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Initial Review
Approved
By Kevin Mattison on 09/05/25

Alliance
TECHNICAL GROUP

Source Test Report

Metal Management Midwest, Inc
Paulina Facility
2500 South Paulina Street
Chicago, Illinois 60608

Source Tested: Hammermill Shredder System
Test Date: April 30, 2025

Project No. AST-2025-0397-R1

Prepared By
Alliance Technical Group, LLC
1355 Sherman Road, Suite 300
Hiawatha, IA 52233

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Regulatory Information

Permit No. Illinois EPA Construction Permit No. 21120017

Source Information

Source Name
Hammermill Shredder System

Target Parameters
PM, HCl, TSM, SO_2, NOx, CO, VOC, PTE, VEE

Contact Information

Test Location
Sims Metal
Paulina Facility
2500 South Paulina Street
Chicago, Illinois 60608

Client Contact
Michael Trupin
michael.trupin@simsmm.com
(215) 478-1886

Test Company
Alliance Technical Group, LLC
1355 Sherman Road, Suite 300
Hiawatha, IA 52233

Project Manager
Wyatt Wille
wyatt.wille@alliancetg.com
(563) 794-2039

QA/QC Manager
Kathleen Shonk
katie.shonk@alliancetg.com
(812) 452-4785

Report Coordinator
Nicholas Venderley
nick.venderley@alliancetg.com
(812) 452-4785

Report Reviewers
Tyler Winslow
tyler.winslow@alliancetg.com
(812) 549-8434

Michael Mowery
mike.mowery@alliancetg.com
(865) 310-0439

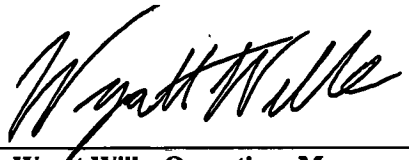
Analytical Laboratories
Alliance Technical Group, LLC
214 Central Circle SW
Decatur, AL 35603
John Lawrence
john.lawrence@alliancetg.com
(256) 351-0121 ext. 124

Alliance Technical Group, LLC
4500 Ball Rd. NE
Circle Pines, MN 55014
Hailee Bonds
(651) 319-1305

Alliance Technical Group, LLC (Alliance) has completed the source testing as described in this report. Results apply only to the source(s) and operating condition(s) that were tested during the specific test date(s) and time(s) identified within this report. All results are intended to be considered in their entirety, and Alliance is not responsible for use of less than the complete test report without written consent. This report shall not be reproduced in full or in part without written approval from the customer.

To the best of my knowledge and abilities, all information, facts and test data are correct. Data presented in this report has been checked for completeness and is accurate, error-free and legible. Onsite testing was conducted in accordance with the Site Specific Test Plan approved by the Illinois Environmental Protection Agency and internal Standard Operating Procedures. Any deviations or problems are detailed in the relevant sections of this test report.

This report is only considered valid once an authorized representative of Alliance has signed in the space provided below; any other version is considered draft. This document was prepared in portable document format (.pdf) and contains pages as identified in the bottom footer of this document.



Wyatt Wille, Operations Manager
Alliance Technical Group, LLC

August 28, 2025
Date

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Introduction

1.0 Introduction

Alliance Technical Group, LLC (Alliance) was retained by Metal Management Midwest, Inc (Sims Metal) to conduct stack testing at the Sims Metal - Paulina facility located in Chicago, IL. Portions of the facility are subject to provisions of the Illinois Environmental Protection Agency (IEPA) Construction Permit Application No. 21120017. Testing was conducted to determine the emission rates of particulate matter (PM), particulate matter less than 10 microns (PM10), particulate matter less than 2.5 microns (PM2.5), sulfur dioxide (SO_2), nitrogen oxides (NOx), carbon monoxide (CO), hydrogen chloride (HCl), and total selected metals (TSM) at the stack of the Hammermill Shredder Emission Control System, with visible emissions (VE) also being observed concurrently with testing. Additional testing was also conducted to determine the emission rate of Volatile Organic Material (VOM) from the inlet and outlet (i.e., Emission Control System Stack) associated with the Valveless Regenerative Thermal Oxidizer (VRTO) used to control VOM emissions. These emission rates were used to determine the destruction efficiency (DE) of the VRTO.

1.1 Process Descriptions

There are two emission capture hoods directly connected to the shredder, one located at the shredder in feed and the second at the under-mill oscillator (UMO or shredder outlet). The capture hoods and the entirety of the shredder enclosure were designed to meet the criteria specified in Reference Method 204 (as it relates to a Permanent Total Enclosure (PTE)). During the test event, the capture system achieved a nominal exhaust volumetric air flow rate of 60,000 Cubic Feet per Minute (CFM) produced by two fans, each powered by700hp drives. Emissions are directed through a cyclone and venturi scrubber, where particulate matter is captured and controlled. The emissions are then directed to the VRTO. Additional volumetric air flow of nominally 12,000 CFM is added at the VRTO. The VRTO operates with natural gas as its primary fuel and serves to destroy VOM in the exhaust stream. The exhaust gas stream then passes through a Dry Sorbent Injection (DSI) Scrubber followed by a dry sorbent fabric filter baghouse. As the exhaust gas passes through the DSI Scrubber, acid gases (e.g., HCl) in the exhaust react with calcium hydroxide. The exhaust gas from the Emission Control System is then released through a 60ft tall stack.

1.2 Project Team

Personnel involved in this project are identified in the following table.

Table 1-2: Project Team

Facility Personnel	Mike Trupin
Regulatory Personnel	Kevin Mattison (IEPA) Kurt Wepprecht (IEPA)
Regulatory Observers	Karina Kuc (US EPA) Sophie Steckel (US EPA)
Alliance Personnel	Wyatt Wille Rich Trzupek Ethan Balvanz Jacob Hand Logan LeTellier Ethan Sperfslage Jonathan Stroyan

1.3 Site Specific Test Plan & Notification

Testing was conducted in accordance with the Site Specific Test Plan (SSTP) that was submitted to and approved by IEPA.

1.4 Technical Discussion

While the isokinetic testing was taking place, port changes occurred during the following runs:

- Run 1 had port changes at the following times: 10:12 to 10:20, 10:43 to 10:50, and 11:13 to 11:18.
- Run 2 had port changes at the following times: 13:05 to 13:08, 13:31 to 13:37, and 14:00 to 14:02.
- Run 3 had port changes at the following times: 15:53 to 15:59. 16:21 to 16:25, and 16:49 to 16:55.

While the test plan submitted to the Illinois EPA inadvertently included barium as one of the Total Selected Metals (TSM), it is not a HAP and is not on the TSM list. The Test Plan should have identified beryllium, which is part of the TSM list. This report appropriately includes beryllium results and does not include barium. Alliance Technical Group regrets the error.

Summary of Results

2.0 Summary of Results

Alliance conducted compliance testing at the Sims Metal facility in Chicago, IL on April 30, 2025. Testing consisted of determining the emission rates of PM, PM10, PM2.5, SO2, NOx, CO, HCl, and TSM at the Hammermill Shredder Emission Control System, with (VE) also being observed concurrently with testing. Additional concurrent testing was also conducted to measure the emission rate of VOM at the Control System inlet and outlet (i.e., Emission Control System Stack) to determine the control (or destruction) efficiency associated with the VRTO.

Tables 2-1 to 2-4 provide summaries of the emission testing results. Appendix E provides a summary of the process operating and control system data collected during testing. Any difference between the summary of results listed in the following tables and the detailed results contained in the appendices is due to rounding for presentation.

Table 2-1: Summary of Results – Particulate Matter and Hydrogen Chloride

Run Number	Run 1	Run 2	Run 3	Average
Date	**4/30/25**	**4/30/25**	**4/30/25**	--
Filterable Particulate Matter Data				
Concentration, grain/dscf	3.7E-04	4.0E-04	2.6E-04	3.4E-04
Emission Rate, lb/hr	0.23	0.25	0.16	0.21
Condensable Particulate Matter Data				
Concentration, grain/dscf	0.0012	0.0022	0.0015	0.0016
Emission Rate, lb/hr	0.74	1.32	0.90	0.99
Total Particulate Matter Data				
Concentration, grain/dscf	0.0016	0.0026	0.0017	0.0020
Emission Rate, lb/hr	0.97	1.56	1.06	1.20
Hydrogen Chloride Data				
Concentration, mg/dscm	0.38	0.29	0.38	0.35
Concentration, ppmvd	0.25	0.19	0.25	0.23
Emission Rate, lb/hr	0.097	0.074	0.099	0.090

Table 2-2: Summary of Results – Visible Emissions

Run Number	Run 1	Run 2	Run 3	Average
Date	**4/30/25**	**4/30/25**	**4/30/25**	--
Visible Emission Evaluations Data				
6-Minute Average Opacity, %	0.0	0.0	0.0	--
Limit, %	--	--	--	30

Table 2-3: Summary of Results – Gases and Volatile Organic Materials

Run Number	Run 1	Run 2	Run 3	Average
Date	**4/30/25**	**4/30/25**	**4/30/25**	**--**
Sulfur Dioxide Data				
Concentration, ppmvd	0.40	0.40	<0.10	0.27
Emission Rate, lb/hr	0.29	0.28	<0.07	0.19
Nitrogen Oxide Data				
Concentration, ppmvd	4.6	4.5	5.2	4.8
Emission Rate, lb/hr	2.4	2.3	2.7	2.4
Carbon Monoxide Data				
Concentration, ppmvd	19.8	18.5	22.1	20.1
Emission Rate, lb/hr	6.2	5.8	6.9	6.3
Total Hydrocarbons as Propane (Inlet) Data				
Concentration, ppmvd	104.6	83.7	115.1	101.1
Emission Rate, lb/hr	41.9	33.9	46.2	40.7
Total Hydrocarbons as Propane (Outlet) Data				
Concentration, ppmvd	7.6	6.6	7.4	7.2
Emission Rate, lb/hr	3.8	3.2	3.7	3.6
Non-Methane-Ethane Hydrocarbons (Outlet) Data				
Concentration, ppmvd	2.3	1.5	1.8	1.9
Emission Rate, lb/hr	1.15	0.75	0.88	0.93
Reduction Efficiency Data				
THC (as C_3H_8) (Inlet) Emission Rate, lb/hr	41.9	33.9	46.2	40.7
THC (as C_3H_8) (Outlet) Emission Rate, lb/hr	3.8	3.2	3.7	3.6
THC (as C_3H_8) Reduction Efficiency, %	91.0	90.5	92.1	91.2
Reduction Efficiency, Pass/Fail	--	--	--	**Pass**

Table 2-4: Summary of Results – Metals

Run Number	Run 1	Run 2	Run 3	Average
Date	**4/30/25**	**4/30/25**	**4/30/25**	**--**
Arsenic Data				
Concentration, ppmvd	0.0019	0.0019	0.0019	0.0019
Concentration, ug/dscm	6.0	6.0	5.9	6.0
Emission Rate, lb/hr	0.0015	0.0016	0.0015	0.0015
Beryllium Data				
Concentration, ppmvd	0.0014	0.0013	0.0012	0.0013
Concentration, ug/dscm	0.52	0.50	0.47	0.50
Emission Rate, lb/hr	1.3E-04	1.3E-04	1.2E-04	1.3E-04
Cadmium Data				
Concentration, ppmvd	3.6E-04	3.2E-04	3.9E-04	3.6E-04
Concentration, ug/dscm	1.7	1.5	1.8	1.7
Emission Rate, lb/hr	4.4E-04	4.0E-04	4.8E-04	4.4E-04
Chromium Data				
Concentration, ppmvd	0.0097	0.0096	0.0091	0.0095
Concentration, ug/dscm	21.0	20.7	19.7	20.5
Emission Rate, lb/hr	0.0054	0.0054	0.0052	0.0053
Copper Data				
Concentration, ppmvd	0.0071	0.0062	0.0049	0.0061
Concentration, ug/dscm	18.7	16.3	13.1	16.0
Emission Rate, lb/hr	0.0048	0.0043	0.0034	0.0042
Lead Data				
Concentration, ppmvd	0.0023	0.0019	0.0019	0.0020
Concentration, ug/dscm	19.6	16.0	16.0	17.2
Emission Rate, lb/hr	0.0050	0.0042	0.0042	0.0045
Nickel Data				
Concentration, ppmvd	0.0054	0.0048	0.0046	0.0049
Concentration, ug/dscm	13.3	11.6	11.1	12.0
Emission Rate, lb/hr	0.0034	0.0031	0.0029	0.0031
Selenium Data				
Concentration, ppmvd	0.0034	0.0031	0.0036	0.0033
Concentration, ug/dscm	11.1	10.0	11.8	11.0
Emission Rate, lb/hr	0.0028	0.0026	0.0031	0.0028
Zinc Data				
Concentration, ppmvd	0.060	0.037	0.031	0.043
Concentration, ug/dscm	158.5	98.0	82.3	112.9
Emission Rate, lb/hr	0.041	0.026	0.021	0.029

Table 2-5: Summary of Results – Metals (Continued)

Run Number	Run 1	Run 2	Run 3	Average
Date	**4/30/25**	**4/30/25**	**4/30/25**	--
Mercury Data				
Concentration, ppmvd	2.4E-04	1.1E-04	3.0E-04	2.2E-04
Concentration, ppb	0.24	0.11	0.30	0.22
Concentration, ug/dscm	1.98	0.91	2.54	1.81
Emission Rate, lb/hr	5.1E-04	2.4E-04	6.6E-04	4.7E-04
Total Selected Metals Data				
Concentration, ppmvd	0.092	0.066	0.059	0.072
Concentration, ug/dscm	250	181	162	198
Emission Rate, lb/hr	0.064	0.047	0.042	0.051

Testing Methodology

3.0 Testing Methodology

The emission testing program was conducted in accordance with the test methods that are listed in Table 3-1. Method descriptions are provided below, and quality assurance/quality control data is provided in Appendix D.

Table 3-1: Source Testing Methodology

Parameter	U.S. EPA Reference Test Methods	Notes/Remarks
Volumetric Flow Rate	1 & 2	Full Velocity Traverses
Oxygen/Carbon Dioxide	3A	Instrumental Analysis
Moisture Content	4 & ASTM Method E-133	Gravimetric Analysis
Particulate Matter	5/202	Isokinetic Sampling
Sulfur Dioxide	6C	Instrumental Analysis
Nitrogen Oxides	7E	Instrumental Analysis
Visible Emission Evaluation	9	Certified Observer
Carbon Monoxide	10	Instrumental Analysis
Methane/Ethane Concentrations	18	Bag Samples, GC/FID Analysis
Volatile Organic Material	25A	Instrumental Analysis
Hydrogen Chloride	26A	Isokinetic Sampling
Metals	29	Isokinetic Testing
Permanent Total Enclosure	204	--

3.1 U.S. EPA Reference Test Methods 1 and 2 – Sampling/Traverse Points and Volumetric Flow Rate

The sampling location and the number of traverse (sampling) points were selected in accordance with U.S. EPA Reference Test Method 1 requirements. The inside diameter of the stack was determined. The upstream and downstream distances between the sampling point and the nearest flow disturbance were measured. The distance between each flow disturbance and the sampling point was expressed in units of stack diameters or stack equivalent diameter. In order to determine the minimum number of traverse points, the upstream and downstream distances were compared to Figure 1-1 at the stack location and/or Figure 1-2 at the VRTO inlet location in U.S. EPA Reference Test Method 1.

Full velocity traverses were conducted in accordance with U.S. EPA Reference Test Method 2 to determine the average stack gas pressure differential (impact pressure vs. static pressure), static pressure and temperature at each measurement point. Pressure differential and static pressure were determined using an S-type pitot tube, an inclined manometer-type and flexible tubing used to connect both parts of the system. Stack gas temperature was determined using a K-type thermocouple and a pyrometer. The sensor tip of the K-type thermocouple was aligned with the nozzles of the S-type pitot tube in accordance with method requirements.

At the VRTO inlet location stack gas pressure differential, static pressure and temperature measurements were recorded at the beginning and end of each test run. The data collected during each test run was averaged. These

averages were then utilized to calculate stack gas volumetric flow rates and VOM mass emission rates. At the VRTO outlet location stack gas velocity, static pressure and temperature measurements were made continuously throughout each test run as part of the isokinetic test trains (Methods 5/202, 26 and 29) operations.

3.2 U.S. EPA Reference Test Method 3A –Oxygen and Carbon Dioxide Concentrations

The oxygen (O_2) and carbon dioxide (CO_2) concentrations were determined in accordance with U.S. EPA Reference Test Method 3A. Data was continuously collected and reported as one-minute averages. The sampling system consisted of a stainless-steel probe, heated Teflon sample line(s), a gas conditioning system and the identified gas analyzer. The gas conditioning system consisted of a filter to remove particulate matter, and a non-contact condenser used to remove moisture from the stack gas. A single-point sampling location was used for the determination of stack gas molecular weight. Quality control measures are described in Section 3.14.

3.3 U.S. EPA Reference Test Method 4 and ASTM Method E-337 – Moisture Content

At the exhaust stack location, the stack gas moisture content (BWS) was determined in accordance with U.S. EPA Reference Test Method 4. The gas conditioning train consisted of a series of chilled impingers. The first and second impingers each contained 100 ml of H_2O, the third impinger was initially empty and the fourth impinger contained 200-300 grams of silica gel. The exit temperature of the impinger train was maintained at less than 68°F. Each impinger was analyzed gravimetrically before and after each test-run to determine the amount of condensed moisture. All gravimetric analyses were performed on the same balance.

At the VRTO inlet test location stack gas moisture content was determined in accordance with ASTM Method E-337: Standard Test Method for Measuring Humidity with a Psychrometer (the Measurement of Wet- and Dry-Bulb Temperatures)

3.4 U.S. EPA Reference Test Methods 5 and 202 – Total Particulate Matter

Total particulate matter (filterable and condensable PM) testing was conducted in accordance with U.S. EPA Reference Test Methods 5 and 202. The complete sampling system consisted of a stainless-steel nozzle, glass-lined probe, pre-weighed quartz filter, coil condenser, an un-weighed Teflon filter, gas conditioning train, pump and calibrated dry gas meter. The gas conditioning train consisted of a coiled condenser and four (4) chilled impingers. The first and second impingers were initially empty, the third impinger contained 100 mL of de-ionized water and the fourth impinger contained 200-300 grams of silica gel. The un-weighed, 90 mm Teflon filter was placed between the second and third impingers. The probe liner heating system was maintained at a temperature of 248 ±25°F, and the impinger temperature was maintained at 68°F or less throughout testing. The temperature of the Teflon filter was maintained at a temperature that was greater than 65°F but less than or equal to 85°F.

Following the completion of each test run, the sampling train was leak-checked at a vacuum greater than or equal to the highest vacuum observed during the run. Condensate was collected in the first dry impinger; therefore, the front-half of the sample train, which consisted of the nozzle, probe, and heated pre-weighed filter, was removed so that the back-half of the sample train, which consisted of the coil condenser, first and second impingers and CPM filter, could be purged. A glass bubbler was inserted into the first impinger. If needed, de-ionized ultra-filtered (DIUF) water was added to the first impinger to raise the water level above the bubbler, and then the coil condenser was replaced. Zero nitrogen was connected to the condenser, and a 60-minute purge was conducted at a rate of 14 liters per minute. After the completion of the nitrogen purge, the impinger contents were measured for moisture gain.

The pre-weighed quartz filter was carefully removed and placed in container 1. The probe and front half of the filter holder were rinsed three (3) times with acetone and the nozzle six (6) times with acetone, to remove any adhering particulate matter, and the resulting rinses were recovered in container 2. All containers were sealed, labeled, their liquid levels were marked, and they were transported to the identified laboratory for filterable particulate matter analysis.

The contents of impingers 1 and 2 were recovered in container CPM Cont. #1. The back half of the filterable PM filter holder, coil condenser, impingers 1 and 2 and all connecting glassware were rinsed with DIUF water, then with acetone and then with hexane. The resulting water rinse was recovered in container CPM Cont. #1, and the acetone and hexane rinses were recovered in container CPM Cont. #2. The Teflon filter was removed from the filter holder and placed in container CPM Cont. #3. The front half of the condensable PM filter holder was rinsed sequentially with DIUF water, acetone, and hexane. The resulting water rinse was added to container CPM Cont. #1, and the resulting acetone and hexane rinses were added to container CPM Cont. #2. All containers were sealed, labeled, their liquid levels were marked, and they were transported to the identified laboratory for condensable particulate matter analysis.

3.5 U.S. EPA Reference Test Method 6C – Sulfur Dioxide

Sulfur dioxide (SO_2) testing was conducted in accordance with U.S. EPA Reference Test Method 6C. Data was collected online and reported in one-minute averages. The sampling system consisted of a heated stainless-steel probe, heated Teflon sample line(s), a gas conditioning system and the identified analyzer. The gas conditioning system was a non-contact condenser, which was used to remove moisture from the stack gas. Sample point locations were determined following Method 7E. Quality control measures are described in Section 3.14.

3.6 U.S. EPA Reference Test Method 7E – Nitrogen Oxides

Nitrogen oxides (NOx) testing was conducted in accordance with U.S. EPA Reference Test Method 7E. Data was collected online and reported in one-minute averages. The sampling system consisted of a stainless-steel probe, heated Teflon sample line(s), a gas conditioning system and the identified gas analyzer. The gas conditioning system was a non-contact condenser, which was used to remove moisture from the stack gas. Sample point locations were determined following Method 7E. Quality control measures are described in Section 3.14.

3.7 U.S. EPA Reference Test Method 9 – Visible Emissions Evaluations

The stack gas opacity was determined in accordance with U.S. EPA Reference Test Method 9. Visible emission evaluations were conducted by a certified visible emissions evaluator. Opacity readings were recorded in 15-second intervals during each of the three (3) 60-minute evaluations.

3.8 U.S. EPA Reference Test Method 10 – Carbon Monoxide

Carbon monoxide (CO) testing was conducted in accordance with U.S. EPA Reference Test Method 10. Data was collected online and reported in one-minute averages. The sampling system consisted of a stainless-steel probe, heated Teflon sample line(s), a gas conditioning system, and the identified gas analyzer. The gas conditioning system was a non-contact condenser, which was used to remove moisture from the gas. Sample point locations were determined following Method 7E. Quality control measures are described in Section 3.14.

3.9 U.S. EPA Reference Test Method 18 – Methane and Ethane

Methane and ethane testing was conducted in accordance with U.S. EPA Reference Test Method 18. The stack gas was withdrawn at a constant rate from the outlet of the VRTO through a stainless-steel probe, heated Teflon sample line and gas conditioning system and collected in a leak-free Tedlar bag using a lung type sampling system. All samples were sealed, labeled and transported to the identified laboratory for analysis. Once the samples were received, the analytical lab analyzed them by using gas chromatography / flame ionization detection (GC/FID) or other detectors as required by the compound of interest and the anticipated concentration, in accordance with the analytical procedures outlined in U.S. EPA Reference Test Method 18. The quality control measures are described in Section 3.15.

3.10 U.S. EPA Reference Test Method 25A – Volatile Organic Material

Testing to determine VOM emission rates was conducted in accordance with U.S. EPA Reference Test Method 25A to measure Total Hydrocarbon (THC) emission adjusted for methane/ethane content as determined by U.S. EPA Reference Method 18. THC data was collected online and reported in one-minute averages. The sampling system consisted of a stainless-steel probe, heated Teflon sample line(s) and the identified gas analyzer. Bias checks were completed at the end of each test run. The mid-level calibration gas was used for the upscale bias gas. Quality control measures are described in Section 3.16.

3.11 U.S. EPA Reference Test Method 26A – Hydrogen Chloride

Testing to determine Hydrochloric Acid (HCl) concentrations and emission rates was conducted in accordance with U.S. EPA Reference Test Method 26A. The complete sampling system consisted of a glass nozzle, heated glass-lined probe, heated Teflon filter, gas conditioning train, pump and calibrated dry gas meter. The gas conditioning train consisted of four (4) chilled impingers. The first and second impingers each contained 100 mL of 0.1 N H_2SO_4, the third impinger was initially empty and the fourth impinger contained 200-300 grams of silica gel. The probe liner and filter heating systems were maintained at a temperature of 248-273°F, and the impinger exit temperature was maintained at 20°C (68°F) or less throughout the testing.

Following the completion of each test run, the sampling train was leak-checked at a vacuum greater than or equal to the highest vacuum observed during the run, and the contents of the impingers were measured for moisture gain. The absorbing solution (0.1 N H_2SO_4) from the first and second impingers was placed in sample container 3. The back-half of the filter holder, the first, second and third impingers, as well as all glassware that led to the outlet of the third impinger, were rinsed with de-ionized (DI) water, and the resulting rinses were also placed in container 3. All containers were sealed, labeled, their liquid levels were marked, and they were transported to the identified laboratory for analysis.

3.12 U.S. EPA Reference Test Method 29 – Metals

Metals testing was conducted in accordance with U.S. EPA Reference Test Method 29. The complete sampling system consisted of a glass nozzle, glass-lined probe, pre-cleaned, heated quartz filter, a gas conditioning system, pump and calibrated dry gas meter. The gas conditioning train consisted of six (6) chilled impingers. The first and second impingers each contained 100 mL of HNO_3/H_2O_2, the third impinger was initially empty, the fourth and fifth impingers each contained 100 mL of acidic $KMnO_4$, and the sixth impinger contained 200-300 grams of silica gel. The probe liner and filter heating systems were maintained at a temperature of 120 ± 14°C (248 ±25°F), and the impinger temperature was maintained at 20°C (68°F) or less throughout testing. Prior to the testing, all glassware was cleaned and sealed in a controlled environment in accordance with procedures outlined in the test method.

Following the completion of each test run, the sample train was leak-checked at a vacuum that was equal to or greater than the highest vacuum observed during the run, and the contents of the impingers were measured for moisture gain. The quartz filter was removed and placed in container 1. The probe and nozzle were rinsed and brushed three (3) times with 0.1 N HNO_3 using a non-metallic brush, and the resulting rinses were placed in container 2. The front half of the filter holder was rinsed three (3) times with 0.1 N HNO_3, and the resulting rinses were added to container 3. The contents of impingers 1, 2, and 3 were placed in container 4. Impingers 1, 2, and 3, as well as the filter support, back half of the filter holder and all connecting glassware were rinsed three (3) times with 0.1 N HNO_3, and the resulting rinses were added to container 4. The contents of impinger 4 were placed in container 5A. The impinger and connecting glassware were rinsed three (3) times with HNO_3, and the resulting rinses were added to container 5A. The contents of impingers 5 and 6 were placed in container 5B. The impingers and all connecting glassware were rinsed three (3) times with acidified KMNO4 and then rinsed with de-ionized (DI) water, and the resulting rinses were added to container 5B. Impingers 5 and 6 were rinsed again with 25 mL of 8N HCl, and the resulting rinse was collected in container 5C, which contained 200 mL of DI water. All containers were sealed, labeled, their liquid levels were marked, and they were transported to the identified laboratory for analysis.

3.13 U.S. EPA Reference Test Method 204 – Permanent Total Enclosures

The following procedures were used to verify that Method 204 criteria to qualify as a Permanent Total Enclosure (PTE) were met by the VOM capture system. Method 204 allows any emissions unit that meets PTE criteria to claim credit for 100% capture of emissions.

The equivalent diameters of the natural draft openings (NDOs) and the distances from the nearest VOM emitting point to each NDO were determined. Distances were calculated in terms of the equivalent diameter of each NDO. The distance between each NDO and the nearest VOM emission point must be at least four equivalent diameters. All measurements were based on as-built scale drawings provided by Sims Metal and/or its suppliers, with NDO measurements physically confirmed prior to the commencement of testing. Please see Appendix B for the drawings associated with the emission capture system and the Method 204 demonstration.

The total surface area (A_T) of the enclosure and the total area (A_N) of all NDO's in the enclosure were measured. The NDO to enclosure area ratio (NEAR) were calculated as follows: NEAR = A_N/A_T. The NEAR must be less than or equal to 0.05. All measurements were based on as-built scale drawings provided by Sims Metal and/or its suppliers.

The volumetric flow rate, corrected to standard conditions, of the combined gas stream from the aforementioned capture hoods were determined using U.S. EPA Reference Test Method 2, as referenced in the above sections.

The FV were calculated using the following equation,

$FV = (Q_o-Q_i)/A_N$.

where,

Q_o = the sum of the volumetric flow from all gas streams exiting the enclosure through an exhaust duct or hood.

Q_i =the sum of the volumetric flow from all gas streams into the enclosure through a forced makeup air duct; Since there is no forced makeup air in the system, Q_i will be zero in this case.

A_N = total area of all NDO's in enclosure. This was based on as-built scale drawings provided by Sims Metal and/or its suppliers and confirmed by the test team prior to commencement of testing.

Because the calculated FV was over 500 fpm, the direction of air flow through all NDO's was not required by Method 204. However, Sims demonstrated, prior to commencement of material flow into the shredder, inward flow of air at the shredder infeed NDO and the UMO NDO. Sims utilized smoke tubes at the two indicated NDOs for this demonstration. In addition (and although not required by Method 204 when FV is calculated in accordance with the Method), the test team performed a similar one-time measurement of differential pression (prior to the commencement of material flow into the shredder) at the aforementioned NDOs. The pressure differential measurement (which was greater than 0.007 in. H_2O) and the smoke demonstration were instantaneous in nature prior to commencement of the emission test event.

3.14 Quality Assurance/Quality Control – U.S. EPA Reference Test Methods 3A, 6C, 7E and 10

EPA Protocol 1 Calibration Gases

All the cylinder calibration gases used during the testing met EPA Protocol 1 (+/- 2%) standards. Copies of all calibration gas certificates are included in the Quality Assurance/Quality Control Appendix.

Direct Calibration & Calibration Error Test

Direct calibration consisted of introducing Low-Level gas directly to the analyzer. After adjusting the analyzer to the Low-Level gas concentration, and once the analyzer reading stabilized, the analyzer value was recorded. This process was repeated with the High-Level gas. The Calibration Error Test consisted of sequentially introducing Low, Mid, and High-Level calibration gases directly to the analyzer. All values were within 2.0 percent of the Calibration Span or 0.5 ppmv/% absolute difference.

System Bias and Response Time

The system bias and response time were determined by introducing High or Mid-Level gas (whichever was closer to the stack gas concentration) at the probe, and the time required for the analyzer reading to reach 95 percent or 0.5 ppmv/% (whichever was less restrictive) of the gas concentration was recorded. The analyzer reading was observed until it reached a stable value, and this value was recorded. Next, Low-Level gas was introduced at the probe, and the time required for the analyzer reading to decrease to a value that was within 5.0 percent or 0.5 ppmv/% (whichever was less restrictive) was recorded. If the Low-Level gas was zero gas, the response was 0.5 ppmv/% or 5.0 percent of the upscale gas concentration (whichever was less restrictive). The analyzer reading was observed until it reached a stable value, and this value was recorded. The measurement system response time and the initial system bias were determined from these data. The System Bias was within 5.0 percent of the Calibration Span or 0.5 ppmv/% absolute difference.

Post Test System Bias Checks

Post test system bias checks were conducted by introducing High or Mid-Level gas (whichever was closer to the stack gas concentration) at the probe. Once the analyzer reading stabilized, the analyzer value was recorded. Next, Low-Level gas was introduced at the probe, and the analyzer response was recorded once it stabilized. If the System Bias was not within 5.0 percent of the Calibration Span or 0.5 ppmv/% absolute difference, the data was invalidated, and the Calibration Error Test and System Bias were repeated.

Post Test Drift Checks

Drift between pre- and post-run System Bias was within 3 percent of the Calibration Span or 0.5 ppmv/% absolute difference. If the drift exceeded 3 percent or 0.5 ppmv/%, the Calibration Error Test and System Bias were repeated.

Stratification Check

To determine the number of sampling points, a gas stratification check was conducted prior to initiating testing. The pollutant concentrations were measured at three points (16.7, 50.0 and 83.3 percent of the measurement line). Each traverse point was sampled for a minimum of twice the system response time.

NO_x Converter Check

An NO_2 – NO converter check was performed on the analyzer prior to initiating testing. An approximately 50 ppm nitrogen dioxide cylinder gas was introduced directly to the NOx analyzer, and the instrument response was recorded in an electronic data sheet. The instrument response was within 10 percent of the cylinder concentration.

Data Collection

A Data Acquisition System equipped with a backup battery was used to record the instrument response as one (1) minute averages. This data was continuously stored as a *.CSV file in Excel format, which was saved to a computer's hard drive. At the completion of testing, the data was also saved to the Alliance server. All data was reviewed by the Field Team Leader before leaving the facility. Upon arrival at Alliance's office, all written and electronic data was relinquished to the report coordinator, and a final review of the data was performed by the Project Manager.

3.15 Quality Assurance/Quality Control – U.S. EPA Reference Test Method 18

The bag sample spike and recovery were checked in accordance with procedures outlined in U.S. EPA Section 8.4.2 of Method 18. After analyzing all three bag samples, one bag was chosen and tagged as the spiked bag. This bag was spiked with a known mixture (gaseous or liquid) of all the target pollutants. The amount that was spiked in the bag was targeted to be within 40 to 60 percent of the concentration that was measured for each target pollutant during the analysis. If a target compound was not detected in the bag samples, then a concentration of that compound was spiked at five (5) times its limit of detection. After the bag was spiked, it was stored for a period of time that was equivalent to the period of time that passed between the collection of the bag samples and their analysis. After the appropriate storage time, the spiked bags were analyzed three (3) times. The average fraction of the amount of each spiked compound that was recovered was calculated in accordance with equations outlined in section 12.7 of U.S. EPA Reference Test Method 18.

3.16 Quality Assurance/Quality Control – U.S. EPA Reference Test Method 25A

EPA Protocol 1 Calibration Gases

All the cylinder calibration gases used during the testing met EPA Protocol 1 (+/- 2%) standards. Copies of all calibration gas certificates are included in the Quality Assurance/Quality Control Appendix.

Calibration Error Test and Response Time

Within two (2) hours of the initiation of the testing, zero gas was introduced through the sampling system to the analyzer. After adjusting the analyzer to the Zero gas concentration, and once the analyzer reading stabilized, the analyzer value was recorded. This process was repeated for the High-Level gas, and the time that was required for the analyzer reading to reach 95 percent of the gas concentration was recorded to determine the response time. Next, Low and Mid-Level gases were introduced through the sampling system to the analyzer, and the response was recorded once it stabilized. All values were less than +/- 5 percent of the calibration gas concentrations.

Post Test Drift Checks

Mid-Level gas was introduced to the sampling system. Once the analyzer response stabilized, the value was recorded. Next, zero gas was introduced to the sampling system, and the analyzer value was recorded once its response stabilized. The Analyzer Drift was less than +/- 3 percent of the span value.

Data Collection

A Data Acquisition System, which was equipped with a battery backup, was used to record the instrument response as one (1) minute averages. This data was continuously stored as a *.CSV file in Excel format, which was saved to a computer's hard drive. At the completion of testing, the data was also saved to the Alliance server. All data was reviewed by the Field Team Leader before leaving the facility. Upon arrival at Alliance's office, all written and electronic data was relinquished to the report coordinator, and a final review of the data was performed by the Project Manager.

Appendix A

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2025-0397
Run No. /Method Run 1 / Method 3A

O_2 - Outlet Concentration (C_{O_2}), % dry

$$C_{O_2} = (C_{obs} - C_0) \times \left(\frac{C_{MA}}{(C_M - C_0)} \right)$$

where,

C_{obs}	20.0	= average analyzer value during test, % dry
C_o	0.1	= average of pretest & posttest zero responses, % dry
C_{MA}	10.0	= actual concentration of calibration gas, % dry
C_M	9.9	= average of pretest & posttest calibration responses, % dry
C_{O_2}	20.2	= O_2 Concentration, % dry

CO_2 - Outlet Concentration (C_{CO_2}), % dry

$$C_{CO_2} = (C_{obs} - C_0) \times \left(\frac{C_{MA}}{(C_M - C_0)} \right)$$

where,

C_{obs}	0.62	= average analyzer value during test, % dry
C_o	0.10	= average of pretest & posttest zero responses, % dry
C_{MA}	9.88	= actual concentration of calibration gas, % dry
C_M	9.40	= average of pretest & posttest calibration responses, % dry
C_{CO_2}	0.60	= CO_2 Concentration, % dry

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2025-0397
Run No. /Method Run 1 / Method 10

CO - Outlet Concentration (C_{CO}), ppmvd

$$C_{CO} = (C_{obs} - C_0) \times \left(\frac{C_{MA}}{(C_M - C_0)} \right)$$

where,

C_{obs}	20.6	= average analyzer value during test, ppmvd
C_o	0.4	= average of pretest & posttest zero responses, ppmvd
C_{MA}	40.0	= actual concentration of calibration gas, ppmvd
C_M	41.1	= average of pretest & posttest calibration responses, ppmvd
C_{CO}	19.8	= CO Concentration, ppmvd

CO - Outlet Emission Rate (ER_{CO}), lb/hr

$$ER_{CO} = \frac{C_{CO} \times MW \times Qs \times 60 \frac{min}{hr} \times 28.32 \frac{L}{ft^3}}{24.04 \frac{L}{g-mole} \times 1.0E06 \times 453.592 \frac{g}{lb}}$$

where,

C_{CO}	19.8	= CO - Outlet Concentration, ppmvd
MW	28.01	= CO molecular weight, g/g-mole
Qs	71,716	= stack gas volumetric flow rate at standard conditions, dscfm
ER_{CO}	6.2	= lb/hr

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2025-0397
Run No. /Method Run 1 / Method 7E

NOx - Outlet Concentration (C_{NOx}), ppmvd

$$C_{NOx} = (C_{obs} - C_0) \times \left(\frac{C_{MA}}{(C_M - C_0)} \right)$$

where,

C_{obs}	4.5	= average analyzer value during test, ppmvd
C_o	0.0	= average of pretest & posttest zero responses, ppmvd
C_{MA}	25.0	= actual concentration of calibration gas, ppmvd
C_M	24.4	= average of pretest & posttest calibration responses, ppmvd
C_{NOx}	4.6	= NOx Concentration, ppmvd

NOx - Outlet Emission Rate (ER_{NOx}), lb/hr

$$ER_{NOx} = \frac{C_{NOx} \times MW \times Qs \times 60 \frac{min}{hr} \times 28.32 \frac{L}{ft^3}}{24.04 \frac{L}{g-mole} \times 1.0E06 \times 453.592 \frac{g}{lb}}$$

where,

C_{NOx}	4.6	= NOx - Outlet Concentration, ppmvd
MW	46.0055	= NOx molecular weight, g/g-mole
Qs	71,716	= stack gas volumetric flow rate at standard conditions, dscfm
ER_{NOx}	2.4	= lb/hr

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2025-0397
Run No. /Method Run 1 / Method 6C

SO_2 - Outlet Concentration (C_{SO_2}), ppmvd

$$C_{SO_2} = (C_{obs} - C_0) \times \left(\frac{C_{MA}}{(C_M - C_0)}\right)$$

where,

C_{obs}	1.7	= average analyzer value during test, ppmvd
C_o	1.3	= average of pretest & posttest zero responses, ppmvd
C_{MA}	30.0	= actual concentration of calibration gas, ppmvd
C_M	30.5	= average of pretest & posttest calibration responses, ppmvd
C_{SO_2}	0.40	= SO_2 Concentration, ppmvd

SO_2 - Outlet Emission Rate (ER_{SO_2}), lb/hr

$$ER_{SO_2} = \frac{C_{SO_2} \times MW \times Qs \times 60 \frac{min}{hr} \times 28.32 \frac{L}{ft^3}}{24.04 \frac{L}{g-mole} \times 1.0E06 \times 453.592 \frac{g}{lb}}$$

where,

C_{SO_2}	0.4	= SO_2 - Outlet Concentration, ppmvd
MW	64.066	= SO_2 molecular weight, g/g-mole
Qs	71,716	= stack gas volumetric flow rate at standard conditions, dscfm
ER_{SO_2}	0.29	= lb/hr

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System (Inlet and Outlet)
Project No.: AST-2025-0397
Run No. /Method Run 1 / Method 25A

THC - Outlet Concentration (as C3H8) (C_{THC}), ppmvd

$$C_{THC} = \frac{C_{THCw}}{1 - BWS}$$

where,

C_{THCw}	7.4	= THC - Outlet Concentration (as C3H8), ppmvw
BWS	0.033	= moisture fraction, unitless
C_{THC}	7.6	= ppmvd

THC - Outlet Emission Rate (as C3H8) (ER_{THC}), lb/hr

$$ER_{THC} = \frac{C_{THC} \times MW \times Qs \times 60 \frac{min}{hr} \times 28.32 \frac{L}{ft^3}}{24.04 \frac{L}{g-mole} \times 1.0E06 \times 454 \frac{g}{lb}}$$

where,

C_{THC}	7.6	= THC - Outlet Concentration (as C3H8), ppmvd
MW	44.1	= THC molecular weight, g/g-mole
Qs	71,716	= stack gas volumetric flow rate at standard conditions, dscfm
ER_{THC}	3.8	= lb/hr

THC Reduction Efficiency (RE_{THC}), %

$$RE_{THC} = \frac{ER_{THCi} - ER_{THC}}{ER_{THCi}} \times 100$$

where,

ER_{THCi}	41.9	= Inlet THCi (as C_3H_8) Emission Rate, lb/hr
ER_{THC}	3.8	= Outlet THC (as C_3H_8) Emission Rate, lb/hr
RE_{THC}	91.0	= %

NMEHC Concentration (as C3H8) (C_{NMEHC}), ppmvd

$$C_{NMEHC} = C_{THC} - C_{CH4} - C_{C2H6}$$

where,

C_{THC}	7.6	= THC Concentration (as C3H8), ppmvd
C_{CH4}	4.6	= CH4 Concentration (as C3H8), ppmvd
C_{C2H6}	0.67	= C2H6 Concentration (as C3H8), ppmvd
C_{NMEHC}	2.3	= ppmvd

NMEHC Emission Rate (as C3H8) (ER_{NMEHC}), lb/hr

$$ER_{NMEHC} = \frac{C_{NMEHC} \times MW \times Qs \times 60 \frac{min}{hr} \times 28.32 \frac{L}{ft^3}}{24.04 \frac{L}{g-mole} \times 1.0E06 \times 454 \frac{g}{lb}}$$

where,

C_{NMEHC}	2.3	= NMEHC Concentration (as C3H8), ppmvd
MW	44.1	= NMEHC molecular weight, g/g-mole
Qs	71,716	= stack gas volumetric flow rate at standard conditions, dscfm
ER_{NMEHC}	1.15	= lb/hr

