:03	11:03	60
3	June 3, 2021	11:15	12:15	66
4	June 3, 2021	12:30	13:30	60
5	June 3, 2021	13:43	14:43	60
6	June 3, 2021	14:55	15:55	60

Note: All test times match plant time.

Table 2: Mercury Emission Data

Test/Run No.	Tube ID	Mercury Collected			Dry Gas Volume Sampled Rm ^{3*}	Mercury Concentration		Paired Trap Agreement %
		Section 1 ng	Section 2 ng	Total ng		Dry Reference µg/Rm ^{3*}	Dry Adjusted µg/Rm ^{3**}	
1	A ***	199.3	1.0	200	0.0588	3.41	3.02	-
	B	201.8	1.0	203	0.0583	3.48	3.08	-
	Average					3.44	3.05	1.0
2	A	158.0	0.9	159	0.0588	2.70	2.46	-
	B***	170.1	0.8	171	0.0581	2.94	2.68	-
	Average					2.82	2.57	4.2
3	A***	187.2	1.6	189	0.0569	3.32	2.96	-
	B	160.6	0.6	161	0.0533	3.02	2.70	-
	Average					3.17	2.83	4.6
Average				180		3.15	2.82	

Note: Concentration data is only reported for three tests as required by US EPA Method 30B

* At 25°C and 1 atmosphere

** At 25°C and 1 atmosphere, adjusted to 11% oxygen

*** Spiked tube, mercury collected corrected for the original spike (100 ng for Test No. 1, 250 ng for Test No. 2 and 400 ng for Test No. 3).

Table 3: Mercury Spike Tube Recovery

Test No.	Total Collected	Spike Tube Volume Sampled	Mercury Concentration	Total Collected	Unspike Tube Volume Sampled	Mercury Concentration	Spike Concentration	Spike Recovery
	ng	Rm ^{3*}	ng/Rm ^{3*}	ng	Rm ^{3*}	ng/Rm ^{3*}	ng/Rm ^{3*}	%
1	300	0.0588	5111	203	0.0583	3478	1633	95.9
2	421	0.0581	7244	159	0.0588	2703	4542	105.5
3	589	0.0569	10342	161	0.0533	3025	7317	NA
Average								100.7

Note: The spike tubes were spiked with mercury by the analytical laboratory prior to sampling. The original spike concentrations were 100 ng for Test No. 1, 250 ng for Test No. 2 and 400 ng for Test No. 3.

"NA" Not Applicable. Spike recovery was not calculated as spike concentration was outside the range specified in US EPA Method 30B.

APPENDIX 2

**Mercury Field Data Sheets
(7 pages)**

**Clean Harbors, Sarnia
Mercury Tube Sampling Train
Sample Volume Corrections**

Incinerator Exhaust Stack

Test # - Tube (tube pair field ID)	DGMCF	Initial DGM Reading (L)	Final DGM Reading (L)	Actual Vol. Sampled (L)	Barometric Pressure (in Hg)	Average DGM Pressure del H (in H ₂ O)	Average DGM Temperature (°C)	Corrected Volume (L)*	Corrected Volume (Rm ³)*
T1A OL551797 (Spiked)	1.004	12.28	71.40	59.12	29.3	2.4	23.2	58.75	0.0588
T1B OL618748	1.002	60.14	119.00	58.86	29.3	1.5	22.9	58.30	0.0583
T2A OL618587	1.004	73.60	133.40	59.80	29.3	2.4	26.4	58.79	0.0588
T2B OL528928 (Spiked)	1.002	21.15	80.30	59.15	29.3	1.5	25.4	58.10	0.0581
T3A OL544363 (Spiked)	1.004	35.40	93.60	58.20	29.3	2.4	27.9	56.93	0.0569
T3B OL618630	1.002	82.70	137.50	54.80	29.3	1.5	28.4	53.29	0.0533
T4A OL618621	1.004	95.80	156.10	60.30	29.3	2.4	29.6	58.64	0.0586
T4B OL535306 (Spiked)	1.002	39.50	100.00	60.50	29.3	1.5	29.4	58.62	0.0586
T5A OL528819 (Spiked)	1.004	59.20	119.00	59.80	29.2	2.4	32.5	57.56	0.0576
T5B OL618644	1.002	4.80	62.30	57.50	29.2	1.5	32.3	55.15	0.0551
T6A OL618611	1.004	21.60	80.10	58.50	29.2	2.4	34.3	55.96	0.0560
T6B OL561168 (Spiked)	1.002	64.90	121.70	56.80	29.2	1.5	32.6	54.41	0.0544

* dry at 25°C and 1 atmosphere

ORTECH
Mercury Tube Data Sheet

Plant:	Clean Harbors
Plant Location:	Corunna
Test No.:	1

Test location:	Stack Breaching
Date:	June 3, 2021
Project No.:	22118

Train A

Tube Identification:	0L551777	Spiked	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Spike Concentration	100	ng		

Measuring Device	MII
Control Module	1017
Barometer	ENV. CAN.

Barometric Pressure	29.210
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Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	17.28	17	2.4	3
5	17.0	21	2.4	3
10	21.5	23	2.4	3
15	26.6	24	2.4	3
20	31.7	24	2.4	3
25	36.7	24	2.4	3
30	41.6	24	2.4	3
35	46.7	24	2.4	3
40	51.6	24	2.4	3
45	56.6	24	2.4	3
50	61.6	24	2.4	3
55	66.4	24	2.4	3
60	71.4	24	2.4	3

Start Time:	450	Initial Leak Check	2.01 LPM@ 17 "Hg	DGMCF:	1.004
Finish Time:	950	Final Leak Check	2.01 LPM@ 16 "Hg	Sample Volume:	59.12
				Average DGM Temp:	23.2
				Average DGM Δ H:	2.4

Train B

Tube Identification:	0L618748	Spiked	<input type="radio"/> Yes	<input checked="" type="radio"/> No
Spike Concentration		ng		

Measuring Device	MII
Control Module	COE 20018

Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	60.14	17	1.5	3
5	65.1	19	1.5	3
10	69.5	20	1.5	3
15	74.3	22	1.5	3
20	79.1	22	1.5	3
25	84.3	23	1.5	3
30	89.3	25	1.5	3
35	94.3	25	1.5	3
40	99.4	25	1.5	3
45	104.3	25	1.5	3
50	109.4	25	1.5	3
55	114.0	25	1.5	3
60	119.0	25	1.5	3

Start Time:	850	Initial Leak Check	2.01 LPM@ 16 "Hg	DGMCF:	1.002
Finish Time:	950	Final Leak Check	2.01 LPM@ 17 "Hg	Sample Volume:	58.86
				Average DGM Temp:	22.9
				Average DGM Δ H:	1.5

Operator:	D. O. W.
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NOTE: TDCU NOT RUNNING

ORTECH
Mercury Tube Data Sheet

Plant:	Clean Harbors
Plant Location:	Corunna
Test No.:	2

Test location:	Stack Breaching
Date:	June 3, 2021
Project No.:	22118

Train A

Tube Identification:	OL618587
Spike Concentration	ng

Spiked Yes No

Measuring Device	MII
Control Module	10117
Barometer	ENV. CAN.

Barometric Pressure	29.26
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Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	73.6	24	2.4	5
5	79.0	26	2.4	7
10	84.0	26	2.4	7
15	88.8	26	2.4	7
20	93.5	26	2.4	7
25	98.3	26	2.4	7
30	103.0	27	2.4	7
35	108.1	27	2.4	7
40	113.1	27	2.4	7
45	118.2	27	2.4	7
50	123.3	27	2.4	7
55	128.4	27	2.4	7
60	133.4	27	2.4	7

Start Time:	1003	Initial Leak Check	2.01 LPM@ 16 "Hg	DGMCF:	1.004
Finish Time:	1103	Final Leak Check	2.01 LPM@ 16 "Hg	Sample Volume:	59.8
				Average DGM Temp:	26.4
				Average DGM Δ H:	2.4

Train B

Tube Identification:	OL5289288
Spike Concentration	250 ng

Spiked Yes No

Measuring Device	MII
Control Module	LOB 20018

Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	21.15	24	1.5	4
5	26.4	25	1.5	4
10	31.7	25	1.5	4
15	36.9	25	1.5	4
20	41.9	25	1.5	4
25	46.5	25	1.5	4
30	51.1	25	1.5	4
35	56.1	26	1.5	4
40	61.0	26	1.5	4
45	65.5	26	1.5	4
50	70.4	26	1.5	4
55	75.3	26	1.5	4
60	80.3	26	1.5	4

Start Time:	1003	Initial Leak Check	2.01 LPM@ 17 "Hg	DGMCF:	1.007
Finish Time:	1103	Final Leak Check	2.01 LPM@ 17 "Hg	Sample Volume:	59.15
				Average DGM Temp:	25.4
				Average DGM Δ H:	1.5

Operator:	D. J. U.
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ORTECH
Mercury Tube Data Sheet

Plant: Clean Harbors
Plant Location: Corunna
Test No.: 3

Test location: Stack Breaching
Date: June 3, 2021
Project No.: 22118

Train A

Tube Identification: 0L544363
Spike Concentration: 400 ng

Spiked Yes No

Measuring Device: MII
Control Module: 10117
Barometer: ENV. CAN.

Barometric Pressure: 29.26

Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	35.4	25	2.4	5
5	40.4	28	2.4	5
10	45.5	28	2.4	5
15	50.0	28	2.4	5
20	54.0	28	2.4	5
25	60.0	28	2.4	5
30	59.9	28	2.4	5
35	38.8	28	2.4	5
40	63.7	28	2.4	5
45	68.8	28	2.4	5
50	83.8	28	2.4	5
55	88.7	29	2.4	5
60	13.6	29	2.4	5

Start Time: 1115 Initial Leak Check 2.01 LPM@ 17 "Hg
Finish Time: 1215 Final Leak Check 2.04 LPM@ 16 "Hg
DGMCF: 1.004
Sample Volume: 58.2
Average DGM Temp: 27.9
Average DGM Δ H: 2.4

Train B

Tube Identification: 0L61863
Spike Concentration: ng

Spiked Yes No

Measuring Device: MII
Control Module: C/E 70019

Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	82.7	26	1.5	4
5	87.5	27	1.5	4
10	92.3	27	1.5	4
15	97.3	28	1.5	4
20	102.3	29	1.5	4
25	107.4	29	1.5	4
30	112.4	29	1.5	4
35	117.5	29	1.5	4
40	122.5	29	1.5	4
45	127.5	29	1.5	4
50	129.5	29	1.5	4
55	132.6	29	1.5	4
60	137.5	29	1.5	4

Start Time: 1115 Initial Leak Check 2.01 LPM@ 17 "Hg
Finish Time: 1215 Final Leak Check 2.01 LPM@ 16 "Hg
DGMCF: 1.002
Sample Volume: 54.8
Average DGM Temp: 28.4
Average DGM Δ H: 1.5
Operator: RM

ORTECH
Mercury Tube Data Sheet

Plant:	Clean Harbors
Plant Location:	Corunna
Test No.:	4

Test location:	Stack Breeching
Date:	June 3, 2021
Project No.:	22118

Train A

Tube Identification:	02619621	Spiked	Yes	No <input checked="" type="radio"/>
Spike Concentration	-	ng		

Measuring Device	MI
Control Module	1017
Barometer	ENV. CAN.

Barometric Pressure	29.25
---------------------	-------

Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	95.8	27	2.4	4
5	101.3	28	2.4	6
10	106.1	30	2.4	7
15	111.0	30	2.4	7
20	116.0	30	2.4	7
25	121.0	30	2.4	7
30	126.3	30	2.4	7
35	131.3	30	2.4	7
40	136.2	30	2.4	7
45	141.2	30	2.4	7
50	146.1	30	2.4	7
55	151.1	30	2.4	7
60	156.1	30	2.4	7

Start Time:	12:30	Initial Leak Check	2.0 LPM@ 16 "Hg	DGMCF:	1.004
Finish Time:	13:30	Final Leak Check	2.0 LPM@ 15 "Hg	Sample Volume:	60.3
				Average DGM Temp:	29.6
				Average DGM Δ H:	2.4

Train B

Tube Identification:	0535306	Spiked	Yes <input checked="" type="radio"/>	No
Spike Concentration	600	ng		

Measuring Device	MI
Control Module	CO6 20019

Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	39.5	29	2.1.5	4
5	44.9	29	1.5	4
10	49.3	29	1.5	4
15	53.7	29	1.5	4
20	58.1	29	1.5	4
25	62.5	29	1.5	4
30	66.9	29	1.5	4
35	71.3	29	1.5	4
40	75.7	30	1.5	4
45	80.1	30	1.5	4
50	84.5	30	1.5	4
55	88.9	30	1.5	4
60	93.3	30	1.5	4

Start Time:	12:30	Initial Leak Check	2.0 LPM@ 16 "Hg	DGMCF:	1.002
Finish Time:	13:30	Final Leak Check	2.0 LPM@ 16 "Hg	Sample Volume:	60.5
				Average DGM Temp:	29.4
				Average DGM Δ H:	1.5

Operator:	DM
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ORTECH
Mercury Tube Data Sheet

Plant:	Clean Harbors
Plant Location:	Corunna
Test No.:	5

Test location:	Stack Breeching
Date:	June 3, 2021
Project No.:	22118

Train A

Tube Identification:	02528819	Spiked	Yes	No
Spike Concentration	800	ng		

Measuring Device	MII
Control Module	10117
Barometer	ENV. CAN.

Barometric Pressure	29.23
---------------------	-------

Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	59.2	29	2.4	3
5	64.4	30	2.4	3
10	69.4	31	2.4	3
15	74.3	32	2.4	3
20	79.3	33	2.4	3
25	81.2	33	2.4	3
30	89.2	33	2.4	3
35	94.2	33	2.4	3
40	99.2	33	2.4	3
45	104.1	34	2.4	3
50	109.1	34	2.4	3
55	114.0	34	2.4	3
60	119.0	34	2.4	3

Start Time:	1343	Initial Leak Check	2.0 LPM@ 16 "Hg	DGMCF:	1.004
Finish Time:	1443	Final Leak Check	2.0 LPM@ 15 "Hg	Sample Volume:	57.5
				Average DGM Temp:	32.5
				Average DGM Δ H:	2.4

Train B

Tube Identification:	01618644	Spiked	Yes	No
Spike Concentration		ng		

Measuring Device	MII
Control Module	20018

Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure Δ H "H ₂ O	Pump Vacuum "Hg Gauge
0	4.8	30	1.5	3
5	9.7	30	1.5	3
10	13.6	30	1.5	3
15	19.6	31	1.5	3
20	23.6	31	1.5	3
25	28.6	32	1.5	3
30	32.9	33	1.5	3
35	37.8	33	1.5	3
40	42.8	34	1.5	3
45	47.6	34	1.5	3
50	52.5	34	1.5	3
55	57.4	34	1.5	3
60	62.3	34	1.5	3

Start Time:	1343	Initial Leak Check	2.0 LPM@ 16 "Hg	DGMCF:	1.002
Finish Time:	1443	Final Leak Check	2.0 LPM@ 16 "Hg	Sample Volume:	57.5
				Average DGM Temp:	32.5
				Average DGM Δ H:	1.5

Operator:	RW
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ORTECH
Mercury Tube Data Sheet

Plant: Clean Harbors
 Plant Location: Corunna
 Test No.: 6

Test location: Stack Breeching
 Date: June 3, 2021
 Project No.: 22118

Train A

Tube Identification: 02618611
 Spike Concentration ng

Spiked Yes No

Measuring Device: MII
 Control Module: 1017
 Barometer: ENV. CAN.

Barometric Pressure: 29.22

Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure ΔH "H ₂ O	Pump Vacuum "Hg Gauge
0	21.6	31	2.4	5
5	26.7	33	2.4	6
10	31.4	34	2.4	7
15	36.3	34	2.4	7
20	41.2	34	2.4	7
25	45.9	35	2.4	7
30	50.8	35	2.4	7
35	55.7	35	2.4	7
40	60.4	35	2.4	7
45	65.3	35	2.4	7
50	70.2	35	2.4	7
55	75.1	35	2.4	7
60	80.1	35	2.4	7

Start Time: 1455 Initial Leak Check 2.0 LPM@ 15 "Hg DGMCF: 1.004
 Finish Time: 1535 Final Leak Check 2.0 LPM@ 16 "Hg Sample Volume: 33.5 Spike to 56.5
 Average DGM Temp: 34.3
 Average DGM ΔH: 2.4

Train B

Tube Identification: 02561168
 Spike Concentration ng

Spiked Yes No

Measuring Device: MII
 Control Module: COE 20019

Clock Time	Dry Gas Meter L	Average Meter Temperature °C	Meter Pressure ΔH "H ₂ O	Pump Vacuum "Hg Gauge
0	64.9	33	1.5	4
5	69.7	32	1.5	7
10	74.4	32	1.5	7
15	79.2	32	1.5	7
20	83.3	32	1.5	7
25	88.2	32	1.5	7
30	92.9	33	1.5	7
35	96.7	33	1.5	7
40	101.7	33	1.5	7
45	106.7	33	1.5	7
50	111.7	33	1.5	7
55	116.7	33	1.5	7
60	121.7	33	1.5	7

Start Time: 1455 Initial Leak Check 2.0 LPM@ 16 "Hg DGMCF: 1.002
 Finish Time: 1535 Final Leak Check 2.0 LPM@ 17 "Hg Sample Volume: 56.67 Spike to 80
 Average DGM Temp:
 Average DGM ΔH:

Operator: Dan

APPENDIX 3

**ORTECH Equipment Calibration Data
(4 pages)**

ORTECH

Dry Gas Meter Calibration Data

Calibration Procedure	03-J004	MI# NUMBERS
Meter Number	Vost 2	DGM A10117
Date	26-04-21	Gasometer A01463
Barometric Pressure	29.77	Barometer COE20028
System Leak Check	NDC Lpm @ 23 "Hg NDC	Calibrated By Jake Artibello
		Signature <i>[Signature]</i>
		Reviewed and Accepted By <i>[Signature]</i>

ft³ = cm³ * 1.332 litres per cm³ / 28.3168 litres per ft³

$$DGMCF = \frac{V_{std} \text{ ft}^3}{V_{dgm} \text{ ft}^3} \times \frac{T_{dgm} \text{ } ^\circ\text{F} + 460}{T_{std} \text{ } ^\circ\text{F} + 460} \times \frac{P_{bar} \text{ (in. Hg)}}{(P_{bar} \text{ in. Hg} + DGM \text{ Pressure}) / 13.6}$$

Gasometer Reading cm	Gasometer Reading		Gasometer Volume ft ³	Gasometer Temperature °C	DGM Reading		DGM Volume ft ³	DGM Average Temperature °C	DGM Pressure in. H ₂ O	DGM Outlet °C	DGM Calibration Factor	Time min.	Flow Rate lpm
	Initial	Final			Initial	Final							
59.00	44.80	14.20	0.668	20.0	490.876	510.040	0.677	28.0	2.4	28.0	1.008	20	1.0
44.80	30.60	14.20	0.668	20.0	510.040	529.310	0.681	28.0	2.4	28.0	1.002	20	1.0
59.00	44.80	14.20	0.668	20.0	529.310	548.600	0.681	28.0	2.4	28.0	1.001	20	1.0

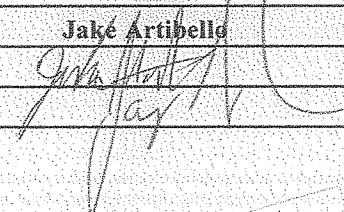
Acceptance Criteria:

Individual values of DGM calibration factor must be within ± 1.5% of the average value. If not the calibration must be repeated. Also, the DGMCF average value must be 1.00 ± 0.05, otherwise the meter must be repaired and/or adjusted as necessary and recalibrated prior to use. (Environment Canada Reference Method EPS 1/RM/8, Section 6)

DGMCF AVERAGE

1 Lpm 1.004

ORTECH Trendicator Calibration

Calibration Procedure	03-J005
Trendicator Type	Nutech
MII	A10117
Date	26-04-21
Calibrated By	Jake Artibello
Signature	
Reviewed and Accepted By	

Fluke Calibrator Output (COE 20024) (°C)	Tredicator Display Value		Percent Difference (%)
	Before Adjustment (°C)	After Adjustment (°C)	
0	0	0	0.0
20	20	20	0.0
50	50	50	0.0
100	101	100	0.0
150	151	150	0.0
200	200	200	0.0
300	300	300	0.0
400	400	400	0.0
500	500	500	0.0
600	600	600	0.0

$$\% \text{ Difference} = \frac{(\text{micromite} - \text{after adjustment reading}) \times 100}{\text{micromite}}$$

Acceptance Criteria:

Trendicator display must read within $\pm 1.5\%$ of the micromite value at each output. Otherwise, the Trendicator must be repaired and/or adjusted as necessary, and recalibrated prior to use. (MOE Source Testing Code, Version #2, Method 5)

ORTECH

Dry Gas Meter Calibration Data

Calibration Procedure	03-J004
Meter Number	Vost 5
Date	26-04-21
Barometric Pressure	29.77
System Leak Check	NDC 1pm @ 22" Hg

MII NUMBERS	
DGM	COE 20018
Gasometer	A01463
Barometer	COE 20028

Calibrated By	Jake Artibello
Signature	
Reviewed and Accepted By	

ft³ = cm³ * 1.352 litres per cm³ / 28.3168 litres per ft³

$$DGMCf = \frac{Vstd \text{ ft}^3}{Vdgm \text{ ft}^3} \cdot \frac{Tdgm \text{ } ^\circ\text{F} + 460}{Tstd \text{ } ^\circ\text{F} + 460} \cdot \frac{Pbar \text{ (in. Hg)}}{(Pbar \text{ in. Hg} + DGMP \text{ Pressure} / 13.6)}$$

Gasometer Reading		Gasometer Volume		Gasometer Temperature		DGM Reading		DGM Volume		DGM Average Temperature		DGM Pressure		DGM Outlet		DGM Calibration		Flow Rate					
Initial	Final	cm	cm	ft ³	ft ³	°C	°C	L	L	Initial	Final	ft ³	ft ³	in. H ₂ O	in. H ₂ O	°C	°C	Factor	Factor	min.	min.	lpm	lpm
58.90	43.35	15.55	15.55	0.731	0.731	20.0	20.0	3279.10	3300.01	3279.10	3300.01	0.738	0.738	1.5	1.5	25.0	25.0	1.004	1.004	20	20	1.0	1.0
58.90	43.50	15.40	15.40	0.724	0.724	20.0	20.0	3237.57	3258.34	3237.57	3258.34	0.733	0.733	1.5	1.5	25.0	25.0	1.001	1.001	20	20	1.0	1.0
43.50	28.10	15.40	15.40	0.724	0.724	20.0	20.0	3258.34	3279.10	3258.34	3279.10	0.733	0.733	1.5	1.5	25.0	25.0	1.001	1.001	20	20	1.0	1.0

Acceptance Criteria:

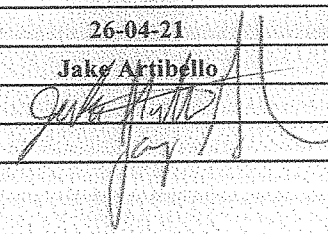

Individual values of DGM calibration factor must be within ± 1.5% of the average value. If not the calibration must be repeated. Also, the DGMCf average value must be 1.00 ± 0.05, otherwise the meter must be repaired and/or adjusted as necessary and recalibrated prior to use. (Environment Canada Reference Method EPS 1/RM/8, Section 6)

DGMCf AVERAGE

1 Lpm 1.002

ORTECH

Trendicator Calibration

Calibration Procedure	03-J005
Trendicator Type	Jenco 765
MII	COE 20018
Date	26-04-21
Calibrated By	Jake Artibello
Signature	
Reviewed and Accepted By	

Fluke Calibrator Output (COE 20024) (°C)	Tredicator Display Value		Percent Difference (%)
	Before Adjustment (°C)	After Adjustment (°C)	
0	0	0	0.0
20	19	20	0.0
50	49	50	0.0
100	100	101	-1.0
150	150	150	0.0
200	199	200	0.0
300	299	300	0.0
400	399	400	0.0
500	499	500	0.0
600	600	600	0.0

$$\% \text{ Difference} = \frac{(\text{micromite} - \text{after adjustment reading}) \times 100}{\text{micromite}}$$

Acceptance Criteria:

Trendicator display must read within $\pm 1.5\%$ of the micromite value at each output. Otherwise, the Trendicator must be repaired and/or adjusted as necessary, and recalibrated prior to use. (MOE Source Testing Code, Version #2, Method 5)

APPENDIX 4

**Mercury Analytical Report
(1 page)**

Sorbent Trap Analysis Report

Date | 6/14/21
 Analyst[s] | Joe Simon
 Project | 2025297
 Turnaround | Standard

Company | ORTECH
 Contact | Jay Grollman
 Phone | Not Provided
 Email | jgrollman@ortech.ca

Method | EPA 7473
 Method Uncertainty | ± 10%
 MDL | 0.51 ng
 LOQ | 5 ng

Trap ID	Pre-Filter Mass [ng]	AGS Mass [ng]	Section 1 Mass [ng]	Section 2 Mass [ng]	Section 3 Mass [ng]	Spike Level [ng]	Breakthrough [%] ²	Spike Recovery [%] ³	Source	Notes	Affected Section
OL551797			299.3	1.0	300.3	100	0.3%	N/A	Test 1A		
OL618748			201.8	1.0	202.8		0.5%		Test 1B		
OL618587			158.0	0.9	158.9		0.6%		Test 2A		
OL528928			420.1	0.8	420.9	250	0.2%	N/A	Test 2B		
OL544363			587.2	1.6	588.8	400	0.3%	N/A	Test 3A		
OL618630			160.6	0.6	161.2		0.4%		Test 3B		
OL618621			182.3	0.8	183.1		0.4%		Test 4A		
OL535306			793.5	2.1	795.6	600	0.3%	N/A	Test 4B		
OL528819			983.0	1.5	984.5	800	0.2%	N/A	Test 5A		
OL618644			126.1	1.3	127.4		1.1%		Test 5B		
OL618611			163.4	0.4	163.8		0.2%		Test 6A		
OL561168			2186	1.0	2187	2000	0.0%	N/A	Test 6B		