Location	**SIMS Metal - Chicago, IL**
Source	**Hammermill Shredder System Inlet**
Project No.	**AST-2025-0397**
Run No.	**1**
Parameter(s)	**VFR**

Absolute Stack Gas Pressure (Ps), in. Hg

$$Ps = Pb + \frac{Pg}{13.6}$$

where,

Pb	29.49	= barometric pressure, in. Hg
Pg	-10.09	= static pressure, in. H_2O
Ps	28.75	= in. Hg

Moisture Fraction (BWSsat), dimensionless (theoretical at saturated conditions)

$$BWSsat = \frac{10^{\left(6.37 - \left(\frac{2{,}827}{Ts + 364.47}\right)\right)}}{Ps}$$

where,

Ts	62.7	= stack temperature, °F
Ps	28.7	= absolute stack gas pressure, in. Hg
BWSsat	0.020	= dimensionless

Moisture Fraction (BWS), dimensionless

BWS = BWSmsd unless BWSsat < BWSmsd

where,

BWSsat	0.020	= moisture fraction (theoretical at saturated conditions)
BWSmsd	0.019	= moisture fraction (measured)
BWS	0.019	

Molecular Weight (DRY) (Md), lb/lb-mole

$$Md = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times [100 - \%CO_2 - \%O_2])$$

where,

CO_2	0.1	= carbon dioxide concentration, %
O_2	20.9	= oxygen concentration, %
Md	28.85	= lb/lb mol

Molecular Weight (WET) (Ms), lb/lb-mole

$$Ms = (Md \times [1 - BWS]) + (18.015 \times BWS)$$

where,

Md	28.85	= molecular weight (DRY), lb/lb mol
BWS	0.019	= moisture fraction, dimensionless
Ms	28.65	= lb/lb mol

Location	**SIMS Metal - Chicago, IL**
Source	**Hammermill Shredder System Inlet**
Project No.	**AST-2025-0397**
Run No.	**1**
Parameter(s)	**VFR**

Average Velocity (Vs), ft/sec

$$Vs = 85.49 \times Cp \times (\Delta P^{1/2})\ avg \times \sqrt{\frac{Ts}{Ps \times Ms}}$$

where,

Cp	0.84	= pitot tube coefficient
$\Delta P^{1/2}$	1.166	= average pre/post test velocity head of stack gas, $(in.\ H_2O)^{1/2}$
Ts	522.3	= average pre/post test absolute stack temperature, °R
Ps	28.75	= absolute stack gas pressure, in. Hg
Ms	28.65	= molecular weight of stack gas, lb/lb mol
Vs	66.7	= ft/sec

Average Stack Gas Flow at Stack Conditions (Qa), acfm

$$Qa = 60 \times Vs \times As$$

where,

Vs	66.7	= stack gas velocity, ft/sec
As	15.32	= cross-sectional area of stack, ft^2
Qa	61,275	= acfm

Average Stack Gas Flow at Standard Conditions (Qs), dscfm

$$Qs = \frac{17.636 \times Qa \times (1 - BWS) \times Ps}{Ts}$$

where,

Qa	61,275	= average stack gas flow at stack conditions, acfm
BWS	0.019	= moisture fraction, dimensionless
Ps	28.75	= absolute stack gas pressure, in. Hg
Ts	522.3	= average pre/post test absolute stack temperature, °R
Qs	58,373	= dscfm

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Outlet
Project No.: AST-2025-0397
Run No.: 1
Parameter: PM,CPM

Meter Pressure (Pm), in. Hg

$$Pm = Pb + \frac{\Delta H}{13.6}$$

where,

Pb	29.49	= barometric pressure, in. Hg
ΔH	1.121	= pressure differential of orifice, in H_2O
Pm	29.57	= in. Hg

Absolute Stack Gas Pressure (Ps), in. Hg

$$Ps = Pb + \frac{Pg}{13.6}$$

where,

Pb	29.49	= barometric pressure, in. Hg
Pg	-0.70	= static pressure, in. H_2O
Ps	29.44	= in. Hg

Standard Meter Volume (Vmstd), dscf

$$Vmstd = \frac{17.636 \times Y \times Vm \times Pm}{Tm}$$

where,

Y	0.995	= meter correction factor
Vm	54.400	= meter volume, cf
Pm	29.57	= absolute meter pressure, in. Hg
Tm	523.9	= absolute meter temperature, °R
Vmstd	53.882	= dscf

Standard Wet Volume (Vwstd), scf

$$Vwstd = 0.04716 \times Vlc$$

where,

Vlc	38.8	= weight of H_2O collected, g
Vwstd	1.830	= scf

Moisture Fraction (BWSsat), dimensionless (theoretical at saturated conditions)

$$BWSsat = \frac{10^{(6.37-2827/(Ts+365))}}{Ps}$$

where,

Ts	252.9	= stack temperature, °F
Ps	29.44	= absolute stack gas pressure, in. Hg
BWSsat	1.000	= dimensionless

Moisture Fraction (BWS), dimensionless (measured)

$$BWS = \frac{Vwstd}{(Vwstd + Vmstd)}$$

where,

Vwstd	1.830	= standard wet volume, scf
Vmstd	53.882	= standard meter volume, dscf
BWS	0.033	= dimensionless

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Outlet
Project No.: AST-2025-0397
Run No.: 1
Parameter: PM,CPM

Moisture Fraction (BWS), dimensionless

$$BWS = BWSmsd \text{ unless } BWSsat < BWSmsd$$

where,

BWSsat	1.000	= moisture fraction (theoretical at saturated conditions)
BWSmsd	0.033	= moisture fraction (measured)
BWS	0.033	

Molecular Weight (DRY) (Md), lb/lb-mole

$$Md = (0.44 \times \%CO_2) + (0.32 \times \%O_2) + (0.28 \times [100 - \%CO_2 - \%O_2])$$

where,

CO_2	0.6	= carbon dioxide concentration, %
O_2	20.2	= oxygen concentration, %
Md	28.90	= lb/lb mol

Molecular Weight (WET) (Ms), lb/lb-mole

$$Ms = (Md \times [1 - BWS]) + (18.015 \times BWS)$$

where,

Md	28.90	= molecular weight (DRY), lb/lb mol
BWS	0.033	= moisture fraction, dimensionless
Ms	28.55	= lb/lb mol

Average Velocity (Vs), ft/sec

$$Vs = 85.49 \times Cp \times (\Delta P^{1/2})_{avg} \times \sqrt{\frac{Ts}{Ps \times Ms}}$$

where,

Cp	0.840	= pitot tube coefficient
$\Delta P^{1/2}$	0.960	= velocity head of stack gas, $(in. H_2O)^{1/2}$
Ts	712.6	= absolute stack temperature, °R
Ps	29.44	= absolute stack gas pressure, in. Hg
Ms	28.55	= molecular weight of stack gas, lb/lb mol
Vs	63.5	= ft/sec

Average Stack Gas Flow at Stack Conditions (Qa), acfm

$$Qa = 60 \times Vs \times As$$

where,

Vs	63.5	= stack gas velocity, ft/sec
As	26.73	= cross-sectional area of stack, ft^2
Qa	101,775	= acfm

Average Stack Gas Flow at Standard Conditions (Qs), dscfm

$$Qs = \frac{17.636 \times Qa \times (1 - BWS) \times Ps}{Ts}$$

where,

Qa	101,775	= average stack gas flow at stack conditions, acfm
BWS	0.033	= moisture fraction, dimensionless
Ps	29.44	= absolute stack gas pressure, in. Hg
Ts	712.6	= absolute stack temperature, °R
Qs	71,716	= dscfm

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Outlet
Project No.: AST-2025-0397
Run No.: 1
Parameter: PM,CPM

Dry Gas Meter Calibration Check (Yqa), dimensionless

$$Yqa = \frac{Y - \left(\frac{\Theta}{Vm} \sqrt{\frac{K \times Tm \times 29}{\Delta H@ \times \left(Pb + \frac{\Delta Havg.}{13.6} \right) \times Md}} \sqrt{\Delta H}\ avg. \right)}{Y} \times 100$$

where,

Y	0.995	= meter correction factor, dimensionless
Θ	90	= run time, min.
Vm	54.4	= total meter volume, dcf
K	0.0319	= K-factor, (in. Hg/°R) * cfm^2
Tm	523.9	= absolute meter temperature, °R
ΔH@	1.756	= orifice meter calibration coefficient, in. H_2O
Pb	29.49	= barometric pressure, in. Hg
ΔH avg	1.121	= average pressure differential of orifice, in H_2O
Md	28.90	= molecular weight (DRY), lb/lb mol
$(\Delta H)^{1/2}$	1.058	= average squareroot pressure differential of orifice, $(in. H2O)^{1/2}$
Yqa	0.0	= percent

Volume of Nozzle (Vn), ft^3

$$Vn = \frac{Ts \times \left(0.002669 \times Vlc + \frac{Vm \times Pm \times Y}{Tm} \right)}{Ps}$$

where,

Ts	712.6	= absolute stack temperature, °R
Ps	29.44	= absolute stack gas pressure, in. Hg
Vlc	38.8	= volume of H_2O collected, ml
Vm	54.400	= meter volume, cf
Pm	29.57	= absolute meter pressure, in. Hg
Y	0.995	= meter correction factor, unitless
Tm	523.9	= absolute meter temperature, °R
Vn	76.461	= volume of nozzle, ft^3

Isokinetic Sampling Rate (I), %

$$I = \left(\frac{Vn}{\theta \times 60 \times An \times Vs} \right) \times 100$$

where,

Vn	76.461	= nozzle volume, ft3
θ	90.0	= run time, minutes
An	0.00022	= area of nozzle, ft^2
Vs	63.5	= average velocity, ft/sec
I	101.2	= %

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Outlet
Project No.: AST-2025-0397
Run No.: 1
Parameter: PM,CPM

Filterable PM Concentration (C_s), grain/dscf

$$C_s = \frac{M_n \times 0.0154}{Vmstd}$$

where,

Mn	1.3	= filterable PM mass, mg
Vmstd	53.882	= standard meter volume, dscf
C_s	3.7E-04	= grain/dscf

Filterable PM Emission Rate (PMR), lb/hr

$$PMR = \frac{C_s \times Qs \times 60}{7.0E+03}$$

where,

C_s	3.7E-04	= filterable PM concentration, grain/dscf
Qs	71,716	= average stack gas flow at standard conditions, dscfm
PMR	0.23	= lb/hr

Condensable PM Concentration (C_{CPM}), grain/dscf

$$C_{CPM} = \frac{M_{CPM} \times 0.0154}{Vmstd}$$

where,

M_{CPM}	4.2	= condensable PM mass, mg
Vmstd	53.882	= standard meter volume, dscf
C_{CPM}	0.0012	= grain/dscf

Condensable PM Emission Rate (ER_{CPM}), lb/hr

$$ER_{CPM} = \frac{C_{CPM} \times Qs \times 60\frac{min}{hr}}{7.0E+03}$$

where,

C_{CPM}	0.0012	= condensable PM concentration, grain/dscf
Qs	71,716	= average stack gas flow at standard conditions, dscfm
ER_{CPM}	0.74	= lb/hr

Total PM Concentration (C_{TPM}), grain/dscf

$$C_{TPM} = C_S + C_{CPM}$$

where,

C_s	3.7E-04	= filterable PM concentration, grain/dscf
C_{CPM}	0.0012	= condensable PM concentration, grain/dscf
C_{TPM}	0.0016	= grain/dscf

Total PM Emission Rate (ER_{TPM}), lb/hr

$$ER_{TPM} = PMR + ER_{CPM}$$

where,

PMR	0.23	= filterable PM emission rate, lb/hr
ER_{CPM}	0.74	= condensable PM emission rate, lb/hr
ER_{TPM}	0.97	= lb/hr

Location: Sims Metal - Sims Metal
Source: Hammermill Shredder Outlet
Project No.: AST-2025-0397
Run No.: 1
Parameter: HCl

Hydrogen Chloride Concentration (C_{HCl}), mg/dscm

$$C_{HCl} = \frac{M_{HCl} \times 35.313}{Vmstd \times 1.0E+03}$$

where,

M_{HCl}	575	= hydrogen chloride mass, ug
Vmstd	53.616	= standard meter volume, dscf
C_{HCl}	0.38	= mg/dscm

Hydrogen Chloride Concentration (C_{HClp}), ppmvd

$$C_{HClp} = \frac{M_{HCl} \times 24.04 \frac{L}{mol}}{MW \times Vmstd \times 28.32}$$

where,

M_{HCl}	575	= hydrogen chloride mass, ug
MW	36.5	= molecular weight, g/g mol
Vmstd	53.616	= standard meter volume, dscf
C_{HClp}	0.25	= ppmvd

Hydrogen Chloride Emission Rate (ER_{HCl}), lb/hr

$$ER_{HCl} = \frac{M_{HCl} \times Qs \times 60 \frac{min}{hr}}{Vmstd \times 4.54\ E+08}$$

where,

M_{HCl}	575	= hydrogen chloride mass, ug
Qs	68,669	= average stack gas flow at standard conditions, dscfm
Vmstd	53.616	= standard meter volume, dscf
ER_{HCl}	0.10	= lb/hr

Location: Sims Metal - Sims Metal
Source: Hammermill Shredder Outlet
Project No.: AST-2025-0397
Run No.: 1
Parameter: Metals

Total Arsenic Concentration, ppmvd

$$C_{As} = \frac{M_{As} \times 24.04}{MW \times Vmstd \times 28.32}$$

where,

M_{As}	9.55	= Total Arsenic Mass, ug
MW	74.922	= molecular weight
Vmstd	56.137	= standard meter volume, dscf
C_{As}	0.0019	= ppmvd

Total Arsenic Concentration, ug/dscm

$$C_{As} = \frac{M_{As} \times 35.313}{Vmstd}$$

where,

M_{As}	9.55	= Total Arsenic Mass, ug
Vmstd	56.137	= standard meter volume, dscf
C_{As}	6.0	= ug/dscm

Total Mercury Concentration, ppbvd

$$C_{Hg} = \frac{M_{Hg} \times 24.04 \times 1{,}000}{MW \times Vmstd \times 28.32}$$

where,

M_{Hg}	3.14	= Total Mercury Mass, ug
MW	200.59	= molecular weight
Vmstd	56.137	= standard meter volume, dscf
C_{Hg}	0.24	= ppmvd

Appendix B

Particulate Matter

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Emission Calculations

Location Sims Metal - Chicago, IL
Source Hammermill Shredder System Outlet
Project No. AST-2025-0397
Parameter PM,CPM

Run Number		Run 1	Run 2	Run 3	Average
Date		4/30/25	4/30/25	4/30/25	--
Start Time		9:51	12:42	15:30	--
Stop Time		11:41	14:27	17:18	--
Run Time, min	(θ)	90.0	90.0	90.0	90.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	29.49	29.49	29.49	29.49
Meter Correction Factor	(Y)	0.995	0.995	0.995	--
Orifice Calibration Value	(ΔH @)	1.756	1.756	1.756	--
Meter Volume, ft^3	(Vm)	54.400	54.700	54.220	54.440
Meter Temperature, °F	(Tm)	64.3	68.9	64.5	65.9
Meter Temperature, °R	(Tm)	523.9	528.5	524.1	525.5
Meter Orifice Pressure, in. WC	(ΔH)	1.121	1.125	1.125	1.124
Volume H_2O Collected, mL	(Vlc)	38.8	38.0	31.0	35.9
Nozzle Diameter, in	(Dn)	0.201	0.201	0.201	0.201
Area of Nozzle, ft^2	(An)	0.0002	0.0002	0.0002	0.0002
Filterable PM Mass, mg	(Mn)	1.3	1.4	0.9	1.2
Condensable PM Mass, mg	(M_{CPM})	4.2	7.5	5.1	5.6
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	53.882	53.706	53.683	53.757
Standard Water Volume, ft^3	(Vwstd)	1.830	1.792	1.462	1.695
Moisture Fraction Measured	(BWSmsd)	0.033	0.032	0.027	0.031
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.033	0.032	0.027	0.031
Meter Pressure, in Hg	(Pm)	29.57	29.57	29.57	29.57
Volume at Nozzle, ft^3	(Vn)	76.461	76.407	75.724	76.20
Isokinetic Sampling Rate, (%)	(I)	101.2	101.4	100.7	101.1
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	0.0	-0.1	-0.5	-0.2
EMISSION CALCULATIONS					
Filterable PM Concentration, grain/dscf	(C_s)	3.7E-04	4.0E-04	2.6E-04	3.4E-04
Filterable PM Emission Rate, lb/hr	(PMR)	0.23	0.25	0.16	0.21
Condensable PM Concentration, grain/dscf	(C_{CPM})	0.0012	0.0022	0.0015	0.0016
Condensable PM Emission Rate, lb/hr	(ER_{CPM})	0.74	1.32	0.90	0.99
Total PM Concentration, grain/dscf	(C_{TPM})	0.0016	0.0026	0.0017	0.0020
Total PM Emission Rate, lb/hr	(ER_{TPM})	0.97	1.6	1.1	1.2

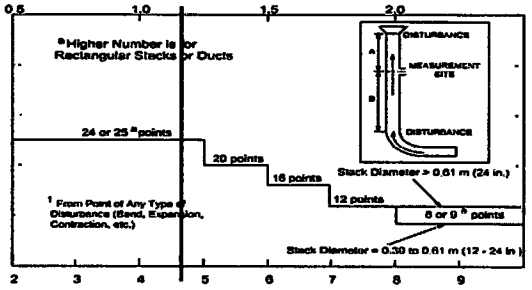
*Underlined values were below the MDL. The MDL was used for calculation purposes.

Method 1 Data

Location Sims Metal - Chicago, IL
Source Hammermill Shredder System Outlet
Project No. AST-2025-0397
Date: 04/29/25

Stack Parameters

Duct Orientation:	Vertical	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	77.00	in
Nipple Length:	7.00	in
Depth of Duct:	70.00	in
Cross Sectional Area of Duct:	26.73	ft²
No. of Test Ports:	4	
Distance A:	15.4	ft
Distance A Duct Diameters:	2.6	(must be ≥ 0.5)
Distance B:	27.1	ft
Distance B Duct Diameters:	4.6	(must be ≥ 2)
Minimum Number of Traverse Points:	24	
Actual Number of Traverse Points:	24	
Number of Readings per Point:	1	
Measurer (Initial and Date):	JRS 4/29/25	
Reviewer (Initial and Date):	LJL 4/29/25	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

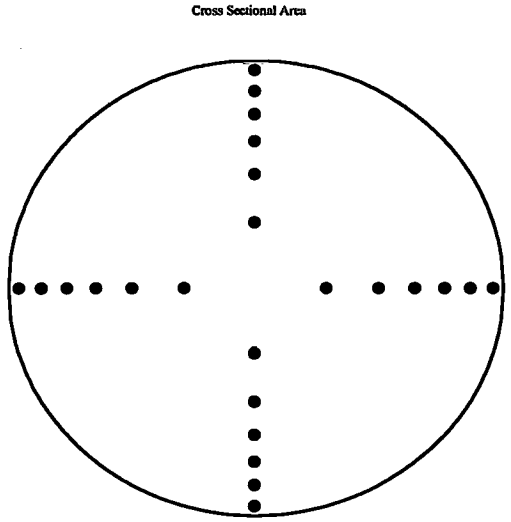
Number of traverse points on a diameter

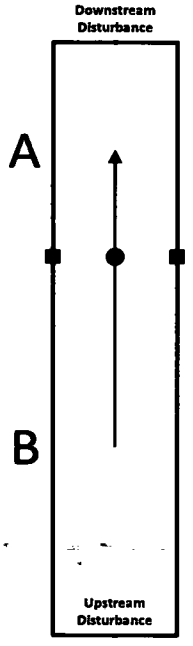
	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29 6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--	--	--	89.5	--	77.4	--	64.4
8	--	--	--	--	--	--	96.8	--	85.4	--	75.0
9	--	--	--	--	--	--	--	--	91.8	--	82.3
10	--	--	--	--	--	--	--	--	97.4	--	88.2
11	--	--	--	--	--	--	--	--	--	--	93.3
12	--	--	--	--	--	--	--	--	--	--	97.9

*Percent of stack diameter from inside wall to traverse point

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	2.1	1.47	8 1/2
2	6.7	4.69	11 11/16
3	11.8	8.26	15 1/4
4	17.7	12.39	19 3/8
5	25.0	17.50	24 1/2
6	35.6	24.92	31 15/16
7	--	--	--
8	--	--	--
9	--	--	--
10	--	--	--
11	--	--	--
12	--	--	--

Stack Diagram
A = 15.4 ft.
B = 27.1 ft.
Depth of Duct = 70 in.





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Flow Information

Location Sims Metal - Chicago, IL
Source Hammermill Shredder System Outlet
Project No. AST-2025-0397
Parameter PM,CPM

Run Number		Run 1	Run 2	Run 3	Average
Date		4/30/25	4/30/25	4/30/25	--
Start Time		9:51	12:42	15:30	--
Stop Time		11:41	14:27	17:18	--
Run Time, min		90.0	90.0	90.0	90.0
VELOCITY HEAD, in. WC					
Point 1		0.80	1.00	0.94	0.91
Point 2		0.94	0.97	0.92	0.94
Point 3		0.93	0.93	0.90	0.92
Point 4		1.00	1.00	0.88	0.96
Point 5		0.98	0.95	0.84	0.92
Point 6		0.99	0.87	0.80	0.89
Point 7		0.94	0.91	0.91	0.92
Point 8		0.84	0.96	0.95	0.92
Point 9		0.86	0.90	0.95	0.90
Point 10		0.93	0.88	0.96	0.92
Point 11		0.97	0.91	0.95	0.94
Point 12		0.95	0.82	0.93	0.90
Point 13		0.90	0.83	0.95	0.89
Point 14		0.89	0.82	0.92	0.88
Point 15		0.93	0.84	0.92	0.90
Point 16		0.92	0.91	0.88	0.90
Point 17		0.86	0.94	0.87	0.89
Point 18		0.83	0.96	0.90	0.90
Point 19		0.95	0.98	1.10	1.01
Point 20		0.94	0.94	0.86	0.91
Point 21		0.97	0.93	0.87	0.92
Point 22		1.00	0.89	0.94	0.94
Point 23		0.96	0.94	0.92	0.94
Point 24		0.85	0.87	0.89	0.87
CALCULATED DATA					
Square Root of ΔP, (in. WC)$^{1/2}$	(ΔP)	0.960	0.956	0.956	0.957
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	29.49	29.49	29.49	29.49
Static Pressure, in. WC	(Pg)	-0.70	-0.60	-0.70	-0.67
Stack Pressure, in. Hg	(Ps)	29.44	29.45	29.44	29.44
Stack Cross-sectional Area, ft^2	(As)	26.73	26.73	26.73	26.73
Stack Temperature, °F	(Ts)	252.9	255.3	253.3	253.8
Stack Temperature, °R	(Ts)	712.6	715.0	713.0	713.5
Moisture Fraction Measured	(BWSmsd)	0.033	0.032	0.027	0.031
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.033	0.032	0.027	0.031
O_2 Concentration, %	(O_2)	20.2	20.3	20.3	20.27
CO_2 Concentration, %	(CO_2)	0.60	0.50	0.50	0.53
N_2 Concentration, %	(N_2)	79.2	79.2	79.2	79.20
Molecular Weight, lb/lb-mole (dry)	(Md)	28.90	28.89	28.89	28.90
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.55	28.54	28.60	28.56
Velocity, ft/sec	(Vs)	63.5	63.3	63.2	63.3
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	101,775	101,533	101,287	101,532
At Standard Conditions, scfm	(Qsw)	74,151	73,744	73,757	73,884
At Standard Conditions, dscfm	(Qs)	71,716	71,362	71,802	71,627

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Cyclonic Flow Check

Location Sims Metal - Chicago, IL
Source Hammermill Shredder System Outlet
Project No. AST-2025-0397
Date 04/29/25

Sample Point	Angle (ΔP=0)
1	0
2	1
3	0
4	1
5	1
6	-2
7	0
8	0
9	1
10	1
11	0
12	0
13	-1
14	0
15	0
16	0
17	1
18	0
19	0
20	2
21	0
22	0
23	-1
24	0
Average	1

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Method 4 Data

Location Sims Metal - Chicago, IL
Source Hammermill Shredder System Outlet
Project No. AST-2025-0397
Parameter PM,CPM
Analysis Gravimetric

Run 1	Date:	4/30/25			
Impinger No.	1	2	3	4	Total
Contents	Empty	Empty	H2O	Silica	--
Initial Mass, g	503.9	640.1	740.8	935.6	2820.4
Final Mass, g	519.9	648.9	743.6	946.8	2859.2
Gain	16.0	8.8	2.8	11.2	38.8
Run 2	**Date:**	4/30/25			
Impinger No.	1	2	3	4	Total
Contents	Empty	Empty	H2O	Silica	--
Initial Mass, g	487.2	639.0	740.3	947.3	2813.8
Final Mass, g	497.3	649.8	742.9	961.8	2851.8
Gain	10.1	10.8	2.6	14.5	38.0
Run 3	**Date:**	4/30/25			
Impinger No.	1	2	3	4	Total
Contents	Empty	Empty	H2O	Silica	--
Initial Mass, g	506.4	644.3	797.4	946.8	2894.9
Final Mass, g	518.0	651.2	799.5	957.2	2925.9
Gain	11.6	6.9	2.1	10.4	31.0

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Isokinetic Field Data

Location:	Sims Metal - Chicago, IL			Start Time:	9:51	Source:	Hammermill Shredder System Outlet
Date:	4/30/25	Run 1	VALID	End Time:	11:41	Project No.:	AST-2025-0397	Parameter:	PM,CPM

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	2570		Est. Tm:	71	°F	26856-A	Pb:	29.49	in. Hg	Vlc (ml)
Barometric:	29.49	in. Hg	Y:	0.995		Est. Ts:	262	°F		Pg:	-0.70	in. WC	38.8
Static Press:	-0.70	in. WC	ΔH @ (in.WC):	1.756		Est. ΔP:	0.79	in. WC		O_2:	20.2	%	K-FACTOR
Stack Press:	29.44	in. Hg	Probe ID:	PR-604-1		Est. Dn:	0.233	in.		CO_2:	0.6	%	1.211
CO_2:	1.0	%	Liner Material:	glass		Target Rate:	0.75	scfm					
O_2:	20.0	%	Pitot ID:	PT-604-1		LEAK CHECK:	Pre	Mid 1	Mid 2	Mid 3	Post	Check Pt.	Initial	Final	Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.000	--	--	--	0.000	Mid 1 (cf)			--
Md:	28.96	lb/lb-mole	Nozzle ID:	SS-1-15	SS	Vacuum (in Hg):	15	--	--	--	5	Mid 2 (cf)			--
Ms:	28.74	lb/lb-mole	Nozzle Dn (in.):	0.201		Pitot Tube:	Pass	--	--	--	Pass	Mid 3 (cf)			--
												Mid-Point Leak Check Vol (cf):			--

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (fps)
					DGM Average	Stack				Probe	Filter	Imp Exit	CPM		
	Begin	End			Amb.	Amb.	Ideal	Actual		Amb.	Amb.	Amb.	Amb.		
					55	55				55	55	55	55		
A1	0.00	3.75	603.715	0.80	60	248	0.97	1.00	3	249	250	63	71	100.1	58.74
2	3.75	7.50	605.815	0.94	60	250	1.14	1.10	3	252	251	60	71	99.6	63.76
3	7.50	11.25	608.075	0.93	60	249	1.13	1.10	3	251	252	58	71	100.0	63.38
4	11.25	15.00	610.335	1.00	61	250	1.21	1.20	3	250	253	57	70	100.4	65.77
5	15.00	18.75	612.690	0.98	61	251	1.18	1.20	3	253	254	57	70	99.8	65.15
6	18.75	22.50	615.005	0.99	61	250	1.20	1.20	3	252	254	59	71	100.3	65.44
B1	22.50	26.25	617.345	0.94	62	253	1.14	1.10	3	254	253	63	72	100.7	63.90
2	26.25	30.00	619.635	0.84	63	252	1.02	1.00	3	252	252	61	71	100.4	60.36
3	30.00	33.75	621.800	0.86	63	250	1.04	1.10	3	251	250	60	71	100.3	60.99
4	33.75	37.50	623.990	0.93	64	252	1.13	1.10	3	252	251	60	69	100.3	63.51
5	37.50	41.25	626.270	0.97	64	253	1.18	1.20	3	254	252	60	69	100.7	64.91
6	41.25	45.00	628.605	0.95	65	254	1.15	1.20	3	253	253	60	69	99.7	64.28
C1	45.00	48.75	630.895	0.90	65	255	1.09	1.10	3	255	251	62	70	100.2	62.61
2	48.75	52.50	633.135	0.89	66	256	1.08	1.10	3	254	252	59	68	100.5	62.31
3	52.50	56.25	635.370	0.93	66	256	1.13	1.10	3	255	254	59	67	100.0	63.69
4	56.25	60.00	637.645	0.92	66	255	1.12	1.10	3	254	258	59	67	100.3	63.30
5	60.00	63.75	639.915	0.86	66	253	1.05	1.10	3	254	260	59	67	100.6	61.12
6	63.75	67.50	642.120	0.83	67	252	1.01	1.00	3	255	256	59	67	100.7	60.00
D1	67.50	71.25	644.295	0.95	67	254	1.16	1.20	3	256	254	62	69	100.2	64.28
2	71.25	75.00	646.605	0.94	67	257	1.14	1.10	3	253	252	59	67	100.2	64.08
3	75.00	78.75	648.900	0.97	67	256	1.18	1.20	3	252	253	58	68	100.6	65.05
4	78.75	82.50	651.240	1.00	67	255	1.22	1.20	3	255	253	58	68	99.6	66.00
5	82.50	86.25	653.595	0.96	67	254	1.17	1.20	3	254	258	58	68	100.3	64.62
6	86.25	90.00	655.920	0.85	67	255	1.03	1.00	3	254	257	59	68	100.7	60.85
	Final DGM:		658.115												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	90.0	min	54.400	ft^3	0.92	in. WC	64.3	°F	252.9	°F	3	1.121	in. WC	101.2	0.033	0.0

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Isokinetic Field Data

Location:	Sims Metal - Chicago, IL		Start Time:	12:42	Source:	Hammermill Shredder System Outlet	
Date:	4/30/25	Run 2 VALID	End Time:	14:27	Project No.:	AST-2025-0397	Parameter: PM,CPM

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	2570		Est. Tm:	64	°F	26846-A	Pb:	29.49	in. Hg	Vlc (ml)
Barometric:	29.49	in. Hg	Y:	0.995		Est. Ts:	253	°F		Pg:	-0.60	in. WC	38.0
Static Press:	-0.70	in. WC	ΔH @ (in.WC):	1.756		Est. ΔP:	0.92	in. WC		O_2:	20.3	%	K-FACTOR
Stack Press:	29.44	in. Hg	Probe ID:	PR-604-1		Est. Dn:	0.225	in.		CO_2:	0.5	%	1.21
CO_2:	1.0	%	Liner Material:	glass		Target Rate:	0.75	scfm					
O_2:	20.0	%	Pitot ID:	PT-604-1		LEAK CHECK:	Pre	Mid 1	Mid 2	Mid 3	Post	Check Pt.	Initial Final Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.000	--	--	--	0.000	Mid 1 (cf)	--
Md:	28.96	lb/lb-mole	Nozzle ID:	SS-1-15	SS	Vacuum (in Hg):	15	--	--	--	5	Mid 2 (cf)	--
Ms:	28.74	lb/lb-mole	Nozzle Dn (in.):	0.201		Pitot Tube:	Pass	--	--	--	Pass	Mid 3 (cf)	--
												Mid-Point Leak Check Vol (cf):	--

Sample Pt.	Sample Time (minutes) Begin	End	Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F) DGM Average Amb.	Stack Amb.	Orifice Press. ΔH (in. WC) Ideal	Actual	Pump Vac (in. Hg)	Gas Temperatures (°F) Probe Amb.	Filter Amb.	Imp Exit Amb.	CPM Amb.	% ISO	Vs (fps)
	--	--			--	--				--	--	--	--		
A1	0.00	3.75	659.280	1.00	66	256	1.21	1.20	4	256	255	58	72	100.1	66.05
2	3.75	7.50	661.640	0.97	66	257	1.17	1.20	4	254	255	57	72	101.7	65.09
3	7.50	11.25	664.000	0.93	66	256	1.13	1.10	4	253	251	57	72	100.0	63.69
4	11.25	15.00	666.275	1.00	67	255	1.22	1.20	4	253	254	58	72	100.5	66.00
5	15.00	18.75	668.650	0.95	67	252	1.16	1.20	4	254	256	59	73	102.0	64.19
6	18.75	22.50	671.005	0.87	67	254	1.06	1.10	4	255	256	60	73	100.4	61.52
B1	22.50	26.25	673.220	0.91	67	252	1.11	1.10	4	256	257	62	73	101.1	62.83
2	26.25	30.00	675.505	0.96	68	255	1.17	1.20	4	253	253	61	74	100.6	64.67
3	30.00	33.75	677.840	0.90	68	256	1.09	1.10	4	252	254	61	75	100.6	62.66
4	33.75	37.50	680.100	0.88	69	257	1.07	1.10	4	253	255	61	75	99.8	62.00
5	37.50	41.25	682.320	0.91	69	256	1.11	1.10	4	254	256	61	76	100.5	63.00
6	41.25	45.00	684.595	0.82	69	256	1.00	1.00	4	255	257	61	76	100.5	59.81
C1	45.00	48.75	686.755	0.83	70	255	1.02	1.00	4	254	256	62	75	100.4	60.13
2	48.75	52.50	688.930	0.82	70	255	1.00	1.00	4	254	254	62	73	100.5	59.76
3	52.50	56.25	691.095	0.84	70	254	1.03	1.00	4	253	254	59	71	101.1	60.45
4	56.25	60.00	693.300	0.91	70	254	1.11	1.10	4	254	255	58	70	100.4	62.92
5	60.00	63.75	695.580	0.94	70	255	1.15	1.20	4	254	256	58	69	100.2	63.99
6	63.75	67.50	697.890	0.96	71	256	1.17	1.20	4	255	254	58	68	99.7	64.71
D1	67.50	71.25	700.215	0.98	71	256	1.20	1.20	4	254	253	58	67	100.6	65.38
2	71.25	75.00	702.585	0.94	71	255	1.15	1.20	4	255	254	57	67	100.5	63.99
3	75.00	78.75	704.905	0.93	71	257	1.14	1.10	4	254	256	57	67	100.5	63.74
4	78.75	82.50	707.210	0.89	70	256	1.09	1.10	4	254	255	58	67	100.6	62.31
5	82.50	86.25	709.465	0.94	70	257	1.15	1.20	4	255	256	58	67	100.6	64.08
6	86.25	90.00	711.780	0.87	70	256	1.06	1.10	4	256	255	59	67	99.3	61.60
	Final DGM:		713.980												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	90.0	min	54.700	ft^3	0.91	in. WC	68.9	°F	255.3	°F	4	1.125	in. WC	101.4	0.032	-0.1

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Isokinetic Field Data

Location:	Sims Metal - Chicago, IL			Start Time:	15:30	Source:	Hammermill Shredder System Outlet
Date:	4/30/25	Run 3	VALID	End Time:	17:18	Project No.:	AST-2025-0397

Parameter: PM,CPM

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)		FILTER NO.	STACK DATA (FINAL)		MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	2570		Est. Tm:	69 °F	26812-A	Pb:	29.49 in. Hg	Vlc (ml)
Barometric:	29.49	in. Hg	Y:	0.995		Est. Ts:	255 °F		Pg:	-0.70 in. WC	31.0
Static Press:	-0.70	in. WC	ΔH @ (in.WC):	1.756		Est. ΔP:	0.91 in. WC		O_2:	20.3 %	K-FACTOR
Stack Press:	29.44	in. Hg	Probe ID:	PR-604-1		Est. Dn:	0.225 in.		CO_2:	0.5 %	1.218
CO_2:	1.0	%	Liner Material:	glass		Target Rate:	0.75 scfm			Check Pt. Initial Final Corr.	
O_2:	20.0	%	Pitot ID:	PT-604-1		LEAK CHECK:	Pre Mid 1 Mid 2 Mid 3 Post			Mid 1 (cf)	–
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.000 – – – 0.000			Mid 2 (cf)	–
Md:	28.96	lb/lb-mole	Nozzle ID:	SS-1-15	SS	Vacuum (in Hg):	15 – – – 5			Mid 3 (cf)	–
Ms:	28.74	lb/lb-mole	Nozzle Dn (in.):	0.201		Pitot Tube:	Pass – – – Pass			Mid-Point Leak Check Vol (cf):	–

Sample Pt.	Sample Time (minutes) Begin	End	Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F) DGM Average Amb.	Stack Amb.	Orifice Press. ΔH (in. WC) Ideal	Actual	Pump Vac (in. Hg)	Gas Temperatures (°F) Probe Amb.	Filter Amb.	Imp Exit Amb.	CPM Amb.	% ISO	Vs (fps)
					--	--				--	--	--	--		
A1	0.00	3.75	714.340	0.94	62	252	1.14	1.10	3	253	255	56	69	100.4	63.85
2	3.75	7.50	716.625	0.92	62	254	1.11	1.10	3	254	253	54	69	100.5	63.26
3	7.50	11.25	718.885	0.90	62	255	1.08	1.10	3	255	256	54	69	100.6	62.61
4	11.25	15.00	721.120	0.88	62	256	1.06	1.10	3	255	257	54	69	100.7	61.96
5	15.00	18.75	723.330	0.84	62	255	1.01	1.00	3	255	255	54	68	99.9	60.49
6	18.75	22.50	725.475	0.80	62	254	0.96	1.00	3	254	256	54	68	100.2	58.99
B1	22.50	26.25	727.575	0.91	63	255	1.10	1.10	3	255	256	54	68	100.1	62.96
2	26.25	30.00	729.815	0.95	63	253	1.15	1.20	3	254	255	53	68	100.2	64.24
3	30.00	33.75	732.110	0.95	63	252	1.15	1.20	3	255	254	53	68	100.4	64.19
4	33.75	37.50	734.410	0.96	64	251	1.17	1.20	3	254	256	52	68	100.2	64.48
5	37.50	41.25	736.725	0.95	64	252	1.15	1.20	3	255	257	52	68	100.4	64.19
6	41.25	45.00	739.030	0.93	64	253	1.13	1.10	3	254	257	52	68	100.4	63.56
C1	45.00	48.75	741.310	0.95	65	254	1.15	1.20	3	255	256	54	68	100.6	64.28
2	48.75	52.50	743.620	0.92	65	253	1.12	1.10	3	254	255	55	68	100.3	63.22
3	52.50	56.25	745.890	0.92	65	253	1.12	1.10	3	255	254	53	67	99.7	63.22
4	56.25	60.00	748.145	0.88	65	252	1.07	1.10	3	254	256	52	68	100.5	61.78
5	60.00	63.75	750.370	0.87	66	253	1.06	1.10	3	255	255	52	68	100.3	61.47
6	63.75	67.50	752.580	0.90	66	254	1.09	1.10	3	256	254	52	67	100.4	62.57
D1	67.50	71.25	754.830	1.10	67	255	1.34	1.30	3	256	255	54	67	99.9	69.22
2	71.25	75.00	757.305	0.86	67	251	1.05	1.10	3	255	253	52	68	100.3	61.03
3	75.00	78.75	759.510	0.87	67	252	1.06	1.10	3	254	254	52	68	100.4	61.43
4	78.75	82.50	761.730	0.94	67	254	1.14	1.20	3	255	257	51	67	100.3	63.94
5	82.50	86.25	764.030	0.92	67	255	1.12	1.10	3	255	256	52	68	100.5	63.30
6	86.25	90.00	766.310	0.89	67	251	1.09	1.10	3	256	255	52	67	100.6	62.09
	Final DGM:		768.560												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	V_{ss}
	90.0	min	54.220	ft^3	0.91	in. WC	64.5	°F	253.3	°F	3	1.125	in. WC	100.7	0.027	-0.5

Hydrogen Chloride

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Emission Calculations

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Parameter HCl

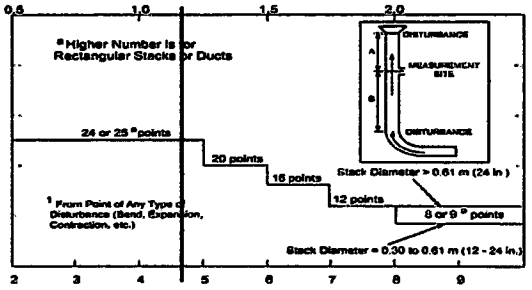
Run Number		Run 1	Run 2	Run 3	Average
Date		4/30/25	4/30/25	4/30/25	--
Start Time		9:51	12:42	15:30	--
Stop Time		11:41	14:27	17:18	--
Run Time, min	(θ)	90.0	90.0	90.0	90.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	29.49	29.49	29.49	29.49
Meter Correction Factor	(Y)	1.019	1.019	1.019	--
Orifice Calibration Value	(ΔH @)	1.854	1.854	1.854	--
Meter Volume, ft^3	(Vm)	52.400	52.575	53.375	52.783
Meter Temperature, °F	(Tm)	59.8	65.4	62.6	62.6
Meter Temperature, °R	(Tm)	519.4	525.1	522.3	522.3
Meter Orifice Pressure, in. WC	(ΔH)	1.142	1.138	1.167	1.149
Volume H_2O Collected, mL	(Vlc)	35.5	34.6	29.3	33.1
Nozzle Diameter, in	(Dn)	0.205	0.205	0.205	0.205
Area of Nozzle, ft^2	(An)	0.0002	0.0002	0.0002	0.0002
Hydrogen Chloride Mass, ug	(M_{HCl})	574.86	435.05	583.72	531.21
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	53.616	53.214	54.321	53.717
Standard Water Volume, ft^3	(Vwstd)	1.674	1.632	1.382	1.563
Moisture Fraction Measured	(BWSmsd)	0.030	0.030	0.025	0.028
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.030	0.030	0.025	0.028
Meter Pressure, in Hg	(Pm)	29.57	29.57	29.58	29.57
Volume at Nozzle, ft^3	(Vn)	75.649	75.405	76.809	75.95
Isokinetic Sampling Rate, (%)	(I)	101.1	101.2	100.9	101.1
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	0.9	0.8	1.3	1.0
EMISSION CALCULATIONS					
Hydrogen Chloride Concentration, mg/dscm	(C_{HCl})	0.38	0.29	0.38	0.35
Hydrogen Chloride Concentration, ppmvd	(C_{HClp})	0.25	0.19	0.25	0.23
Hydrogen Chloride Emission Rate, lb/hr	(ER_{HCl})	0.10	0.07	0.10	0.09

Method 1 Data

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Date: 04/30/25

Stack Parameters

Duct Orientation:	Vertical	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	77.00	in
Nipple Length:	7.00	in
Depth of Duct:	70.00	in
Cross Sectional Area of Duct:	26.73	ft²
No. of Test Ports:	4	
Distance A:	15.4	ft
Distance A Duct Diameters:	2.6	(must be ≥ 0.5)
Distance B:	27.1	ft
Distance B Duct Diameters:	4.6	(must be ≥ 2)
Minimum Number of Traverse Points:	24	
Actual Number of Traverse Points:	24	
Number of Readings per Point:	1	
Measurer (Initial and Date):	JRS 4/29/25	
Reviewer (Initial and Date):	LJL 4/29/25	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

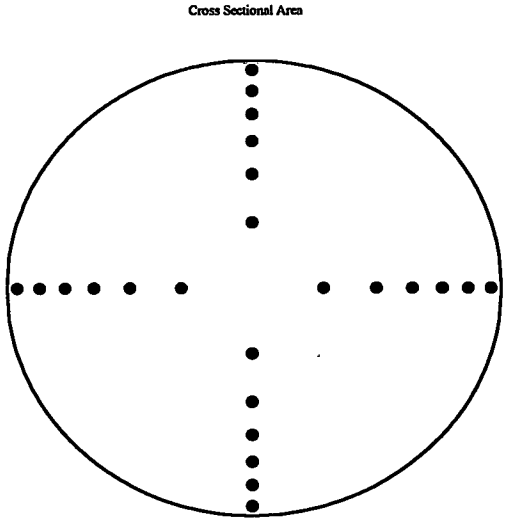
Number of traverse points on a diameter

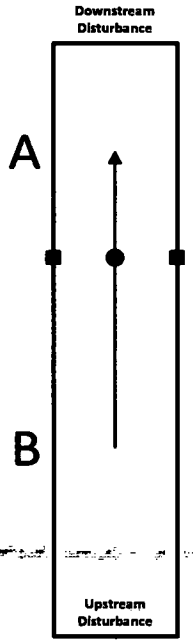
	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--	--	--	89.5	--	77.4	--	64.4
8	--	--	--	--	--	--	96.8	--	85.4	--	75.0
9	--	--	--	--	--	--	--	--	91.8	--	82.3
10	--	--	--	--	--	--	--	--	97.4	--	88.2
11	--	--	--	--	--	--	--	--	--	--	93.3
12	--	--	--	--	--	--	--	--	--	--	97.9

*Percent of stack diameter from inside wall to traverse point

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	2.1	1.47	8 1/2
2	6.7	4.69	11 11/16
3	11.8	8.26	15 1/4
4	17.7	12.39	19 3/8
5	25.0	17.50	24 1/2
6	35.6	24.92	31 15/16
7	--	--	--
8	--	--	--
9	--	--	--
10	--	--	--
11	--	--	--
12	--	--	--

Stack Diagram
A = 15.4 ft.
B = 27.1 ft.
Depth of Duct = 70 in.





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Flow Information

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Parameter HCl

Run Number		Run 1	Run 2	Run 3	Average
Date		4/30/25	4/30/25	4/30/25	--
Start Time		9:51	12:42	15:30	--
Stop Time		11:41	14:27	17:18	--
Run Time, min		90.0	90.0	90.0	90.0
VELOCITY HEAD, in. WC					
Point 1		0.86	0.76	0.84	0.82
Point 2		0.79	0.77	0.83	0.80
Point 3		0.77	0.80	0.88	0.82
Point 4		0.79	0.79	0.87	0.82
Point 5		0.81	0.79	0.88	0.83
Point 6		0.80	0.82	0.86	0.83
Point 7		0.86	0.83	0.87	0.85
Point 8		0.91	0.79	0.87	0.86
Point 9		0.88	0.80	0.85	0.84
Point 10		0.88	0.80	0.86	0.85
Point 11		0.87	0.78	0.88	0.84
Point 12		0.86	0.77	0.85	0.83
Point 13		0.85	0.84	0.87	0.85
Point 14		0.86	0.88	0.88	0.87
Point 15		0.86	0.88	0.90	0.88
Point 16		0.85	0.86	0.86	0.86
Point 17		0.86	0.87	0.86	0.86
Point 18		0.85	0.87	0.88	0.87
Point 19		0.80	0.85	0.91	0.85
Point 20		0.79	0.86	0.88	0.84
Point 21		0.82	0.86	0.85	0.84
Point 22		0.82	0.85	0.85	0.84
Point 23		0.84	0.87	0.79	0.83
Point 24		0.85	0.89	0.84	0.86
CALCULATED DATA					
Square Root of ΔP, $(\text{in. WC})^{1/2}$	(ΔP)	0.916	0.910	0.929	0.918
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	29.49	29.49	29.49	29.49
Static Pressure, in. WC	(Pg)	-0.75	-0.72	-0.80	-0.76
Stack Pressure, in. Hg	(Ps)	29.43	29.44	29.43	29.43
Stack Cross-sectional Area, ft^2	(As)	26.73	26.73	26.73	26.73
Stack Temperature, °F	(Ts)	250.6	254.1	256.1	253.6
Stack Temperature, °R	(Ts)	710.3	713.8	715.8	713.3
Moisture Fraction Measured	(BWSmsd)	0.030	0.030	0.025	0.028
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.030	0.030	0.025	0.028
O_2 Concentration, %	(O_2)	20.2	20.3	20.3	20.27
CO_2 Concentration, %	(CO_2)	0.60	0.50	0.50	0.53
N_2 Concentration, %	(N_2)	79.2	79.2	79.2	79.20
Molecular Weight, lb/lb-mole (dry)	(Md)	28.90	28.89	28.89	28.90
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.57	28.57	28.62	28.59
Velocity, ft/sec	(Vs)	60.4	60.2	61.5	60.7
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	96,893	96,525	98,591	97,336
At Standard Conditions, scfm	(Qsw)	70,813	70,204	71,496	70,838
At Standard Conditions, dscfm	(Qs)	68,669	68,115	69,723	68,836

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Cyclonic Flow Check

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Date 04/29/25

Sample Point	Angle (ΔP=0)
1	0
2	1
3	0
4	1
5	1
6	-2
7	0
8	0
9	1
10	1
11	0
12	0
13	-1
14	0
15	0
16	0
17	1
18	0
19	0
20	2
21	0
22	0
23	-1
24	0
Average	1

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Method 4 Data

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Parameter HCl
Analysis Gravimetric

Run 1	Date:	4/30/25			
Impinger No.	1	2	3	4	Total
Contents	H2SO4	H2SO4	Empty	Silica	--
Initial Mass, g	763.4	738.4	622.4	970.0	3094.2
Final Mass, g	774.4	748.5	625.5	981.3	3129.7
Gain	11.0	10.1	3.1	11.3	35.5
Run 2	**Date:**	4/30/25			
Impinger No.	1	2	3	4	Total
Contents	H2SO4	H2SO4	Empty	Silica	--
Initial Mass, g	718.6	749.2	635.5	949.3	3052.6
Final Mass, g	726.2	762.9	638.4	959.7	3087.2
Gain	7.6	13.7	2.9	10.4	34.6
Run 3	**Date:**	4/30/25			
Impinger No.	1	2	3	4	Total
Contents	H2SO4	H2SO4	Empty	Silica	--
Initial Mass, g	767.5	747.2	625.9	981.3	3121.9
Final Mass, g	776.5	755.5	629.3	989.9	3151.2
Gain	9.0	8.3	3.4	8.6	29.3

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Isokinetic Field Data

Location:	Sims Metal - Sims Metal		Start Time:	9:51	Source:	Hammermill Shredder Outlet	
Date:	4/30/25	Run 1 VALID	End Time:	11:41	Project No.:	AST-2025-0397	Parameter: HCl

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)		MOIST. DATA
Moisture:	3.0	% est.	Meter Box ID:	2716		Est. Tm:	65	°F		Pb:	29.49 in. Hg	Vlc (ml)
Barometric:	29.49	in. Hg	Y:	1.019		Est. Ts:	262	°F		Pg:	-0.75 in. WC	35.5
Static Press:	-0.70	in. WC	ΔH @ (in.WC):	1.854		Est. ΔP:	0.79	in. WC		O_2:	20.2 %	K-FACTOR
Stack Press:	29.44	in. Hg	Probe ID:	PR-604-4		Est. Dn:	0.236	in.		CO_2:	0.6 %	1.345
CO_2:	1.0	%	Liner Material:	glass		Target Rate:	0.75	scfm			Check Pt. Initial Final Corr.	
O_2:	20.0	%	Pitot ID:	PR-604-4		LEAK CHECK:	Pre	Mid 1	Mid 2 Mid 3	Post	Mid 1 (cf)	–
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.000	–	– –	0.000	Mid 2 (cf)	–
Md:	28.96	lb/lb-mole	Nozzle ID:	G-2-21	glass	Vacuum (in Hg):	10	–	– –	1	Mid 3 (cf)	–
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.205		Pitot Tube:	Pass	–	– –	Pass	Mid-Point Leak Check Vol (cf):	–

Sample Pt.	Sample Time (minutes) Begin	End	Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (In WC)	Gas Temperatures (°F) DGM Average Amb.	Stack Amb.	Orifice Press. ΔH (in. WC) Ideal	Actual	Pump Vac (in. Hg)	Gas Temperatures (°F) Probe Amb.	Filter Amb.	Imp Exit Amb.	NA Amb.	% ISO	Vs (fps)
C1	0.00	3.75	431.820	0.86	56	250	1.16	1.10	1	261	264	60	-	102.8	61.11
2	3.75	7.50	434.050	0.79	57	248	1.07	1.10	1	260	260	60	-	100.9	58.49
3	7.50	11.25	436.155	0.77	57	251	1.04	1.00	1	260	260	60	-	100.7	57.86
4	11.25	15.00	438.225	0.79	57	251	1.06	1.10	1	260	260	61	-	102.0	58.61
5	15.00	18.75	440.350	0.81	57	251	1.09	1.10	1	261	260	61	-	102.2	59.35
6	18.75	22.50	442.505	0.80	57	250	1.08	1.10	1	259	260	61	-	100.6	58.94
D1	22.50	26.25	444.615	0.86	59	249	1.17	1.20	1	260	260	59	-	101.2	61.06
2	26.25	30.00	446.825	0.91	59	249	1.23	1.20	1	260	260	59	-	101.1	62.81
3	30.00	33.75	449.095	0.88	59	250	1.19	1.20	1	260	260	58	-	100.6	61.81
4	33.75	37.50	451.315	0.88	59	251	1.19	1.20	1	261	261	55	-	101.8	61.86
5	37.50	41.25	453.560	0.87	59	251	1.18	1.20	1	261	260	54	-	101.4	61.50
6	41.25	45.00	455.785	0.86	59	251	1.16	1.20	1	262	259	54	-	101.3	61.15
A1	45.00	48.75	457.995	0.85	61	249	1.16	1.20	1	260	260	56	-	100.9	60.71
2	48.75	52.50	460.195	0.86	60	251	1.17	1.20	1	260	261	56	-	101.6	61.15
3	52.50	56.25	462.415	0.86	60	251	1.17	1.20	1	261	261	56	-	101.1	61.15
4	56.25	60.00	464.625	0.85	60	252	1.15	1.10	1	260	262	56	-	100.9	60.84
5	60.00	63.75	466.815	0.86	61	251	1.17	1.20	1	260	262	56	-	101.0	61.15
6	63.75	67.50	469.025	0.85	61	254	1.15	1.10	1	259	260	56	-	100.8	60.92
B1	67.50	71.25	471.215	0.80	62	253	1.09	1.10	1	260	259	58	-	101.0	59.06
2	71.25	75.00	473.350	0.79	62	250	1.08	1.10	1	260	262	57	-	100.8	58.57
3	75.00	78.75	475.470	0.82	63	250	1.12	1.10	1	261	262	57	-	101.5	59.67
4	78.75	82.50	477.650	0.82	63	251	1.12	1.10	1	261	261	57	-	100.9	59.71
5	82.50	86.25	479.815	0.84	63	251	1.15	1.10	1	260	261	56	-	102.2	60.44
6	86.25	90.00	482.035	0.85	63	250	1.16	1.20	1	259	260	56	-	99.9	60.75
	Final DGM:		484.220												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	90.0	min	52.400	ft^3	0.84	in. WC	59.8	°F	250.6	°F	1	1.142	in. WC	101.1	0.030	0.9

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Isokinetic Field Data

Location:	Sims Metal - Sims Metal			Start Time:	12:42	Source:	Hammermill Shredder Outlet
Date:	4/30/25	Run 2	VALID	End Time:	14:27	Project No.:	AST-2025-0397	Parameter:	HCl

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)		MOIST. DATA
Moisture:	3.0	% est.	Meter Box ID:	2716		Est. Tm:	60	°F		Pb:	29.49	in. Hg	Vlc (ml)
Barometric:	29.49	in. Hg	Y:	1.019		Est. Ts:	251	°F		Pg:	-0.72	in. WC	34.6
Static Press:	-0.70	in. WC	ΔH @ (in.WC):	1.854		Est. ΔP:	0.84	in. WC		O_2:	20.3	%	K-FACTOR
Stack Press:	29.44	in. Hg	Probe ID:	PR-604-4		Est. Dn:	0.232	in.		CO_2:	0.5	%	1.35
CO_2:	1.0	%	Liner Material:	glass		Target Rate:	0.75	scfm				Check Pt.	Initial	Final	Corr.
O_2:	20.0	%	Pitot ID:	PR-604-4		LEAK CHECK:	Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)			–
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.000	–	–	–	0.000	Mid 2 (cf)			–
Md:	28.96	lb/lb-mole	Nozzle ID:	G-2-21	glass	Vacuum (in Hg):	10	–	–	–	1	Mid 3 (cf)			–
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.205		Pitot Tube:	Pass	–	–	–	Pass	Mid-Point Leak Check Vol (cf):			–

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (fps)
					DGM Average	Stack				Probe	Filter	Imp Exit	NA		
	Begin	End			Amb.	Amb.	Ideal	Actual		Amb.	Amb.	Amb.	Amb.		
					–	–				–	–	–	–		
C1	0.00	3.75	484.500	0.76	63	254	1.03	1.00	1	260	260	53	-	101.6	57.61
2	3.75	7.50	486.595	0.77	63	254	1.05	1.00	1	261	260	52	-	100.9	57.98
3	7.50	11.25	488.690	0.80	63	255	1.08	1.10	1	261	260	52	-	101.5	59.14
4	11.25	15.00	490.835	0.79	63	256	1.07	1.10	1	261	261	52	-	100.7	58.81
5	15.00	18.75	492.950	0.79	63	258	1.07	1.10	1	260	261	51	-	101.1	58.90
6	18.75	22.50	495.070	0.82	64	253	1.12	1.10	1	262	260	50	-	99.9	59.80
D1	22.50	26.25	497.215	0.83	64	249	1.14	1.10	1	263	260	53	-	101 5	59.99
2	26.25	30.00	499.415	0.79	64	251	1.08	1.10	1	261	260	53	-	102.1	58.61
3	30.00	33.75	501.570	0.80	64	251	1.09	1.10	1	261	260	54	-	101.9	58.98
4	33.75	37.50	503.735	0.80	64	250	1.09	1.10	1	261	260	55	-	102.6	58.94
5	37.50	41.25	505.915	0.78	64	250	1.07	1.10	1	260	261	55	-	101.2	58.20
6	41.25	45.00	508.040	0.77	65	251	1.05	1.10	1	262	261	56	-	101.8	57.86
A1	45.00	48.75	510.165	0.84	66	255	1.15	1.10	1	260	261	54	-	100.7	60.61
2	48.75	52.50	512.360	0.88	66	255	1.20	1.20	1	260	261	54	-	101.6	62.03
3	52.50	56.25	514.625	0.88	66	255	1.20	1.20	1	260	261	55	-	100.9	62.03
4	56.25	60.00	516.875	0.86	66	254	1.17	1.20	1	259	261	55	-	102.0	61.28
5	60.00	63.75	519.125	0.87	67	254	1.19	1.20	1	260	261	53	-	101.2	61.63
6	63.75	67.50	521.375	0.87	68	256	1.19	1.20	1	261	261	52	-	102.1	61.72
B1	67.50	71.25	523.645	0.85	68	255	1.16	1.20	1	260	261	50	-	101.2	60.96
2	71.25	75.00	525.870	0.86	68	256	1.17	1.20	1	261	261	50	-	101.1	61.37
3	75.00	78.75	528.105	0.86	68	256	1.17	1.20	1	261	260	51	-	101.3	61.37
4	78.75	82.50	530.345	0.85	68	256	1.16	1.20	1	260	259	51	-	100.6	61.01
5	82.50	86.25	532.555	0.87	68	257	1.19	1.20	1	260	259	51	-	100.8	61.76
6	86.25	90.00	534.795	0.89	67	258	1.21	1.20	1	261	260	50	-	101.7	62.51
	Final DGM:		537.075												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	90.0	min	52.575	ft^3	0.83	in. WC	65.4	°F	254.1	°F	1	1.138	in. WC	101.2	0.030	0.8

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Isokinetic Field Data

Location:	Sims Metal - Sims Metal			Start Time:	15:30	Source:	Hammermill Shredder Outlet
Date:	4/30/25	Run 3	VALID	End Time:	17:18	Project No.:	AST-2025-0397	Parameter:	HCl

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)		MOIST. DATA
Moisture:	3.0	% est.	Meter Box ID:	2716		Est. Tm:	65	°F		Pb:	29.49	in. Hg	Vlc (ml)
Barometric:	29.49	in. Hg	Y:	1.019		Est. Ts:	254	°F		Pg:	-0.80	in. WC	29.3
Static Press:	-0.70	in. WC	ΔH @ (in.WC):	1.854		Est. ΔP:	0.83	in. WC		O_2:	20.3	%	K-FACTOR
Stack Press:	29.44	in. Hg	Probe ID:	PR-604-4		Est. Dn:	0.232	in.		CO_2:	0.5	%	1.361
CO_2:	1.0	%	Liner Material:	glass		Target Rate:	0.75	scfm					
O_2:	20.0	%	Pitot ID:	PR-604-4		LEAK CHECK!	Pre	Mid 1	Mid 2	Mid 3	Post		
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.000	--	--	--	0.000		
Md:	28.96	lb/lb-mole	Nozzle ID:	G-2-21	glass	Vacuum (in Hg):	10	--	--	--	1		
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.205		Pitot Tube:	Pass	--	--	--	Pass		

	Check Pt.	Initial	Final	Corr.
Mid 1 (cf)				--
Mid 2 (cf)				--
Mid 3 (cf)				--
Mid-Point Leak Check Vol (cf):				--

Sample Pt.	Sample Time (minutes) Begin	End	Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F) DGM Average Amb.	Stack Amb.	Orifice Press. ΔH (in. WC) Ideal	Actual	Pump Vac (in. Hg)	Gas Temperatures (°F) Probe Amb.	Filter Amb.	Imp Exit Amb.	NA Amb.	% ISO	Vs (fps)
					--	--				--	--	--	--		
C1	0.00	3.75	537.350	0.84	59	254	1.13	1.10	1	261	260	51	-	102.0	60.56
2	3.75	7.50	539.545	0.83	59	255	1.12	1.10	1	261	260	51	-	101.1	60.24
3	7.50	11.25	541.705	0.88	59	255	1.18	1.20	1	261	260	50	-	101.1	62.03
4	11.25	15.00	543.930	0.87	59	256	1.17	1.20	1	262	260	49	-	101.6	61.72
5	15.00	18.75	546.150	0.88	60	257	1.18	1.20	1	262	260	49	-	101.5	62.12
6	18.75	22.50	548.385	0.86	61	257	1.16	1.20	1	260	260	49	-	100.5	61.41
D1	22.50	26.25	550.575	0.87	62	255	1.18	1.20	1	261	260	50	-	100.9	61.68
2	26.25	30.00	552.795	0.87	62	255	1.18	1.20	1	261	260	50	-	101.8	61.68
3	30.00	33.75	555.035	0.85	62	259	1.14	1.10	1	261	260	51	-	100.5	61.14
4	33.75	37.50	557.215	0.86	62	258	1.16	1.20	1	261	260	51	-	101.3	61.45
5	37.50	41.25	559.425	0.88	63	257	1.19	1.20	1	262	260	51	-	102.5	62.12
6	41.25	45.00	561.695	0.85	64	257	1.15	1.10	1	260	261	50	-	101.8	61.05
A1	45.00	48.75	563.915	0.87	64	255	1.18	1.20	1	261	262	50	-	101.0	61.68
2	48.75	52.50	566.145	0.88	64	256	1.19	1.20	1	261	260	50	-	103.2	62.07
3	52.50	56.25	568.435	0.90	64	256	1.22	1.20	1	261	260	50	-	100.9	62.78
4	56.25	60.00	570.700	0.86	65	257	1.17	1.20	1	261	260	51	-	101.3	61.41
5	60.00	63.75	572.925	0.86	65	257	1.17	1.20	1	260	260	51	-	102.0	61.41
6	63.75	67.50	575.165	0.88	65	254	1.20	1.20	1	260	260	51	-	100.6	61.99
B1	67.50	71.25	577.405	0.91	64	255	1.24	1.20	1	261	260	51	-	102.3	63.08
2	71.25	75.00	579.715	0.88	64	254	1.20	1.20	1	261	260	51	-	101.7	61.99
3	75.00	78.75	581.975	0.85	64	257	1.15	1.10	1	261	260	51	-	101.8	61.05
4	78.75	82.50	584.195	0.85	64	257	1.15	1.10	1	261	260	52	-	101.6	61.05
5	82.50	86.25	586.410	0.79	64	257	1.07	1.10	1	260	260	52	-	101.6	58.86
6	86.25	90.00	588.545	0.84	63	256	1.14	1.10	1	261	260	53	-	100.7	60.65
	Final DGM:		590.725												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	90.0	min	53.375	ft^3	0.86	in. WC	62.6	°F	256.1	°F	1	1.167	in. WC	100.9	0.025	1.3

Visible Emissions

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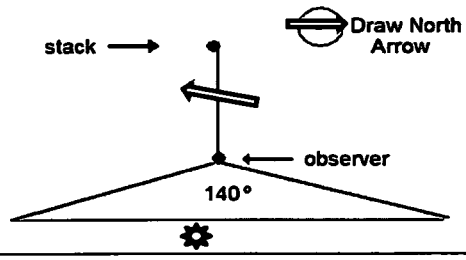
Visible Emissions Evaluations

Project No.	AST-2025-0397
Facility Name	Sims Metal
Facility Location	Chicago, IL
Date	4/30/25
Observation No.	1
Source of Emissions	Hammermill Shredder System (Outlet)
Stack Height	100 ft
Distance from Source	200 ft
Direction from Source	E

	Start	*End*
Time	9:51	10:51
Wind Direction (From)	N	N
Wind Speed	6 mph	6 mph
Ambient Temperature	52 °F	53 °F
Sky Conditions	Overcast	Overcast
Color of Background	blue	blue
Plume Color	White	White
Steam Plume? (y/n)	NA	NA
Attached to Stack? (y/n)	NA	NA

Picture

Draw the symbols in the diagram below.
Legend:
Sun: Wind: North Direction:
plume and stack



The highest six (6) minute rolling average was 0.0
Rolling Average > 20% 0
Rolling Average > 40% 0

Observations

min	0	15	30	45	min	0	15	30	45
0	0	0	0	0	30	0	0	0	0
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0

Additional Comments

Limits: 30%

Observer's Name Jonathon Stroyan
Observer's Signature
Certification Agency Opaque Smoke School
Certification Dates 9/19/22 *Lecture* 3/20/25 *Field*

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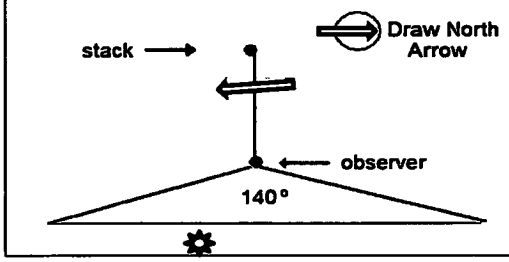
Visible Emissions Evaluations

Project No.	AST-2025-0397
Facility Name	Sims Metal
Facility Location	Chicago, IL
Date	4/30/25
Observation No.	2
Source of Emissions	Hammermill Shredder System (Outlet)
Stack Height	100 ft
Distance from Source	200 ft
Direction from Source	E

	Start	*End*
Time	12:42	13:42
Wind Direction (From)	N	N
Wind Speed	6 mph	7 mph
Ambient Temperature	54 °F	57 °F
Sky Conditions	Overcast	Overcast
Color of Background	blue	blue
Plume Color	White	White
Steam Plume? (y/n)	NA	NA
Attached to Stack? (y/n)	NA	NA

Draw the symbols in the diagram below.
Legend:
Sun: ✸ Wind: ⟹ North Direction: ⟹



The highest six (6) minute rolling average was 0.0
Rolling Average > 20% 0
Rolling Average > 40% 0

Observations

min	0	15	30	45	min	0	15	30	45
0	0	0	0	0	30	0	0	0	0
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0

Additional Comments

Limits: 30%

Observer's Name Jonathon Stroyan
Observer's Signature
Certification Agency Opaque Smoke School
Certification Dates 9/19/22 *Lecture* 3/20/25 *Field*

Alliance TECHNICAL GROUP

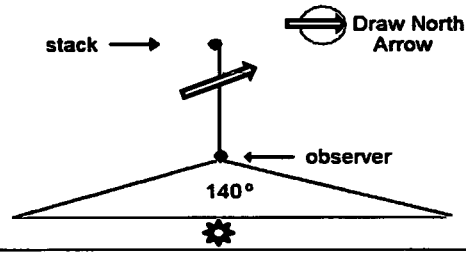
Visible Emissions Evaluations

Project No.	AST-2025-0397
Facility Name	Sims Metal
Facility Location	Chicago, IL
Date	4/30/25
Observation No.	3
Source of Emissions	Hammermill Shredder System (Outlet)
Stack Height	100 ft
Distance from Source	200 ft
Direction from Source	E

	Start	End
Time	15:30	16:30
Wind Direction (From)	S	S
Wind Speed	7 mph	6 mph
Ambient Temperature	54 °F	53 °F
Sky Conditions	Overcast	Overcast
Color of Background	blue	blue
Plume Color	White	White
Steam Plume? (y/n)	NA	NA
Attached to Stack? (y/n)	NA	NA

Draw the symbols in the diagram below.
Legend:
Sun: ✸ Wind: ➡ North Direction: ⟹

plume and stack



The highest six (6) minute rolling average was	0.0
Rolling Average > 20%	0
Rolling Average > 40%	0

Observations

min	0	15	30	45	min	0	15	30	45
0	0	0	0	0	30	0	0	0	0
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0

Additional Comments

Limits: 30%

Observer's Name Jonathon Stroyan

Observer's Signature

Certification Agency Opaque Smoke School

Certification Dates 9/19/22 (Lecture) 3/20/25 (Field)

VISIBLE EMISSIONS EVALUATOR

This is to certify that:

Jonathon Stroyan - ID 568

Met the specifications of Federal Reference Method 9 (40 CFR part 60, Appendix A, Method 9) and qualified as a visible emissions evaluator.

Maximum deviation on white and black smoke did not exceed 7.5 opacity and no single error exceeding 15% opacity incurred during the certification test conducted by Opaque Smoke School Inc of OPKS

All Sources	Muscatine	03-20-2025	19280
Source Types		Certification Date	Certificate Number

William P. Stevenson

President and Owner

VISIBLE EMISSION LECTURE

THIS CERTIFIES THAT

JONATHON STROYAN

has completed the classroom exercises for Visible Emission Training. The Lecture Program is compliant with the requirements of 40 CFR Part 60, Appendix A, Reference Method 9

2022-09-19
Cedar Falls

William P. Stevenson

Owner/President

OPAQUE SMOKE SCHOOL

Stroyan2022-09-19-104

Certificate Number

Gases and Volatile Organic Materials

Alliance TECHNICAL GROUP

Emissions Calculations

Location Sims Metal - Chicago, IL
Source Hammermill Shredder System (Inlet and Outlet)
Project No. AST-2025-0397

Run Number		Run 1	Run 2	Run 3	Average
Date		4/30/25	4/30/25	4/30/25	--
Start Time		9:51	12:42	15:49	--
Stop Time		11:20	14:11	17:18	--
Input Data - Inlet					
Moisture Fraction, dimensionless	BWSI	0.019	0.019	0.019	0.019
Volumetric Flow Rate (M1-4), dscfm	QsI	58,373	58,901	58,416	58,563
Input Data - Outlet					
Moisture Fraction, dimensionless	BWS	0.033	0.032	0.027	0.031
Volumetric Flow Rate (M1-4), dscfm	Qs	71,716	71,362	71,802	71,627
Calculated Data - Inlet					
THCi (as C_3H_8) Concentration, ppmvd	C_{THCi}	104.6	83.7	115.1	101.1
THCi (as C_3H_8) Concentration, ppmvw	C_{THCiw}	102.6	81.2	112.9	98.9
THCi (as C_3H_8) Emission Rate, lb/hr	ER_{THCi}	41.9	33.9	46.2	40.7
Calculated Data - Outlet					
O_2 Concentration, % dry	C_{O_2}	20.2	20.3	20.3	20.3
CO_2 Concentration, % dry	C_{CO_2}	0.60	0.50	0.50	0.53
CO Concentration, ppmvd	C_{CO}	19.8	18.5	22.1	20.1
CO Emission Rate, lb/hr	ER_{CO}	6.2	5.8	6.9	6.3
NOx Concentration, ppmvd	C_{NOx}	4.6	4.5	5.2	4.8
NOx Emission Rate, lb/hr	ER_{NOx}	2.4	2.3	2.7	2.4
SO_2 Concentration, ppmvd	C_{SO_2}	0.40	0.40	0.00	0.27
SO_2 Emission Rate, lb/hr	ER_{SO_2}	0.29	0.28	0.00	0.19
THC (as C_3H_8) Concentration, ppmvd	C_{THC}	7.6	6.6	7.4	7.2
THC (as C_3H_8) Concentration, ppmvw	C_{THCw}	7.4	6.4	7.2	7.0
THC (as C_3H_8) Emission Rate, lb/hr	ER_{THC}	3.8	3.2	3.7	3.6
VOC Calculated Data - Outlet					
CH4 Concentration, ppmvd	C_{CH4}	13.9	13.2	14.9	14.0
CH4 Concentration (as C_3H_8), ppmvd	$C_{CH4\ as\ propane}$	4.6	4.4	5.0	4.7
CH4 Emission Rate, lb/hr	ER_{CH4}	2.5	2.4	2.7	2.5
C2H6 Concentration, ppmvd	C_{C2H6}	1.0	1.0	1.0	1.00
C2H6 Concentration (as C_3H_8), ppmvd	$C_{C2H6\ as\ propane}$	0.67	0.67	0.67	0.67
C2H6 Emission Rate, lb/hr	ER_{C2H6}	0.34	0.33	0.34	0.34
NMEHC (as C_3H_8) Concentration, ppmvd	C_{NMEHC}	2.3	1.5	1.8	1.9
NMEHC (as C_3H_8) Emission Rate, lb/hr	ER_{NMEHC}	1.15	0.75	0.88	0.93
Reduction Efficiency Data					
THCi (as C_3H_8) Emission Rate, lb/hr	$ER_{THCi\ (as\ C_3H_8)}$	41.9	33.9	46.2	40.7
THC (as C_3H_8) Emission Rate, lb/hr	$ER_{THC\ (as\ C_3H_8)}$	3.8	3.2	3.7	3.6
THC (as C_3H_8) Reduction Efficiency, %	$RE_{THC\ (as\ C_3H_8)}$	91.0	90.5	92.1	91.2

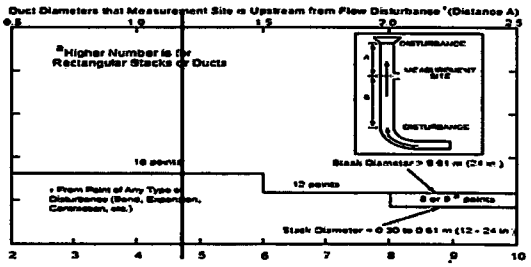
*Underlined values were below the MDL. The MDL was used for calculation purposes.

Method 1 Data

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Outlet
Project No.: AST-2025-0397
Date: 04/29/25

Stack Parameters

Duct Orientation:	Vertical	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	77.00	in
Nipple Length:	7.00	in
Depth of Duct:	70.00	in
Cross Sectional Area of Duct:	26.73	ft^2
No. of Test Ports:	4	
Number of Readings per Point:	1	
Distance A:	15.4	ft
Distance A Duct Diameters:	2.6	(must be ≥ 0.5)
Distance B:	27.1	ft
Distance B Duct Diameters:	4.6	(must be ≥ 2)
Actual Number of Traverse Points:	1	
Measurer (Initial and Date):	JRS 4/29/25	
Reviewer (Initial and Date):	LJL 4/29/25	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

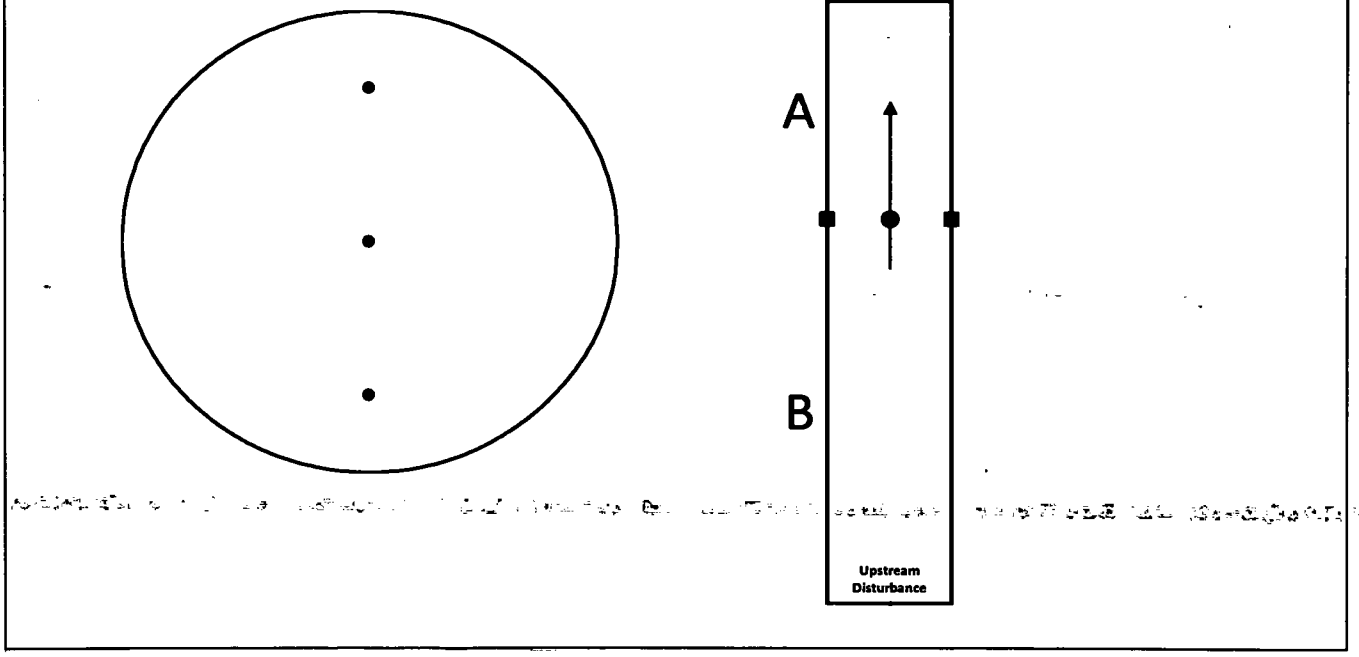
Number of traverse points on a diameter

	2	3	4	5	6	7	8	9	10	11	12
1	14.6	16.7	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	50.0	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	83.3	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--	--	--	89.5	--	77.4	--	64.4
8	--	--	--	--	--	--	96.8	--	85.4	--	75.0
9	--	--	--	--	--	--	--	--	91.8	--	82.3
10	--	--	--	--	--	--	--	--	97.4	--	88.2
11	--	--	--	--	--	--	--	--	--	--	93.3
12	--	--	--	--	--	--	--	--	--	--	97.9

*Percent of stack diameter from inside wall to traverse point.

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	16.7	11.69	18.69
2	50.0	35.00	42.00
3	83.3	58.31	65.31
4	--	--	--
5	--	--	--
6	--	--	--
7	--	--	--
8	--	--	--
9	--	--	--
10	--	--	--
11	--	--	--
12	--	--	--

Stack Diagram
A = 15.416666
B = 27.083333
Depth of Duct = 70 in.



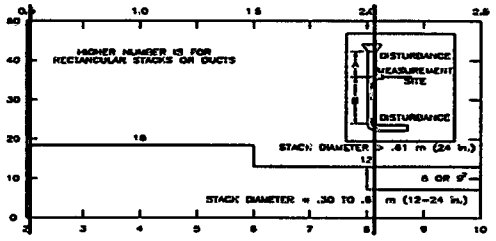
Alliance TECHNICAL GROUP

Method 1 Data

Location SIMS Metal - Chicago, IL
Source Hammermill Shredder System Inlet
Project No. AST-2025-0397
Date 04/29/25

Stack Parameters

Duct Orientation:	Horizontal	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	57.50	in
Nipple Length:	4.50	in
Depth of Duct:	53.00	in
Cross Sectional Area of Duct:	15.32	ft²
No. of Test Ports:	2	
Number of Readings per Point:	1	
Distance A:	9.0	ft
Distance A Duct Diameters:	2.0	(must be ≥ 0.5)
Distance B:	9.0	ft
Distance B Duct Diameters:	2.0	(must be ≥ 2)
Minimum Number of Traverse Points:	16	
Actual Number of Traverse Points:	16	
Measurer (Initial and Date):	WJW-4/29/25	
Reviewer (Initial and Date):	EAS-4/29/25	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

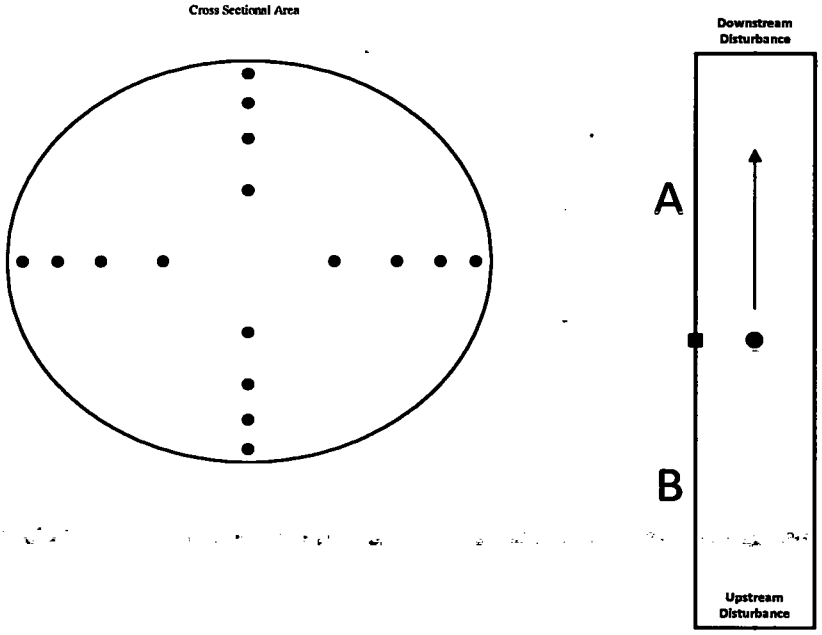
Number of traverse points on a diameter

	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--	--	--	89.5	--	77.4	--	64.4
8	--	--	--	--	--	--	96.8	--	85.4	--	75.0
9	--	--	--	--	--	--	--	--	91.8	--	82.3
10	--	--	--	--	--	--	--	--	97.4	--	88.2
11	--	--	--	--	--	--	--	--	--	--	93.3
12	--	--	--	--	--	--	--	--	--	--	97.9

*Percent of stack diameter from inside wall to traverse point.

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	3.2	1.70	6 3/16
2	10.5	5.57	10 1/16
3	19.4	10.28	14 13/16
4	32.3	17.12	21 5/8
5	67.7	35.88	40 3/8
6	80.6	42.72	47 3/16
7	89.5	47.44	51 15/16
8	96.8	51.30	55 13/16
9	--	--	--
10	--	--	--
11	--	--	--
12	--	--	--

Stack Diagram
A = 9 ft.
B = 9 ft.
Depth of Duct = 53 in.