¹ Total Mass = PF+AGS+S1+S2

² Breakthrough = S2 / [PF+AGS+S1]

³ For PS12B only Spike Recovery = S3 / Spike Level

⁸ Data invalidation qualifier - refer to notes

ATTENTION: A response factor was used to calculate certain values on this report. *Italicized masses appear on the report as rounded to the nearest tenth nanogram.*



APPENDIX 5

**Clean Harbors Process Data
(12 pages)**

\$Date	\$Time	CO	HCl	CO2	H2O	THC	O2	Opacity	SO2
		PPM	PPM	%	%	PPM	%	%	PPM
		AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-1NEW	AT-263	AT-264-1NEW
2021-06-03	8:50:00	57.8	12.5	8.14	48.44	29.4	10.35	0	94.9
2021-06-03	8:51:00	49.9	12.5	8.15	48.37	27.0	10.35	0	90.4
2021-06-03	8:52:00	47.1	13.8	8.13	48.24	31.6	10.35	0	86.0
2021-06-03	8:53:00	48.9	13.8	8.16	48.45	28.1	10.35	0	84.5
2021-06-03	8:54:00	51.6	13.8	8.19	48.52	34.2	10.35	0	84.5
2021-06-03	8:55:00	64.1	13.8	8.25	48.64	41.2	10.13	0	88.2
2021-06-03	8:56:00	79.6	13.8	8.32	48.82	53.9	10.13	0	90.4
2021-06-03	8:57:00	128.6	12.6	8.75	49.29	53.0	9.89	0.01	96.5
2021-06-03	8:58:00	139.0	11.4	8.74	49.37	43.5	9.69	0	94.0
2021-06-03	8:59:00	120.3	11.4	8.74	49.35	49.8	9.69	0	90.5
2021-06-03	9:00:00	115.3	11.4	9.01	49.22	30.8	9.69	0	88.9
2021-06-03	9:01:00	102.6	11.4	8.63	48.83	34.5	9.69	0	85.8
2021-06-03	9:02:00	76.8	11.4	8.34	48.79	30.6	9.91	0	84.2
2021-06-03	9:03:00	65.8	11.4	8.31	48.88	35.8	9.91	0.01	84.2
2021-06-03	9:04:00	67.2	12.6	8.31	48.99	30.7	9.91	0	85.3
2021-06-03	9:05:00	75.6	12.6	8.64	49.17	44.0	9.91	0	88.2
2021-06-03	9:06:00	87.7	12.6	8.97	49.33	27.5	9.91	0	92.4
2021-06-03	9:07:00	86.1	12.6	8.68	49.31	33.5	9.91	0	88.7
2021-06-03	9:08:00	71.6	12.6	8.63	49.17	28.6	9.91	0	86.8
2021-06-03	9:09:00	68.6	12.6	8.59	48.92	33.8	9.91	0	82.9
2021-06-03	9:10:00	68.9	12.6	8.31	48.85	33.9	9.91	0	80.5
2021-06-03	9:11:00	74.4	12.6	8.31	48.98	34.1	9.91	0	82.7
2021-06-03	9:12:00	81.2	12.6	8.66	49.42	45.3	9.91	0	88.1
2021-06-03	9:13:00	108.5	12.6	9.37	49.82	57.0	9.63	0	94.0
2021-06-03	9:14:00	132.8	12.6	9.49	49.94	52.7	9.63	0.05	98.4
2021-06-03	9:15:00	151.9	12.6	9.53	50.06	40.1	9.30	0	101.7
2021-06-03	9:16:00	127.7	12.6	9.49	50.05	46.7	9.30	0.01	100.4
2021-06-03	9:17:00	111.9	12.6	9.46	49.96	32.8	9.30	0	100.4
2021-06-03	9:18:00	102.1	12.6	9.40	49.81	35.7	9.55	0	97.2
2021-06-03	9:19:00	79.4	12.6	9.38	49.76	26.6	9.55	0	93.6
2021-06-03	9:20:00	54.7	12.6	8.99	49.50	32.0	9.80	0	89.9
2021-06-03	9:21:00	50.2	12.6	8.99	49.62	26.9	9.80	0	91.7
2021-06-03	9:22:00	57.1	12.6	9.29	49.61	40.5	9.80	0	93.4
2021-06-03	9:23:00	70.3	12.6	9.37	49.68	26.5	9.60	0	98.4
2021-06-03	9:24:00	75.7	12.6	9.39	49.66	32.4	9.60	0	99.6
2021-06-03	9:25:00	64.7	12.6	9.33	49.44	28.9	9.60	0	96.7
2021-06-03	9:26:00	67.4	12.6	9.03	49.47	29.3	9.60	0	95.1
2021-06-03	9:27:00	62.4	14.2	9.03	49.77	33.6	9.81	0	95.2
2021-06-03	9:28:00	65.8	14.2	9.34	49.85	33.6	9.81	0	95.2
2021-06-03	9:29:00	77.6	14.2	9.36	49.77	33.7	9.81	0	99.1
2021-06-03	9:30:00	79.5	14.2	9.41	49.83	39.7	9.81	0	99.1
2021-06-03	9:31:00	87.7	14.2	9.49	50.18	47.3	9.53	0.01	102.9
2021-06-03	9:32:00	122.4	12.9	9.51	50.07	34.1	9.29	0	106.8
2021-06-03	9:33:00	113.4	12.9	9.48	50.03	39.6	9.29	0	105.6
2021-06-03	9:34:00	90.6	12.9	9.48	50.14	30.1	9.29	0	104.0
2021-06-03	9:35:00	82.4	12.9	9.40	49.90	30.3	9.58	0	100.4
2021-06-03	9:36:00	64.0	12.9	9.33	49.80	27.3	9.58	0	95.0
2021-06-03	9:37:00	57.0	14.0	9.01	49.74	31.5	9.78	0	95.0
2021-06-03	9:38:00	57.5	14.0	9.08	49.86	28.4	9.78	0	96.8
2021-06-03	9:39:00	68.4	14.0	9.42	49.93	42.6	9.78	0	99.6
2021-06-03	9:40:00	85.7	14.0	9.47	50.03	29.1	9.50	0	103.9
2021-06-03	9:41:00	97.0	14.0	9.47	50.03	36.1	9.50	0	103.9
2021-06-03	9:42:00	93.9	14.0	9.49	50.16	31.8	9.50	0	106.4
2021-06-03	9:43:00	91.9	14.0	9.15	49.93	30.9	9.50	0	104.1
2021-06-03	9:44:00	72.7	14.0	9.06	49.55	34.3	9.50	0	100.2
2021-06-03	9:45:00	74.2	14.0	9.37	49.58	31.2	9.50	0	100.2
2021-06-03	9:46:00	79.1	14.0	9.03	49.56	33.6	9.50	0	102.0
2021-06-03	9:47:00	84.2	14.0	9.40	49.91	42.2	9.50	0	102.0
2021-06-03	9:48:00	97.9	14.0	9.48	50.08	46.0	9.50	0	105.2
2021-06-03	9:49:00	125.9	14.0	9.54	50.32	32.1	9.50	0	109.3
2021-06-03	9:50:00	111.9	12.8	9.52	50.21	48.3	9.50	0	106.4

Feb 24/2021	Analyzers								
	CO	HCl	CO2	H2O	THC	O2	Opacity	SO2	
Test 1	AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-2NEW	AT-263	AT-264-1NEW	
Units	PPM	PPM	%	%	PPM	%	%	PPM	
Max	151.9	14.2	9.54	50.32	57.0	10.35	0.1	109.3	
Min	47.1	11.4	8.13	48.24	26.5	9.29	0.0	80.5	
Average	84.0	13.0	9.01	49.51	35.9	9.73	0.0	95.2	
Variance	632.0	0.7	0.22	0.28	60.2	0.08	4.61202E-05	53.6	

\$Date	\$Time	CO	HCl	CO2	H2O	THC	O2	Opacity	SO2
		PPM	PPM	%	%	PPM	%	%	PPM
		AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-1NEW	AT-263	AT-264-1NEW
2021-06-03	10:03:00	75.3	12.9	9.07	49.78	35.6	9.78	0	90.5
2021-06-03	10:04:00	83.7	12.9	9.08	49.95	37.3	9.78	0	92.6
2021-06-03	10:05:00	91.5	12.9	9.36	49.79	44.5	9.78	0	96.2
2021-06-03	10:06:00	102.8	12.9	9.45	50.03	30.0	9.45	0	99.9
2021-06-03	10:07:00	95.0	12.9	9.44	50.01	38.8	9.45	0	98.1
2021-06-03	10:08:00	88.8	12.9	9.10	49.89	30.9	9.45	0	96.0
2021-06-03	10:09:00	87.7	12.9	8.75	49.70	34.3	9.45	0	92.8
2021-06-03	10:10:00	81.9	12.9	8.71	49.60	28.8	9.75	0	89.5
2021-06-03	10:11:00	73.8	11.7	9.01	49.69	33.3	9.75	0	89.5
2021-06-03	10:12:00	71.4	11.7	9.04	49.77	28.2	9.75	0	93.9
2021-06-03	10:13:00	77.7	11.7	9.36	49.84	43.6	9.75	0	98.5
2021-06-03	10:14:00	94.6	13.1	9.45	50.06	36.0	9.49	0	103.2
2021-06-03	10:15:00	119.0	13.1	9.48	50.09	38.9	9.49	0	108.7
2021-06-03	10:16:00	100.7	13.1	9.46	50.11	34.8	9.49	0	107.6
2021-06-03	10:17:00	97.5	13.1	9.15	49.95	32.0	9.49	0	103.2
2021-06-03	10:18:00	82.5	12.0	9.06	49.77	31.9	9.69	0	97.3
2021-06-03	10:19:00	82.7	12.0	9.38	49.80	34.6	9.69	0	98.4
2021-06-03	10:20:00	83.6	13.1	9.39	49.55	45.5	9.69	0	102.7
2021-06-03	10:21:00	110.6	13.1	9.42	49.68	41.8	9.69	0	108.0
2021-06-03	10:22:00	124.0	13.1	9.48	50.14	54.2	9.69	0	110.4
2021-06-03	10:23:00	147.8	13.1	9.54	50.42	32.6	9.45	0	111.6
2021-06-03	10:24:00	136.7	13.1	9.49	50.23	41.1	9.45	0	108.0
2021-06-03	10:25:00	113.9	13.1	9.50	50.13	32.1	9.45	0	106.2
2021-06-03	10:26:00	110.3	13.1	9.48	49.95	43.5	9.45	0	104.7
2021-06-03	10:27:00	105.9	13.1	9.39	49.72	30.3	9.45	0	101.4
2021-06-03	10:28:00	107.9	11.7	9.03	49.46	73.3	9.45	0	103.3
2021-06-03	10:29:00	150.5	11.7	9.03	49.54	66.0	9.45	0	108.2
2021-06-03	10:30:00	277.9	11.7	9.45	50.22	70.8	9.45	0	115.6
2021-06-03	10:31:00	276.1	11.7	9.53	50.34	37.8	9.45	0	115.6
2021-06-03	10:32:00	175.5	11.7	9.21	50.22	42.5	9.45	0	108.9
2021-06-03	10:33:00	103.6	13.3	9.14	50.13	38.7	9.45	0	104.0
2021-06-03	10:34:00	99.4	13.3	9.00	49.66	20.4	9.45	0	97.2
2021-06-03	10:35:00	44.5	11.7	7.75	47.55	20.4	10.75	0	70.8
2021-06-03	10:36:00	26.7	11.7	7.57	47.10	19.8	11.23	0	63.8
2021-06-03	10:37:00	21.6	11.7	7.57	47.19	20.1	11.23	0	63.8
2021-06-03	10:38:00	20.1	11.7	7.66	47.32	21.1	11.23	0	65.3
2021-06-03	10:39:00	21.7	11.7	7.73	47.65	21.9	11.01	0	68.0
2021-06-03	10:40:00	22.7	11.7	7.85	47.99	21.3	10.69	0	73.9
2021-06-03	10:41:00	21.5	11.7	7.87	47.92	22.4	10.69	0	75.0
2021-06-03	10:42:00	22.7	11.7	7.95	48.38	22.1	10.69	0	76.5
2021-06-03	10:43:00	23.7	12.7	7.97	48.55	23.1	10.69	0	74.3
2021-06-03	10:44:00	24.8	12.7	8.02	48.71	21.8	10.69	0	75.5
2021-06-03	10:45:00	25.3	11.5	7.99	48.43	23.0	10.69	0	75.5
2021-06-03	10:46:00	26.1	11.5	8.01	48.42	22.1	10.69	0	77.0
2021-06-03	10:47:00	27.9	12.5	8.05	48.61	24.4	10.46	0	75.4
2021-06-03	10:48:00	28.5	12.5	8.07	48.71	25.4	10.46	0	75.4
2021-06-03	10:49:00	32.5	12.5	8.17	48.94	24.9	10.21	0	78.7
2021-06-03	10:50:00	32.5	10.5	8.19	49.07	25.2	10.21	0	80.1
2021-06-03	10:51:00	33.6	10.5	8.16	49.11	23.6	10.21	0	78.1
2021-06-03	10:52:00	31.4	11.6	8.04	48.64	25.3	10.47	0	73.0
2021-06-03	10:53:00	32.2	11.6	8.06	48.62	24.5	10.47	0	74.2
2021-06-03	10:54:00	33.8	11.6	8.09	48.65	25.3	10.47	0	75.3
2021-06-03	10:55:00	36.8	11.6	8.12	48.98	25.6	10.47	0	75.3
2021-06-03	10:56:00	40.7	11.6	8.17	49.16	33.1	10.47	0	76.7
2021-06-03	10:57:00	58.6	11.6	8.29	49.22	25.6	10.21	0	79.3
2021-06-03	10:58:00	57.3	11.6	8.26	49.17	28.9	10.21	0	77.8
2021-06-03	10:59:00	50.5	10.2	8.28	49.33	23.9	10.21	0	77.8
2021-06-03	11:00:00	48.2	10.2	8.23	49.16	29.1	10.21	0	75.4
2021-06-03	11:01:00	44.9	10.2	8.19	49.04	27.2	10.21	0	75.1
2021-06-03	11:02:00	59.3	11.6	8.27	49.26	31.8	10.21	0	79.7
2021-06-03	11:03:00	66.0	11.6	8.27	49.29	28.2	10.21	0	81.9

Feb 24/2021	Analyzers								
Test 1	CO	HCl	CO2	H2O	THC	O2	Opacity	SO2	
Units	AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-2NEW	AT-263	AT-264-1NEW	
	PPM	PPM	%	%	PPM	%	%	PPM	
Max	277.9	13.3	9.54	50.42	73.3	11.23	0.0	115.6	
Min	20.1	10.2	7.57	47.10	19.8	9.45	0.0	63.8	
Average	76.2	12.1	8.68	49.27	32.4	10.03	0.0	89.0	
Variance	2885.6	0.7	0.44	0.71	134.9	0.30	0	224.0	