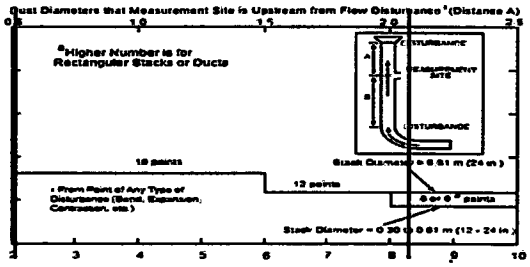


Method 1 Data

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet
Project No.: AST-2025-0397
Date: 04/29/25

Stack Parameters

Duct Orientation:	Horizontal	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	57.50	in
Nipple Length:	4.50	in
Depth of Duct:	53.00	in
Cross Sectional Area of Duct:	15.32	ft^2
No. of Test Ports:	2	
Number of Readings per Point:	1	
Distance A:	9.0	ft
Distance A Duct Diameters:	2.0	(must be ≥ 0.5)
Distance B:	9.0	ft
Distance B Duct Diameters:	2.0	(must be ≥ 2)
Actual Number of Traverse Points:	1	
Measurer (Initial and Date):	WJW 4/29/25	
Reviewer (Initial and Date):	EAS 4/29/25	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

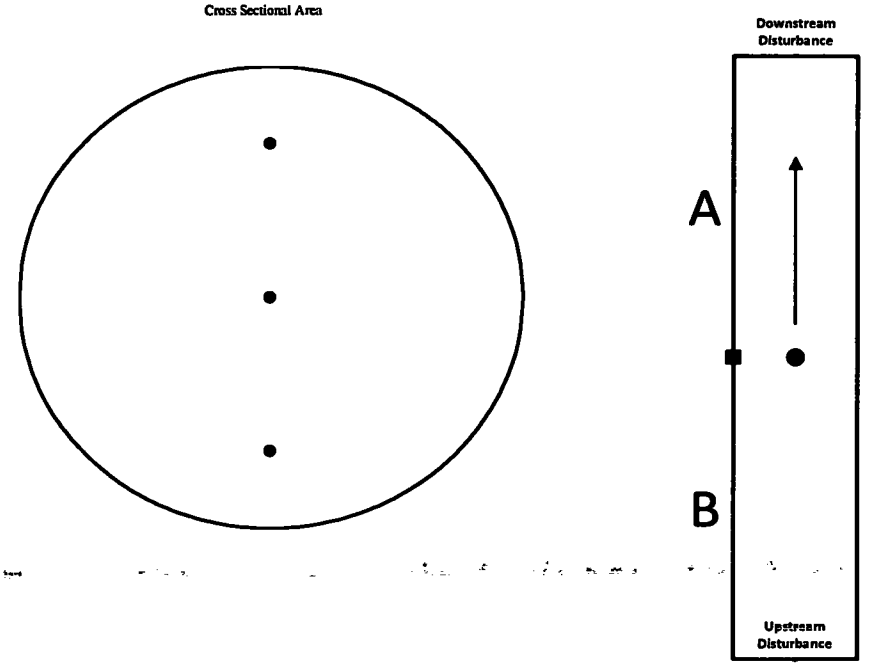
Number of traverse points on a diameter

	2	3	4	5	6	7	8	9	10	11	12
1	14.6	16.7	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	50.0	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	83.3	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--	--	--	89.5	--	77.4	--	64.4
8	--	--	--	--	--	--	96.8	--	85.4	--	75.0
9	--	--	--	--	--	--	--	--	91.8	--	82.3
10	--	--	--	--	--	--	--	--	97.4	--	88.2
11	--	--	--	--	--	--	--	--	--	--	93.3
12	--	--	--	--	--	--	--	--	--	--	97.9

**Percent of stack diameter from inside wall to traverse point.*

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	16.7	8.85	13.35
2	50.0	26.50	31.00
3	83.3	44.15	48.65
4	--	--	--
5	--	--	--
6	--	--	--
7	--	--	--
8	--	--	--
9	--	--	--
10	--	--	--
11	--	--	--
12	--	--	--

Stack Diagram
A = 9 ft.
B = 9 ft.
Depth of Duct = 53 in.



Alliance TECHNICAL GROUP

Cyclonic Flow Check

Location SIMS Metal - Chicago, IL

Source Hammermill Shredder System Inlet

Project No. AST-2025-0397

Date 4/29/25

Sample Point	Angle (ΔP=0)
1	0
2	0
3	0
4	5
5	5
6	0
7	0
8	0
9	-5
10	-5
11	0
12	0
13	0
14	0
15	0
16	0
Average	1.3

Alliance TECHNICAL GROUP

Method 2 Data

Location SIMS Metal - Chicago, IL

Source Hammermill Shredder System Inlet

Project No. AST-2025-0397

Traverse No.	1		2		3		4	
Date	4/30/25		4/30/25		4/30/25		4/30/25	
Status	VALID		VALID		VALID		VALID	
Start Time	9:56		11:25		14:05		17:07	
Stop Time	10:03		11:33		14:12		17:15	
Leak Check	Pass		Pass		Pass		Pass	
Traverse Point	**Δ P (in. WC)**	**Ts (°F)**	**Δ P (in. WC)**	**Ts (°F)**	**Δ P (in. WC)**	**Ts (°F)**	**Δ P (in. WC)**	**Ts (°F)**
A1	3.14	62	2.67	63	3.00	63	2.93	63
2	1.61	62	3.01	63	2.18	63	2.25	63
3	1.80	62	1.78	63	1.77	63	1.98	63
4	1.11	63	1.10	63	1.27	63	1.06	64
5	0.96	63	0.76	63	0.68	63	0.87	64
6	0.88	63	0.81	62	0.95	64	0.72	64
7	0.79	62	0.65	62	0.92	62	0.95	64
8	0.68	62	0.67	63	0.56	63	0.49	63
B1	2.78	63	2.98	63	2.91	63	3.01	63
2	3.10	63	2.22	63	2.50	64	2.63	63
3	1.71	63	2.32	63	2.12	63	2.12	63
4	0.98	62	1.34	63	1.11	63	0.95	64
5	0.88	62	0.98	63	0.78	64	0.72	63
6	0.84	62	1.23	63	1.23	63	1.14	63
7	0.80	63	0.98	63	1.06	63	0.99	63
8	0.79	62	0.54	63	0.65	64	0.58	63

Run No.		1	2	3	Average
Square Root of ΔP, $(in. WC)^{1/2}$	$(\Delta P)^{1/2}$	1.166	1.177	1.168	1.170
Average ΔP, in. WC	(ΔP)	1.47	1.49	1.47	1.48
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	29.49	29.49	29.49	29.49
Static Pressure, in. WC	(Pg)	-10.09	-10.01	-10.02	-10.04
Stack Pressure, in. Hg	(Ps)	28.75	28.75	28.75	28.75
Average Temperature, °F	(Ts)	62.7	63.0	63.3	63.0
Average Temperature, °R	(Ts)	522.3	522.7	522.9	522.6
Measured Moisture Fraction	(BWSmsd)	0.019	0.019	0.019	0.019
Moisture Fraction @ Saturation	(BWSsat)	0.020	0.020	0.020	0.020
Moisture Fraction	(BWS)	0.019	0.019	0.019	0.019
O2 Concentration, %	(O_2)	20.9	20.9	20.9	20.9
CO2 Concentration, %	(CO_2)	0.10	0.10	0.10	0.10
Molecular Weight, lb/lb-mole (dry)	(Md)	28.85	28.85	28.85	28.85
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.65	28.64	28.65	28.65
Velocity, ft/sec	(Vs)	66.7	67.3	66.8	66.9
VFR at stack conditions, acfm	(Qa)	61,275	61,900	61,412	61,529
VFR at standard conditions, scfh	(Qsw)	3,568,623	3,603,190	3,573,175	3,581,663
VFR at standard conditions, scfm	(Qsw)	59,477	60,053	59,553	59,694
VFR at standard conditions, dscfm	(Qsd)	58,373	58,901	58,416	58,564

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Method 3 Data

Location SIMS Metal - Chicago, IL
Source Hammermill Shredder System Inlet
Project No. AST-2025-0397

Analysis Type	Assumed Ambient

The remaining consistuent is assumed to be nitrogen.

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Dry Bulb/Wet Bulb Data

Location SIMS Metal - Chicago, IL
Source Hammermill Shredder System Inlet
Project No. AST-2025-0397

Run Number	1	2	3
Date	04/30/25	04/30/25	04/30/25
Time	10:06	14:15	17:20
Barometric Press, in. Hg (Pb)	29.49	29.49	29.49
Static Press, in. H_2O (Pstatic)	-10.09	-10.01	-10.02
Dry Bulb Temperature,°F (Td)	62.5	62.8	63.1
Wet Bulb Temperature,°F (Tw)	61.8	62.0	62.0
ΔT = Td-Tw, (ΔT)	0.7	0.8	1.1
Vapor Press H_2O at Tw (Vp)	0.5407	0.5601	0.5601
Absolute stack static pressure, in. Hg (Ps)	28.748	28.754	28.753
Partial Press of H_2O (PP)	0.5334	0.5518	0.5487
Moisture, % (BWS)	1.86%	1.92%	1.91%

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Run 1 - RM Data

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2023-0397
Date: 4/30/23

Time	THC - Inlet	O_2 - Outlet	CO_2 - Outlet	CO - Outlet	NOx - Outlet	SO_2 - Outlet	THC - Outlet
Unit	ppmvw	% dry	% dry	ppmvd	ppmvd	ppmvd	ppmvw
Status	Valid	Valid	Valid	Valid	Valid	Valid	Valid
Uncorrected Run Average (C_{ma})	102.63	20.03	0.62	20.58	4.55	1.70	7.37
Cal Gas Concentration (C_{ma})	1000.00	10.00	9.88	40.00	25.00	30.00	45.00
Pretest System Zero Response	-6.67	0.06	0.11	0.37	0.00	0.98	-0.24
Posttest System Zero Response	-3.76	0.04	0.08	0.42	0.06	1.71	-0.30
Average Zero Response (Co)	-5.22	0.05	0.10	0.40	0.03	1.35	-0.27
Pretest System Cal Response	995.11	9.95	9.47	41.06	24.19	29.99	44.33
Posttest System Cal Response	998.13	9.90	9.33	41.21	24.67	30.96	45.19
Average Cal Response (C_{ca})	996.62	9.93	9.40	41.14	24.43	30.48	44.76
Corrected Run Average (Corr)	NA	20.23	0.55	19.82	4.63	0.36	NA
9:51	107.57	19.99	0.65	19.89	3.80	1.51	7.55
9:52	100.17	20.02	0.62	19.5	3.69	1.54	6.83
9:53	42.15	20.01	0.64	17.48	3.88	1.54	7.01
9:54	52.71	20.02	0.62	14.67	3.66	1.62	6.60
9:55	69.34	20.04	0.61	17.57	3.81	1.63	6.80
9:56	34.95	20.02	0.62	15.83	3.78	1.57	7.01
9:57	58.33	20.01	0.63	14.77	3.77	1.57	6.40
9:58	275.86	19.99	0.64	24.91	3.84	1.68	8.45
9:59	128.70	19.99	0.65	26.70	3.93	1.69	8.27
10:00	101.78	20.04	0.62	20.61	3.98	1.65	7.59
10:01	73.76	20.08	0.59	19.85	4.10	1.67	6.95
10:02	99.86	20.05	0.60	18.90	3.89	1.71	7.40
10:03	85.19	20.03	0.62	22.13	4.09	1.65	7.64
10:04	97.31	20.08	0.59	18.81	4.03	1.69	7.00
10:05	107.87	20.03	0.62	21.57	4.05	1.67	7.94
10:06	119.15	20.02	0.62	22.52	4.17	1.66	7.95
10:07	161.22	20.06	0.60	24.43	4.22	1.68	7.75
10:08	99.20	20.02	0.63	24.23	4.33	1.67	7.80
10:09	75.34	20.03	0.62	19.25	4.58	1.67	6.89
10:10	52.72	20.07	0.60	18.48	4.42	1.74	6.86
10:11	75.56	20.04	0.60	17.53	4.16	1.64	7.64
10:12	162.79	19.99	0.65	23.47	4.74	1.61	7.96
10:13	132.86	20.05	0.60	23.43	4.26	1.64	7.78
10:14	472.31	19.95	0.65	26.70	4.18	1.70	8.61
10:15	301.90	19.95	0.69	42.23	4.41	1.64	9.79
10:16	194.19	20.10	0.59	25.81	4.42	1.66	8.50
10:17	103.14	20.07	0.59	26.02	4.42	1.72	8.67
10:18	76.04	20.09	0.59	20.58	4.51	1.74	7.62
10:19	115.67	20.09	0.58	22.31	4.53	1.63	7.64
10:20	137.78	20.06	0.60	25.76	5.22	1.74	7.95
10:21	177.61	20.03	0.62	28.13	5.59	1.70	7.69
10:22	163.64	20.06	0.60	28.91	4.72	1.66	7.93
10:23	125.76	20.04	0.60	26.21	4.54	1.76	8.28
10:24	77.40	20.04	0.61	22.01	4.53	1.76	7.43
10:25	126.93	20.07	0.59	21.27	4.67	1.68	7.50
10:26	198.78	20.02	0.63	28.49	4.54	1.68	8.79
10:27	125.63	20.02	0.63	23.98	4.61	1.67	7.82
10:28	160.03	20.04	0.62	24.19	4.75	1.66	8.72
10:29	116.08	20.03	0.61	24.06	5.20	1.67	8.80
10:30	76.52	20.03	0.61	20.76	4.87	1.71	7.52
10:31	81.12	20.06	0.60	19.75	4.69	1.74	7.68
10:32	67.30	20.04	0.61	19.31	4.67	1.73	7.76
10:33	33.45	20.03	0.61	17.97	4.82	1.65	6.62
10:34	33.79	20.06	0.60	13.76	4.71	1.69	6.20
10:35	32.21	20.03	0.61	15.09	4.45	1.78	6.92
10:36	65.40	19.99	0.63	13.77	4.64	1.70	6.71
10:37	242.87	19.97	0.67	26.50	4.79	1.79	8.90
10:38	49.96	20.02	0.63	21.17	4.46	1.69	6.91
10:39	89.42	20.00	0.62	18.65	4.47	1.67	7.05
10:40	89.94	20.03	0.62	20.40	4.47	1.69	7.56
10:41	46.50	20.03	0.62	19.25	4.47	1.71	7.29
10:42	29.70	20.00	0.61	15.98	4.48	1.70	6.62
10:43	85.68	20.03	0.62	16.43	4.46	1.68	7.01
10:44	140.78	19.99	0.63	23.59	4.47	1.75	7.72
10:45	164.54	19.97	0.64	22.54	4.66	1.69	7.95
10:46	181.68	20.01	0.63	24.37	4.79	1.72	8.56
10:47	188.66	20.01	0.63	27.23	4.64	1.74	8.49
10:48	63.11	20.03	0.61	22.54	4.83	1.81	6.95
10:49	69.25	20.06	0.60	18.25	4.76	1.77	7.07
10:50	57.69	20.05	0.59	17.88	5.23	1.72	7.23
10:51	164.73	20.00	0.62	18.59	5.63	1.69	7.96
10:52	78.08	20.03	0.62	23.85	5.09	1.67	7.83
10:53	83.71	20.06	0.59	17.90	4.85	1.76	7.18
10:54	81.58	20.02	0.61	20.83	5.11	1.68	7.21
10:55	164.11	20.03	0.62	24.16	4.97	1.69	8.28
10:56	65.84	20.06	0.60	22.94	4.85	1.75	7.82
10:57	67.81	20.04	0.59	18.29	4.84	1.76	7.09
10:58	109.23	20.05	0.60	20.75	4.89	1.69	8.08
10:59	105.44	20.04	0.61	24.99	6.01	1.73	7.93
11:00	75.05	20.03	0.60	18.94	5.61	1.72	6.65
11:01	97.84	20.04	0.60	20.55	4.96	1.77	7.50
11:02	79.21	20.05	0.59	20.87	4.86	1.78	7.44
11:03	80.48	20.04	0.60	19.47	4.99	1.71	6.88
11:04	43.96	20.05	0.60	16.72	4.81	1.77	6.66
11:05	39.73	20.04	0.60	15.69	4.65	1.74	6.63
11:06	44.33	20.01	0.61	15.60	4.65	1.85	6.22
11:07	57.88	20.02	0.62	16.37	4.60	1.77	6.74
11:08	52.08	20.02	0.62	18.23	4.54	1.75	6.76
11:09	100.73	20.00	0.62	17.97	4.67	1.75	6.53
11:10	77.90	20.00	0.63	20.37	4.62	1.74	7.35
11:11	56.15	20.02	0.62	16.71	4.49	1.75	6.75
11:12	77.89	20.01	0.61	15.50	4.58	1.64	5.95
11:13	54.76	20.01	0.63	17.43	4.52	1.76	6.53
11:14	62.64	20.01	0.62	16.85	4.47	1.70	6.62
11:15	47.19	20.02	0.61	14.34	4.58	1.72	5.81
11:16	31.39	20.03	0.61	13.53	4.47	1.70	6.14
11:17	135.93	20.00	0.63	16.43	4.38	1.72	6.52
11:18	136.40	20.01	0.61	18.90	4.46	1.72	6.11
11:19	57.65	20.02	0.62	17.23	4.26	1.65	6.18
11:20	27.30	20.04	0.61	13.80	4.10	1.75	5.81

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Run 2 - RM Data

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2025-0397
Date: 4/30/25

Time Unit Status	THC - Inlet ppmvw Valid	O_2 - Outlet % dry Valid	CO_2 - Outlet % dry Valid	CO - Outlet ppmvd Valid	NO_X - Outlet ppmvd Valid	SO_2 - Outlet ppmvd Valid	THC - Outlet ppmvw Valid
Uncorrected Run Average (C_{ma})	81.16	20.02	0.59	19.20	4.40	1.74	6.39
Cal Gas Concentration (C_{MA})	1000.00	10.00	9.88	40.00	25.00	30.00	45.00
Pretest System Zero Response	-3.76	0.04	0.08	0.42	0.06	1.71	-0.30
Posttest System Zero Response	-3.94	0.07	0.08	0.38	0.07	1.05	-0.08
Average Zero Response (Co)	-3.85	0.06	0.08	0.40	0.07	1.38	-0.19
Pretest System Cal Response	998.13	9.90	9.33	41.21	24.67	30.96	45.19
Posttest System Cal Response	1000.30	9.86	9.35	40.81	24.14	29.97	45.32
Average Cal Response (C_M)	999.22	9.88	9.34	41.01	24.41	30.47	45.26
Corrected Run Average (Corr)	NA	20.32	0.54	18.52	4.45	0.37	NA
12:42	150.84	20.00	0.61	20.51	4.24	1.79	7.16
12:43	92.91	20.02	0.59	21.46	4.20	1.79	7.11
12:44	92.10	20.01	0.59	17.98	4.20	1.73	6.41
12:45	33.39	20.05	0.58	15.50	4.06	1.70	6.34
12:46	67.36	20.05	0.57	13.88	3.86	1.75	5.94
12:47	144.62	19.98	0.61	26.70	4.12	1.82	7.32
12:48	234.68	20.01	0.59	23.99	4.22	1.85	7.73
12:49	116.67	20.02	0.60	29.41	4.38	1.72	8.37
12:50	38.85	20.06	0.56	17.80	4.52	1.78	6.13
12:51	26.91	20.07	0.56	15.59	4.30	1.86	6.66
12:52	18.30	20.07	0.56	16.05	4.22	1.83	6.41
12:53	93.79	20.03	0.58	18.11	4.46	1.83	6.81
12:54	54.75	20.05	0.58	20.10	4.49	1.74	6.99
12:55	33.40	20.05	0.57	17.20	4.37	1.74	6.84
12:56	45.46	20.04	0.57	15.40	4.34	1.75	5.70
12:57	87.08	20.04	0.58	17.96	4.30	1.75	6.71
12:58	109.99	20.00	0.61	23.31	4.47	1.75	7.11
12:59	74.73	20.02	0.58	18.13	4.42	1.70	6.23
13:00	132.35	20.01	0.60	22.62	4.42	1.72	7.80
13:01	87.86	20.02	0.59	24.65	4.50	1.79	7.09
13:02	155.55	20.01	0.58	21.65	4.84	1.81	6.81
13:03	123.83	20.02	0.60	23.41	4.69	1.68	7.29
13:04	65.39	20.05	0.57	20.63	4.51	1.87	6.93
13:05	65.04	20.04	0.57	19.82	4.59	1.80	6.30
13:06	57.49	20.04	0.58	18.04	4.46	1.76	6.91
13:07	92.25	20.04	0.58	19.36	4.44	1.79	6.85
13:08	433.08	19.95	0.64	37.04	4.57	1.85	8.12
13:09	91.67	20.06	0.58	23.03	4.39	1.85	6.06
13:10	30.16	20.08	0.56	16.17	4.22	1.88	5.74
13:11	28.22	20.08	0.55	12.67	4.27	1.86	4.82
13:12	124.32	20.04	0.58	19.46	4.26	1.80	6.62
13:13	150.68	20.01	0.61	27.44	4.39	1.80	7.63
13:14	79.73	20.03	0.58	21.83	4.50	1.81	6.71
13:15	38.70	20.04	0.58	18.12	4.45	1.80	6.41
13:16	72.31	20.04	0.58	15.63	4.39	1.82	6.19
13:17	109.58	20.02	0.58	22.87	4.42	1.86	6.65
13:18	31.73	20.02	0.59	17.50	4.44	1.90	6.12
13:19	10.41	20.04	0.58	13.67	4.24	1.83	5.30
13:20	5.38	20.04	0.56	11.50	4.12	1.74	4.46
13:21	2.80	20.02	0.58	12.35	4.06	1.79	5.00
13:22	51.75	20.00	0.60	14.16	4.12	1.82	6.05
13:23	54.53	20.00	0.59	17.84	4.32	1.83	6.32
13:24	38.40	19.99	0.60	16.44	4.29	1.79	6.42
13:25	27.95	20.00	0.59	14.80	4.23	1.76	6.10
13:26	67.83	20.01	0.58	17.19	4.28	1.82	6.03
13:27	151.75	19.97	0.61	22.49	4.24	1.82	7.19
13:28	179.29	19.98	0.61	24.15	4.36	1.77	7.44
13:29	110.72	20.01	0.59	25.20	4.48	1.72	6.64
13:30	32.67	20.04	0.58	16.74	4.46	1.79	5.62
13:31	12.68	20.04	0.57	14.01	4.22	1.82	5.31
13:32	6.01	20.06	0.55	12.03	4.12	1.78	4.61
13:33	2.68	20.03	0.57	12.47	4.02	1.83	5.11
13:34	3.68	20.02	0.58	12.06	4.09	1.76	4.87
13:35	83.50	20.01	0.58	17.74	4.15	1.72	6.21
13:36	106.29	19.99	0.60	20.81	4.18	1.71	6.97
13:37	55.94	19.99	0.60	22.44	4.38	1.69	6.72
13:38	146.62	20.02	0.58	20.42	4.30	1.73	6.76
13:39	115.69	19.98	0.60	23.30	4.33	1.68	7.21
13:40	118.76	20.00	0.59	23.18	4.45	1.79	6.61
13:41	129.68	20.04	0.57	21.58	4.35	1.77	6.35
13:42	88.10	20.01	0.58	22.54	4.33	1.82	7.06
13:43	28.84	20.02	0.58	17.31	4.43	1.77	6.12
13:44	54.50	20.05	0.55	14.47	4.21	1.65	5.60
13:45	55.33	20.01	0.57	18.99	4.24	1.71	6.93
13:46	98.82	19.99	0.60	17.18	4.50	1.69	6.76
13:47	58.35	20.05	0.57	20.11	4.35	1.66	5.97
13:48	72.37	20.01	0.59	17.33	4.45	1.68	6.56
13:49	62.23	19.99	0.61	18.64	5.11	1.74	6.56
13:50	24.14	20.06	0.58	16.34	5.02	1.70	5.29
13:51	10.56	20.02	0.58	14.01	4.52	1.68	5.38
13:52	55.17	19.98	0.61	14.32	4.62	1.69	5.73
13:53	138.00	20.01	0.60	20.32	4.61	1.65	6.88
13:54	80.04	19.99	0.61	23.97	4.64	1.57	6.86
13:55	54.07	20.01	0.60	13.87	4.61	1.69	5.27
13:56	165.47	20.01	0.60	22.79	4.51	1.56	6.78
13:57	74.53	19.99	0.61	23.93	4.48	1.60	7.72
13:58	65.25	20.01	0.60	18.01	4.64	1.60	6.24
13:59	28.72	20.06	0.58	17.79	4.51	1.63	5.25
14:00	9.66	20.03	0.57	13.18	4.21	1.61	5.03
14:01	70.71	19.99	0.60	13.61	4.36	1.61	5.26
14:02	127.20	20.00	0.60	25.53	4.78	1.69	6.44
14:03	81.67	20.00	0.60	21.77	4.69	1.67	6.46
14:04	63.88	19.98	0.61	18.88	4.63	1.64	6.04
14:05	160.15	20.01	0.60	23.89	4.54	1.60	6.88
14:06	105.36	19.99	0.61	25.07	4.57	1.59	6.71
14:07	86.96	19.98	0.62	20.93	4.77	1.58	6.64
14:08	41.46	20.04	0.58	16.36	4.46	1.60	5.54
14:09	55.53	20.02	0.59	18.32	4.39	1.61	6.49
14:10	23.84	19.99	0.59	16.86	4.53	1.62	5.95
14:11	262.41	20.00	0.61	22.19	4.56	1.70	6.38

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Run 3 - RM Data

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2025-0397
Date: 4/30/25

Time Unit Status	THC - Inlet ppmvw Valid	O_2 - Outlet % dry Valid	CO_2 - Outlet % dry Valid	CO - Outlet ppmvd Valid	NOx - Outlet ppmvd Valid	SO_2 - Outlet ppmvd Valid	THC - Outlet ppmvw Valid
Uncorrected Run Average (C_{sm})	112.88	19.97	0.60	23.09	5.08	-0.16	7.20
Cal Gas Concentration (C_{ma})	1000.00	10.00	9.88	40.00	25.00	30.00	45.00
Pretest System Zero Response	-3.94	0.07	0.08	0.38	0.07	1.05	-0.08
Posttest System Zero Response	-3.38	0.07	0.10	0.21	0.07	-0.62	-0.01
Average Zero Response (Co)	-3.66	0.07	0.09	0.30	0.07	0.22	-0.05
Pretest System Cal Response	1000.30	9.86	9.35	40.81	24.14	29.97	45.32
Posttest System Cal Response	1004.02	9.88	9.35	42.32	24.29	28.64	45.20
Average Cal Response (C_{ma})	1002.16	9.87	9.35	41.57	24.22	29.31	45.26
Corrected Run Average (Corr)	NA	20.30	0.54	22.10	5.18	0.00	NA
15:49	135.10	19.98	0.59	27.63	4.72	0.66	7.52
15:50	128.03	19.95	0.60	23.95	4.55	0.67	7.56
15:51	184.11	19.91	0.63	30.30	4.59	0.61	8.53
15:52	100.73	19.99	0.58	23.83	4.47	0.72	7.31
15:53	182.53	19.96	0.59	22.36	4.43	0.64	7.76
15:54	216.84	19.89	0.64	37.44	4.79	0.66	9.26
15:55	158.70	20.01	0.57	24.00	4.71	0.52	7.33
15:56	288.74	19.92	0.63	31.21	4.93	0.48	8.84
15:57	253.43	19.92	0.62	33.86	5.46	0.58	9.13
15:58	186.69	19.99	0.60	31.71	5.46	0.56	8.35
15:59	76.39	20.00	0.57	26.02	5.42	0.61	7.84
16:00	168.86	19.97	0.59	24.86	5.67	0.54	7.21
16:01	194.71	19.98	0.59	31.70	5.41	0.59	8.62
16:02	166.51	19.98	0.59	28.54	5.31	0.46	8.57
16:03	149.06	19.95	0.60	32.54	5.18	0.51	8.35
16:04	200.18	19.99	0.59	30.69	5.05	0.39	8.52
16:05	170.03	19.99	0.58	27.55	5.03	0.53	8.67
16:06	180.29	19.94	0.61	31.61	5.49	0.43	9.06
16:07	197.78	19.99	0.58	27.62	5.21	0.35	8.57
16:08	139.13	19.97	0.59	31.46	5.09	0.47	8.78
16:09	91.47	19.98	0.58	24.16	5.14	0.45	7.29
16:10	97.76	20.00	0.57	23.07	5.01	0.37	7.67
16:11	55.20	19.98	0.59	22.10	4.90	0.42	8.10
16:12	71.73	19.96	0.58	19.18	5.16	0.41	6.85
16:13	87.01	19.97	0.60	21.93	5.26	0.36	7.47
16:14	112.18	19.95	0.60	24.26	4.93	0.34	7.77
16:15	127.41	19.92	0.61	26.65	5.08	0.32	7.75
16:16	114.58	19.95	0.61	26.45	5.05	0.27	7.40
16:17	49.87	19.97	0.59	20.40	4.97	0.25	6.90
16:18	67.02	19.94	0.60	17.93	4.83	0.26	6.54
16:19	66.62	19.96	0.60	19.80	4.91	0.27	7.16
16:20	76.96	19.96	0.60	19.53	4.91	0.19	7.08
16:21	129.61	19.92	0.62	22.27	4.99	0.26	6.84
16:22	243.62	19.89	0.65	31.85	4.85	0.16	8.43
16:23	107.45	19.95	0.60	28.72	4.91	0.13	7.54
16:24	146.50	19.94	0.61	26.86	7.01	0.16	7.48
16:25	232.11	19.97	0.60	27.76	6.07	0.17	7.97
16:26	134.37	19.96	0.61	31.19	6.57	0.10	8.16
16:27	185.12	19.98	0.58	24.44	5.98	0.19	7.09
16:28	117.61	19.99	0.59	27.11	5.85	0.13	7.60
16:29	158.54	19.98	0.58	28.81	6.39	0.05	9.52
16:30	69.11	20.00	0.56	23.20	5.37	0.01	6.81
16:31	82.23	20.00	0.58	22.19	5.36	-0.04	7.47
16:32	91.20	19.98	0.58	22.65	5.23	0.00	7.43
16:33	199.35	19.95	0.59	26.09	5.37	-0.07	7.62
16:34	240.80	19.93	0.65	34.23	5.49	-0.04	12.53
16:35	94.49	19.99	0.59	27.05	5.24	-0.10	8.70
16:36	97.23	19.98	0.57	20.41	5.27	-0.10	6.96
16:37	79.56	19.99	0.59	23.48	5.13	-0.17	7.73
16:38	114.59	19.98	0.59	21.08	5.08	-0.03	7.63
16:39	141.86	19.94	0.60	29.67	5.14	-0.22	7.65
16:40	101.42	19.98	0.60	23.89	5.14	-0.12	7.47
16:41	90.17	19.97	0.60	23.40	5.67	-0.19	7.61
16:42	118.01	19.96	0.59	24.09	6.55	-0.28	7.67
16:43	110.08	19.96	0.61	23.03	6.44	-0.32	7.53
16:44	102.40	19.96	0.61	24.43	6.05	-0.30	7.35
16:45	71.11	19.97	0.58	21.68	5.68	-0.29	6.66
16:46	76.26	19.97	0.59	20.88	5.44	-0.30	7.13
16:47	136.43	19.95	0.60	22.68	5.44	-0.38	7.44
16:48	172.31	19.93	0.61	28.92	5.48	-0.41	7.76
16:49	61.95	19.96	0.60	23.94	5.37	-0.44	7.36
16:50	146.44	19.95	0.61	23.71	5.38	-0.44	7.37
16:51	148.12	19.98	0.58	25.41	5.23	-0.49	6.41
16:52	201.29	19.96	0.60	24.76	5.04	-0.55	7.17
16:53	171.37	19.96	0.62	30.40	5.20	-0.54	7.87
16:54	147.32	19.99	0.58	24.72	5.11	-0.52	7.42
16:55	92.31	20.00	0.59	19.21	5.10	-0.61	7.72
16:56	47.81	20.02	0.58	17.16	4.91	-0.57	6.75
16:57	38.42	20.03	0.55	13.69	4.75	-0.66	4.96
16:58	59.31	19.99	0.58	16.77	4.65	-0.75	5.64
16:59	28.66	19.98	0.59	15.79	4.64	-0.76	5.63
17:00	25.56	20.00	0.57	13.06	4.54	-0.87	4.91
17:01	25.68	19.96	0.59	13.29	4.45	-0.83	5.54
17:02	55.16	19.95	0.61	15.46	4.49	-0.86	5.58
17:03	52.61	19.98	0.59	15.65	4.51	-0.91	5.67
17:04	44.01	19.94	0.61	14.76	4.50	-1.02	5.86
17:05	39.69	19.93	0.61	14.94	4.52	-0.96	5.72
17:06	44.82	19.97	0.59	13.82	4.46	-0.94	5.10
17:07	52.17	19.94	0.61	17.11	4.48	-0.94	5.63
17:08	41.00	19.93	0.62	15.22	4.63	-1.12	5.17
17:09	49.67	19.96	0.59	14.75	4.44	-1.19	4.92
17:10	84.39	19.94	0.61	17.49	4.37	-1.17	5.79
17:11	61.60	19.93	0.62	17.76	4.47	-1.17	6.11
17:12	73.53	19.96	0.60	16.79	4.46	-1.20	5.80
17:13	32.25	19.97	0.59	14.53	4.36	-1.25	5.57
17:14	35.47	19.96	0.60	13.54	4.47	-1.28	5.35
17:15	29.37	20.00	0.58	13.50	4.28	-1.35	4.91
17:16	26.64	19.98	0.59	14.35	4.22	-1.46	5.18
17:17	52.20	19.94	0.61	15.74	4.31	-1.18	5.72
17:18	31.09	19.99	0.57	15.09	4.29	-1.38	4.90

Metals

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Emission Calculations

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Parameter Metals

Run Number		Run 1	Run 2	Run 3	Average
Date		4/30/25	4/30/25	4/30/25	--
Start Time		9:51	12:42	15:30	--
Stop Time		11:41	14:27	17:18	--
Run Time, min	(θ)	90.0	90.0	90.0	90.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	29.49	29.49	29.49	29.49
Meter Correction Factor	(Y)	0.981	0.981	0.981	0.981
Orifice Calibration Value	(ΔH@)	1.777	1.777	1.777	1.777
Meter Volume, ft^3	(Vm)	57.135	58.895	58.315	58.115
Meter Temperature, °F	(Tm)	61.2	66.4	63.1	63.6
Meter Temperature, °R	(Tm)	520.8	526.1	522.8	523.2
Meter Orifice Pressure, in. WC	(ΔH)	1.208	1.254	1.229	1.231
Volume H_2O Collected, mL	(Vlc)	38.8	36.6	34.7	36.7
Nozzle Diameter, In	(Dn)	0.210	0.210	0.210	0.210
Area of Nozzle, ft^2	(An)	0.0002	0.0002	0.0002	0.0002
Arsenic Mass, ug (Total)	M_{As}	9.55	9.77	9.48	9.60
Beryllium Mass, ug (Total)	MBe	0.829	0.807	0.755	0.797
Cadmium Mass, ug (Total)	M_{Cd}	2.71	2.45	2.95	2.70
Chromium Mass, ug (Total)	M_{Cr}	33.4	33.6	31.9	33.0
Copper Mass, ug (Total)	M_{Cu}	29.8	26.4	21.1	25.8
Lead Mass, ug (Total)	M_{Pb}	31.2	26.0	25.8	27.7
Zinc Mass, ug (Total)	M_{Zn}	252	159	133	181
Selenium Mass, ug (Total)	M_{Se}	17.6	16.3	19.0	17.6
Nickel Mass, ug (Total)	M_{Ni}	21.1	18.9	18.0	19.3
Mercury Mass, ug (Total)	M_{Hg}	3.14	1.47	4.10	2.90
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	56.137	57.296	57.090	56.841
Standard Water Volume, ft^3	(Vwstd)	1.830	1.726	1.636	1.731
Moisture Fraction Measured	(BWSmsd)	0.032	0.029	0.028	0.030
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.032	0.029	0.028	0.030
Meter Pressure, in Hg	(Pm)	29.579	29.582	29.580	29.58
Volume at Nozzle, ft^3	(Vn)	79.357	81.246	80.929	80.511
Isokinetic Sampling Rate, (%)	(I)	101.2	101.2	101.1	101.2
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	0.7	1.3	1.6	1.2
EMISSION CALCULATIONS					
Total Arsenic Concentration, ppmvd	C_{As}	0.0019	0.0019	0.0019	0.0019
Total Arsenic Concentration, ug/dscm	C_{As}	6.0	6.0	5.9	6.0
Total Arsenic Emission Rate, lb/hr	ER_{As}	0.0015	0.0016	0.0015	0.0015
Total Beryllium Concentration, ppmvd	C_{Be}	0.0014	0.0013	0.0012	0.0013
Total Beryllium Concentration, ug/dscm	C_{Be}	0.52	0.50	0.47	0.50
Total Beryllium Emission Rate, lb/hr	ER_{Be}	1.3E-04	1.3E-04	1.2E-04	1.3E-04
Total Cadmium Concentration, ppmvd	C_{Cd}	3.6E-04	3.2E-04	3.9E-04	3.6E-04
Total Cadmium Concentration, ug/dscm	C_{Cd}	1.7	1.5	1.8	1.7
Total Cadmium Emission Rate, lb/hr	ER_{Cd}	4.4E-04	4.0E-04	4.8E-04	4.4E-04
Total Chromium Concentration, ppmvd	C_{Cr}	0.0097	0.0096	0.0091	0.0095
Total Chromium Concentration, ug/dscm	C_{Cr}	21.0	20.7	19.7	20.5
Total Chromium Emission Rate, lb/hr	ER_{Cr}	0.0054	0.0054	0.0052	0.0053
Total Copper Concentration, ppmvd	C_{Cu}	0.0071	0.0062	0.0049	0.0061
Total Copper Concentration, ug/dscm	C_{Cu}	18.7	16.3	13.1	16.0
Total Copper Emission Rate, lb/hr	ER_{Cu}	0.0048	0.0043	0.0034	0.0042
Total Lead Concentration, ppmvd	C_{Pb}	0.0023	0.0019	0.0019	0.0020
Total Lead Concentration, ug/dscm	C_{Pb}	19.6	16.0	16.0	17.2
Total Lead Emission Rate, lb/hr	ER_{Pb}	0.0050	0.0042	0.0042	0.0045
Total Zinc Concentration, ppmvd	C_{Zn}	0.060	0.037	0.031	0.043
Total Zinc Concentration, ug/dscm	C_{Zn}	158 5	98.0	82.3	112,9
Total Zinc Emission Rate, lb/hr	ER_{Zn}	0.041	0.026	0.021	0.029
Total Selenium Concentration, ppmvd	C_{Se}	0.0034	0.0031	0.0036	0.0033
Total Selenium Concentration, ug/dscm	C_{Se}	11.1	10.0	11.8	11.0
Total Selenium Emission Rate, lb/hr	ER_{Se}	0.0028	0.0026	0.0031	0.0028
Total Nickel Concentration, ppmvd	C_{Ni}	0.0054	0.0048	0.0046	0.0049
Total Nickel Concentration, ug/dscm	C_{Ni}	13.3	11.6	11.1	12.0
Total Nickel Emission Rate, lb/hr	ER_{Ni}	0.0034	0.0031	0.0029	0.0031
Total Mercury Concentration, ppmvd	C_{Hg}	2.4E-04	1.1E-04	3.0E-04	2.2E-04
Total Mercury Concentration, ppbvd	C_{Hg}	0.24	0.11	0.30	0.22
Total Mercury Concentration, ug/dscm	C_{Hg}	1.98	0.91	2.54	1.81
Total Mercury Emission Rate, lb/hr	ER_{Hg}	5.1E-04	2.4E-04	6.6E-04	4.7E-04
TOTAL EMISSIONS CALCULATIONS					
Total Selected Metals Mass, ug	M_{TSM}	398.2	293.2	262.0	317.8
Total Selected Metals Concentration, ppmvd	C_{TSM}	0.092	0.066	0.059	0.072
Total Selected Metals Concentration, ug/dscm	C_{TSM}	250	181	162	198
Total Selected Metals Emission Rate, lb/hr	ER_{TSM}	0.064	0.047	0.042	0.051

Selected Metals includes Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Zinc, Selenium, Nickel.
* Bold values were "J" flagged by the laboratory. This denotes that the result was between the Reporting Limit and the Detection Limit.
* Underlined values denote the measured concentration was less than the MDL, therefore the MDL was used in calculations.

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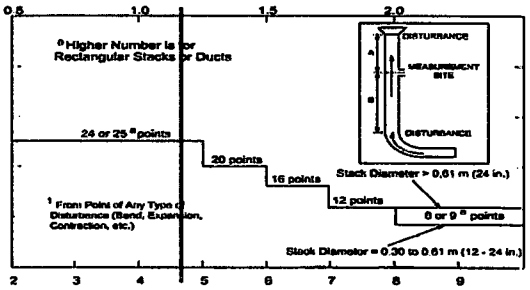
Method 1 Data

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Date: 04/29/25

Stack Parameters

Duct Orientation:	Vertical	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	77.00	in
Nipple Length:	7.00	in
Depth of Duct:	70.00	in
Cross Sectional Area of Duct:	26.73	ft^2
No. of Test Ports:	4	
Distance A:	15.4	ft
Distance A Duct Diameters:	2.6	(must be ≥ 0.5)
Distance B:	27.1	ft
Distance B Duct Diameters:	4.6	(must be ≥ 2)
Minimum Number of Traverse Points:	24	
Actual Number of Traverse Points:	24	
Number of Readings per Point:	1	
Measurer (Initial and Date):	JRS 4/29/25	
Reviewer (Initial and Date):	LJL 4/29/25	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

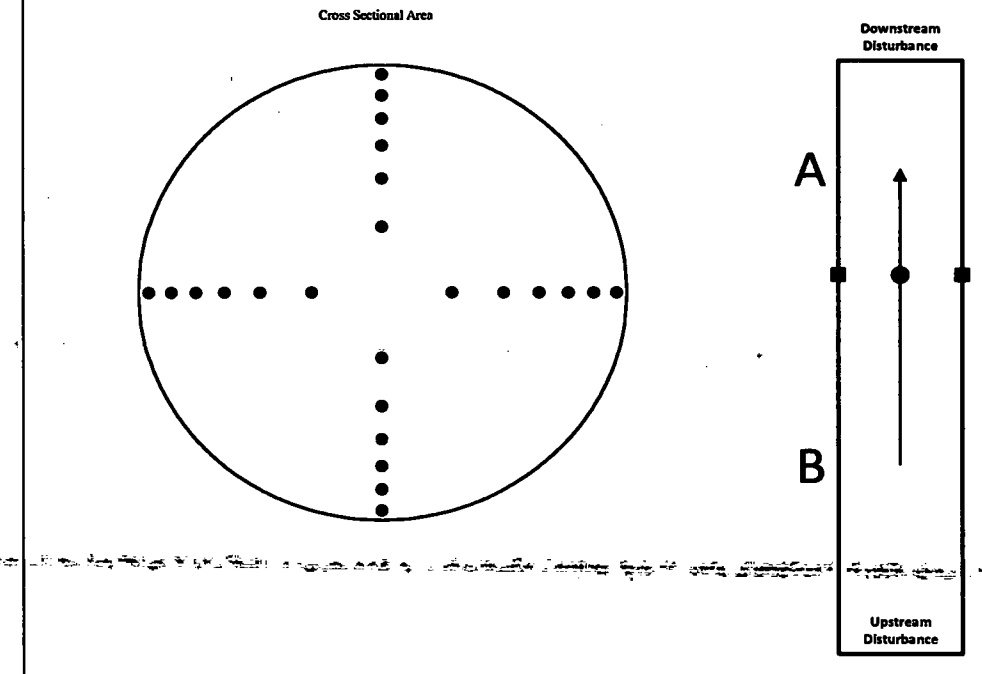
Number of traverse points on a diameter

	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--	--	--	89.5	--	77.4	--	64.4
8	--	--	--	--	--	--	96.8	--	85.4	--	75.0
9	--	--	--	--	--	--	--	--	91.8	--	82.3
10	--	--	--	--	--	--	--	--	97.4	--	88.2
11	--	--	--	--	--	--	--	--	--	--	93.3
12	--	--	--	--	--	--	--	--	--	--	97.9

[a] Percent of stack diameter from inside wall to traverse point.