\$Date	\$Time	CO	HCl	CO2	H2O	THC	O2	Opacity	SO2
		PPM	PPM	%	%	PPM	%	%	PPM
		AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-1NEW	AT-263	AT-264-1NEW
2021-06-03	11:15:00	66.5	10.7	8.99	49.67	32.3	9.80	0	87.2
2021-06-03	11:16:00	57.3	10.7	8.95	49.58	24.7	9.80	0	87.2
2021-06-03	11:17:00	50.9	10.7	8.62	49.61	29.7	9.80	0	84.6
2021-06-03	11:18:00	45.6	10.7	8.34	49.42	27.1	10.05	0	84.6
2021-06-03	11:19:00	48.2	10.7	8.38	49.40	30.0	10.05	0	84.6
2021-06-03	11:20:00	50.9	10.7	8.67	49.49	30.2	10.05	0	86.5
2021-06-03	11:21:00	58.5	10.7	9.02	49.77	32.9	9.84	0	88.7
2021-06-03	11:22:00	61.9	11.7	9.08	49.90	37.9	9.84	0.03	90.4
2021-06-03	11:23:00	81.0	10.6	9.12	50.00	32.2	9.58	0	94.7
2021-06-03	11:24:00	76.6	10.6	8.78	49.89	35.7	9.58	0	94.7
2021-06-03	11:25:00	78.7	10.6	8.79	49.92	27.3	9.58	0	94.7
2021-06-03	11:26:00	58.9	10.6	8.41	49.58	36.4	9.88	0	88.2
2021-06-03	11:27:00	56.8	10.6	8.68	49.51	32.0	9.88	0	88.2
2021-06-03	11:28:00	68.9	11.6	8.96	49.63	36.8	9.88	0	88.2
2021-06-03	11:29:00	75.3	11.6	9.31	49.87	29.0	9.88	0	92.4
2021-06-03	11:30:00	73.2	11.6	9.31	49.85	44.4	9.88	0	94.1
2021-06-03	11:31:00	99.3	11.6	9.43	50.29	29.1	9.63	0	98.1
2021-06-03	11:32:00	101.0	11.6	9.45	50.40	42.7	9.63	0	98.1
2021-06-03	11:33:00	88.6	11.6	9.40	50.23	29.4	9.63	0	97.8
2021-06-03	11:34:00	87.8	11.6	9.06	50.10	31.7	9.63	0	95.2
2021-06-03	11:35:00	66.7	11.6	8.41	49.80	33.1	9.86	0	90.1
2021-06-03	11:36:00	66.7	11.6	8.38	49.67	28.8	9.86	0	88.0
2021-06-03	11:37:00	61.7	11.6	8.65	49.66	29.0	9.86	0	86.2
2021-06-03	11:38:00	54.6	11.6	8.69	49.79	42.2	9.86	0	86.2
2021-06-03	11:39:00	98.2	11.6	9.08	49.88	47.3	9.61	0	95.3
2021-06-03	11:40:00	118.9	11.6	9.40	50.11	36.5	9.61	0	98.3
2021-06-03	11:41:00	96.0	11.6	9.41	49.98	43.1	9.61	0.02	98.3
2021-06-03	11:42:00	97.8	11.6	9.44	50.06	31.2	9.61	0	98.3
2021-06-03	11:43:00	89.7	11.6	9.05	49.90	38.6	9.61	0	95.7
2021-06-03	11:44:00	83.5	11.6	9.01	49.85	32.9	9.61	0	95.7
2021-06-03	11:45:00	86.0	11.6	9.28	49.80	42.0	9.61	0	95.7
2021-06-03	11:46:00	106.0	11.6	9.37	50.10	33.9	9.61	0	99.7
2021-06-03	11:47:00	107.3	11.6	9.40	50.07	47.6	9.61	0	100.8
2021-06-03	11:48:00	121.6	11.6	9.50	50.18	31.0	9.40	0	102.7
2021-06-03	11:49:00	117.1	11.6	9.46	50.07	40.7	9.40	0	102.7
2021-06-03	11:50:00	62.6	8.8	6.29	36.56	22.5	9.07	0	72.6
2021-06-03	11:51:00	19.0	19.0	3.55	24.58	28.9	11.61	0	28.6
2021-06-03	11:52:00	29.1	26.5	4.98	33.74	33.7	12.58	0	49.1
2021-06-03	11:53:00	52.6	22.4	8.22	48.91	30.0	10.33	0	81.8
2021-06-03	11:54:00	57.2	20.7	8.71	49.73	34.2	9.98	0	85.5
2021-06-03	11:55:00	60.8	19.1	9.06	49.88	33.0	9.75	0	87.1
2021-06-03	11:56:00	61.0	18.0	9.04	49.89	35.1	9.75	0.02	87.1
2021-06-03	11:57:00	73.7	16.9	9.36	50.27	26.8	9.75	0	91.5
2021-06-03	11:58:00	52.2	16.9	9.06	50.00	30.5	9.75	0	89.6
2021-06-03	11:59:00	46.2	16.9	8.75	49.88	25.2	9.75	0	88.1
2021-06-03	12:00:00	44.0	16.9	8.40	49.73	29.8	9.75	0	83.1
2021-06-03	12:01:00	44.0	16.9	8.71	49.87	26.4	9.75	0	84.2
2021-06-03	12:02:00	47.0	16.9	9.01	49.91	29.4	9.75	0	86.2
2021-06-03	12:03:00	45.4	15.8	9.01	50.01	24.9	9.75	0	86.0
2021-06-03	12:04:00	41.8	15.8	8.73	50.02	30.1	9.75	0	86.0
2021-06-03	12:05:00	47.5	15.8	9.11	50.26	26.0	9.75	0	89.7
2021-06-03	12:06:00	48.3	15.8	9.07	50.07	27.4	9.51	0	89.7
2021-06-03	12:07:00	36.6	15.8	9.07	50.04	26.2	9.51	0	86.8
2021-06-03	12:08:00	35.0	14.6	8.71	49.65	25.7	9.73	0	82.2
2021-06-03	12:09:00	33.5	14.6	8.35	49.38	26.1	9.73	0	80.0
2021-06-03	12:10:00	30.4	14.6	8.40	49.53	26.1	9.73	0	81.1
2021-06-03	12:11:00	29.0	14.6	8.39	49.59	26.4	9.95	0.01	81.1
2021-06-03	12:12:00	30.0	14.6	8.69	49.63	28.0	9.95	0	82.7
2021-06-03	12:13:00	33.1	14.6	8.72	49.76	31.4	9.95	0	82.7
2021-06-03	12:14:00	45.0	14.6	8.83	50.20	25.5	9.72	0	90.1
2021-06-03	12:15:00	40.0	13.5	9.00	49.88	29.0	9.72	0	87.7

Feb 24/2021	Analyzers								
	CO	HCl	CO2	H2O	THC	O2	Opacity	SO2	
Test 1	AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-2NEW	AT-263	AT-264-1NEW	
Units	PPM	PPM	%	%	PPM	%	%	PPM	
Max	121.6	26.5	9.50	50.40	47.6	12.58	0.0	102.7	
Min	19.0	8.8	3.55	24.58	22.5	9.07	0.0	28.6	
Average	64.0	13.5	8.73	48.95	31.9	9.82	0.0	88.1	
Variance	631.7	11.5	0.94	17.16	34.3	0.22	2.82514E-05	125.5	

\$Date	\$Time	CO	HCl	CO2	H2O	THC	O2	Opacity	SO2
		PPM	PPM	%	%	PPM	%	%	PPM
		AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-1NEW	AT-263	AT-264-1NEW
2021-06-03	12:30:00	43.5	12.6	9.10	50.12	31.6	9.72	0	90.4
2021-06-03	12:31:00	59.0	12.6	9.47	50.38	25.4	9.51	0	95.1
2021-06-03	12:32:00	43.6	12.6	9.38	50.13	30.5	9.51	0	92.1
2021-06-03	12:33:00	42.4	12.6	9.43	50.21	25.5	9.51	0	92.1
2021-06-03	12:34:00	46.6	12.6	8.78	49.89	28.8	9.51	0	88.8
2021-06-03	12:35:00	42.6	12.6	8.75	49.85	26.3	9.51	0	88.8
2021-06-03	12:36:00	41.5	12.6	9.38	50.00	33.3	9.51	0	91.1
2021-06-03	12:37:00	49.8	12.6	9.42	50.26	27.6	9.73	0	92.6
2021-06-03	12:38:00	49.8	12.6	9.47	50.35	40.4	9.73	0	92.6
2021-06-03	12:39:00	78.1	12.6	9.58	50.43	39.0	9.51	0	101.8
2021-06-03	12:40:00	95.4	12.6	9.58	50.45	34.1	9.28	0	103.1
2021-06-03	12:41:00	80.1	12.6	9.52	50.42	39.5	9.28	0	100.2
2021-06-03	12:42:00	77.4	12.6	9.46	50.24	36.0	9.54	0	95.7
2021-06-03	12:43:00	75.6	12.6	9.40	50.11	31.3	9.54	0	95.7
2021-06-03	12:44:00	61.9	12.6	9.45	50.24	29.4	9.54	0	94.3
2021-06-03	12:45:00	51.5	12.6	9.40	50.02	33.2	9.54	0.01	93.2
2021-06-03	12:46:00	54.8	12.6	9.37	50.03	34.7	9.54	0	95.7
2021-06-03	12:47:00	62.5	12.6	9.40	50.10	39.4	9.54	0	97.8
2021-06-03	12:48:00	74.6	12.6	9.53	50.41	28.4	9.54	0	99.3
2021-06-03	12:49:00	63.9	12.6	9.18	50.45	33.6	9.54	0	94.6
2021-06-03	12:50:00	59.0	12.6	9.20	50.49	28.4	9.54	0	94.6
2021-06-03	12:51:00	61.7	12.7	9.08	49.90	33.9	9.54	0	90.2
2021-06-03	12:52:00	59.4	12.7	9.03	49.88	28.5	9.54	0	90.2
2021-06-03	12:53:00	57.2	12.7	9.33	50.09	31.2	9.54	0	89.1
2021-06-03	12:54:00	54.3	12.7	9.31	50.04	30.8	9.54	0	87.5
2021-06-03	12:55:00	55.2	12.7	9.33	50.11	36.4	9.54	0	87.5
2021-06-03	12:56:00	58.7	12.7	9.52	50.48	32.2	9.54	0	89.1
2021-06-03	12:57:00	59.2	12.7	9.52	50.50	31.6	9.54	0	88.0
2021-06-03	12:58:00	49.5	11.6	9.43	50.34	33.5	9.54	0	86.4
2021-06-03	12:59:00	51.5	11.6	9.40	50.19	28.9	9.54	0	82.7
2021-06-03	13:00:00	48.7	11.6	8.73	49.97	31.5	9.78	0	79.8
2021-06-03	13:01:00	44.9	11.6	8.75	49.88	27.8	9.78	0	79.8
2021-06-03	13:02:00	41.2	11.6	8.74	49.83	32.5	9.78	0	79.8
2021-06-03	13:03:00	44.4	11.6	8.71	50.07	28.2	9.78	0	79.8
2021-06-03	13:04:00	53.1	11.6	9.07	50.20	38.0	9.78	0	81.1
2021-06-03	13:05:00	58.2	11.6	9.11	50.16	28.0	9.78	0	81.1
2021-06-03	13:06:00	53.9	12.7	9.04	49.96	34.7	9.78	0	79.7
2021-06-03	13:07:00	55.3	12.7	9.06	50.09	29.8	9.78	0	82.4
2021-06-03	13:08:00	60.0	12.7	8.72	49.90	31.7	9.78	0	79.8
2021-06-03	13:09:00	51.4	11.2	8.38	49.68	29.0	9.78	0	77.0
2021-06-03	13:10:00	40.4	11.2	8.39	49.74	31.3	9.78	0	77.0
2021-06-03	13:11:00	41.8	11.2	8.71	49.90	29.8	9.78	0	79.9
2021-06-03	13:12:00	43.2	11.2	8.72	49.88	36.5	9.78	0	79.9
2021-06-03	13:13:00	50.7	12.3	9.12	50.36	34.1	9.78	0	85.1
2021-06-03	13:14:00	56.9	12.3	9.41	50.47	32.5	9.78	0	85.1
2021-06-03	13:15:00	48.5	12.3	9.31	50.01	32.1	9.78	0	81.2
2021-06-03	13:16:00	44.7	11.2	8.71	49.95	28.1	9.78	0	79.8
2021-06-03	13:17:00	40.1	11.2	8.40	49.88	31.5	9.78	0	77.1
2021-06-03	13:18:00	39.5	12.3	8.40	49.90	29.3	9.78	0	75.9
2021-06-03	13:19:00	41.0	12.3	8.42	49.88	34.2	9.78	0	77.7
2021-06-03	13:20:00	48.0	12.3	8.45	50.06	29.4	9.78	0	79.7
2021-06-03	13:21:00	50.2	12.3	8.44	50.16	33.2	9.78	0	79.7
2021-06-03	13:22:00	50.2	11.1	9.12	50.51	28.6	9.78	0	82.4
2021-06-03	13:23:00	40.5	11.1	9.01	50.07	30.5	9.78	0	79.0
2021-06-03	13:24:00	38.7	11.1	9.07	50.23	29.1	9.78	0	80.2
2021-06-03	13:25:00	41.3	11.1	8.71	50.03	34.5	9.78	0	75.8
2021-06-03	13:26:00	45.5	11.1	8.35	49.77	29.4	9.78	0	74.3
2021-06-03	13:27:00	44.9	11.1	8.34	49.82	32.3	9.78	0	73.0
2021-06-03	13:28:00	44.1	11.1	8.37	49.93	31.5	10.02	0	74.4
2021-06-03	13:29:00	45.5	11.1	8.39	49.95	35.5	10.02	0	74.4
2021-06-03	13:30:00	59.7	11.1	9.05	50.22	39.6	9.76	0	80.0

Feb 24/2021	Analyzers								
	CO	HCl	CO2	H2O	THC	O2	Opacity	SO2	
Test 1	AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-2NEW	AT-263	AT-264-1NEW	
Units	PPM	PPM	%	%	PPM	%	%	PPM	
Max	95.4	12.7	9.58	50.51	40.4	10.02	0.0	103.1	
Min	38.7	11.1	8.34	49.68	25.4	9.28	0.0	73.0	
Average	52.9	12.1	9.04	50.11	31.9	9.67	0.0	85.8	
Variance	135.3	0.4	0.16	0.05	12.9	0.02	1.63934E-06	62.0	

		CO	HCl	CO2	H2O	THC	O2	Opacity	SO2
		PPM	PPM	%	%	PPM	%	%	PPM
\$Date	\$Time	AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-1NEW	AT-263	AT-264-1NEW
2021-06-03	13:43:00	43.3	11.0	8.71	50.06	31.9	9.79	0	82.0
2021-06-03	13:44:00	40.8	11.0	8.71	49.97	31.4	9.79	0.01	82.0
2021-06-03	13:45:00	44.7	11.0	8.38	49.84	38.1	9.79	0	82.0
2021-06-03	13:46:00	51.8	11.0	8.71	49.97	42.3	9.79	0	82.0
2021-06-03	13:47:00	69.4	12.1	9.14	50.30	41.0	9.79	0.01	88.5
2021-06-03	13:48:00	77.2	12.1	9.17	50.22	40.7	9.79	0	88.5
2021-06-03	13:49:00	70.5	11.1	9.07	50.03	34.4	9.79	0	86.9
2021-06-03	13:50:00	64.7	11.1	9.04	50.11	30.1	9.58	0	84.7
2021-06-03	13:51:00	55.1	12.2	8.74	50.06	33.4	9.58	0	80.7
2021-06-03	13:52:00	48.3	12.2	8.41	49.85	28.5	9.83	0	76.4
2021-06-03	13:53:00	47.0	10.9	8.38	49.64	32.8	9.83	0	75.2
2021-06-03	13:54:00	50.0	10.9	8.69	50.01	29.7	9.83	0	76.7
2021-06-03	13:55:00	48.7	12.3	8.70	50.22	40.6	9.83	0	76.7
2021-06-03	13:56:00	61.8	12.3	9.04	50.29	31.0	9.62	0	81.3
2021-06-03	13:57:00	78.0	12.3	9.08	50.34	32.2	9.62	0	82.5
2021-06-03	13:58:00	63.6	11.3	8.73	50.24	27.7	9.62	0	80.0
2021-06-03	13:59:00	34.5	11.3	8.20	49.31	27.1	10.12	0	68.6
2021-06-03	14:00:00	26.8	11.3	8.11	49.00	26.4	10.36	0	64.3
2021-06-03	14:01:00	24.7	11.3	8.04	48.86	25.6	10.36	0	63.3
2021-06-03	14:02:00	24.8	11.3	7.96	48.67	24.6	10.57	0	63.3
2021-06-03	14:03:00	24.2	11.3	7.93	48.41	24.2	10.57	0	61.9
2021-06-03	14:04:00	22.8	11.3	7.79	47.91	22.5	10.80	0	59.0
2021-06-03	14:05:00	23.2	11.3	7.67	47.58	19.9	10.80	0	56.4
2021-06-03	14:06:00	24.3	11.3	7.22	46.32	24.9	11.31	0	51.0
2021-06-03	14:07:00	24.5	10.0	7.57	47.34	23.8	11.09	0	57.1
2021-06-03	14:08:00	23.9	10.0	7.72	47.72	24.8	11.09	0	58.7
2021-06-03	14:09:00	25.0	10.0	7.75	48.12	25.4	11.09	0	58.7
2021-06-03	14:10:00	25.0	10.0	7.80	48.37	27.2	11.09	0	58.7
2021-06-03	14:11:00	25.1	10.0	8.03	48.99	26.6	10.66	0	64.1
2021-06-03	14:12:00	25.7	10.0	8.09	49.08	28.5	10.37	0	65.9
2021-06-03	14:13:00	26.5	11.5	8.15	49.24	27.7	10.37	0	67.5
2021-06-03	14:14:00	26.7	11.5	8.19	49.33	29.3	10.37	0	67.5
2021-06-03	14:15:00	27.0	11.5	8.19	49.39	29.0	10.37	0	69.2
2021-06-03	14:16:00	28.7	11.5	8.26	49.38	28.6	10.02	0	70.6
2021-06-03	14:17:00	27.0	11.5	8.23	49.11	28.3	10.02	0	70.6
2021-06-03	14:18:00	27.0	11.5	8.21	49.10	27.7	10.02	0	70.6
2021-06-03	14:19:00	28.7	11.5	8.30	49.49	29.1	10.02	0.01	73.6
2021-06-03	14:20:00	30.9	11.5	8.36	49.69	29.4	10.02	0	73.6
2021-06-03	14:21:00	36.1	11.5	8.66	49.83	32.8	10.02	0.01	76.9
2021-06-03	14:22:00	39.3	11.5	8.69	49.97	28.5	9.81	0	79.6
2021-06-03	14:23:00	37.6	11.5	8.39	49.77	32.0	9.81	0	78.2
2021-06-03	14:24:00	38.3	11.5	8.38	49.78	28.3	9.81	0	78.5
2021-06-03	14:25:00	37.4	11.5	8.30	49.65	29.5	9.81	0	75.6
2021-06-03	14:26:00	32.2	11.5	8.25	49.67	27.8	10.09	0	69.9
2021-06-03	14:27:00	32.3	11.5	8.24	49.69	29.5	10.09	0	68.5
2021-06-03	14:28:00	33.1	11.5	8.26	49.64	28.5	10.09	0	68.5
2021-06-03	14:29:00	32.5	11.5	8.29	49.58	31.3	10.09	0	68.5
2021-06-03	14:30:00	34.0	11.5	8.64	49.77	32.1	10.09	0	72.0
2021-06-03	14:31:00	38.4	11.5	8.65	49.69	31.3	9.83	0	72.0
2021-06-03	14:32:00	38.8	11.5	8.34	49.54	30.5	9.83	0	72.0
2021-06-03	14:33:00	36.6	11.5	8.33	49.70	29.1	9.83	0	71.2
2021-06-03	14:34:00	34.8	11.5	8.33	49.69	30.0	10.03	0	69.0
2021-06-03	14:35:00	34.8	11.5	8.33	49.51	29.0	10.03	0	69.0
2021-06-03	14:36:00	35.2	11.5	8.31	49.72	29.8	10.03	0	70.1
2021-06-03	14:37:00	37.0	11.5	8.37	49.99	31.1	10.03	0	70.1
2021-06-03	14:38:00	41.9	11.5	8.36	49.96	34.2	10.03	0	73.1
2021-06-03	14:39:00	47.4	11.5	8.68	50.07	29.0	9.75	0	76.3
2021-06-03	14:40:00	48.1	11.5	8.98	50.05	32.1	9.75	0	76.3
2021-06-03	14:41:00	43.6	11.5	8.67	50.01	29.3	9.75	0	74.7
2021-06-03	14:42:00	41.8	11.5	8.33	49.71	31.0	9.75	0	72.6
2021-06-03	14:43:00	40.0	11.5	8.29	49.60	29.2	10.00	0	70.3