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	2.1	1.47	8 1/2
2	6.7	4.69	11 11/16
3	11.8	8.26	15 1/4
4	17.7	12.39	19 3/8
5	25.0	17.50	24 1/2
6	35.6	24.92	31 15/16
7	--	--	--
8	--	--	--
9	--	--	--
10	--	--	--
11	--	--	--
12	--	--	--

Stack Diagram
A = 15.4 ft.
B = 27.1 ft.
Depth of Duct = 70 in.



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Flow Information

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Parameter Metals

Run Number		Run 1	Run 2	Run 3	Average
Date		4/30/25	4/30/25	4/30/25	--
Start Time		9:51	12:42	15:30	--
Stop Time		11:41	14:27	17:18	--
Run Time, min		90.0	90.0	90.0	90.0
VELOCITY HEAD, in. WC					
Point 1		0.90	0.91	0.92	0.91
Point 2		0.86	0.86	0.95	0.89
Point 3		0.84	0.88	0.91	0.88
Point 4		0.87	0.88	0.91	0.89
Point 5		0.88	0.89	0.89	0.89
Point 6		0.88	0.85	0.87	0.87
Point 7		0.79	0.89	0.88	0.85
Point 8		0.76	0.87	0.85	0.83
Point 9		0.76	0.86	0.87	0.83
Point 10		0.81	0.86	0.87	0.85
Point 11		0.80	0.85	0.85	0.83
Point 12		0.83	0.86	0.84	0.84
Point 13		0.75	0.94	0.88	0.86
Point 14		0.76	0.91	0.89	0.85
Point 15		0.79	0.89	0.85	0.84
Point 16		0.80	0.87	0.86	0.84
Point 17		0.84	0.87	0.86	0.86
Point 18		0.85	0.90	0.84	0.86
Point 19		0.89	0.85	0.79	0.84
Point 20		0.90	0.79	0.81	0.83
Point 21		0.87	0.84	0.83	0.85
Point 22		0.87	0.88	0.85	0.87
Point 23		0.89	0.86	0.85	0.87
Point 24		0.91	0.88	0.87	0.89
CALCULATED DATA					
Square Root of ΔP, $(\text{in. WC})^{1/2}$	(ΔP)	0.915	0.934	0.931	0.926
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	29.49	29.49	29.49	29.49
Static Pressure, in. WC	(Pg)	-0.70	-0.70	-0.75	-0.72
Stack Pressure, in. Hg	(Ps)	29.44	29.44	29.43	29.44
Stack Cross-sectional Area, ft^2	(As)	26.73	26.73	26.73	26.73
Stack Temperature, °F	(Ts)	251.1	255.0	255.8	254.0
Stack Temperature, °R	(Ts)	710.8	714.7	715.4	713.6
Moisture Fraction Measured	(BWSmsd)	0.032	0.029	0.028	0.030
Moisture Fraction @ Saturation	(BWSsat)	1.000	1.000	1.000	1.000
Moisture Fraction	(BWS)	0.032	0.029	0.028	0.030
O_2 Concentration, %	(O_2)	20.2	20.3	20.3	20.27
CO_2 Concentration, %	(CO_2)	0.6	0.5	0.5	0.53
N_2 Concentration, %	(N_2)	79.2	79.2	79.2	79.20
Molecular Weight, lb/lb-mole (dry)	(Md)	28.90	28.89	28.89	28.90
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.56	28.57	28.59	28.57
Velocity, ft/sec	(Vs)	60.4	61.8	61.6	61.3
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	96,850	99,133	98,800	98,261
At Standard Conditions, scfm	(Qsw)	70,741	72,011	71,690	71,481
At Standard Conditions, dscfm	(Qs)	68,508	69,906	69,692	69,369

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Cyclonic Flow Check

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Date 04/29/25

Sample Point	Angle (ΔP=0)
1	0
2	1
3	0
4	1
5	1
6	-2
7	0
8	0
9	1
10	1
11	0
12	0
13	-1
14	0
15	0
16	0
17	1
18	0
19	0
20	2
21	0
22	0
23	-1
24	0
Average	1

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Method 4 Data

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Parameter Metals
Analysis Gravimetric

Run 1	Date:	4/30/25					
Impinger No.	1	2	3	4	5	6	Total
Contents	HNO3/H2O2	HNO3/H2O2	Empty	KMnO4	KMnO4	Silica	--
Initial Mass, g	770.8	723.0	620.1	705.6	759.1	919.9	4498.5
Final Mass, g	784.6	734.0	622.1	707.6	762.5	926.5	4537.3
Gain	13.8	11.0	2.0	2.0	3.4	6.6	38.8
Run 2	**Date:**	4/30/25					
Impinger No.	1	2	3	4	5	6	Total
Contents	HNO3/H2O2	HNO3/H2O2	Empty	KMnO4	KMnO4	Silica	--
Initial Mass, g	744.3	754.6	660.9	769.3	746.7	985.5	4661.3
Final Mass, g	748.5	767.1	664.2	770.3	748.0	999.8	4697.9
Gain	4.2	12.5	3.3	1.0	1.3	14.3	36.6
Run 3	**Date:**	4/30/25					
Impinger No.	1	2	3	4	5	6	Total
Contents	HNO3/H2O2	HNO3/H2O2	Empty	KMnO4	KMnO4	Silica	--
Initial Mass, g	779.2	729.0	624.9	714.3	763.7	926.5	4537.6
Final Mass, g	783.9	738.7	630.5	717.9	765.5	935.8	4572.3
Gain	4.7	9.7	5.6	3.6	1.8	9.3	34.7

Alliance TECHNICAL GROUP

Isokinetic Field Data

Location:	Sims Metal - Sims Metal			Start Time:	9:51	Source:	Hammermill Shredder Outlet
Date:	4/30/25	Run 1	VALID	End Time:	11:41	Project No.:	AST-2025-0397	Parameter:	Metals

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)		MOIST. DATA	
Moisture:	3.0	% est.	Meter Box ID:	2571		Est. Tm:	65	°F		Pb:	29.49	in. Hg	Vlc (ml)
Barometric:	29.49	in. Hg	Y:	0.981		Est. Ts:	262	°F		Pg:	-0.70	in. WC	38.8
Static Press:	-0.70	in. WC	ΔH @ (in.WC):	1.777		Est. ΔP:	0.79	in. WC		O_2:	20.2	%	K-FACTOR
Stack Press:	29.44	in. Hg	Probe ID:	PR-604-5		Est. Dn:	0.236	in.		CO_2:	0.6	%	1.420
CO_2:	1.0	%	Liner Material:	glass		Target Rate:	0.75	scfm				Check Pt.	Initial	Final	Corr.
O_2:	20.0	%	Pitot ID:	PR-604-5		LEAK CHECK!	Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)			–
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.001	–	–	–	0.000	Mid 2 (cf)			–
Md:	28.96	lb/lb-mole	Nozzle ID:	G-3-22	glass	Vacuum (in Hg):	10	–	–	–	3	Mid 3 (cf)			–
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.210		Pitot Tube:	Pass	–	–	–	Pass	Mid-Point Leak Check Vol (cf):			–

Sample Pt.	Sample Time (minutes) Begin	End	Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F) DGM Average Amb.	Stack Amb.	Orifice Press. ΔH (in. WC) Ideal	Actual	Pump Vac (in. Hg)	Gas Temperatures (°F) Probe Amb.	Filter Amb.	Imp Exit Amb.	NA Amb.	% ISO	Vs (fps)
B1	0.00	3.75	528.460	0.90	58	251	1.28	1.30	3	251	254	48	-	101.2	62.56
2	3.75	7.50	530.915	0.86	58	249	1.23	1.20	3	249	254	46	-	101.4	61.06
3	7.50	11.25	533.325	0.84	58	251	1.20	1.20	3	251	254	45	-	101.5	60.44
4	11.25	15.00	535.705	0.87	58	250	1.24	1.20	3	250	254	45	-	100.9	61.46
5	15.00	18.75	538.115	0.88	58	250	1.26	1.30	3	250	251	45	-	100.4	61.81
6	18.75	22.50	540.525	0.88	58	248	1.26	1.30	3	256	251	45	-	101.5	61.73
C1	22.50	26.25	542.965	0.79	59	254	1.12	1.10	3	250	254	48	-	101.8	58.73
2	26.25	30.00	545.280	0.76	59	254	1.08	1.10	3	251	255	48	-	102.9	57.61
3	30.00	33.75	547.575	0.76	59	251	1.09	1.10	3	251	255	49	-	102.5	57.49
4	33.75	37.50	549.865	0.81	60	250	1.16	1.20	3	251	255	49	-	101.2	59.30
5	37.50	41.25	552.205	0.80	60	256	1.14	1.10	3	253	254	50	-	100.9	59.19
6	41.25	45.00	554.515	0.83	60	253	1.18	1.20	3	253	256	50	-	101.9	60.16
D1	45.00	48.75	556.895	0.75	62	250	1.08	1.10	3	250	254	53	-	100.2	57.07
2	48.75	52.50	559.135	0.76	62	249	1.09	1.10	3	249	251	50	-	100.8	57.40
3	52.50	56.25	561.405	0.79	63	250	1.14	1.10	3	250	253	50	-	100.5	58.57
4	56.25	60.00	563.715	0.80	63	249	1.15	1.20	3	251	252	49	-	100.9	58.90
5	60.00	63.75	566.050	0.84	63	254	1.20	1.20	3	250	249	50	-	101.0	60.56
6	63.75	67.50	568.435	0.85	63	251	1.22	1.20	3	249	255	50	-	99.9	60.79
A1	67.50	71.25	570.815	0.89	64	254	1.28	1.30	3	251	254	56	-	100.6	62.34
2	71.25	75.00	573.265	0.90	64	251	1.30	1.30	3	249	250	50	-	100.6	62.56
3	75.00	78.75	575.735	0.87	64	251	1.25	1.30	3	249	251	50	-	101.5	61.50
4	78.75	82.50	578.185	0.87	65	251	1.26	1.30	3	251	251	51	-	100.9	61.50
5	82.50	86.25	580.625	0.89	65	250	1.29	1.30	3	251	252	50	-	99.7	62.16
6	86.25	90.00	583.065	0.91	65	250	1.32	1.30	3	250	252	49	-	102.2	62.86
	Final DGM:		585.595												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	90.0	min	57.135	ft^3	0.84	in. WC	61.2	°F	251.1	°F	3	1.208	in. WC	101.2	0.032	0.7

Alliance TECHNICAL GROUP

Isokinetic Field Data

Location:	Sims Metal - Sims Metal			Start Time:	12:42	Source:	Hammermill Shredder Outlet
Date:	4/30/25	Run 2	VALID	End Time:	14:27	Project No.:	AST-2025-0397	Parameter:	Metals

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)		MOIST. DATA
Moisture:	3.0	% est.	Meter Box ID:	2571		Est. Tm:	61	°F		Pb:	29.49	in. Hg	Vlc (ml)
Barometric:	29.49	in. Hg	Y:	0.981		Est. Ts:	251	°F		Pg:	-0.70	in. WC	36.6
Static Press:	-0.70	in. WC	ΔH @ (in.WC):	1.777		Est. ΔP:	0.84	in. WC		O_2:	20.3	%	K-FACTOR
Stack Press:	29.44	in. Hg	Probe ID:	PR-604-S		Est. Dn:	0.232	in.		CO_2:	0.5	%	1.43
CO_2:	1.0	%	Liner Material:	glass		Target Rate:	0.75	scfm					
O_2:	20.0	%	Pitot ID:	PR-604-S		LEAK CHECK:	Pre	Mid 1	Mid 2	Mid 3	Post	Check Pt.	Initial	Final	Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.001	--	--	--	0.000	Mid 1 (cf)			--
Md:	28.96	lb/lb-mole	Nozzle ID:	G-3-22	glass	Vacuum (in Hg):	10	--	--	--	3	Mid 2 (cf)			--
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.210		Pitot Tube:	Pass	--	--	--	Pass	Mid 3 (cf)			--
												Mid-Point Leak Check Vol (cf):			--

Sample Pt.	Sample Time (minutes) Begin	End	Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F) DGM Average Amb.	Stack Amb.	Orifice Press. ΔH (in. WC) Ideal	Actual	Pump Vac (in. Hg)	Gas Temperatures (°F) Probe Amb.	Filter Amb.	Imp Exit Amb.	NA Amb.	% ISO	Vs (fps)
B1	0.00	3.75	591.500	0.91	64	254	1.31	1.30	3	255	255	59	-	100.9	63.04
2	3.75	7.50	593.985	0.86	64	254	1.23	1.20	3	254	255	59	-	100.8	61.28
3	7.50	11.25	596.400	0.88	64	255	1.26	1.30	3	254	255	58	-	100.8	62.03
4	11.25	15.00	598.840	0.88	64	255	1.26	1.30	3	256	255	57	-	102.3	62.03
5	15.00	18.75	601.315	0.89	64	256	1.27	1.30	3	256	255	57	-	102.6	62.43
6	18.75	22.50	603.810	0.85	65	254	1.22	1.20	3	256	255	57	-	101.2	60.92
C1	22.50	26.25	606.225	0.89	65	255	1.28	1.30	3	255	257	57	-	100.9	62.38
2	26.25	30.00	608.685	0.87	65	256	1.25	1.20	3	255	259	55	-	102.9	61.72
3	30.00	33.75	611.165	0.86	65	256	1.23	1.20	3	256	258	55	-	102.0	61.37
4	33.75	37.50	613.610	0.86	65	255	1.23	1.20	3	256	260	55	-	101.1	61.32
5	37.50	41.25	616.035	0.85	65	251	1.23	1.20	3	259	260	55	-	101.2	60.79
6	41.25	45.00	618.455	0.86	65	254	1.24	1.20	3	254	260	56	-	100.4	61.28
D1	45.00	48.75	620.865	0.94	67	256	1.35	1.40	3	252	261	57	-	101.5	64.16
2	48.75	52.50	623.415	0.91	67	257	1.31	1.30	3	254	260	56	-	101.7	63.17
3	52.50	56.25	625.930	0.89	67	257	1.28	1.30	3	254	263	56	-	101.0	62.47
4	56.25	60.00	628.400	0.87	68	254	1.26	1.30	3	255	263	56	-	101.2	61.63
5	60.00	63.75	630.855	0.87	68	255	1.26	1.30	3	251	263	56	-	100.6	61.68
6	63.75	67.50	633.295	0.90	68	255	1.30	1.30	3	251	260	55	-	101.4	62.73
A1	67.50	71.25	635.795	0.85	69	255	1.23	1.20	3	254	261	54	-	102.2	60.96
2	71.25	75.00	638.250	0.79	69	256	1.14	1.10	3	255	259	54	-	101.1	58.81
3	75.00	78.75	640.590	0.84	69	256	1.21	1.20	3	255	258	53	-	100.8	60.65
4	78.75	82.50	642.995	0.88	69	256	1.27	1.30	3	254	261	54	-	102.0	62.07
5	82.50	86.25	645.485	0.86	69	255	1.24	1.20	3	258	261	54	-	101.8	61.32
6	86.25	90.00	647.945	0.88	69	254	1.27	1.30	3	258	260	55	-	100.2	61.99
	Final DGM:		650.395												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	90.0	min	58.895	ft^3	0.87	in. WC	66.4	°F	255.0	°F	3	1.254	in. WC	101.2	0.029	1.3

Alliance TECHNICAL GROUP

Isokinetic Field Data

Location:	Sims Metal - Sims Metal			Start Time:	15:30	Source:	Hammermill Shredder Outlet
Date:	4/30/25	Run 3	VALID	End Time:	17:18	Project No.:	AST-2025-0397	Parameter:	Metals

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)		MOIST. DATA
Moisture:	3.0	% est.	Meter Box ID:	2571		Est. Tm:	66	°F		Pb:	29.49	in. Hg	Vlc (ml)
Barometric:	29.49	in. Hg	Y:	0.981		Est. Ts:	255	°F		Pg:	-0.75	in. WC	34.7
Static Press:	-0.70	in. WC	ΔH @ (in.WC):	1.777		Est. ΔP:	0.87	in. WC		O_2:	20.3	%	K-FACTOR
Stack Press:	29.44	in. Hg	Probe ID:	PR-604-5		Est. Dn:	0.229	in.		CO_2:	0.5	%	1.438
CO_2:	1.0	%	Liner Material:	glass		Target Rate:	0.75	scfm				Check Pt.	Initial	Final	Corr.
O_2:	20.0	%	Pitot ID:	PR-604-5		LEAK CHECK:	Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)			–
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.000	–	–	–	0.000	Mid 2 (cf)			–
Md:	28.96	lb/lb-mole	Nozzle ID:	G-3-22	glass	Vacuum (in Hg):	10	–	–	–	3	Mid 3 (cf)			–
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.210		Pitot Tube:	Pass	–	–	–	Pass	Mid-Point Leak Check Vol (cf):			–

Sample Pt.	Sample Time (minutes) Begin	End	Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F) DGM Average Amb.	Stack Amb.	Orifice Press. ΔH (in. WC) Ideal	Actual	Pump Vac (in. Hg)	Gas Temperatures (°F) Probe Amb.	Filter Amb.	Imp Exit Amb.	NA Amb.	% ISO	Vs (fps)
B1	0.00	3.75	650.800	0.92	60	254	1.31	1.30	3	254	261	45	-	100.1	63.38
2	3.75	7.50	653.260	0.95	60	255	1.35	1.40	3	254	261	44	-	100.4	64.45
3	7.50	11.25	655.765	0.91	61	255	1.30	1.30	3	255	261	44	-	101.5	63.08
4	11.25	15.00	658.250	0.91	61	256	1.29	1.30	3	257	261	43	-	101.6	63.12
5	15.00	18.75	660.735	0.89	60	256	1.26	1.30	3	257	260	43	-	101.5	62.43
6	18.75	22.50	663.185	0.87	61	258	1.23	1.20	3	255	260	42	-	100.9	61.81
C1	22.50	26.25	665.595	0.88	61	257	1.25	1.20	3	256	259	44	-	102.1	62.12
2	26.25	30.00	668.050	0.85	62	257	1.21	1.20	3	256	258	44	-	101.6	61.05
3	30.00	33.75	670.455	0.87	62	254	1.24	1.20	3	258	258	44	-	101.7	61.63
4	33.75	37.50	672.895	0.87	62	255	1.24	1.20	3	259	258	45	-	101.3	61.68
5	37.50	41.25	675.325	0.85	64	256	1.22	1.20	3	260	258	45	-	100.7	61.01
6	41.25	45.00	677.720	0.84	64	255	1.20	1.20	3	260	259	46	-	101.3	60.61
D1	45.00	48.75	680.115	0.88	63	254	1.26	1.30	3	261	261	50	-	102.2	61.99
2	48.75	52.50	682.585	0.89	64	255	1.28	1.30	3	265	256	49	-	101.5	62.38
3	52.50	56.25	685.055	0.85	64	256	1.22	1.20	3	260	256	48	-	101.4	61.01
4	56.25	60.00	687.465	0.86	65	256	1.23	1.20	3	260	256	48	-	101.4	61.37
5	60.00	63.75	689.895	0.86	65	256	1.23	1.20	3	259	256	48	-	102.2	61.37
6	63.75	67.50	692.345	0.84	65	257	1.20	1.20	3	255	257	47	-	101.0	60.69
A1	67.50	71.25	694.735	0.79	65	254	1.14	1.10	3	254	259	48	-	102.2	58.73
2	71.25	75.00	697.085	0.81	65	254	1.16	1.20	3	254	259	48	-	101.8	59.47
3	75.00	78.75	699.455	0.83	65	255	1.19	1.20	3	256	258	48	-	100.6	60.24
4	78.75	82.50	701.825	0.85	65	255	1.22	1.20	3	256	260	49	-	101.9	60.96
5	82.50	86.25	704.255	0.85	65	259	1.21	1.20	3	256	260	49	-	100.8	61.14
6	86.25	90.00	706.650	0.87	65	259	1.24	1.20	3	258	261	49	-	102.5	61.85
	Final DGM:		709.115												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	90.0	min	58.315	ft^3	0.87	in. WC	63.1	°F	255.8	°F	3	1.229	in. WC	101.1	0.028	1.6

Permanent Total Enclosure

Method 204 Demonstration & Calculations - Based on Field Observations

Calculation Details - Sims Paulina

Date: 6/9/2025

Method 204 Criteria

1	Any NDO shall be at least four equivalent opening diameters from each VOC emitting point
3	The total area of all NDOs shall not exceed 5 percent of the surface area of the enclosure's four walls, floor, and ceiling
4	The average facial velocity of air through all NDOs shall be at least 200 FPM. The direction of air flow through all NDOs shall be into the enclosure

	NDO #1		NDO #2		NDO #3		SUM NDOs	Total Area	% Tot
M204 Criteria	EQ D (4*D)	Distance to VOC PT	EQ D (4*D)	Distance to VOC PT	EQ D (4*D)	Distance to VOC PT	Area	PTE	NDO Area/PTE Area
1	18.6	44.4	8.3	37.8	15.4	23.5			
3	17.0		3.4		11.7		32	4523	0.7%
4							1,864		
							Avg. Facial Velocity		

Method 204 Demonstration & Calculations - Based on Field Observations

Calculation Details - Sims Paulina

Date: 6/9/2025

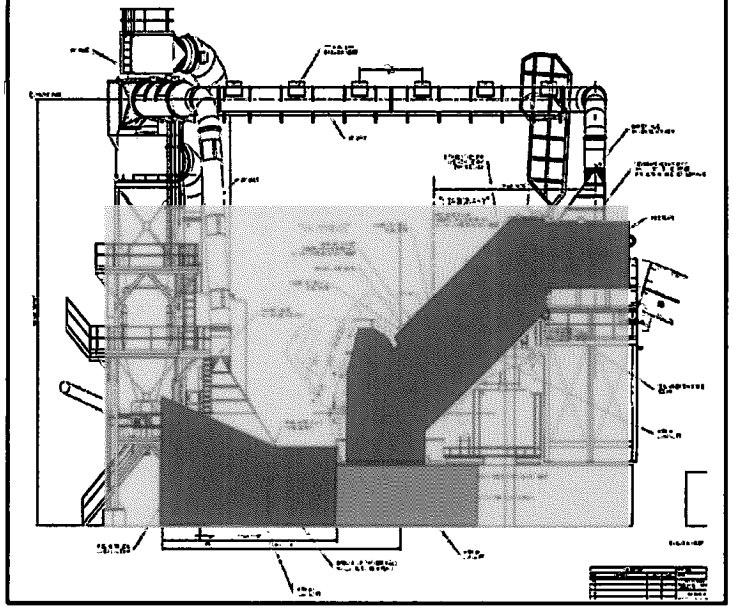
-The below information should be used in combination with Drawing Numbers 21083-DC1-A25 and A3191R10 from Hammermills International
-NDO #1 is the Infeed Enclosure opening
-NDO #2 is the UMO Takeaway Conveyor opening
-NDO #3 is the small infeed viewing window

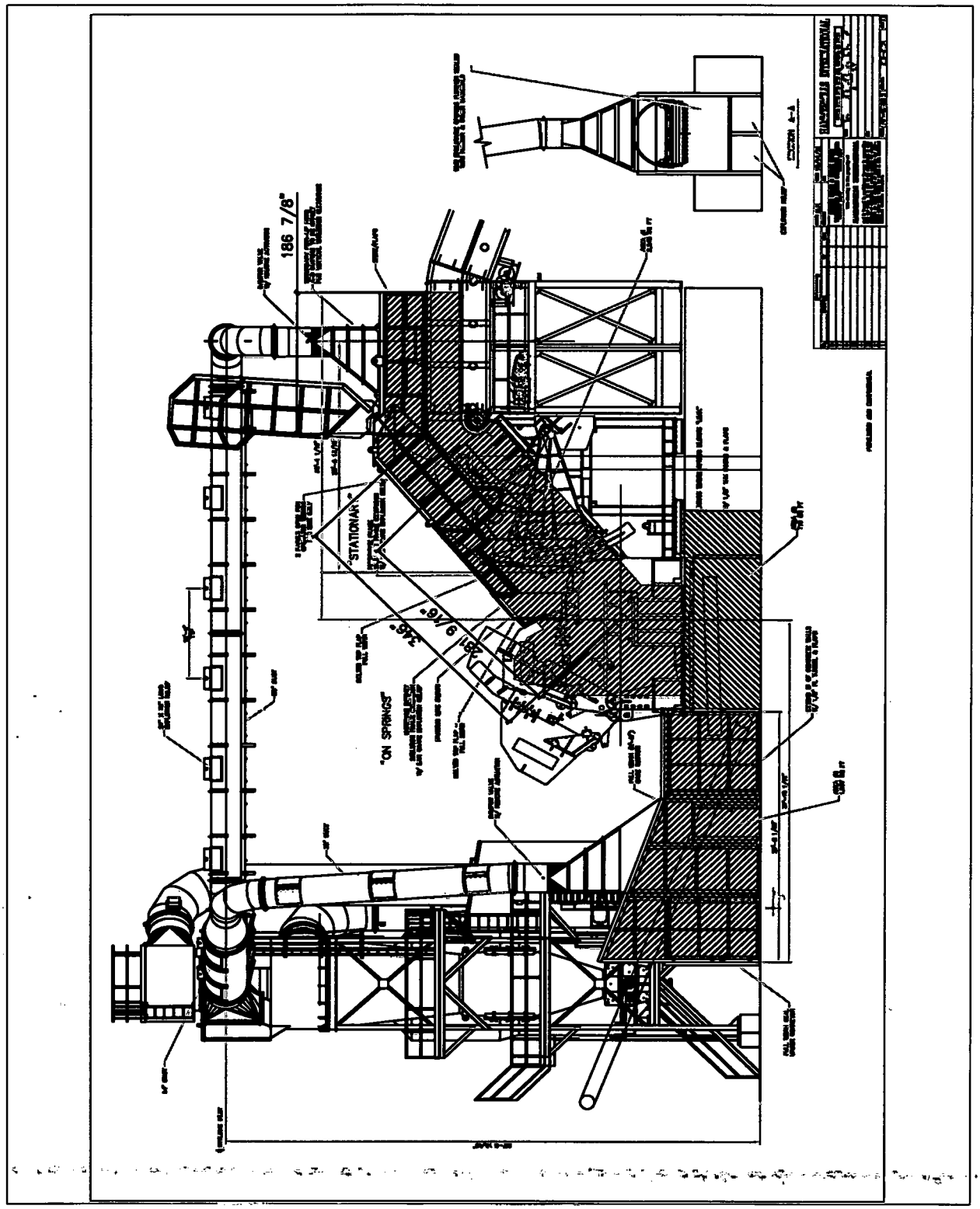
Air Flow	59,694	SCFM						
	Surf. Area		Height [ft]	Width [ft]	Equiv. Diam [ft]	4 x Diam	Distance to VOC PT	NDO/Area
NDO #1	17.0	SQFT	2.0	8.5	4.65	18.6	44.4	
NDO #2	3.4	SQFT	0.65	5.21	2.07	8.3	37.8	
NDO #3	11.7	SQFT	2.50	4.67	3.85	15.4	23.5	
Total	32.0	SQFT						0.7%

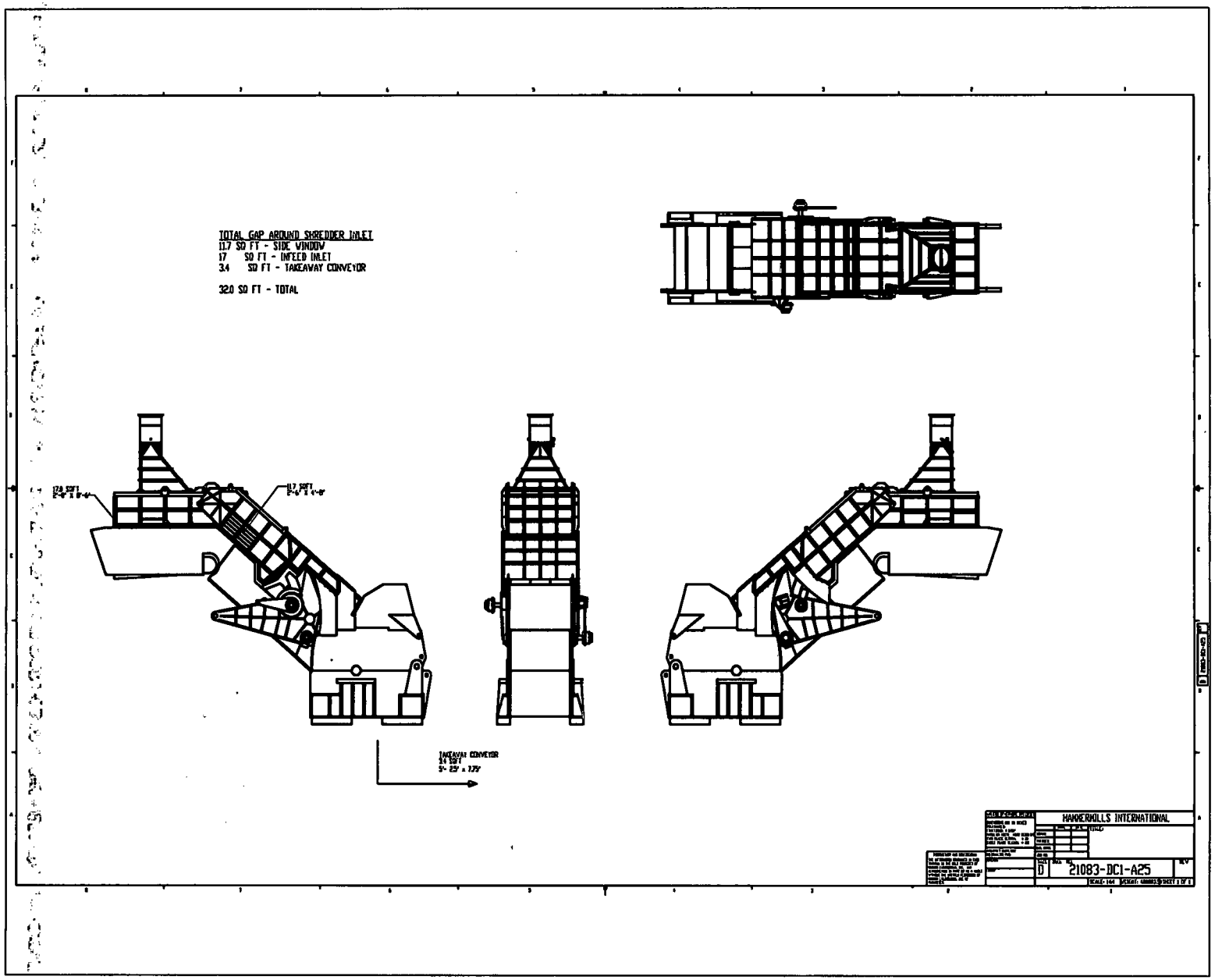
	Surf. Area	
Infeed & Shredder	2248	SQFT
Under Shredder	718	SQFT
Takeaway	1557	SQFT
Total	4523	SQFT

-Above values represent surface area of the various sections of Shredder enclosure
-All surface area values determined through the use of SolidWorks engineering/design software
-The Hammermill's rotor is considered the VOC emitting point (as it is the center of the physical shredding process)

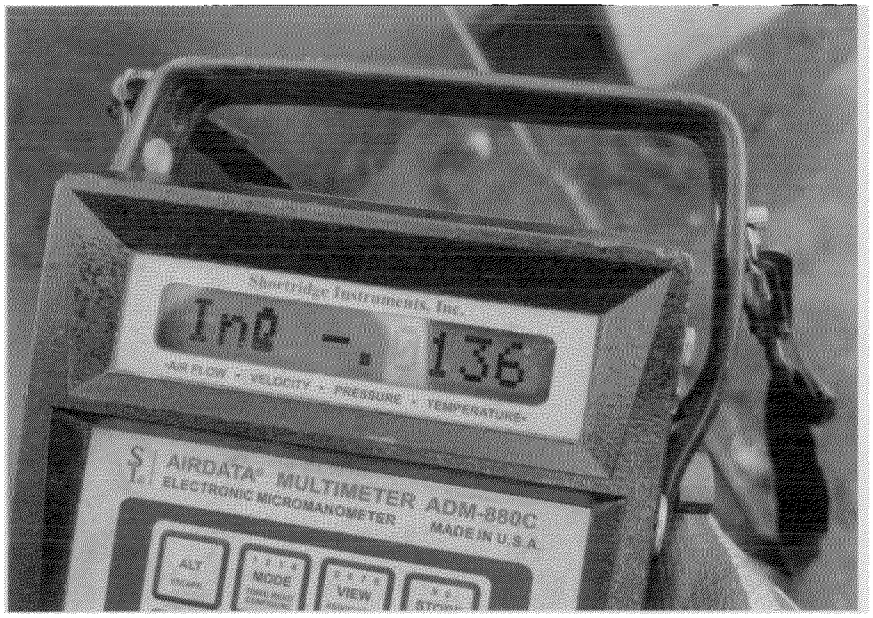
Sims Paulina Shredder Method 204 Areas




186 7/8"
"STATIONARY"
"ON SPRINGS"


TOTAL GAP AROUND SHREDDER INLET
117 SQ FT - SIDE WINDOW
17 SQ FT - INFEED INLET
3.4 SQ FT - TAKEAWAY CONVEYOR
320 SQ FT - TOTAL
TAKEAWAY CONVEYOR
HAMMERMILLS INTERNATIONAL
D
21083-DC1-A25

Infeed Related NDO - Differential Pressure Reading (Above)



UMO Related NDO - Differential Pressure Reading (Above)

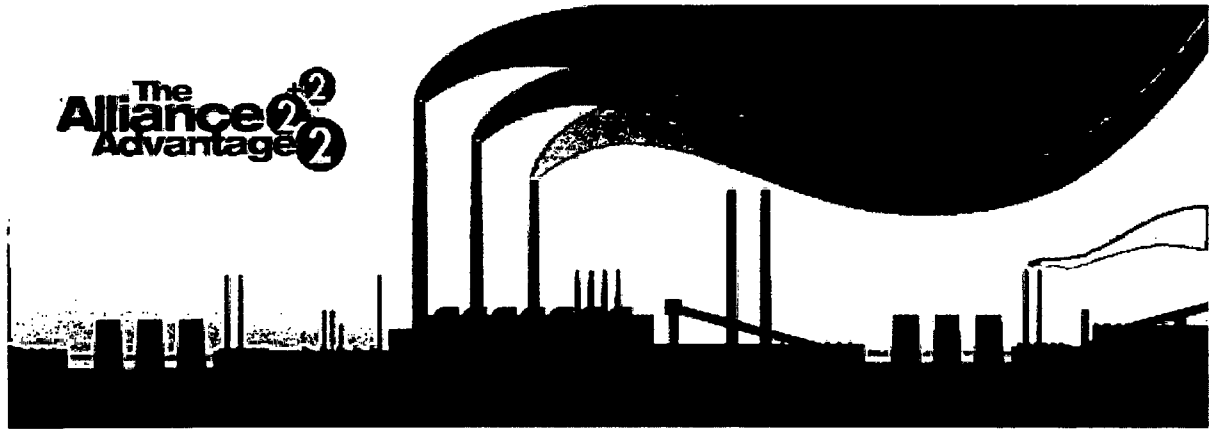
Appendix C

Alliance Technical Group, LLC
Analytical Services
214 Central Circle
Decatur, AL 35603
(256) 274-4488
www.alliancetg.com

Analytical Laboratory Report

Sims Metal
2500 South Paulina Street
Chicago, Illinois 60608

Project No. AST-2025-0397-LS



Version No. LT 2022-00_25.3

Certification Statement

Alliance Technical Group, LLC (ATG) has completed the analysis as described in this report. Results apply only to the source(s) tested and operating condition(s) for the specific test date(s) and time(s) identified within this report. All results are intended to be considered in their entirety, and ATG is not responsible for use of less than the complete test report without written consent. This report shall not be reproduced in full or in part without written approval from the customer.

To the best of my knowledge and abilities, all information, facts and test data are correct. Data presented in this report has been checked for completeness and is accurate, error-free and legible. Any deviations or problems are detailed in the relevant sections on the test report.

This document was prepared in portable document format (.pdf) and contains pages as identified in the bottom footer of this document.

Validation Signature

The analytical data and all QC contained within this report was reviewed and validated by the following individual.

Rebecca Pope

Digitally signed by Rebecca Pope
Reason: I have reviewed this document
Location:
Date: 2025.05.14 09:04:29-05'00'
Foxit PDF Editor Version: 12.1.4

Rebecca Pope
Lab Quality Analyst

Date

Project Narrative

Analytical Method(s):	*Method 5 - Determination of Particulate Matter Emissions From Stationary Sources* *Method 202 - Dry Impinger Method for Determining Condensable Particulate Matter Emissions From Stationary Sources*
Filterable	The filter(s) were oven dried and desiccated per the method until a final weight was obtained. The liquid fractions were extracted if required, evaporated and cooled until a final weight was obtained. These fractions were summed together to provide the total Filterable Particulate Matter collected.
Condensable	The filter(s) were cut up and extracted per the method. The organic extract was added to the organic rinse, and the inorganic extract was added to the inorganic rinse. The inorganic fraction was extracted with solvent per the method. Extracts were combined with the organic rinse. The organic and inorganic fractions were evaporated and desiccated until a final weight was obtained.
MDL	The Minimum Detection Level (MDL) is 0.5 mg per fraction. If the measured result for a fraction is less than the MDL, the MDL was used in ensuing calculations.
Blank Correction	If blank correction is performed, only blank values returned higher than the MDL are used. If a blank returns a value less than the MDL, no correction is included. Method 202 Recovery Blank corrections are applied by fraction (inorganic subtracted from inorganic; organic subtracted from organic).
Custody:	The samples were received by John Lawrence on 5/5/25 in Decatur, AL. The samples were received in good condition with proper Chain-of-Custody documentation. No apparent container problems were noted upon receipt. Prior to analysis, the samples were kept secure with access limited to authorized personnel of ATG.
Number of Samples:	22
Labeling:	Acceptable
Analyst:	Madilyn Golembeck- Laboratory Analyst
Equipment:	Ohaus Balance PX224, S/N B919636400. This scale was used for analytical determinations. A&D Weighing AND EJ-1500, S/N 5A2845843. This scale was only used to measure the total mass of rinse collected. Analysis was performed on the same balance as the associated tare. Quincy Lab Inc oven, 40CG, SN G4-007640. Desiccator Number: The M5 filters and M202 organic fractions were placed in desiccator 1. The M202 inorganic fraction was placed in desiccator 6 The M5 rinses were placed in desiccator 7
Lab Reagents:	Acetone Lot Number: 240513 Hexane Lot Number: 243046
QC Notes:	The samples met the minimum criteria established by the relevant method.
Reporting Notes:	
Certifications:	Primary Accreditation: Louisiana Environmental Laboratory Accreditation Program (LELAP) Agency Interest (AI) No. 194891 Certificate: 05054, Expiration Date: 6/30/25 Secondary Accreditation: Texas Commission on Environmental Quality Certificate: T104704540-TX-C25-00047, Expiration Date: 2/28/26 Virginia Environmental Laboratory Accreditation Program (VELAP) VA Laboratory ID: 460299, Certificate: 13081 Expiration Date: 9/14/2025
State Registrations:	PADEP # 68-04598 NYDOH # 12146

Client	Sims Metal
City, State	Chicago, Illinois 60608
Project No.	AST-2025-0397
Method	EPA Method 5

Front Half Filter						
Lab ID	5219		5220		5221	
Field ID	HM Shred. Out.-Run 1		HM Shred. Out.-Run 2		HM Shred. Out.-Run 3	
Filter ID	26856-A		26846-A		26812-A	
Filter Tare Weight, g	0.4656		0.4581		0.5031	
Date - Oven	5/6/25		5/6/25		5/6/25	
Time - Oven	7:15		7:15		7:15	
Date of Weighing	5/6/25		5/6/25		5/6/25	
Time of Weighing	11:15		11:16		11:17	
Filter Weight, g	0.4656		0.4585		0.5036	
Filter PM Mass, mg*	0.5		0.5		0.5	
Front Half Rinse						
Lab ID	5222		5223		5224	
Field ID	HM Shred. Out.-Run 1		HM Shred. Out.-Run 2		HM Shred. Out.-Run 3	
Beaker ID	5222		5223		5224	
Beaker tare, g	4.2231		4.2030		4.2576	
Field Vessel with Acetone, g	91.6		101.6		74.1	
Empty Field Vessel,g	21.6		21.8		21.8	
Acetone Mass, g	70.0		79.8		52.3	
Date - Desiccator	5/6/25		5/6/25		5/6/25	
Time - Desiccator	9:30		9:30		9:30	
Date of Weighing	5/7/25	5/8/25	5/7/25	5/8/25	5/7/25	5/8/25
Time of Weighing	9:31	6:00	9:32	6:01	9:33	6:02
Weight, g	4.2244	4.2243	4.2044	4.2045	4.2581	4.2586
Rinse PM Mass, mg*	1.3		1.4		0.8	
Blank Corrected	Yes					
Residue from Blank (mg/g)	0.0064		0.0064		0.0064	
Acetone residue from rinse (mg)	0.4		0.5		0.3	
Max Acetone Residue (mg)	0.7		0.8		0.5	
Amount Subtracted for Blank (mg)	0.4		0.5		0.3	
Total Filterable PM Mass, mg	1.3		1.4		0.9	

*The total results have been calculated based on MDL values for any sample fractions which were below the MDL.