Feb 24/2021	Analyzers								
	CO	HCl	CO2	H2O	THC	O2	Opacity	SO2	
Test 1	AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-2NEW	AT-263	AT-264-1NEW	
Units	PPM	PPM	%	%	PPM	%	%	PPM	
Max	78.0	12.3	9.17	50.34	42.3	11.31	0.0	88.5	
Min	22.8	10.0	7.22	46.32	19.9	9.58	0.0	51.0	
Average	38.7	11.3	8.37	49.45	29.9	10.09	0.0	72.0	
Variance	195.2	0.3	0.16	0.64	18.3	0.18	6.22951E-06	68.6	

\$Date	\$Time	CO	HCl	CO2	H2O	THC	O2	Opacity	SO2
		PPM	PPM	%	%	PPM	%	%	PPM
		AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-1NEW	AT-263	AT-264-1NEW
2021-06-03	14:55:00	62.9	11.3	9.42	50.42	39.9	9.69	0	77.8
2021-06-03	14:56:00	67.9	11.3	9.48	50.55	31.8	9.69	0	80.1
2021-06-03	14:57:00	66.1	10.0	9.45	50.33	35.1	9.45	0	77.8
2021-06-03	14:58:00	55.1	10.0	9.01	50.31	31.1	9.65	0	73.8
2021-06-03	14:59:00	53.4	11.3	8.69	50.34	33.3	9.65	0	71.5
2021-06-03	15:00:00	48.4	11.3	8.44	50.43	31.2	9.91	0	68.0
2021-06-03	15:01:00	46.8	11.3	8.44	50.36	34.4	9.91	0	66.5
2021-06-03	15:02:00	51.1	11.3	8.71	50.30	32.5	9.91	0	70.3
2021-06-03	15:03:00	61.4	12.7	9.03	50.44	38.0	9.70	0	74.8
2021-06-03	15:04:00	63.4	12.7	9.14	50.68	38.2	9.70	0	78.7
2021-06-03	15:05:00	69.4	11.0	9.48	50.60	35.4	9.70	0	80.5
2021-06-03	15:06:00	68.8	11.0	9.42	50.45	36.4	9.70	0	80.5
2021-06-03	15:07:00	66.7	11.0	9.14	50.42	32.7	9.45	0	80.5
2021-06-03	15:08:00	53.4	11.0	9.10	50.26	35.3	9.72	0	79.1
2021-06-03	15:09:00	55.0	11.0	9.11	50.41	33.4	9.72	0	79.1
2021-06-03	15:10:00	58.8	11.0	8.73	50.32	35.2	9.72	0	82.1
2021-06-03	15:11:00	59.0	12.2	9.04	50.45	34.1	9.72	0	84.2
2021-06-03	15:12:00	59.7	12.2	9.10	50.38	41.5	9.72	0	89.1
2021-06-03	15:13:00	65.0	12.2	9.19	50.43	33.3	9.40	0	94.8
2021-06-03	15:14:00	72.2	11.0	9.51	50.73	37.2	9.40	0	98.3
2021-06-03	15:15:00	63.8	11.0	9.43	50.48	33.3	9.40	0	96.8
2021-06-03	15:16:00	59.7	11.0	9.42	50.35	34.7	9.40	0	93.9
2021-06-03	15:17:00	52.8	11.0	9.33	50.30	33.7	9.63	0	90.1
2021-06-03	15:18:00	54.5	11.0	9.06	50.48	36.2	9.63	0	90.1
2021-06-03	15:19:00	60.7	11.0	9.14	50.56	36.1	9.63	0	90.1
2021-06-03	15:20:00	69.7	12.0	9.13	50.48	39.8	9.63	0	88.4
2021-06-03	15:21:00	74.5	12.0	9.18	50.71	38.1	9.39	0	90.4
2021-06-03	15:22:00	72.9	12.0	9.49	50.76	34.5	9.39	0	90.6
2021-06-03	15:23:00	66.2	12.0	9.41	50.62	37.3	9.39	0	87.8
2021-06-03	15:24:00	66.9	10.6	9.06	50.38	36.2	9.39	0	87.8
2021-06-03	15:25:00	67.4	10.6	9.02	50.20	36.7	9.64	0	87.8
2021-06-03	15:26:00	69.7	10.6	9.40	50.55	35.6	9.64	0	89.5
2021-06-03	15:27:00	67.7	11.7	9.10	50.64	40.5	9.64	0	91.7
2021-06-03	15:28:00	69.6	11.7	9.08	50.60	36.1	9.64	0	95.2
2021-06-03	15:29:00	73.8	11.7	9.10	50.35	43.2	9.41	0	100.7
2021-06-03	15:30:00	86.6	11.7	9.52	50.69	35.9	9.41	0	105.7
2021-06-03	15:31:00	80.9	11.7	9.51	50.88	40.6	9.41	0	101.9
2021-06-03	15:32:00	72.1	11.7	9.16	50.75	36.2	9.41	0	96.0
2021-06-03	15:33:00	69.9	11.7	8.81	50.55	38.7	9.41	0	93.1
2021-06-03	15:34:00	65.0	11.7	9.06	50.71	36.9	9.62	0	89.5
2021-06-03	15:35:00	68.0	11.7	9.37	50.76	37.8	9.62	0	89.5
2021-06-03	15:36:00	70.4	11.7	9.07	50.50	40.1	9.62	0	86.7
2021-06-03	15:37:00	72.5	11.7	9.41	50.63	40.4	9.62	0	87.7
2021-06-03	15:38:00	74.8	11.7	9.43	50.75	40.7	9.62	0	91.4
2021-06-03	15:39:00	77.0	11.7	9.41	50.73	37.7	9.39	0	95.5
2021-06-03	15:40:00	73.7	11.7	9.07	50.63	42.0	9.39	0	95.5
2021-06-03	15:41:00	72.7	11.7	8.78	50.56	36.9	9.39	0	96.7
2021-06-03	15:42:00	67.8	10.7	8.74	50.46	38.8	9.67	0	96.7
2021-06-03	15:43:00	69.7	10.7	9.06	50.66	36.8	9.67	0	96.7
2021-06-03	15:44:00	70.5	12.4	9.05	50.67	38.9	9.67	0	96.7
2021-06-03	15:45:00	68.9	12.4	9.11	50.70	37.7	9.67	0	100.1
2021-06-03	15:46:00	65.0	12.4	9.39	50.51	42.9	9.67	0	103.3
2021-06-03	15:47:00	66.6	12.4	9.43	50.67	38.0	9.46	0	108.6
2021-06-03	15:48:00	71.9	12.4	9.18	50.85	41.7	9.46	0	110.1
2021-06-03	15:49:00	66.9	12.4	9.13	50.71	39.1	9.46	0	110.1
2021-06-03	15:50:00	64.6	11.3	8.83	50.59	42.5	9.46	0	107.7
2021-06-03	15:51:00	71.7	11.3	9.07	50.40	40.7	9.67	0	104.8
2021-06-03	15:52:00	72.7	11.3	9.39	50.49	42.3	9.67	0	104.8
2021-06-03	15:53:00	74.1	11.3	9.47	50.59	47.4	9.67	0	103.7
2021-06-03	15:54:00	80.6	11.3	9.48	50.61	48.1	9.47	0	106.4
2021-06-03	15:55:00	85.3	11.3	9.57	50.93	50.5	9.47	0	111.5

Feb 24/2021	Analyzers								
Test 1	CO	HCl	CO2	H2O	THC	O2	Opacity	SO2	
Units	AT-205-1NEW	AT-213A-1NEW	AT-213B-1NEW	AT-213CB	AT-259-1NEW	AT-261A-2NEW	AT-263	AT-264-1NEW	
	PPM	PPM	%	%	PPM	%	%	PPM	
Max	86.6	12.7	9.57	50.93	50.5	9.91	0.0	111.5	
Min	46.8	10.0	8.44	50.20	31.1	9.39	0.0	66.5	
Average	66.8	11.5	9.17	50.54	37.7	9.58	0.0	91.0	
Variance	69.2	0.4	0.07	0.03	15.6	0.02	0	124.1	