Client	Sims Metal
City, State	Chicago, Illinois 60608
Project No.	AST-2025-0397
Method	EPA Method 5

Blank Rinse		
Lab ID	5225	
Field ID	Acetone Blank	
Beaker ID	5225	
Beaker tare, g	4.2409	
Field Vessel with Acetone, g	333.2	
Empty Field Vessel, g	177.4	
Acetone Mass, g	155.8	
Date - Desiccator	5/6/25	
Time - Desiccator	9:30	
Date of Weighing	5/7/25	5/8/25
Time of Weighing	9:34	6:03
Weight, g	4.2417	4.2421
Measured Blank Mass, mg	1.0	
Blank Mass, mg*	1.0	
Blank Mass, mg/g	0.0064	

Client	Sims Metal
City, State	Chicago, Illinois 60608
Project No.	AST-2025-0397
Method	US EPA Method 202

Teflon Filter						
Lab ID	5226		5227		5228	
Field ID	HM Shred. Out.-Run 1		HM Shred. Out.-Run 2		HM Shred. Out.-Run 3	
Organic Fraction						
Lab ID	5229		5230		5231	
Field ID	HM Shred. Out.-Run 1		HM Shred. Out.-Run 2		HM Shred. Out.-Run 3	
Beaker ID	5229		5230		5231	
Beaker tare, g	4.2215		4.2329		4.2298	
Field Vessel w/ Solvent, g	304.0		312.4		297.6	
Empty Field Vessel, g	178.0		177.3		178.0	
Solvent Mass, g	126.0		135.1		119.6	
Date - Desiccator	5/7/25		5/7/25		5/7/25	
Time - Desiccator	6:30		6:30		6:30	
Date of Weighing	5/8/25	5/8/25	5/8/25	5/8/25	5/8/25	5/8/25
Time of Weighing	6:31	12:32	6:32	12:33	6:33	12:34
Weight, g	4.2263	4.2264	4.2381	4.2385	4.2351	4.2353
Organic Condensable Mass, mg*	4.9		5.4		5.4	
Inorganic Fraction						
Lab ID	5232		5233		5234	
Field ID	HM Shrod. Out.-Run 1		HM Shred. Out.-Run 2		HM Shred. Out.-Run 3	
Beaker ID	G6293		G6294		G6295	
Beaker tare, g	47.9787		40.6930		44.9927	
Field Vessel w/ Water, g	517.7		568.6		567.8	
Empty Field Vessel, g	282.7		283.0		283.0	
Water Mass, g	235.0		285.6		284.8	
Date - Desiccator	5/8/25		5/8/25		5/8/25	
Time - Desiccator	6:15		6:15		6:15	
Date of Weighing	5/9/25	5/9/25	5/9/25	5/9/25	5/9/25	5/9/25
Time of Weighing	6:16	12:17	6:17	12:18	6:18	12:19
Weight, g	47.9802	47.9798	40.6969	40.6971	44.9943	44.9944
Inorganic Condensable Mass, mg*	1.4		4.1		1.7	
Blank Corrected	Yes					
Total Condensable PM Mass, mg	4.2		7.5		5.1	

*All fractions were analyzed and returned values greater than the MDL of 0.5 mg.

Client	Sims Metal
City, State	Chicago, Illinois 60608
Project No.	AST-2025-0397
Method	US EPA Method 202

Teflon Filter Blanks		
	Field Train Blank	
Lab ID	5235	
Field ID	Field Train Blank	
Organic Fraction Blanks		
	Field Train Blank	
Lab ID	5236	
Field ID	Field Train Blank	
Beaker ID	5236	
Beaker tare, g	4.2591	
Field Vessel w/ Solvent, g	319.1	
Empty Field Vessel, g	177.8	
Solvent Mass, g	141.3	
Date - Desiccator	5/7/25	
Time - Desiccator	6:30	
Date of Weighing	5/8/25	5/8/25
Time of Weighing	6:34	12:35
Weight, g	4.2616	4.2620
Measured Organic Mass, mg	2.7	
Organic Mass, mg*	2.0	
Inorganic Fraction Blanks		
	Field Train Blank	
Lab ID	5237	
Field ID	Field Train Blank	
Beaker ID	G6296	
Beaker tare, g	39.4065	
Field Vessel w/ Water, g	379.1	
Empty Field Vessel, g	177.8	
Water Mass, g	201.3	
Date - Desiccator	5/8/25	
Time - Desiccator	6:15	
Date of Weighing	5/9/25	5/9/25
Time of Weighing	6:19	12:20
Weight, g	39.4084	39.4081
Measured Inorganic Mass, mg	1.8	
Inorganic Mass, mg*	1.8	

Chain-Of-Custody

Alliance Technical Group, LLC - Lab Services
214 Central Circle, Decatur, AL 35603
Phone (256) 351-0121

Client Name: Metal Management Midwest, Inc. (Sims Metal)
City, State: Chicago, IL
Source: Hammermill Shredder Outlet
Project No.: 25-0397

Turn Around Time: [✔] Standard [ ] Expedited ____ days
Blank Manuf./Lot #: DI ; 235845
Blank Manuf./Lot #: Hexane: 232666
Acetone: 240399

Sample ID	Number of Containers	Date Collected	Time Recovered	Collector Initials	HOLD	Method/Media: Method 5 — Filter Number - 83mm Quartz	Method 5 — Filter Number - 83mm Teflon	Method 5 — Probe Nozzle Rinse - Acetone	Method 5 — Probe Nozzle Rinse - 1-bromopropane	Method 17 — Filter Number - 47mm Quartz	Method 17 — Nozzle Rinse - Acetone	Method 201A — PM 2.5 Filter Number- 47mm Quartz	Method 201A — PM 2.5 Rinse - Acetone	Method 201A — PM 10 Filter Number- 47mm Quartz	Method 201A — PM 10 Rinse - Acetone	Method 202 — CPM Filter - 83mm Teflon	Method 202 — Condensate Catch - DIUF	Method 202 — Solvent Rinse - Acetone/Hexane
M5/202 - Hammermill Shredder Outlet - Run 1	5	4-30	13:30	WJW		26856-A		✔								✔	✔	✔
M5/202 - Hammermill Shredder Outlet - Run 2	5	4-30	16:30	WJW		26846-A		✔								✔	✔	✔
M5/202 - Hammermill Shredder Outlet - Run 3	5	4-30	18:45	WJW		26812-A		✔								✔	✔	✔
M5 - Acetone Blank	1	4-30	7:40	WJW				✔										
M202 - FT Recovery Blank	3	4-30	7:40	WJW												✔	✔	✔
M202 - Acetone Blank	1	4-30	7:40	WJW														✔
M202 - Water Blank	1	4-30	7:40	WJW														
M202 - Hexane Blank	1	4-30	7:40	WJW														✔

Relinquished By: Wyatt White Date: 5-1 Received By: [signature] Date: 5-5-25
Relinquished By: ____ Date: ____ Received By: ____ Date: ____
Relinquished By: ____ Date: ____ Received By: ____ Date: ____
Sample Container Recieved Temperature (°F): 68.9

Page ____ of ____

Notes
AST Office: CRI CRIreports@alliancetg.com
Parameter(s)PM, CPM

Weigh-Tec
4615 Marsha Ave
Decatur, Al. 35603

Weigh-Tec
Scale Test / Calibration Report
ISO/IEC 17025:2017 Accredited

Rev: 8/1/19 Cal. Rep. 4
Accreditation# 74114

Report Number: AST-0624-001

Customer	Location	Cal. Date	Expiration Date
Alliance Source Testing	214 Central Circle SW Decatur, AL 35603	6/28/2024	6/25

ID	Manufactuer	Model	Serial	Description	Capacity	Min. Grad.
	Ohaus	PA214	B919636400	Balance Room	210 g	0.0001g

REPEATABILITY TEST

As Found				As Left			
Test Wt.	Tolerance	Indication	Error	Test Wt.	Tolerance	Indication	Error
0	0.0000	0.0000	0.0000	0	0.0000	0.0000	0.0000
5	0.0001	5.0000	0.0000	5	0.0001	5.0000	0.0000
0	0.0000	0.0000	0.0000	0	0.0000	0.0000	0.0000

SHIFT TEST

As Found				As Left			
Test Wt.	Tolerance	Indication	Error	Test Wt.	Tolerance	Indication	Error
5	0.0001	4.9999	-0.0001	5	0.0001	5.0000	0.0000
5	0.0001	4.9999	-0.0001	5	0.0001	5.0000	0.0000
5	0.0001	4.9999	-0.0001	5	0.0001	5.0000	0.0000
5	0.0001	4.9999	-0.0001	5	0.0001	5.0000	0.0000

STRAIN TEST

As Found				As Left			
Test Wt.	Tolerance	Indication	Error	Test Wt.	Tolerance	Indication	Error
0.2	0.0001	0.2000	0.0000	0.2	0.0001	0.2000	0.0000
1	0.0001	1.0000	0.0000	1	0.0001	1.0000	0.0000
5	0.0001	4.9999	-0.0001	5	0.0001	5.0000	0.0000
50	0.0003	49.9998	-0.0002	50	0.0003	49.9998	-0.0002
150	0.0003	149.9998	-0.0002	150	0.0003	149.9998	-0.0002

DECREASING LOAD TEST | **COUNTING TEST**

TOLERANCE

Tolerance: NIST HB44		Class: I	
AS FOUND		AS LEFT	
In Tolerance	Out of Tolerance	In Tolerance	Out of Tolerance
YES		YES	

ENVIROMENT		
Enviromental Conditions Have Been Met?	YES	Exceptions and Conditions Needing Attention:

CALIBRATION STANDARDS USED		*Expanded uncertainty (U) expressed at approximatley 95% with K=2 factor	
Unit # (s)	Kits: 202002 LB / 2284 KG	N.I.S.T. Traceability (Exp 2/2025)	Measurement Uncertainty
50's (2-1 Thru 2-10), 1k's and 2k's Cast		232402, 11032303, LA23-846, 05112304, 02232401, WV23-0(	0.00011g

INVOLVED PARTIES

Technician(s)	License Number(s)	Customer Representative
David Allen	503647	John Lawrence
Test Method: Customer Stated Weight Increments	Authorized by: Dana Freeman QA Manager on 7-5-24	

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P.O. Box 266 Decatur, Al. Phone 1-800-461-4153

Weigh-Tec
4615 Marsha Ave
Decatur, Al. 35603

Weigh-Tec

Scale Test / Calibration Report

ISO/IEC 17025:2017 Accredited

Rev: 8/1/19 Cal. Rep. 4
Accreditation# 74114

Report Number: AST-0624-003

Customer	Location	Cal. Date	Expiration Date
Alliance Source Testing	214 Central Circle SW Decatur, AL 35603	6/28/2024	6/25

ID	Manufactuer	Model	Serial	Description	Capacity	Min. Grad.
	A&D	EJ-1500	5A2845843	LAB	1500 g	0.1g

REPEATABILITY TEST

As Found				As Left			
Test Wt.	Tolerance	Indication	Error	Test Wt.	Tolerance	Indication	Error
0	0.0	0.0	0.0	0	0.0	0.0	0.0
20	0.1	20.0	0.0	20	0.1	20.0	0.0
0	0.0	0.0	0.0	0	0.0	0.0	0.0

SHIFT TEST

As Found				As Left			
Test Wt.	Tolerance	Indication	Error	Test Wt.	Tolerance	Indication	Error
20	0.1	20.0	0.0	20	0.1	20.0	0.0
20	0.1	20.0	0.0	20	0.1	20.0	0.0
20	0.1	20.0	0.0	20	0.1	20.0	0.0
20	0.1	20.0	0.0	20	0.1	20.0	0.0

STRAIN TEST

As Found				As Left			
Test Wt.	Tolerance	Indication	Error	Test Wt.	Tolerance	Indication	Error
20	0.1	20.0	0.0	20	0.1	20.0	0.0
100	0.1	100.0	0.0	100	0.1	100.0	0.0
200	0.1	200.0	0.0	200	0.1	200.0	0.0
500	0.1	500.0	0.0	500	0.1	500.0	0.0
1000	0.1	1000.0	0.0	1000	0.1	1000.0	0.0

DECREASING LOAD TEST | **COUNTING TEST**

TOLERANCE

Tolerance: NIST HB-44		Class: I	
AS FOUND		AS LEFT	
In Tolerance	Out of Tolerance	In Tolerance	Out of Tolerance
YES		YES	

ENVIROMENT		
Enviromental Conditions Have Been Met?	YES	Exceptions and Conditions Needing Attention:

CALIBRATION STANDARDS USED		*Expanded uncertainty (U) expressed at approximatley 95% with K=2 factor
Unit # (s)	Kits: 202002 LB / 2284 KG	N.I.S.T. Traceability (Exp 2/2025)	Measurement Uncertainty
50's (2-1 Thru 2-10), 1k's and 2k's Cast		232402, 11032303, LA23-846, 05112304, 02232401, WV23-0(	0.11g

INVOLVED PARTIES

Technician(s)	License Number(s)	Customer Representative
David Allen	503647	John Lawrence
Test Method: Customer Stated Weight Increments	*Authorized by: Dawn Freeman QA Manager on 7-5-24*	

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P.O. Box 266 Decatur, Al. Phone 1-800-461-4153

Filter ID	Weight 1 (g)	Date	Initials	Oven ID	Oven Temp	Thermometer
26800-A	0.4979	12/02/24	MEG	S/N G4-007640	105° C	379990
26801-A	0.4990	12/02/24	MEG	S/N G4-007640	105° C	379990
26802-A	0.5010	12/02/24	MEG	S/N G4-007640	105° C	379990
26803-A	0.4894	12/02/24	MEG	S/N G4-007640	105° C	379990
26804-A	0.4916	12/02/24	MEG	S/N G4-007640	105° C	379990
26805-A	0.4832	12/02/24	MEG	S/N G4-007640	105° C	379990
26806-A	0.4934	12/02/24	MEG	S/N G4-007640	105° C	379990
26807-A	0.4914	12/02/24	MEG	S/N G4-007640	105° C	379990
26808-A	0.4962	12/02/24	MEG	S/N G4-007640	105° C	379990
26809-A	0.4870	12/02/24	MEG	S/N G4-007640	105° C	379990
26810-A	0.4839	12/06/24	MEG	S/N G4-007640	105° C	379990
26811-A	0.4896	12/06/24	MEG	S/N G4-007640	105° C	379990
26812-A	0.5031	12/06/24	MEG	S/N G4-007640	105° C	379990
26813-A	0.4990	12/06/24	MEG	S/N G4-007640	105° C	379990
26814-A	0.5002	12/06/24	MEG	S/N G4-007640	105° C	379990
26815-A	0.4918	12/06/24	MEG	S/N G4-007640	105° C	379990
26816-A	0.4960	12/06/24	MEG	S/N G4-007640	105° C	379990
26817-A	0.4950	12/06/24	MEG	S/N G4-007640	105° C	379990
26818-A	0.5011	12/06/24	MEG	S/N G4-007640	105° C	379990
26819-A	0.5014	12/06/24	MEG	S/N G4-007640	105° C	379990
26820-A	0.4912	12/06/24	MEG	S/N G4-007640	105° C	379990
26821-A	0.5062	12/06/24	MEG	S/N G4-007640	105° C	379990
26822-A	0.5043	12/06/24	MEG	S/N G4-007640	105° C	379990
26823-A	0.5028	12/06/24	MEG	S/N G4-007640	105° C	379990
26824-A	0.5037	12/06/24	MEG	S/N G4-007640	105° C	379990
26825-A	0.4922	12/06/24	MEG	S/N G4-007640	105° C	379990
26826-A	0.4873	12/06/24	MEG	S/N G4-007640	105° C	379990
26827-A	0.4998	12/06/24	MEG	S/N G4-007640	105° C	379990
26828-A	0.5017	12/06/24	MEG	S/N G4-007640	105° C	379990
26829-A	0.4986	12/06/24	MEG	S/N G4-007640	105° C	379990
26830-A	0.4899	12/06/24	MEG	S/N G4-007640	105° C	379990
26831-A	0.4823	12/06/24	MEG	S/N G4-007640	105° C	379990
26832-A	0.4896	12/06/24	MEG	S/N G4-007640	105° C	379990
26833-A	0.4818	12/06/24	MEG	S/N G4-007640	105° C	379990
26834-A	0.4871	12/06/24	MEG	S/N G4-007640	105° C	379990
26835-A	0.4889	12/06/24	MEG	S/N G4-007640	105° C	379990
26836-A	0.4907	12/06/24	MEG	S/N G4-007640	105° C	379990
26837-A	0.4915	12/06/24	MEG	S/N G4-007640	105° C	379990
26838-A	0.4956	12/06/24	MEG	S/N G4-007640	105° C	379990
26839-A	0.4967	12/06/24	MEG	S/N G4-007640	105° C	379990

Filter ID	Weight 1 (g)	Date	Initials	Oven ID	Oven Temp	Thermometer
26840-A	0.4967	12/06/24	MEG	S/N G4-007640	105° C	379990
26841-A	0.4948	12/06/24	MEG	S/N G4-007640	105° C	379990
26842-A	0.4953	12/06/24	MEG	S/N G4-007640	105° C	379990
26843-A	0.4986	12/06/24	MEG	S/N G4-007640	105° C	379990
26844-A	0.4953	12/06/24	MEG	S/N G4-007640	105° C	379990
26845-A	0.4973	12/06/24	MEG	S/N G4-007640	105° C	379990
26846-A	0.4581	12/06/24	MEG	S/N G4-007640	105° C	379990
26847-A	0.4561	12/06/24	MEG	S/N G4-007640	105° C	379990
26848-A	0.4623	12/06/24	MEG	S/N G4-007640	105° C	379990
26849-A	0.4644	12/06/24	MEG	S/N G4-007640	105° C	379990
26850-A	0.4672	12/06/24	MEG	S/N G4-007640	105° C	379990
26851-A	0.4678	12/06/24	MEG	S/N G4-007640	105° C	379990
26852-A	0.4526	12/06/24	MEG	S/N G4-007640	105° C	379990
26853-A	0.4563	12/06/24	MEG	S/N G4-007640	105° C	379990
26854-A	0.4667	12/06/24	MEG	S/N G4-007640	105° C	379990
26855-A	0.4661	12/06/24	MEG	S/N G4-007640	105° C	379990
26856-A	0.4656	12/06/24	MEG	S/N G4-007640	105° C	379990
26857-A	0.4530	12/06/24	MEG	S/N G4-007640	105° C	379990
26858-A	0.4649	12/06/24	MEG	S/N G4-007640	105° C	379990
26859-A	0.4570	12/06/24	MEG	S/N G4-007640	105° C	379990
26860-A	0.4549	12/06/24	MEG	S/N G4-007640	105° C	379990
26861-A	0.4505	12/06/24	MEG	S/N G4-007640	105° C	379990
26862-A	0.4553	12/06/24	MEG	S/N G4-007640	105° C	379990
26863-A	0.4518	12/06/24	MEG	S/N G4-007640	105° C	379990
26864-A	0.4644	12/06/24	MEG	S/N G4-007640	105° C	379990
26865-A	0.4460	12/06/24	MEG	S/N G4-007640	105° C	379990
26866-A	0.4533	12/06/24	MEG	S/N G4-007640	105° C	379990
26867-A	0.4546	12/06/24	MEG	S/N G4-007640	105° C	379990
26868-A	0.4554	12/06/24	MEG	S/N G4-007640	105° C	379990
26869-A	0.4636	12/06/24	MEG	S/N G4-007640	105° C	379990
26870-A	0.4508	12/06/24	MEG	S/N G4-007640	105° C	379990
26871-A	0.4468	12/06/24	MEG	S/N G4-007640	105° C	379990
26872-A	0.4539	12/06/24	MEG	S/N G4-007640	105° C	379990
26873-A	0.4679	12/06/24	MEG	S/N G4-007640	105° C	379990
26874-A	0.4624	12/06/24	MEG	S/N G4-007640	105° C	379990
26875-A	0.4468	12/06/24	MEG	S/N G4-007640	105° C	379990
26876-A	0.4450	12/06/24	MEG	S/N G4-007640	105° C	379990
26877-A	0.4487	12/06/24	MEG	S/N G4-007640	105° C	379990
26878-A	0.4663	12/06/24	MEG	S/N G4-007640	105° C	379990
26879-A	0.4527	12/06/24	MEG	S/N G4-007640	105° C	379990

This is the last page of the report.

Alliance Technical Group, LLC
Analytical Services
4500 Ball Road NE
Circle Pines, MN 55014
(763) 786-6020
www.alliancetg.com

Analytical Laboratory Report

Method 18 (Methane/Ethane)
Metal Management Midwest, Inc. (Sims Metal)
2500 South Paulina Street
Chicago, IL 60608

Source: Hammermill Shredder

Project No. AST-2025-0397

Version No. LT 2018-00_18.1

Certification Statement

Alliance Technical Group has completed the analysis as described in this report. Results apply only to the source(s) tested and operating condition(s) for the specific test date(s) and time(s) identified within this report. All results are intended to be considered in their entirety, and AST is not responsible for use of less than the complete test report without written consent. This report shall not be reproduced in full or in part without written approval from the customer.

To the best of my knowledge and abilities, all information, facts and test data are correct. Data presented in this report has been checked for completeness and is accurate, error-free and legible. Any deviations or problems are detailed in the relevant sections on the test report.

This document was prepared in portable document format (.pdf) and contains pages as identified in the bottom footer of this document.

Validation Signature

The analytical data and all QC contained within this report was reviewed and validated by the following individuals.

Russell J. Hildebrandt — 5/8/25
Russell J. Hildebrandt — Date
MSP Organic Chemistry Supervisor

Pritha Banerjee — 5/8/25
Banerjee, Pritha — Date
MSP Quality Assurance

Project Narrative

Analytical Method:	Method 18—Measurement of Gaseous Organic Compound Emissions by Gas Chromatography (GC) Flame Ionization Detection (FID)
Calibration:	Five certified calibration standards containing each analyte of interest was analyzed Each point generated a % deviation of less than 20%. A continuing calibration check (CCC) was run at the beginning, end and every ten (10) runs in the sample set .
Sample Analysis:	The retention times of the analytes in the calibration standards were used to identify peaks in the sample chromatograms. The area counts of the peaks in the sample chromatograms were multiplied by the slope of the appropriate calibration line to determine the concentration of target analytes in the samples.
MDL/RL:	The Reporting Limit (RL) for each GC/FID analyte is the lowest standard on the calibration curve 1.0 ppm. If the measured result for an analyte was less than the RL, the RL was reported.
Custody:	The samples were received by Blake Messer on 5/6/25 in Circle Pines, MN. The samples were received in good condition with proper Chain-of-Custody documentation. No apparent container problems were noted upon receipt. Prior to analysis, the samples were kept secure with access limited to authorized personnel of AST.
Number of Samples:	3
Labeling:	Acceptable
Analyst:	Michael Gruba
Equipment:	GC #12/FID
QC Notes:	The samples met the minimum criteria established by the relevant method.

ALLIANCE TECHNICAL GROUP
(763)786-6020

Methane, Ethylene and Ethane by GSV/GC/FID Reporting Form

Metal Management Midwest, Inc.
Sample Type: IGS
Analytical Method: GC/FID

Date Due: 5/20/2025
Analyst initials : MJG

AST Log #	Source	Test/Run	Date Collected	Analysis Date	Methane Instrument Reading	Ethylene Instrument Reading	Ethane Instrument Reading (ppmv)	Instrument D.L. (ppmv)	Dilution	Detection Limit (ppmv)	Methane Analytical Result (ppmv)	Ethane Analytical Result (ppmv)
2025-0397-30	M18 - Hammermill Shredder Outlet - Primary	1	4/30/2025	5/7/2025	13.878	< 1.0	< 1.0	1	1	1	13.9	< 1.0
2025-0397-31	M18 - Hammermill Shredder Outlet - Primary	2	4/30/2025	5/7/2025	13.244	< 1.0	< 1.0	1	1	1	13.2	< 1.0
2025-0397-32	M18 - Hammermill Shredder Outlet - Primary	3	4/30/2025	5/7/2025	14.904	< 1.0	< 1.0	1	1	1	14.9	< 1.0

Footnotes:

In-House: Sample AST-2025-0397-32 run in duplicate with similar results.

MAXIMA 820 METHOD REPORT

Printed: 24-JUL-2025 11:14

CAL20425

Sample Queue

Queue Parameters

File Path: C:\VARIAN\METHANE\CAL20425

Raw Sample Weight: 1.000

Starting Index: 1

Volume of Extract: 1.000

Stripchart Parameters

Scaling: Fit to highest valid peak **x-Axis limits:** 0.0-0.0

Peak Labels: Names, retention times **y-Axis limits:** 0.0-0.0

Regions: 0

Options: baselines, starts/ends, maxima

Sample Queue Table

#	Name	Type	Source	File Name	Index	Inj.Volume	Amount	Dilution
1	SYSTEM BLANK	UNKN	DISK	SB03221				1.000E+00
2	1.00ppm A11	STND	DISK	STD1				
3	2.0ppm A11	STND	DISK	STD2				
4	10 ppm A11	STND	DISK	STD3				
5	100ppm A11	STND	DISK	STD4				
6	10000ppm A11	STND	DISK	STD5				
7	CC1 CHECK	UNKN	DISK	CC02041				1.000E+00
8	RL CHECK	UNKN	DISK	RL02041				1.000E+00

Standard Concentrations

Component	1.00ppm A11	2.0ppm A11	10 ppm A11	100ppm A11	10000ppm A11
Methane	1.070E+00	2.000E+00	9.990E+00	9.980E+01	1.000E+04
ETHENE	1.020E+00	2.000E+00	9.990E+00	9.980E+01	1.000E+04
ETHANE	1.000E+00	2.000E+00	9.990E+00	9.980E+01	1.000E+04

Sample: SYSTEM BLANK
Channel: FID
Filename: SB0321
Acquired: 04-FEB-125 14:33
Method: C:\VARIAN\METHANE\CAL20425\CAL20425
Operator: BVT
Dilution: 1 : 1.000
x 10^-2 volts
3.25
0.00
2.00
4.00
6.00
minutes
0.59 Methane

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MAXIMA 820 CUSTOM REPORT

Printed: 24-JUL-2025 11:19:47

SAMPLE: SYSTEM BLANK
#1 in Method: CAL20425
Acquired: 4-FEB-2025 14:33
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

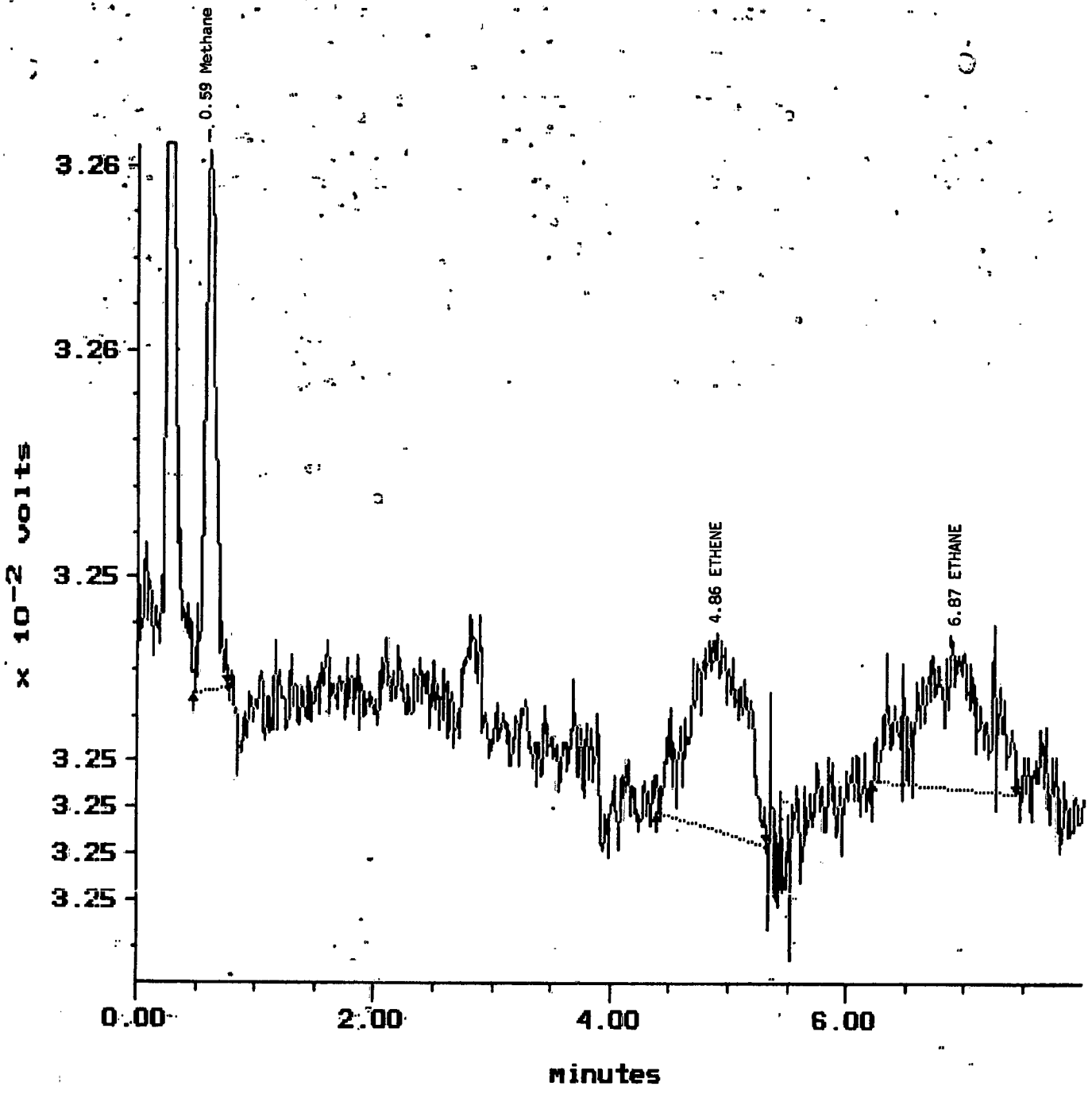
Type: UNKN
Instrument: VARIAN
Filename: SB03221
Index: Disk

Dilution: 1.000

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.59	Methane	118	0.383	0.383
TOTAL			118	0.383	0.383

Sample: 1.00ppm All Channel: FID Filename: STD1
Acquired: 04-FEB-125 14:44 Method: C:\VARIAN\METHANE\CAL20425\CAL20425 Operator: BVT



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MAXIMA 820 CUSTOM REPORT

Printed: 24-JUL-2025 10:45:12

SAMPLE: 1.00ppm All
#2 in Method: CAL20425
Acquired: 4-FEB-2025 14:44
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: STND
Instrument: VARIAN
Filename: STD1
Index: Disk

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.59	Methane	362	1.070	1.070
2	4.86	ETHENE	650	1.020	1.020
3	6.87	ETHANE	612	1.000	1.000
TOTAL			1624	3.090	3.090

Sample: 2.0ppm A11 Channel: FID Filename: ST02
Acquired: 04-FEB-125 14:55 Method: C:\VARIAN\METHANE\CAL20425\CAL20425 Operator: BVT
x 10^-2 volts
3.26
3.26
3.26
3.26
3.25
3.25
3.25
3.25
0.00
2.00
4.00
6.00
minutes
0.59 Methane
4.93 ETHENE
6.88 ETHANE

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MAXIMA 820 CUSTOM REPORT

Printed: 24-JUL-2025 10:45:19

SAMPLE: 2.0ppm All
#3 in Method: CAL20425
Acquired: 4-FEB-2025 14:55
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: STND
Instrument: VARIAN
Filename: STD2
Index: Disk

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.59	Methane	705	2.000	2.000
2	4.93	ETHENE	1282	2.000	2.000
3	6.88	ETHANE	1341	2.000	2.000
TOTAL			3327	6.000	6.000

Sample: 10 ppm A11 Channel: FID
Acquired: 04-FEB-125 15:08 Method: C:\VARIAN\METHANE\CAL20425\CAL20425 Filename: STD3
Operator: BVT
x 10^-2 volts
3.30
3.28
3.26
0.00
2.00
4.00
6.00
minutes
0.60 Methane
4.50 ETHENE
6.84 ETHANE

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MAXIMA 820 CUSTOM REPORT

Printed: 24-JUL-2025 10:45:25

SAMPLE: 10 ppm All
#4 in Method: CAL20425
Acquired: 4-FEB-2025 15:08
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: STND
Instrument: VARIAN
Filename: STD3
Index: Disk

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.60	Methane	3383	9.990	9.990
2	4.90	ETHENE	6561	9.990	9.990
3	6.84	ETHANE	6198	9.990	9.990
TOTAL			16142	29.970	29.970

Sample: 100ppm A11 Channel: FID
Acquired: 04-FEB-125 15:23 Method: C:\VARIAN\METHANE\CAL2042S\CAL2042S Filename: STD4
Operator: BVT
x 10^-2 volts
3.80
3.60
3.40
0.00
2.00
4.00
6.00
minutes
0.59 Methane
4.90 ETHENE
6.83 ETHANE

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MAXIMA 820 CUSTOM REPORT

Printed: 24-JUL-2025 10:45:31

SAMPLE: 100ppm All
#5 in Method: CAL20425
Acquired: 4-FEB-2025 15:23
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: STND
Instrument: VARIAN
Filename: STD4
Index: Disk

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.59	Methane	33392	99.800	99.800
2	4.90	ETHENE	66096	99.800	99.800
3	6.83	ETHANE	65201	99.800	99.800
TOTAL			164689	299.400	299.400

Sample: 10000ppm A11 Channel: FID
Acquired: 04-FEB-125 15:45 Method: C:\VARIAN\METHANE\CAL20425\CAL20425 Operator: BVT
Filename: STD5
x 10^-1 volts
5.00
4.00
3.00
2.00
1.00
0.00
0.58 Methane
4.78 ETHENE
6.63 ETHANE
2.00
4.00
6.00
minutes

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MAXIMA 820 CUSTOM REPORT

Printed: 24-JUL-2025 10:45:38

SAMPLE: 10000ppm All
#6 in Method: CAL20425
Acquired: 4-FEB-2025 15:45
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: STND
Instrument: VARIAN
Filename: STD5
Index: Disk

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.58	Methane	3071555	10000.000	10000.000
2	4.78	ETHENE	6454689	10000.000	10000.000
3	6.63	ETHANE	6498686	10000.000	10000.000
TOTAL			16024931	30000.000	30000.000

Sample: CC1 CHECK
Acquired: 04-FEB-125 16:23
Dilution: 1 : 1.000
Channel: FID
Method: C:\VARIAN\METHANE\CAL20425\CAL20425
Filename: CC02041
Operator: BVT
x 10^-2 volts
3.80
3.70
3.60
3.50
3.40
3.30
0.00
2.00
4.00
6.00
Minutes
0.59 Methane
4.91 ETHENE
6.84 ETHANE

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MAXIMA 820 CUSTOM REPORT

Printed: 24-JUL-2025 11:19:18

SAMPLE: CC1 CHECK
#7 in Method: CAL20425
Acquired: 4-FEB-2025 16:23
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: CC02041
Index: Disk.
Dilution: 1.000

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.59	Methane	30964	100.809	100.809
2	4.91	ETHENE	61785	95.722	95.722
3	6.84	ETHANE	62001	95.406	95.406
TOTAL			154751	291.937	291.937

Sample: RL CHECK
Acquired: 04-FEB-125 16:50
Dilution: 1 : 1.000
Channel: FID
Method: C:\VARIAN\METHANE\CAL2042S\CAL2042S
Filename: RL02041
Operator: BVT
x 10^-2 volts
3.26
3.26
3.26
3.25
3.25
3.25
3.25
0.00
2.00
4.00
6.00
minutes
0.60 Methane
4.86 ETHENE
6.80 ETHANE

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MAXIMA 820 CUSTOM REPORT

Printed: 24-JUL-2025 11:19:25

SAMPLE: RL CHECK
#8 in Method: CAL20425
Acquired: 4-FEB-2025 16:50
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: RL02041
Index: Disk

Dilution: 1.000

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.60	Methane	400	1.303	1.303
2	4.86	ETHENE	880	1.363	1.363
3	6.80	ETHANE	728	1.121	1.121
TOTAL			2008	3.787	3.787

MAXIMA 820 METHOD REPORT

Printed: 7-MAY-2025 14:31

250397

Sample Queue

Queue Parameters

File Path: C:\VARIAN\METHANE\050725

Starting Index: 1

Raw Sample Weight: 1.000

Volume of Extract: 1.000

Stripchart Parameters

Scaling: Fit to highest valid peak **x-Axis limits:** 0.0-0.0

Peak Labels: Names, retention times **y-Axis limits:** 0.0-0.0

Regions: 0

Options: baselines, starts/ends, maxima

Sample Queue Table

#	Name	Type	Source	File Name	Index	Inj.Volume	Amount	Dilution
1	1.00ppm All	STND	DISK	STD1				
2	2.0ppm All	STND	DISK	STD2				
3	10 ppm All	STND	DISK	STD3				
4	100ppm All	STND	DISK	STD4				
5	10000ppm All	STND	DISK	STD5				
6	SYSTEM BLANK	UNKN	DISK	SB05071				1.000E+00
7	RL CHECK	UNKN	DISK	RL05071				
8	CHECK	UNKN	DISK	CC05071				1.000E+00
9	METHOD BLANK 1	UNKN	DISK	MB05071				1.000E+00
10	250397-30	UNKN	DISK	25039730				1.000E+00
11	250397-31	UNKN	DISK	25039731				1.000E+00
12	250397-32	UNKN	DISK	25039732				1.000E+00
13	250397-32 DUP	UNKN	DISK	039737DP				
14	CHECK 2	UNKN	DISK	CC05072				
15	METHOD BLANK 2	UNKN	DISK	MB05072				

Standard Concentrations

Component	1.00ppm All	2.0ppm All	10 ppm All	100ppm All	10000ppm All
Methane	1.070E+00	2.000E+00	9.990E+00	9.980E+01	1.000E+04
ETHENE	1.020E+00	2.000E+00	9.990E+00	9.980E+01	1.000E+04
ETHANE	1.000E+00	2.000E+00	9.990E+00	9.980E+01	1.000E+04

MAXIMA 820 METHOD REPORT

Printed: 7-MAY-2025 14:19

250397

Operating Conditions Gas Chromatography

Operator ID: BVT
Injection Method: GSV
Sample Size: 1mL
Sample Pressure: 29.55"Hg
Column Type: Packed

Temperature Information

Column Temperature: Isothermal
Injector Temperature: 50
Detector Temperature: 230

Column Temperature Program

Oven Temp 85 Deg C Hold 20.0 min
Column Flow 30mL/min
FID: Range 11: H2 flow 30ml/min, Air flow 250mL/min

Column Information

Column 1

Column ID:	1/8"	**Solid Support:**	
Material:	Carbosieve G	**Percent Load:**	
Length:	18"	**Liquid Phase:**	
Internal Diameter:		**Mesh Size:**	80/100
Date Packed:			

Gas Specification for Column 1

Carrier Gas:	Helium	**Make-Up Gas:**	0
Flow/Pressure:	30ml/min:31.5ps	**Make-Up Flow:**	0
Split Ratio:	0		
Comment:			

Column 2

Column ID:		**Solid Support:**	
Material:	Inibead 1S	**Percent Load:**	
Length:	12	**Liquid Phase:**	
Internal Diameter:	1/8"	**Mesh Size:**	60/80
Date Packed:			

Gas Specification for Column 2

Carrier Gas:	Helium	**Make-Up Gas:**	0
Flow/Pressure:	30ml/min:31.5ps	**Make-Up Flow:**	0
Split Ratio:			
Comment:			

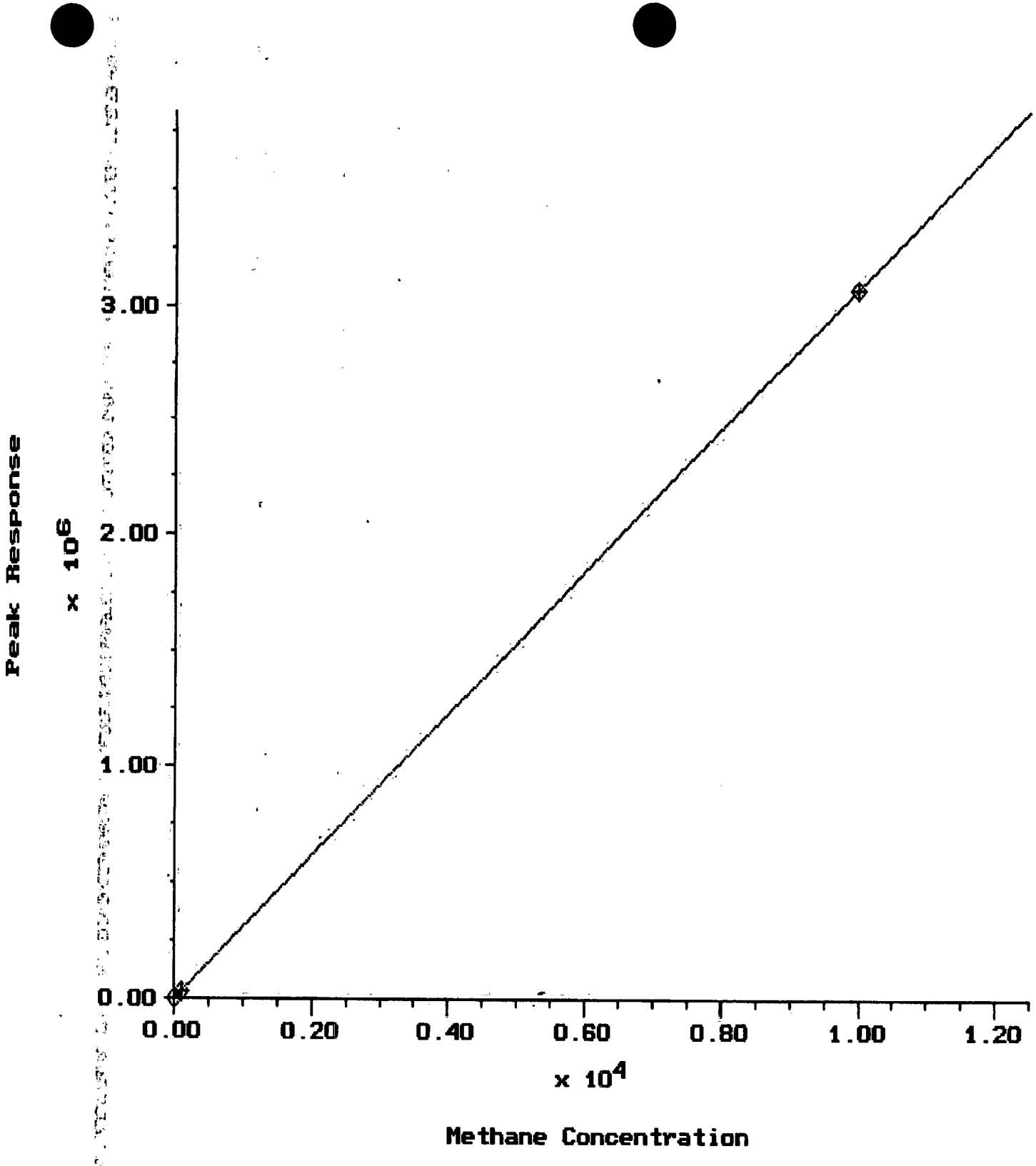
Detector Information

No.	Name	Type	Range	Comment
1	FID		11	

General Comments

Std's used:CHK 100PPM(CC461977):02/05/2027
1.0 PPM(225701051), 2.0 PPM(225701038) Exp.5/10/27 NORLAB
10 PPM(CC461867),100 PPM(CC461977),10000 PPM(CC480302):Exp 2/05/2027
TIER5 LABS. (METHANE, ETHANE, ETHYLENE) NITROGEN BALANCE

Stripchart Comment


Peak Response
x 10^6
3.00
2.00
1.00
0.00
0.00
0.20
0.40
0.60
0.80
1.00
1.20
x 10^4
Methane Concentration

Methane Calibration Report

Printed: 7-MAY-2025 14:15:06

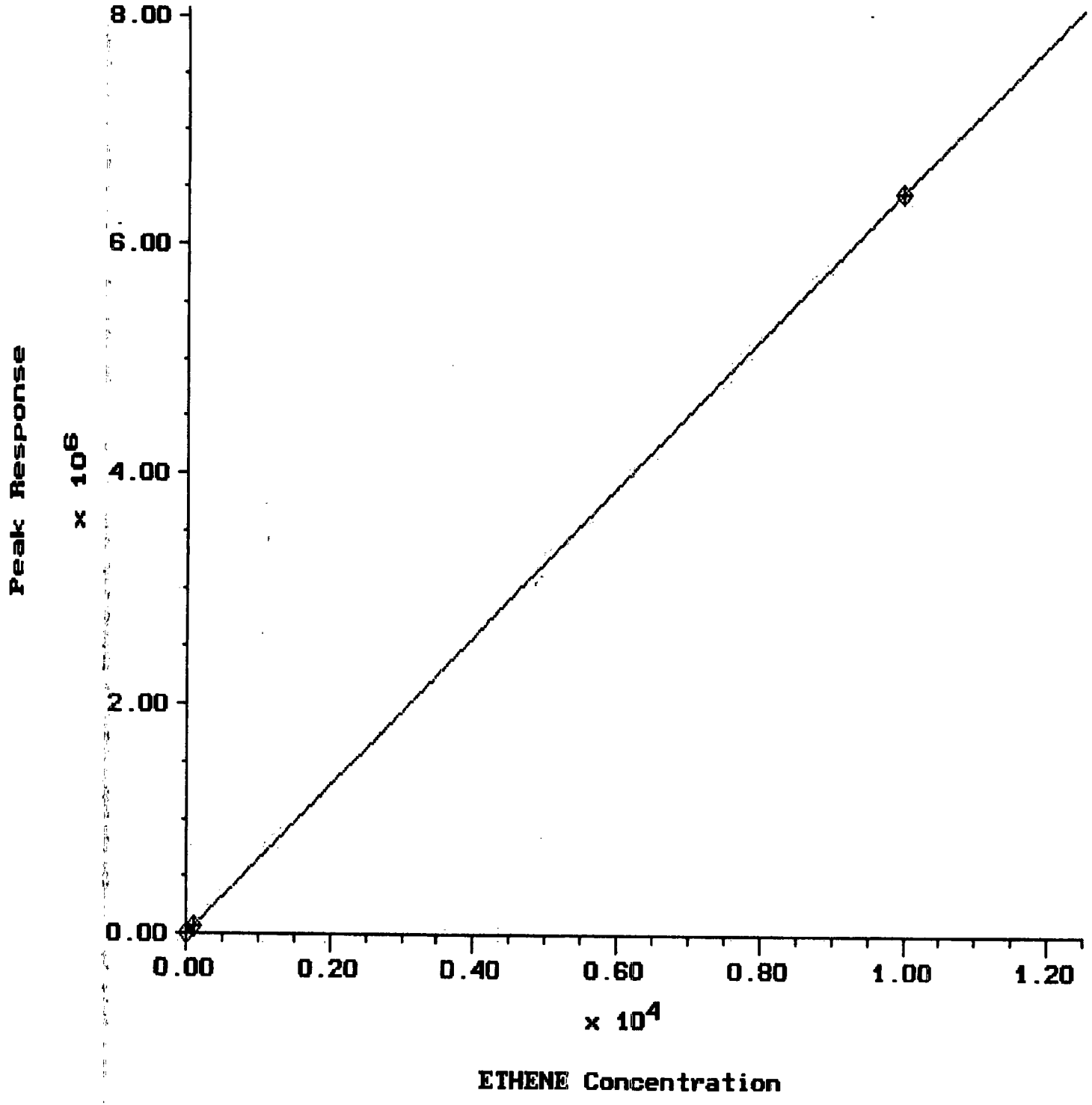
Quant Basis: Area
Curve Type: Linear
Y-axis Label: Response

Rejection Tolerance: None
Weighting: None

Internal Standard: None
Forced Through Origin: Yes

Equation: Conc = 3.255650E-03 * R

Sample		File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
1.00ppm	All	STD1	Y	1.070000E+00	3.6150223E+02	1.176925E+00	-9.09E+00	2.959871E-03
2.0ppm	All	STD2	Y	2.000000E+00	7.0452704E+02	2.293693E+00	-1.28E+01	2.838784E-03
10 ppm	All	STD3	Y	9.990000E+00	3.3832197E+03	1.101458E+01	-9.30E+00	2.952808E-03
100ppm	All	STD4	Y	9.980000E+01	3.3391957E+04	1.087125E+02	-8.20E+00	2.988744E-03
10000ppm	All	STD5	Y	1.000000E+04	3.0715555E+06	9.999909E+03	9.05E-04	3.255679E-03


8.00
6.00
4.00
2.00
0.00
Peak Response
x 10^6
0.00
0.20
0.40
0.60
0.80
1.00
1.20
x 10^4
ETHENE Concentration

ETHENE Calibration Report

Printed: 7-MAY-2025 14:15:10

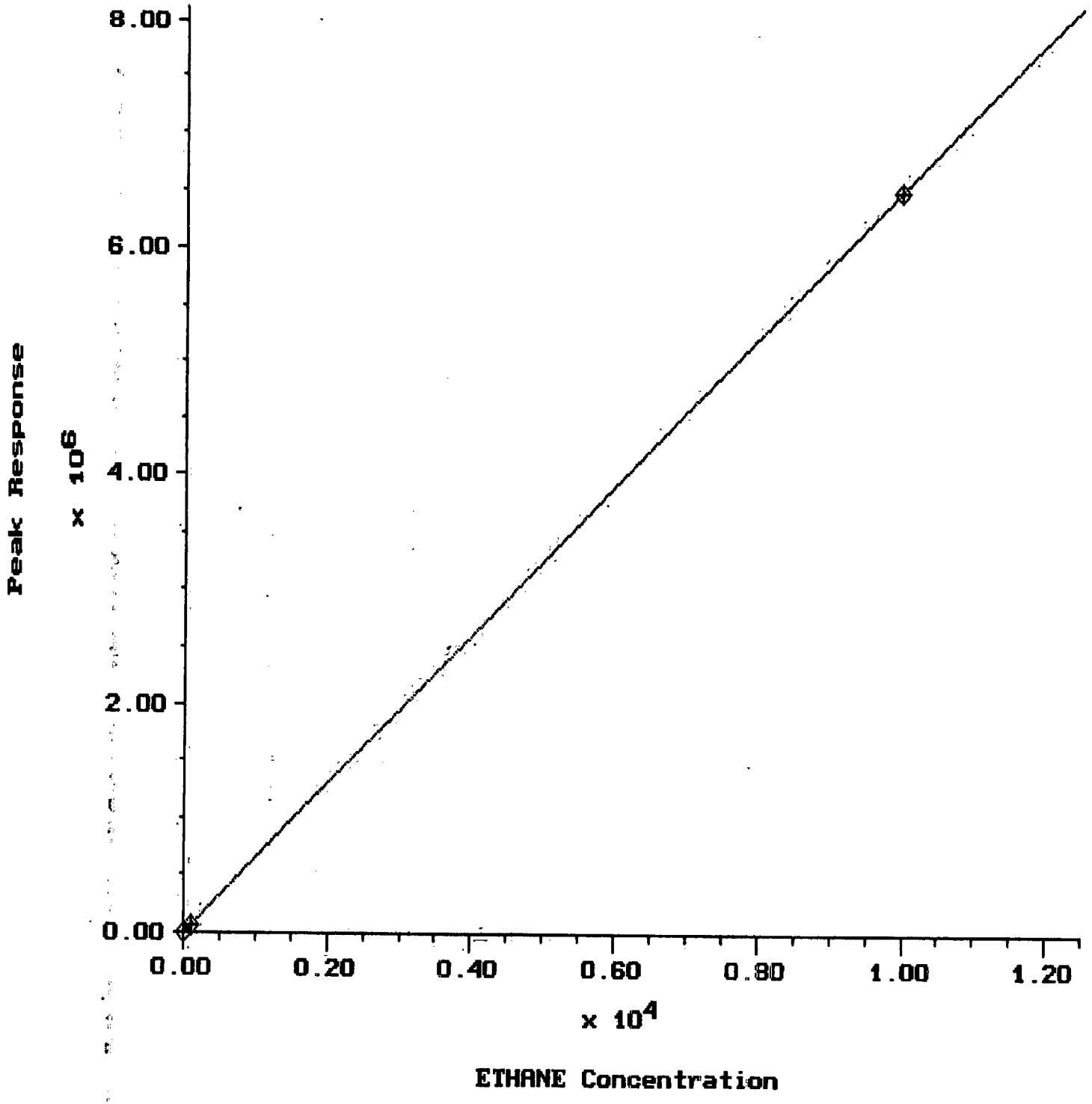
Quant Basis: Area
Curve Type: Linear
Y-axis Label: Response

Rejection Tolerance: None
Weighting: None

Internal Standard: None
Forced Through Origin: Yes

Equation: Conc = 1.549257E-03 * R

Sample		File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
1.00ppm	All	STD1	Y	1.020000E+00	6.4980994E+02	1.006723E+00	1.32E+00	1.569690E-03
2.0ppm	All	STD2	Y	2.000000E+00	1.2815597E+03	1.985466E+00	7.32E-01	1.560598E-03
10 ppm	All	STD3	Y	9.990000E+00	6.5608037E+03	1.016437E+01	-1.72E+00	1.522679E-03
100ppm	All	STD4	Y	9.980000E+01	6.6095898E+04	1.023996E+02	-2.54E+00	1.509927E-03
10000ppm	All	STD5	Y	1.000000E+04	6.4546890E+06	9.999974E+03	2.59E-04	1.549261E-03


8.00
6.00
4.00
2.00
0.00
Peak Response
x 10^6
0.00
0.20
0.40
0.60
0.80
1.00
1.20
x 10^4
ETHANE Concentration

ETHANE Calibration Report

Printed: 7-MAY-2025 14:15:14

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Response

Rejection Tolerance: None
Weighting: None

Internal Standard: None
Forced Through Origin: Yes

Equation: Conc = 1.538772E-03 * R

Sample		File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
1.00ppm	All	STD1	Y	1.000000E+00	6.1219940E+02	9.420352E-01	6.15E+00	1.633455E-03
2.0ppm	All	STD2	Y	2.000000E+00	1.3411643E+03	2.063746E+00	-3.09E+00	1.491242E-03
10 ppm	All	STD3	Y	9.990000E+00	6.1979009E+03	9.537155E+00	4.75E+00	1.611836E-03
100ppm	All	STD4	Y	9.980000E+01	6.5200875E+04	1.003293E+02	-5.28E-01	1.530654E-03
10000ppm	All	STD5	Y	1.000000E+04	6.4986865E+06	9.999995E+03	4.56E-05	1.538772E-03

Sample: SYSTEM BLANK
Channel: FID
Filename: SB0507
Acquired: 07-MAY-125 10:13
Method: C:\VARIAN\METHANE\050725\SEQUENCE
Operator: BVT
Dilution: 1 : 1.000
x 10^-2 volts
3.25
3.25
3.25
3.25
3.25
3.25
3.25
0.00
2.00
4.00
6.00
minutes
0.63 Methane

MAXIMA (c)1990 Dynamic Solutions, Division of Millipore

MAXIMA 820 CUSTOM REPORT

Printed: 7-MAY-2025 14:14:49

SAMPLE: SYSTEM BLANK
#6 in Method: 250397
Acquired: 7-MAY-2025 10:13
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: SB05071
Index: Disk

Dilution: 1.000

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.63	Methane	115	0.374 BVT	0.374
TOTAL			115	0.374	0.374

5-7-25

Sample: RL CHECK
Acquired: 07-MAY-125 10:32
Channel: FID
Method: C:\VARIAN\METHANE\050725\SEQUENCE
Filename: RL0507
Operator: BVT
x 10^-2 volts
3.25
3.25
3.25
3.25
3.24
3.24
0.00
2.00
4.00
6.00
minutes
0.61 Methane
4.86 ETHENE
6.66 ETHANE

MAXIMA (c)1990 Dynamic Solutions, Division of Millipore

MAXIMA 820 CUSTOM REPORT

Printed: 7-MAY-2025 14:12:28

SAMPLE: RL CHECK
#7 in Method: 250397
Acquired: 7-MAY-2025 10:32
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: RL05071
Index: Disk

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.61	Methane	398	1.296	1.296
2	4.86	ETHENE	566	0.877	0.877
3	6.66	ETHANE	636	0.979	0.979
TOTAL			1600	3.151	3.151

RL

Methane (1.296/1.07) x100% = 121.1% (60-140%)

Ethene (.0.877/1.00) x 100% = 87.7% (60-140%)

Ethane (0.979/1.02) x100% = 96.0% (60-140%)

5-7-25

Sample: CHECK
Acquired: 07-MAY-125 10:49
Dilution: 1 : 1.000
Channel: FID
Method: C:\VARIAN\METHANE\050725\SEQUENCE
Filename: CC05071
Operator: BVT
x 10^-2 volts
3.70
3.60
3.50
3.40
3.30
0.59 Methane
4.83 ETHENE
6.75 ETHANE
0.00
2.00
4.00
6.00
Minutes

MAXIMA (c)1990 Dynamic Solutions, Division of Millipore

MAXIMA 820 CUSTOM REPORT

Printed: 7-MAY-2025 14:12:34

SAMPLE: CHECK
#8 in Method: 250397
Acquired: 7-MAY-2025 10:49
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: CC05071
Index: Disk
Dilution: 1.000

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.59	Methane	29732	96.798	96.798
2	4.83	ETHENE	57020	88.338	88.338
3	6.75	ETHANE	58025	89.288	89.288
TOTAL			144778	274.424	274.424

2/lu

Methane (96.798/99.8) x 100% = 97.02 (80-120%)

Ethane (89.288/99.8) x 100% = 89.52 (80-120%)

5-7-25

Sample: METHOD BLANK 1
Acquired: 07-MAY-125 11:02
Dilution: 1 : 1.000
Channel: FID
Method: C:\VARIAN\METHANE\050725\SEQUENCE
Filename: MB05071
Operator: BVT
x 10^-2 volts
3.25
3.25
3.25
3.25
3.25
3.25
0.00
2.00
4.00
6.00
minutes
0.61 Methane

MAXIMA (c)1990 Dynamic Solutions, Division of Millipore

MAXIMA 820 CUSTOM REPORT

Printed: 7-MAY-2025 14:12:41

SAMPLE: METHOD BLANK 1
#9 in Method: 250397
Acquired: 7-MAY-2025 11:02
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: MB05071
Index: Disk

Dilution: 1.000

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.61	Methane	149	0.484	0.484
TOTAL			149	0.484	0.484

5-7-25

Sample: 250397-30
Acquired: 07-MAY-125 12:10
Dilution: 1 : 1.000
Channel: FID
Method: C:\VARIAN\METHANE\050725\SEQUENCE
Filename: 25039730
Operator: BVT
x 10^-2 volts
3.32
3.30
3.28
3.26
0.00
2.00
4.00
6.00
minutes
0.60 Methane
4.92 ETHENE

MAXIMA (c)1990 Dynamic Solutions, Division of Millipore

MAXIMA 820 CUSTOM REPORT

Printed: 7-MAY-2025 14:12:47

SAMPLE: 250397-30
#10 in Method: 250397
Acquired: 7-MAY-2025 12:10
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: 25039730
Index: Disk

Dilution: 1.000

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.60	Methane	4263	13.878 ✓	13.878
2	4.92	ETHENE	241	0.373 BDL	0.373
TOTAL			4504	14.252	14.252

5-7-25

Sample: 250397-31
Acquired: 07-MAY-125 12:20
Duration: 1 : 1.000
Channel: FID
Method: C:\VARIAN\METHANE\050725\SEQUENCE
Filename: 25039731
Operator: BVT
x 10^-2 volts
3.32
3.30
3.28
3.26
0.59 Methane
4.89 ETHENE
0.00
2.00
4.00
6.00
Minutes

MAXIMA (c)1990 Dynamic Solutions, Division of Millipore

MAXIMA 820 CUSTOM REPORT

Printed: 7-MAY-2025 14:12:53

SAMPLE: 250397-31
#11 in Method: 250397
Acquired: 7-MAY-2025 12:20
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: 25039731
Index: Disk

Dilution: 1.000

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.59	Methane	4068	13.244 ✓	13.244
2	4.89	ETHENE	340	0.526 OR	0.526
TOTAL			4408	13.770	13.770

5.7.25

Sample: 250397-32
Acquired: 07-MAY-125 12:39
Dilution: 1 : 1.000
Channel: FID
Method: C:\VARIAN\METHANE\050725\SEQUENCE
Filename: 2503732
Operator: BVT
x 10^-2 volts
3.32
3.30
3.28
3.26
0.00
2.00
4.00
6.00
minutes
0.60 Methane
4.91 ETHENE

MAXIMA (c)1990 Dynamic Solutions, Division of Millipore

MAXIMA 820 CUSTOM REPORT

Printed: 7-MAY-2025 14:13:00

SAMPLE: 250397-32
#12 in Method: 250397
Acquired: 7-MAY-2025 12:39
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: 25039732
Index: Disk

Dilution: 1.000

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.60	Methane	4578	14.904 ✓	14.904
2	4.91	ETHENE	478	0.740 BDL	0.740
TOTAL			5056	15.645	15.645

5.7.25

Sample: 250397-32 DUP
Acquired: 07-MAY-125 12:56
Channel: FID
Method: C:\VARIAN\METHANE\050725\SEQUENCE
Filename: 039737DP
Operator: BVT
x 10^-2 volts
3.32
3.30
3.28
3.26
0.60 Methane
4.68 ETHENE
0.00
2.00
4.00
6.00
minutes

MAXIMA (c)1990 Dynamic Solutions, Division of Millipore

MAXIMA 820 CUSTOM REPORT

Printed: 7-MAY-2025 14:13:06

SAMPLE: 250397-32 DUP
#13 in Method: 250397
Acquired: 7-MAY-2025 12:56
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: 039737DP
Index: Disk

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.60	Methane	4424	14.404	14.404
2	4.68	ETHENE	495	0.767	0.767
TOTAL			4919	15.171	15.171

BAL

5-7-25

Sample: CHECK 2
Acquired: 07-MAY-125 13:20
Channel: FID
Method: C:\VARIAN\METHANE\050725\SEQUENCE
Filename: CC05072
Operator: BVT
x 10^-2 volts
3.70
3.60
3.50
3.40
3.30
0.00
2.00
4.00
6.00
Minutes
0.60 Methane
4.87 ETHENE
6.80 ETHANE

MAXIMA (c)1990 Dynamic Solutions, Division of Millipore

MAXIMA 820 CUSTOM REPORT

Printed: 7-MAY-2025 14:13:13

SAMPLE: CHECK 2
#14 in Method: 250397
Acquired: 7-MAY-2025 13:20
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: CC05072
Index: Disk

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.60	Methane	29838	97.143	97.143
2	4.87	ETHENE	57271	88.728	88.728
3	6.80	ETHANE	58274	89.671	89.671
TOTAL			145384	275.542	275.542

Blk

Methane (97.143/97.8)x100% = 97.3% (80-120%)

Ethane (89.671/99.8)x100% = 89.9% (80-120%)

5.7.25

Sample: METHOD BLANK 2
Acquired: 07-MAY-125 13:41
Channel: FID
Method: C:\VARIAN\METHANE\050725\SEQUENCE
Filename: MB05072
Operator: BVT
x 10^-2 volts
3.25
3.25
3.25
3.25
3.25
3.25
0.00
2.00
4.00
6.00
minutes
0.61 Methane

MAXIMA (c)1990 Dynamic Solutions, Division of Millipore

MAXIMA 820 CUSTOM REPORT

Printed: 7-MAY-2025 14:13:19

SAMPLE: METHOD BLANK 2
#15 in Method: 250397
Acquired: 7-MAY-2025 13:41
Rate: 2.0 points/sec
Duration: 8.000 minutes
Operator: BVT

Type: UNKN
Instrument: VARIAN
Filename: MB05072
Index: Disk

DETECTOR: FID

ID#	Retention Time (minutes)	Component Name	Peak Area	Solution Conc	Original Conc (ppm)
1	0.61	Methane	140	0.455 BDL	0.455
TOTAL			140	0.455	0.455

5-7-25

ALLIANCE TECHNICAL GROUP

Ethane in Stack Gases QC Reporting Form

Date of Analysis: 5/7/25 Batch ID: 250507 Methane/Ethane

Total Number of samples analyzed: 3

Project Name	Project Log #	Project Name	Project Log #	Project Name	Project Log #	Project Name	Project Log #	Project Name	Project Log #
Metal Management Midwest	2025-0397								

Calibration Checks within limits: _____ Method Blank(s) below detection limit: _____

Accuracy Data								
Sample #	Units	Unspiked Result	Spiked Result	Spike Conc.	Percent Recovery	Low Limit*	High Limit*	QC Flag
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	

Precision Data							
Sample #	Units	Initial Result	Duplicate Result	Absolute Difference	RPD	Precision Limit*	QC Flag
	ppm			0	#DIV/0!	20	
	ppm			0	#DIV/0!	20	
	ppm			0	#DIV/0!	20	

Calibration Check Accuracy Data								
Sample #	Units	Blank Result	Spiked Result	Spike Conc.	Percent Recovery	Low Limit*	High Limit*	QC Flag
CC Check	ppm	0	89.288	99.8	89.5	80	120	
CC Check 2	ppm	0	89.671	99.8	89.9	80	120	
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	

Calibration Check Precision Data							
Sample #	Units	Initial Result	Duplicate Result	Absolute Difference	RPD	Precision Limit*	QC Flag
CC Check/CC Check 2	ppm	89.288	89.671	0.383	0.4	20	
	ppm			0	#DIV/0!	20	

*Limits stated were set on

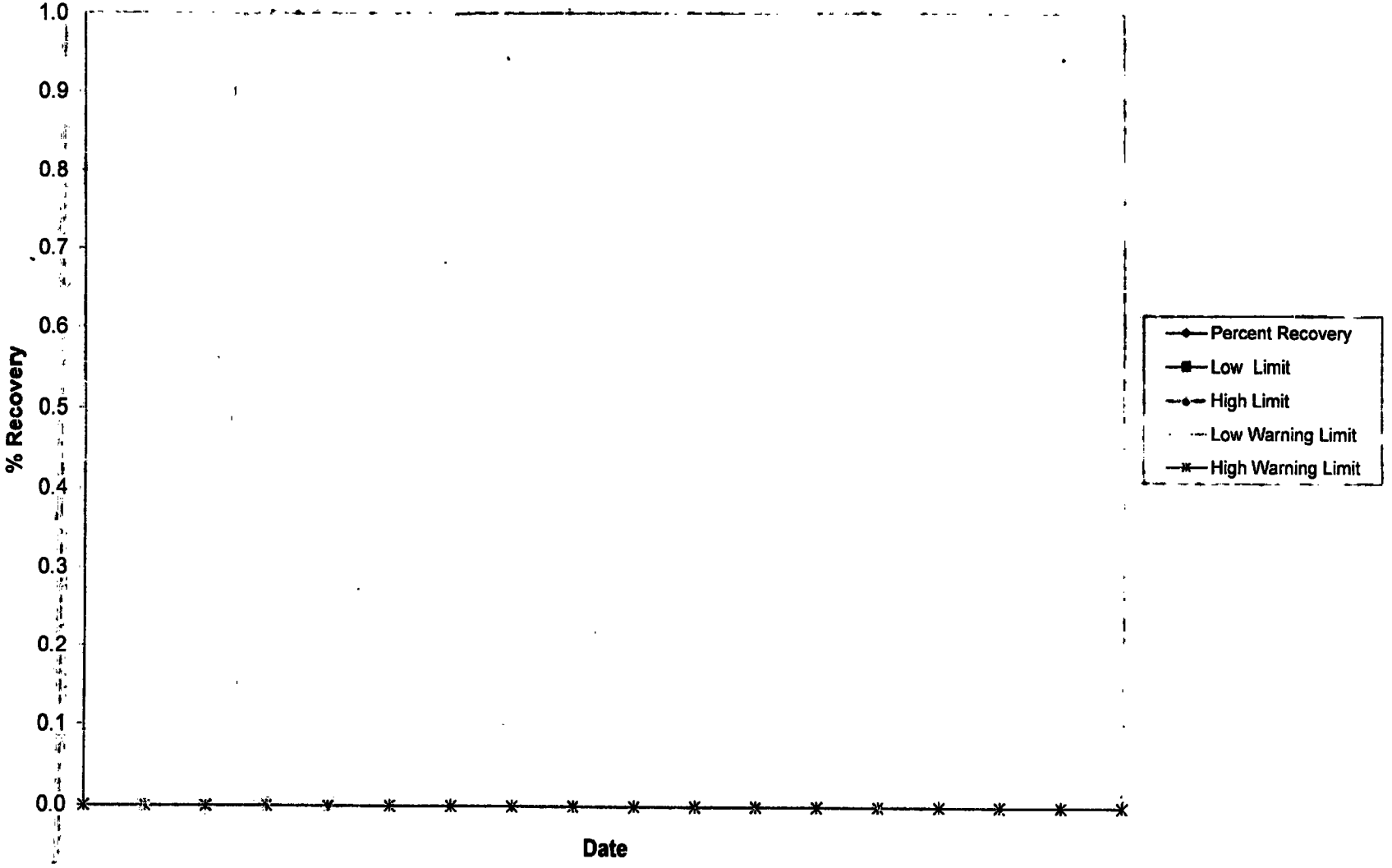
QC Flag(s):
None

Comments: REVIEWED

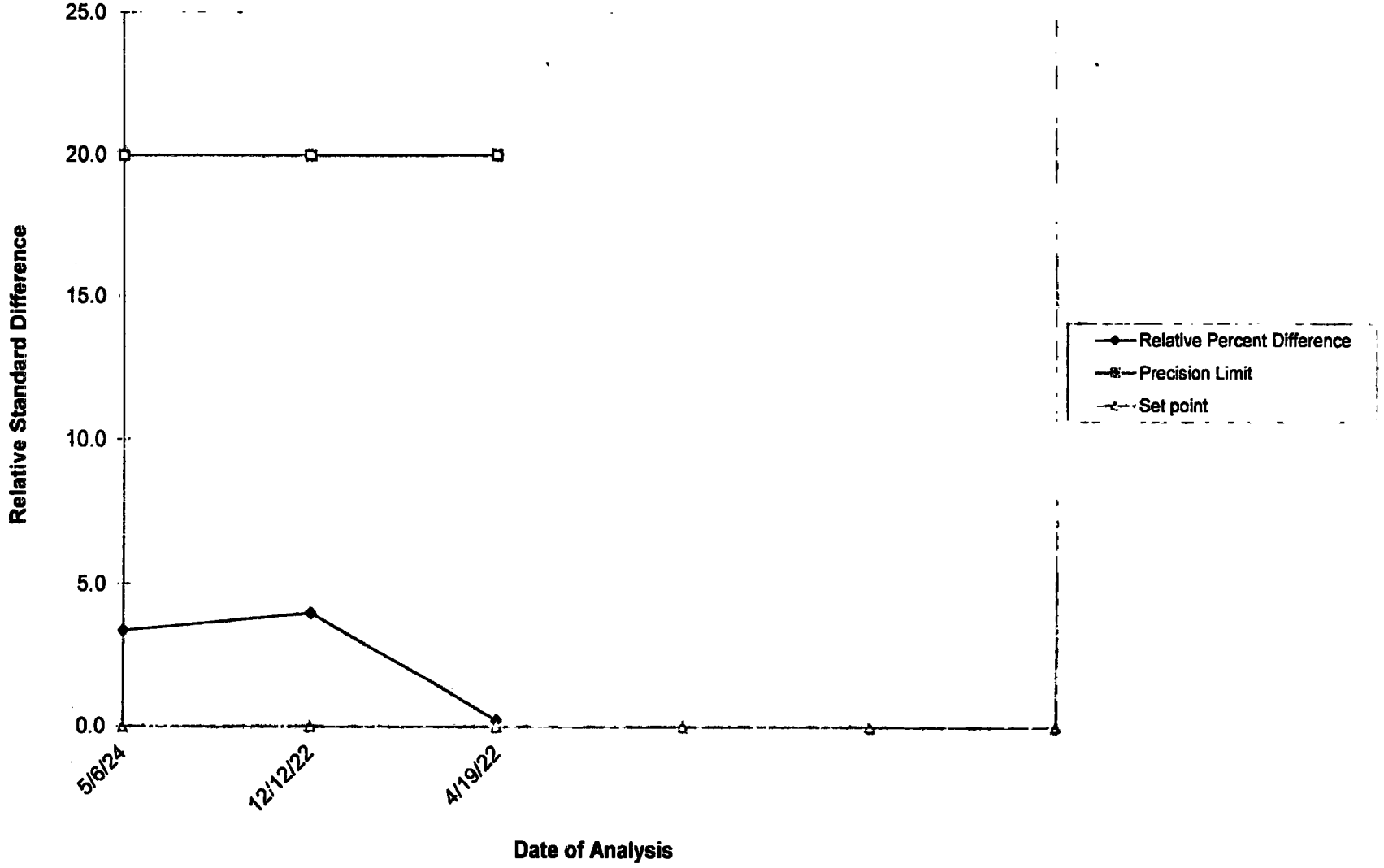
MAY 08 2025

Russell J. Hildebrandt

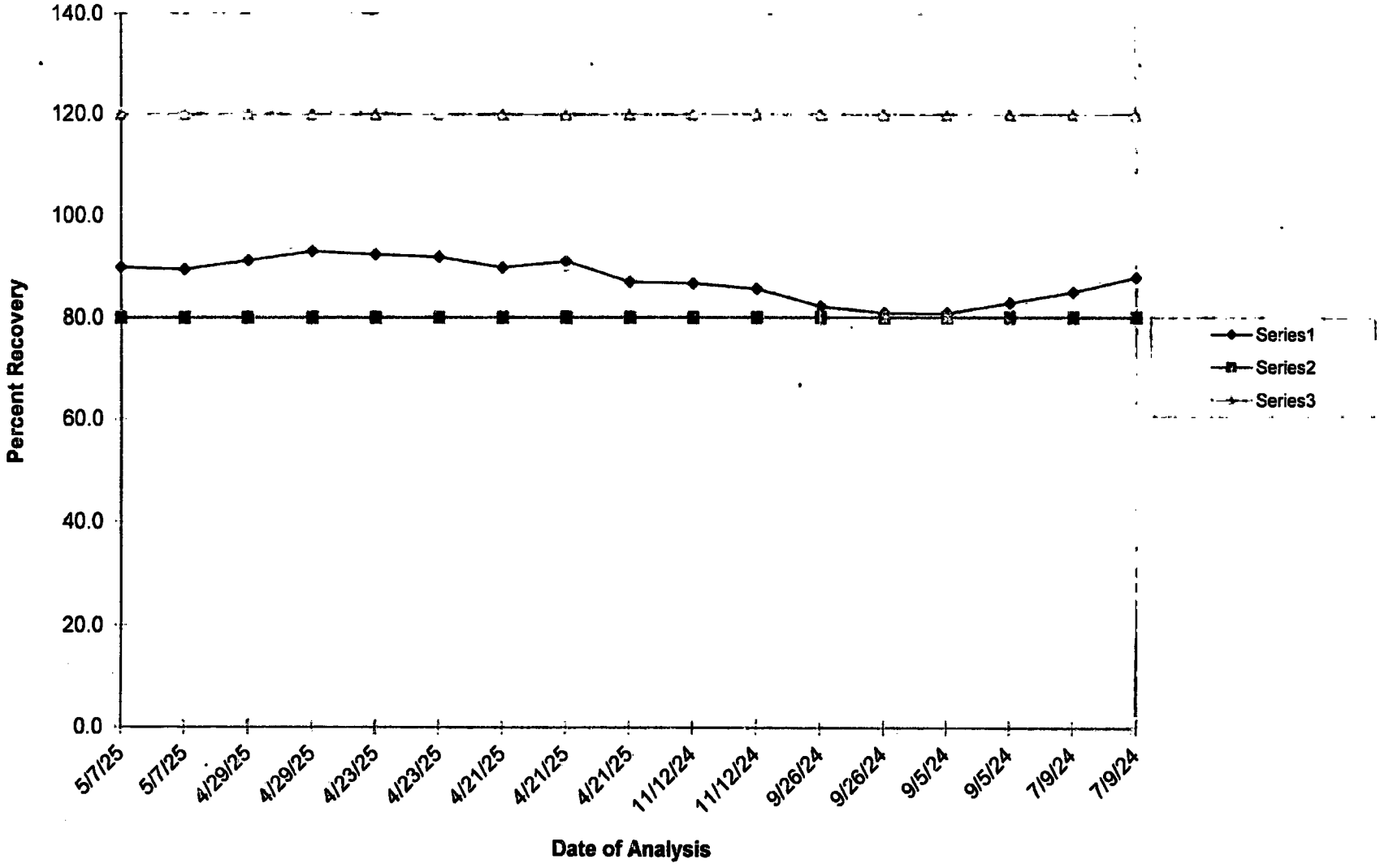
Ethane in Stack Gases Matrix Spike Accuracy Chart



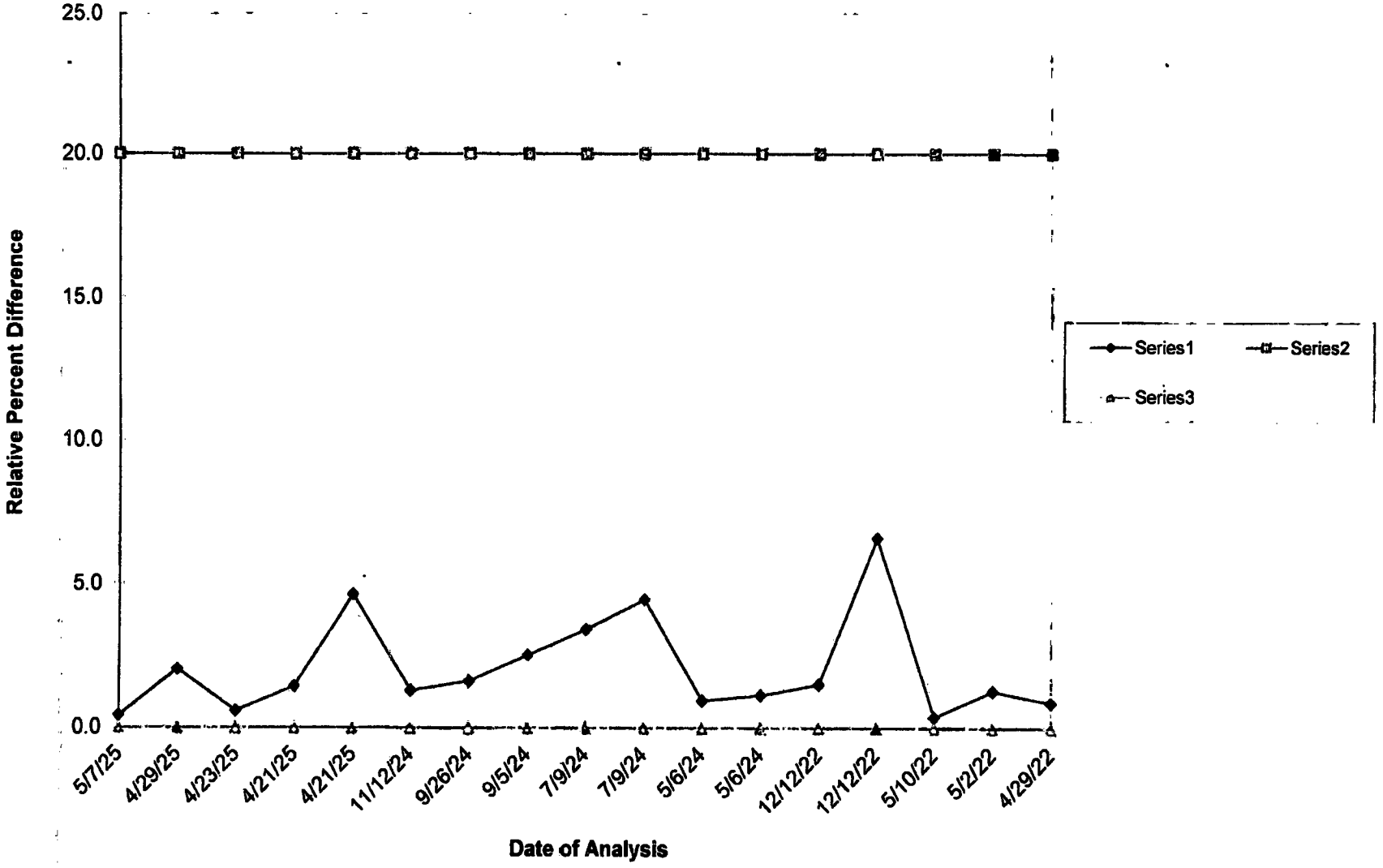
Ethane in Stack Gases Matrix Spike Precision Chart



Ethane in Stack Gases Calibration Check Accuracy Chart



Ethane in Stack Gases Calibration Check Precision Chart



ALLIANCE TECHNICAL GROUP

Methane in Stack Gases QC Reporting Form

Date of Analysis: 5/7/25 Batch ID: 250507 Methane/Ethane

Total Number of samples analyzed: 3

Project Name	Project Log #	Project Name	Project Log #	Project Name	Project Log #	Project Name	Project Log #	Project Name	Project Log #
Metal Managemnet Midwest	2025-0397								

Calibration Checks within limits: _____ Method Blank(s) below detection limit: _____

Accuracy Data								
Sample #	Units	Unspiked Result	Spiked Result	Spike Conc.	Percent Recovery	Low Limit*	High Limit*	QC Flag
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	

Precision Data							
Sample #	Units	Initial Result	Duplicate Result	Absolute Difference	RPD	Precision Limit*	QC Flag
250397-32/-32 dup	ppm	14.904	14.404	0.5	3.4	20	
	ppm			0	#DIV/0!	20	
	ppm			0	#DIV/0!	20	

Calibration Check Accuracy Data								
Sample #	Units	Blank Result	Spiked Result	Spike Conc.	Percent Recovery	Low Limit*	High Limit*	QC Flag
CC Check	ppm	0	96.798	99.8	97.0	80	120	
CC Check 2	ppm	0	97.143	99.8	97.3	80	120	
	ppm				#DIV/0!	80	120	
	ppm				#DIV/0!	80	120	

Calibration Check Precision Data							
Sample #	Units	Initial Result	Duplicate Result	Absolute Difference	RPD	Precision Limit*	QC Flag
CC Check/CC Check2	ppm	96.798	97.143	0.345	0.4	20	
	ppm			0	#DIV/0!	20	

*Limits stated were set on

QC Flag(s):
None

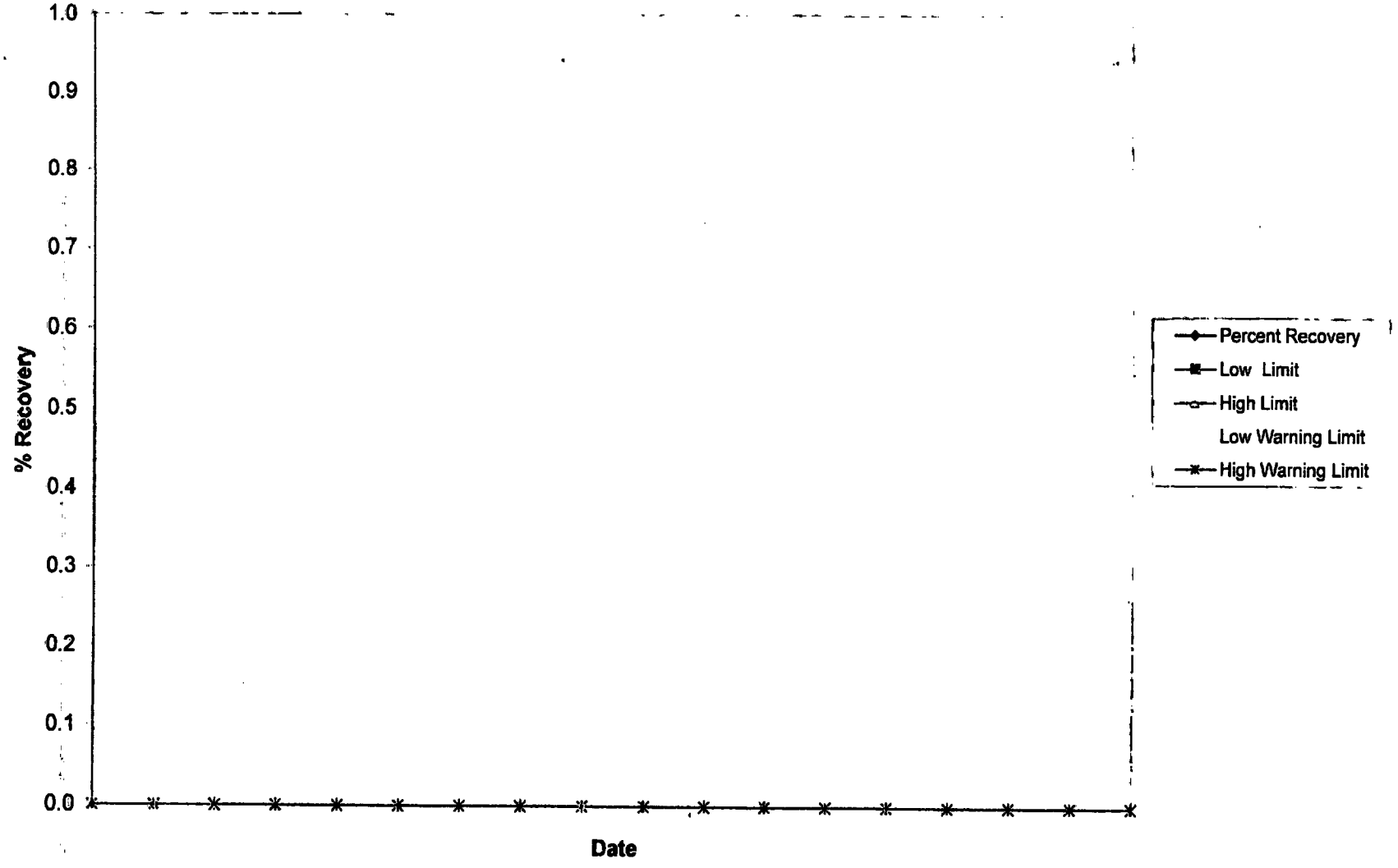
REVIEWED

MAY 08 2025

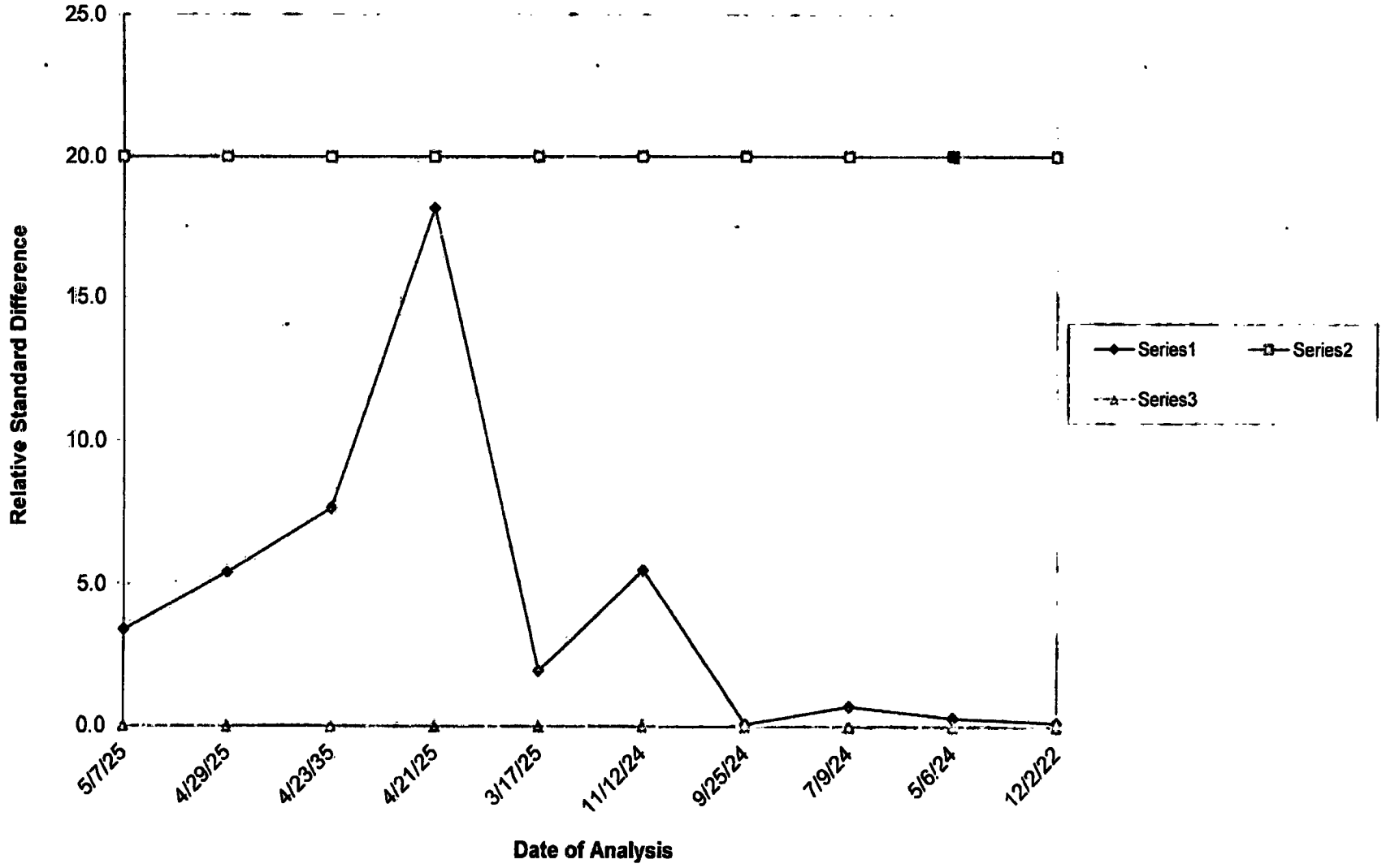
Comments:

Russell J. Whitehead

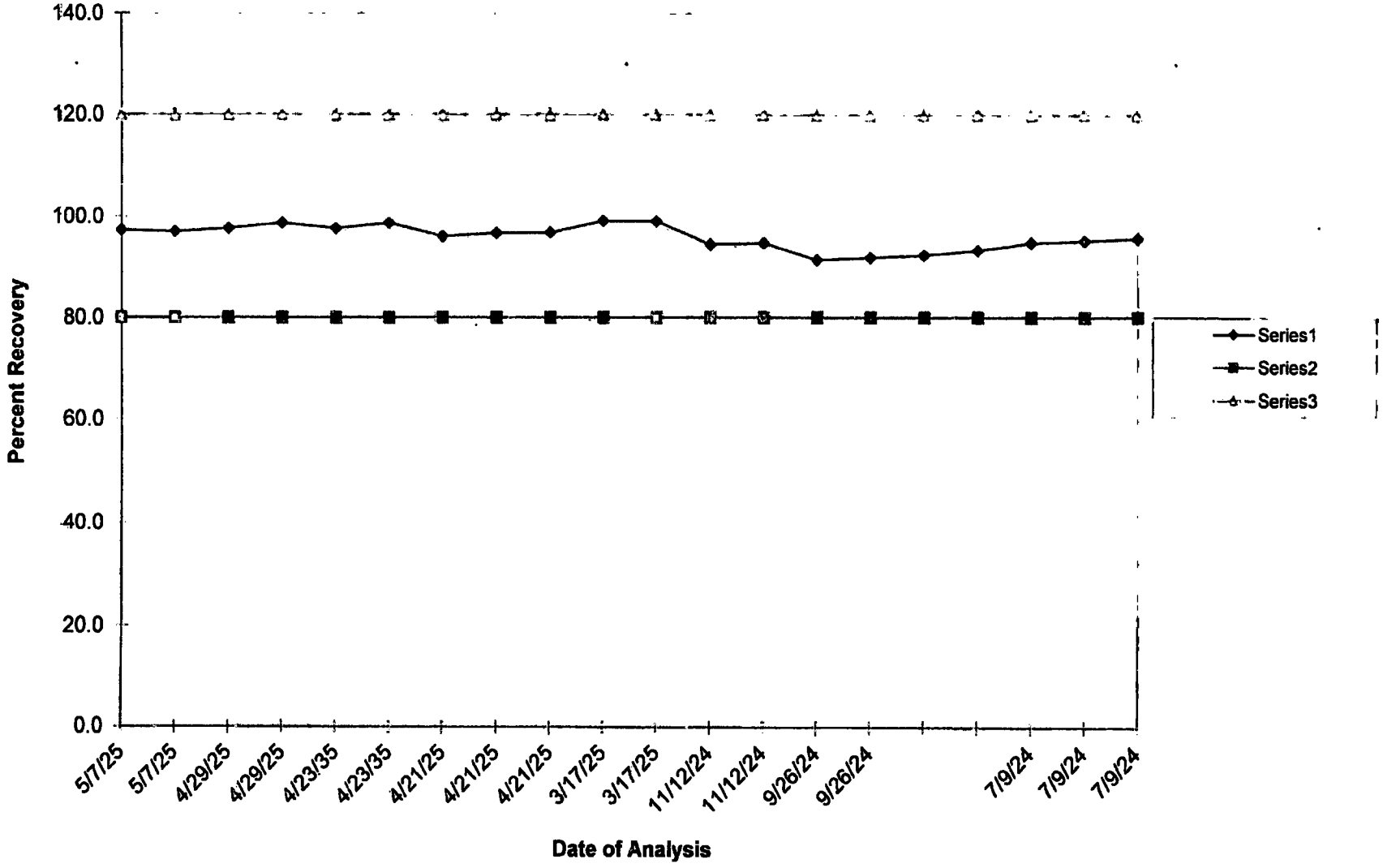
Methane in Stack Gases Matrix Spike Accuracy Chart



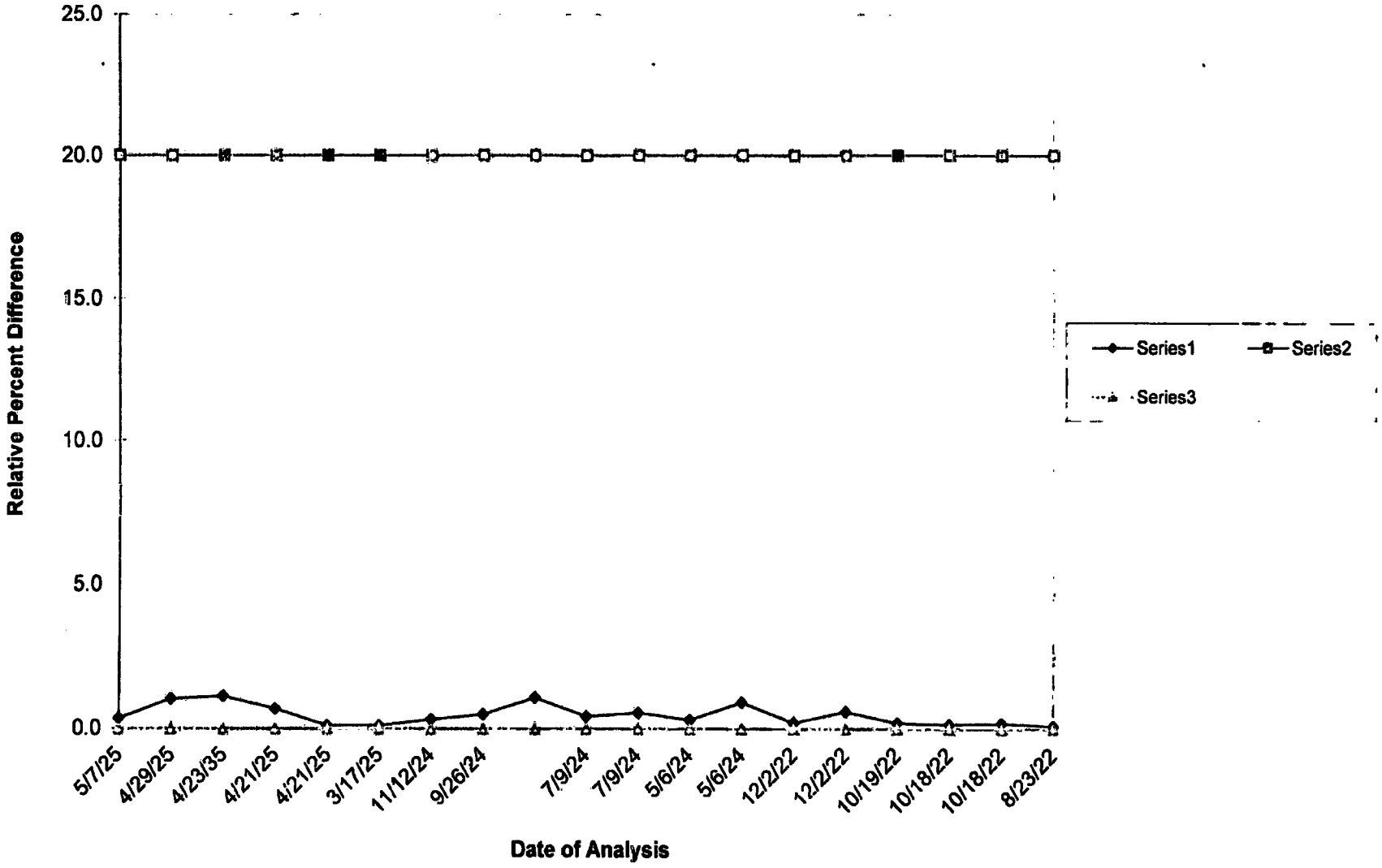
Methane in Stack Gases Matrix Spike Precision Chart



Methane in Stack Gases Calibration Check Accuracy Chart



Methane in Stack Gases Calibration Check Precision Chart



Alliance

Chain-Of-Custody

Alliance Technical Group, LLC - Lab Services
4500 Ball Rd NE Circle Pines Mn 55014
(763) 786-6020

Client Name Metal Management Midwest, Inc. (Sims Metal)

City, State Chicago, IL

Source Hammermill Shredder

Project No. 25-0397

Turn Around Time: [✔] Standard [ ] Expedited ____ Number of Business Days

Blank Manuf./Lot #

Blank Manuf./Lot #

Sample ID	Number of Containers	Date Collected	Time Recovered	Collector Initials	HOLD	Method/Media: Method 5 — Filter Number - 83mm Quartz	Method 5 — Probe Nozzle Rinse - Acetone	Method 18		Method 18 — Methane	Method 18 — Ethane	Method 18	Method 26A — HCl - H_2SO_4 Solution	Method 26A — HBr - H_2SO_4 Solution	Method 26A — HF - H_2SO_4 Solution	Method 26A — Cl_2 - NaOH Solution	Method 26A — Br_2 - NaOH Solution
M18 - Hammermill Shredder Outlet - Primary Run 1 -30	1	4-30	11:20	WJW						✔	✔						
M18 - Hammermill Shredder Outlet - Primary Run 2 -31	1	4-30	14:11	WJW						✔	✔						
M18 - Hammermill Shredder Outlet - Primary Run 3 -32	1	4-30	17:18	WJW						✔	✔						

Relinquished By Wyatt Wine Date 5-1 Received By [signature] Date 5/6/25 8:00

Relinquished By ____ Date ____ Received By ____ Date ____

Relinquished By ____ Date ____ Received By ____ Date ____

Sample Container Recieved Temperature (°F) ____

Page 1 of 2

Notes

AST Office: CRI CRIreports@alliancetg.com

Parameter(s): Methane, Ethane

Alliance

Chain-Of-Custody

Alliance Technical Group, LLC - Lab Services
4500 Ball Rd NE Circle Pines Mn 55014
(763) 786-6020

Client Name Metal Management Midwest, Inc. (Sims Metal)

City, State Chicago, IL

Source Hammermill Shredder

Project No. 25-0397

Turn Around Time: [✓] Standard [ ] Expedited ____ Number of Business Days

Blank Manuf./Lot # _____

Blank Manuf./Lot # _____

Sample ID	Number of Containers	Date Collected	Time Recovered	Collector Initials	HOLD	Method/Media: Method 5 — Filter Number - 83mm Quartz	Method 5 — Probe Nozzle Rinse - Acetone	Method 18		Method 18 — Methane	Method 18 — Ethane	Method 18	Method 26A — HCl - H_2SO_4 Solution	Method 26A — HBr - H_2SO_4 Solution	Method 26A — HF - H_2SO_4 Solution	Method 26A — Cl_2 - NaOH Solution	Method 26A — Br_2 - NaOH Solution
M18 - Hammermill Shredder Outlet - Backup Run 1 -33	1	4-30	11:20	WSW	✓												
M18 - Hammermill Shredder Outlet - Backup Run 2 -34	1	4-30	14:11	WSW	✓												
M18 - Hammermill Shredder Outlet - Backup Run 3 -35	1	4-30	17:18	WSW	✓												

Relinquished By Wyatt Wille Date 5-1 Received By _____ Date 5/6/25 8:00

Relinquished By _____ Date _____ Received By _____ Date _____

Relinquished By _____ Date _____ Received By _____ Date _____

Sample Container Recieved Temperature (°F) _____

Page 2 of 2

Notes

AST Office: CRI CRIreports@alliancetg.com

HOLD: Analyze if Primary bag is received flat.

LOST PAGE

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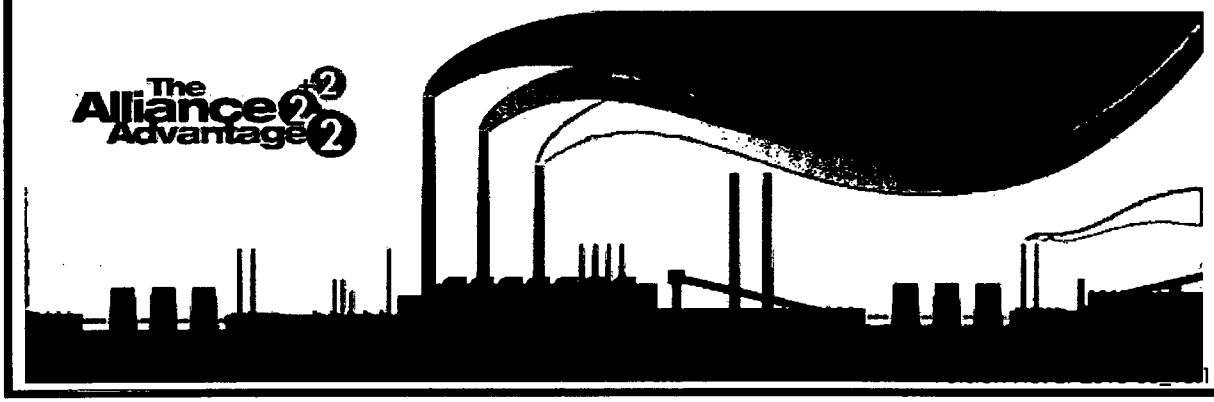
Analytical Services
4500 Ball Rd NE
Circle Pines, MN 55014
(763) 786-6020
www.Alliancetg.com

Analytical Laboratory Report

SIMS Metal (Metal Management Midwest, Inc)
Chicago, IL
Hammermill Shredder Outlet

EPA Method 26A

Project No. AST-2025-0397



Certification Statement

Alliance Technical Group, LLC (ATG) has completed the analysis as described in this report. Results apply only to the source(s) tested and operating condition(s) for the specific test date(s) and time(s) identified within this report. All results are intended to be considered in their entirety, and ATG is not responsible for use of less than the complete test report without written consent. This report shall not be reproduced in full or in part without written approval from the customer.

To the best of my knowledge and abilities, all information, facts and test data are correct. Data presented in this report has been checked for completeness and is accurate, error-free and legible. Any deviations or problems are detailed in the relevant sections on the test report.

This document was prepared in portable document format (.pdf) and contains pages as identified in the bottom footer of this document.

Validation Signature

The analytical data and all QC contained within this report was reviewed and validated by the following individual.

Rowan Salzl

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Rowan Salzl
MSP Laboratoy Analyst

Date

Pritha Banerjee

Digitally signed by Pritha Banerjee
DN: O=Alliance Technical Group, CN=Pritha Banerjee, E=pritha.banerjee@alliancetg.com
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Pritha Banerjee
MSP QC Associate II

Date

Project Narrative

Analytical Method(s):	Method 26A - Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources Isokinetic Method
Ion Chromatograph Calibration	Dilutions of a NIST certified standard solution containing the target analyte were analyzed to produce a calibration line using the least squares method. The dilutions were made in the same solution used to capture the target analyte.
Sample Analysis	Duplicate injections of the samples and blank solutions were made between the first and second injections of the calibration set.
MDL Chloride	The Minimum Detection Level (MDL) for Chloride is 0.030 µg/mL per fraction. If the measured result for a fraction is less than the MDL, the MDL was used in ensuing calculations. If the measured result is greater than the MDL but less than the RL the result will be flagged with a "J".
Blank Correction	If blank correction is performed, only blank values returned higher than the MDL are used. If a blank returns a value less than the MDL, no correction is included.
Custody:	The samples were received by Blake Messer on 05/02/2025 in Circle Pines, MN. The samples were received in good condition with proper Chain-of-Custody documentation. No apparent container problems were noted upon receipt. Prior to analysis, the samples were kept secure with access limited to authorized personnel of ATG.
Number of Samples:	5 Samples
Labeling:	Acceptable
Analyst:	Rowan Salzl
Equipment:	ThermoFisher Dionex ICS 1100 IC01 B08 - Mettler Balance AE160, SN C25874CPV03
Data Qualifiers	J - a reported value which is equal to or greater than the Method Detection Limit (MDL), but less than or equal to the Reporting Limit (RL).
QC Notes:	The results appear to be representative and all data quality objectives have been met.
Reporting Notes:	Eluent ID: 18548-70J Dilutions were needed to obtain the correct concentration and /or reduce interferences.

Ion Chromatography Summary

Project Name	SIMS Metal (Metal Management Midwest, Inc)
Project Number	AST-2025-0397
Source	Hammermill Shredder Outlet
Analyst	Rowan Salzl
Date	5/6/02025
Instrument	IC-01
Method	EPA Method 26A
Analyte	Chloride
Lower Curve Limit	0.050 ppm
Upper Curve Limit	10 ppm
Limit of Detection	0.030 ppm

ND - Non Detect
J - Estimated Value, Value less than the lowest standard
E - Estimated Value, Value greater than the highest standard

MCS-ICT v4.5

3/23/20

Lab ID	Field ID	Injection A#	Injection B#	Sample #1 (ppm)		Sample #2 (ppm)		Average (ppm)		%RD	Dilution Factor	Volume (ml)	Total ug as Chloride	
-28	DI H2O Blank- 235845	15	16	0.0215	ND	0.0189	ND	0.03	ND	----	1.01	371.3	11.25	ND
-29	0.1 H2SO4 Blank 01-64A	26	27	0.0377	J	0.0291	ND	0.03	J	12.87	1.01	345.3	11.65	J
-25	Hammermill Shredder Outlet - Run 1	13	14	0.1345		0.1253		0.13		3.54	10	430.4	559.09	
-26	Hammermill Shredder Outlet - Run 2	19	20	0.1033		0.1014		0.10		0.93	10	413.4	423.11	
-27	Hammermill Shredder Outlet - Run 3	21	22	0.1147		0.1138		0.11		0.39	10	496.9	567.71	

Ion Chromotography Summary

Alliance TECHNICAL GROUP

Project Name	SIMS Metal (Metal Management Midwest, Inc)
Project Number	AST-2025-0397
Source	Hammermill Shredder Outlet
Analyst	Rowan Salzl
Date	5/6/02025
Instrument	IC-01
Method	EPA Method 26A
Analyte	Chloride

ND - Non Detect

J - Estimated Value, Value less than the lowest standard

E - Estimated Value, Value greater than the highest standard

Total ug as Hydrogen Chloride = Total ug as Chloride x 36.45 MW of Hydrogen Chloride/ 35.45 MW of Chloride

MCS-ICT v4.5 3/23/20

Lab ID	Field ID	Total ug as Chloride	Total ug as Hydrogen Chloride
-25	Hammermill Shredder Outlet - Run 1	559.09	574.86
	Total	559.09	574.86
-26	Hammermill Shredder Outlet - Run 2	423.11	435.05
	Total	423.11	435.05
-27	Hammermill Shredder Outlet - Run 3	567.71	583.72
	Total	567.71	583.72

Matrix Spike/Matrix Spike Duplicate Summary

MCS-Spike v2.3 2/20/20

Project Name: SIMS Metal (Metal Management Midwest, I
Project Number: AST-2025-0397
Source: Hammermill Shredder Outlet

Method: EPA Method 26A
Instrument: IC-01
Analyst: Rowan Salzl

Analyte: Chloride
Matrix: H2SO4

Spike Prepared (Date|Time): 5/6/2025 1:00 PM
Sample Run Time (Date|Time): 5/8/2025 9:03 AM

Sample ID	Field ID	Spike ID	Avg. Sample Conc. (ppm)	Sample Volume in Spike (ml)	Conc. of spike standard (ppm)	Volume of std. in Spike (ml)	Theoretical Conc. of Spike (ppm)
-25	Hammermill Shredder Outlet	18548-70A	0.1299	1.00	50	0.50	2.50
Matrix Spike ID			Matrix Spike (ppm)	Matrix Spike (% rec.)	Matrix Spike Dup. (ppm)	Matrix Spike Dup. (% rec.)	%RD
250397-25 10X MS/D			2.4436	92.55%	2.4517	92.87%	0.17

Footnote: All samples were brought up to 10mL giving it a 10 fold dilution.

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Quality Control Results

Project Name SIMS Metal (Metal Management Midwest, Inc)

Project Number AST-2025-0397

The method for Hydrogen Chloride was conducted without deviation. The results appear to be representative and all data quality objectives have been met.

Hydrogen Chloride in H2SO4

QA/QC Objective	Measurement	Measured	Criteria
Accuracy	Matrix Spike	%	80-120% theoretical concentrations
Accuracy	Secondary Std. ICV	%	90-110% theoretical concentrations
Accuracy	CCV	%	90-110% theoretical concentrations
Precision	Duplicates	%	+-5% RPD

Alliance — Chain-Of-Custody

Alliance Technical Group, LLC - Lab Services
4500 Ball Rd NE Circle Pines Mn 55014
(763) 786-6020

Client Name: Metal Management Midwest, Inc. (Sims Metal)
City, State: Chicago, IL
Source: Hammermill Shredder Outlet
Project No. 25-0397

Turn Around Time: ☑ Standard ☐ Expedited ____ Number of Business Days
Blank Manuf./Lot #: DI - 235845
Blank Manuf./Lot #: 0.1 N H_2SO_4 - Lab 01-64A
☐ Sodium Thiosulfate has been added in the field to M26/26A samples.

	Number of Containers	Date Collected	Time Recovered	Collector Initials	HOLD	Method/Media: Method 5 — Filter Number - 83mm Quartz	Method 5 — Probe Nozzle Rinse - Acetone	Method 26A — HCl - H_2SO_4 Solution	Method 26A — HBr - H_2SO_4 Solution	Method 26A — HF - H_2SO_4 Solution	Method 26A — Cl_2 - NaOH Solution	Method 26A — Br_2 - NaOH Solution
M26A - Hammermill Shredder Outlet - Run 1 -25	1	4-30	12:30	WJW		[redacted]		✓				
M26A - Hammermill Shredder Outlet - Run 2 -26	1	4-30	16:00	WJW				✓				
M26A - Hammermill Shredder Outlet - Run 3 -27	1	4-30	17:50	WJW				✓				
DI Blank -28	1	4-30	7:15	WJW				✓				
0.1 N H_2SO_4 Blank -29	1	4-30	7:15	WJW				✓				

Relinquished By: Wyatt WMK Date: [redacted] 5-1 Received By: [redacted] Date: 5/1/25
Relinquished By: ____ Date: ____ Received By: ____ Date: 7:30
Relinquished By: ____ Date: ____ Received By: ____ Date: ____
Sample Container Recieved Temperature (°F)

Page 2 of 2

Notes
AST Office: CRI CRIreports@alliancetg.com
Parameter(s): HCl

Alliance Technical Group
Analytical Services
4500 Ball Rd NE
Circle Pines, MN 55014
(763) 768-6020
www.Alliancetg.com

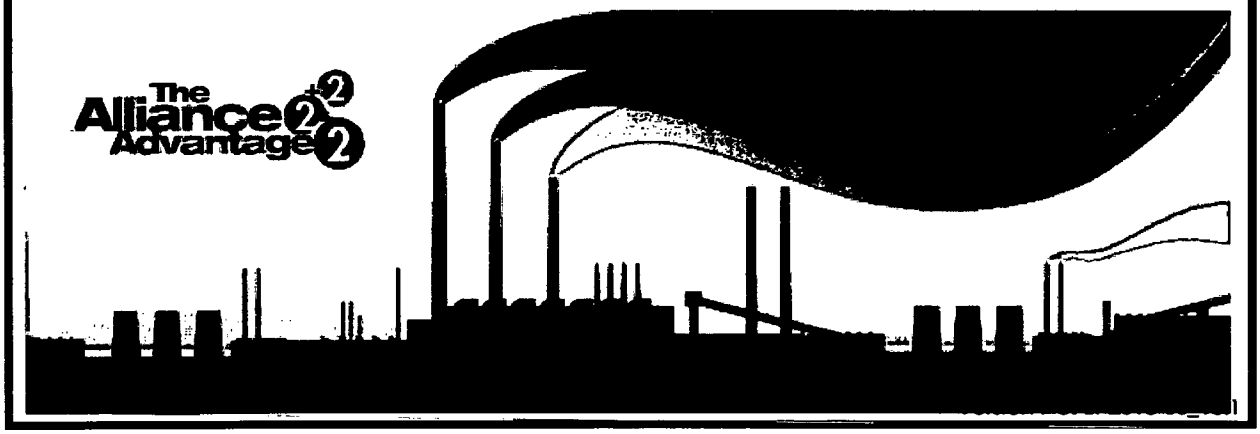
Analytical Laboratory Report

Metals Management Midwest (Sims)
Chicago, IL
Hamermill Shredder Outlet

EPA Methods 29

Project No. AST-2025-0397

Revision 1.0



Certification Statement

Alliance Technical Group (ATG) has completed the analysis as described in this report. Results apply only to the source(s) tested and operating condition(s) for the specific test date(s) and time(s) identified within this report. All results are intended to be considered in their entirety, and ATG is not responsible for use of less than the complete test report without written consent. This report shall not be reproduced in full or in part without written approval from the customer.

To the best of my knowledge and abilities, all information, facts and test data are correct. Data presented in this report has been checked for completeness and is accurate, error-free and legible. Any deviations or problems are detailed in the relevant sections on the test report.

This document was prepared in portable document format (.pdf) and contains pages as identified in the bottom footer of this document.

Validation Signature

The analytical data and all QC contained within this report was reviewed and validated by the following individual.

Hailee Bonds

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Hailee Bonds
MSP Lab Manager

Date

Pritha Banerjee

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Pritha Banerjee
MSP Quality Assurance Associate

Date

Analytical Methods: Method 29 - Metals Emissions from Stationary

MDL ICPMS Metals: The Method Detection Limit (MDL) is specified below per the analyte at the instrument. If the measured concentration for a fraction is less than the MDL, the <MDL was used in ensuing calculations. If the value reported is between the Reporting Limit (RL) and the MDL the value is flagged with a "J".

Analyte	Reporting Limit Units (ng/L)	Method Detection Units (ng/L)
Beryllium	10	8.0
Chromium (He)	2000	700
Nickel (He)	2000	500
Copper (He)	1000	400
Arsenic (He)	2000	1000
Selenium (He)	4000	2000
Cadmium (He)	500	300
Lead (He)	1000	200

(He): (He) Uses Helium gas for kinetic energy discrimination which is one of the means to control cell-formed interferences in collision/reaction cell ICP-MS, and also a technique to reduce polyatomic ion interferences derived from the plasma or vacuum interface in collision cell ICP-MS.

RL ICP Metals: The Minimum Reporting Limit (RL) is specified below per the analyte at the instrument. If the measured concentration for a fraction is less than the RL, the <RL was used in ensuing calculations. The J value is a reading that lies between the Reporting limit and the Method detection limit

Analyte	Reporting Limit Units (ug/mL)	Method Detection Units (ug/mL)
Zinc	0.020	0.0050

Blank Correction: No blank correct was performed.

Custody: The samples were received by Blake Messer on 5/2/25 at ATG, Circle Pines, Minnesota. The samples were received in good condition with proper Chain-of-Custody documentation. No apparent container problems were noted upon receipt. Prior to analysis, the samples were kept secure with access limited to authorized personnel of ATG.

Labeling: Acceptable

Approval by: Hailee Bonds- Laboratory Manager

Equipment: Agilent 7850 ICP-MS, (MS02), SN:SG24361501
Perkin Elmer 8300 Optima ICP (ICP01), SN: 7851401226

QC Notes: The samples met the minimum criteria established by the relevant method.

Data Qualifiers J' value denotes that the result is between the Reporting limit and Detection limit.

Reporting Notes: Reported out Beryllium instead of Barium.

Alliance Technical Group

MSP office
(763)786-6020

ICPMS Metals Reporting Form

Client: Metals Management Midwest (Sims)
Source: Hamermill Shredder Outlet

Run 1	Total ug Element/Fraction		MDL	RL	Total ug
Element	Fraction 1A	Fraction 2A	Total ug	Total ug	Element/Run
Beryllium	0.809	0.0192 <	0.0704	0.0880	0.829
Chromium (He)	31.4	1.99 J	6.16	17.6	33.4
Nickel (He)	19.9	1.20 <	4.40	17.6	21.1
Copper (He)	14.1	15.6	3.52	8.80	29.8
Arsenic (He)	7.15 J	2.40 <	8.80	17.6	9.55 J
Selenium (He)	12.8 <	4.80 <	17.6	35.2	17.6 <
Cadmium (He)	1.92 <	0.788 J	2.64	4.40	2.71 J
Lead (He)	23.5	7.77	1.76	8.80	31.2

Run 2	Total ug Element/Fraction		MDL	RL	Total ug
Element	Fraction 1A	Fraction 2A	Total ug	Total ug	Element/Run
Beryllium	0.788	0.0192 <	0.0652	0.0948	0.807
Chromium (He)	32.0	1.68 <	5.71	16.3	33.6
Nickel (He)	17.6	1.31 J	4.08	16.3	18.9
Copper (He)	18.1	8.32	3.26	8.15	26.4
Arsenic (He)	7.37 J	2.40 <	8.15	16.3	9.77 J
Selenium (He)	11.5 <	4.80 <	16.3	32.6	16.3 <
Cadmium (He)	1.73 <	0.720 <	2.45	4.08	2.45 <
Lead (He)	24.2	1.82 J	1.63	8.15	26.0

Run 3	Total ug Element/Fraction		MDL	RL	Total ug
Element	Fraction 1A	Fraction 2A	Total ug	Total ug	Element/Run
Beryllium	0.736	0.0190 <	0.0758	0.0948	0.755
Chromium (He)	30.2	1.66 <	6.63	19.0	31.9
Nickel (He)	16.9	1.19 <	4.74	14.2	18.0
Copper (He)	14.7	6.41	3.79	9.48	21.1
Arsenic (He)	7.10 <	2.38 <	9.48	19.0	9.48 <
Selenium (He)	14.2 <	4.75 <	19.0	37.9	19.0 <
Cadmium (He)	2.13 <	0.818 J	2.84	4.74	2.95 J
Lead (He)	23.0	2.80	1.90	9.48	25.8

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Beryllium by ICPMS Reporting Form

Client: Metals Management Midwest (Sims) Due Date: 5/16/25
Sample Type: Hamermill Shredder Outlet Fraction 1A Analyst's Initials: TB/MR
Digestion Method: M-29 Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-01/-04	1	5-13-25	5-15-25	126.47	10	8.0	50	0.100	0.100	0.128	0.0512	0.0640	0.809
-02/-05	2	5-13-25	5-15-25	137.05	10	8.0	50	0.100	0.100	0.115	0.0460	0.0575	0.788
-03/-06	3	5-13-25	5-15-25	103.68	10	8.0	50	0.100	0.100	0.142	0.0568	0.0710	0.736
Method Blank		5-13-25	5-15-25	8.0 <	10	8.0	50	0.100	0.100	0.100	0.0400	0.0500	0.0400 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Chromium (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims) Due Date: 5/16/25
Sample Type: Hamermill Shredder Outlet Fraction 1A Analyst's Initials: TB/MR
Digestion Method: M-29 Analytical Method: EPA 6020B

AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	Reported Result: MDL (Total ug)	Reported Result: Reporting Limit (Total ug)	Reported Result: Analytical Results (Total ug)
-01/-04	1	5-13-25	5-15-25	4909	2000	700	50	0.100	0.100	0.128	4.48	12.8	31.4
-02/-05	2	5-13-25	5-15-25	5560	2000	700	50	0.100	0.100	0.115	4.03	11.5	32.0
-03/-06	3	5-13-25	5-15-25	4259	2000	700	50	0.100	0.100	0.142	4.97	14.2	30.2
Method Blank		5-13-25	5-15-25	700 <	2000	700	50	0.100	0.100	0.100	3.50	10.0	3.50 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Nickel (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Hamermill Shredder Outlet Fraction 1A
Digestion Method: M-29

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-01/-04	1	5-13-25	5-15-25	3112	2000	500	50	0.100	0.100	0.128	3.20	12.8	19.9
-02/-05	2	5-13-25	5-15-25	3060	2000	500	50	0.100	0.100	0.115	2.88	11.5	17.6
-03/-06	3	5-13-25	5-15-25	2374	2000	500	50	0.100	0.100	0.142	3.55	14.2	16.9
Method Blank		5-13-25	5-15-25	500 <	2000	500	50	0.100	0.100	0.100	2.50	10.0	2.50 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Copper (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Hamermill Shredder Outlet Fraction 1A
Digestion Method: M-29

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-01/-04	1	5-13-25	5-15-25	2210	1000	400	50	0.100	0.100	0.128	2.56	6.40	14.1
-02/-05	2	5-13-25	5-15-25	3150	1000	400	50	0.100	0.100	0.115	2.30	5.75	18.1
-03/-06	3	5-13-25	5-15-25	2064	1000	400	50	0.100	0.100	0.142	2.84	7.10	14.7
Method Blank		5-13-25	5-15-25	400 <	1000	400	50	0.100	0.100	0.100	2.00	5.00	2.00 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Arsenic (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Hamermill Shredder Outlet Fraction 1A
Digestion Method: M-29

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-01/-04	1	5-13-25	5-15-25	1117 J	2000	1000	50	0.100	0.100	0.128	6.40	12.8	7.15 J
-02/-05	2	5-13-25	5-15-25	1282 J	2000	1000	50	0.100	0.100	0.115	5.75	11.5	7.37 J
-03/-06	3	5-13-25	5-15-25	1000 <	2000	1000	50	0.100	0.100	0.142	7.10	14.2	7.10 <
Method Blank		5-13-25	5-15-25	1000 <	2000	1000	50	0.100	0.100	0.100	5.00	10.0	5.00 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Selenium (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Hamermill Shredder Outlet Fraction 1A
Digestion Method: M-29

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-01/-04	1	5-13-25	5-15-25	2000 <	4000	2000	50	0.100	0.100	0.128	12.8	25.6	12.8 <
-02/-05	2	5-13-25	5-15-25	2000 <	4000	2000	50	0.100	0.100	0.115	11.5	23.0	11.5 <
-03/-06	3	5-13-25	5-15-25	2000 <	4000	2000	50	0.100	0.100	0.142	14.2	28.4	14.2 <
Method Blank		5-13-25	5-15-25	2000 <	4000	2000	50	0.100	0.100	0.100	10.0	20.0	10.0 <

Comments:

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(763)786-6020

Cadmium (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims) Due Date: 5/16/25
Sample Type: Hamermill Shredder Outlet Fraction 1A Analyst's Initials: TB/MR
Digestion Method: M-29 Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-01/-04	1	5-13-25	5-15-25	300 <	500	300	50	0.100	0.100	0.128	1.92	3.20	1.92 <
-02/-05	2	5-13-25	5-15-25	300 <	500	300	50	0.100	0.100	0.115	1.73	2.88	1.73 <
-03/-06	3	5-13-25	5-15-25	300 <	500	300	50	0.100	0.100	0.142	2.13	3.55	2.13 <
Method Blank		5-13-25	5-15-25	300 <	500	300	50	0.100	0.100	0.100	1.50	2.50	1.50 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Lead (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Hamermill Shredder Outlet Fraction 1A
Digestion Method: M-29

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-01/-04	1	5-13-25	5-15-25	3667	1000	200	50	0.100	0.100	0.128	1.28	6.40	23.5
-02/-05	2	5-13-25	5-15-25	4204	1000	200	50	0.100	0.100	0.115	1.15	5.75	24.2
-03/-06	3	5-13-25	5-15-25	3244	1000	200	50	0.100	0.100	0.142	1.42	7.10	23.0
Method Blank		5-13-25	5-15-25	200 <	1000	200	50	0.100	0.100	0.100	1.00	5.00	1.00 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Beryllium by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Hamermill Shredder Outlet Fraction 2A
Digestion Method: M-29

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-07	1	5-13-25	5-15-25	8.000 <	10	8.0	20	0.300	0.250	0.100	0.0192	0.0240	0.0192 <
-08	2	5-13-25	5-15-25	8.000 <	10	8.0	20	0.300	0.250	0.100	0.0192	0.0240	0.0192 <
-09	3	5-13-25	5-15-25	8.000 <	10	8.0	20	0.315	0.265	0.100	0.0190	0.0238	0.0190 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Chromium (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Hamermill Shredder Outlet Fraction 2A
Digestion Method: M-29

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-07	1	5-13-25	5-15-25	828 J	2000	700	20	0.300	0.250	0.100	1.68	4.80	1.99 J
-08	2	5-13-25	5-15-25	700 <	2000	700	20	0.300	0.250	0.100	1.68	4.80	1.68 <
-09	3	5-13-25	5-15-25	700 <	2000	700	20	0.315	0.265	0.100	1.66	4.75	1.66 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Nickel (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims) Due Date: 5/16/25
Sample Type: Hamermill Shredder Outlet Fraction 2A Analyst's Initials: TB/MR
Digestion Method: M-29 Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-07	1	5-13-25	5-15-25	500 <	2000	500	20	0.300	0.250	0.100	1.20	4.80	1.20 <
-08	2	5-13-25	5-15-25	546 J	2000	500	20	0.300	0.250	0.100	1.20	4.80	1.31 J
-09	3	5-13-25	5-15-25	500 <	2000	500	20	0.315	0.265	0.100	1.19	4.75	1.19 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Copper (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Hammermill Shredder Outlet Fraction 2A
Digestion Method: M-29

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-07	1	5-13-25	5-15-25	6503	1000	400	20	0.300	0.250	0.100	0.960	2.40	15.6
-08	2	5-13-25	5-15-25	3467	1000	400	20	0.300	0.250	0.100	0.960	2.40	8.32
-09	3	5-13-25	5-15-25	2695	1000	400	20	0.315	0.265	0.100	0.951	2.38	6.41

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Arsenic (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims) Due Date: 5/16/25
Sample Type: Hamermill Shredder Outlet Fraction 2A Analyst's Initials: TB/MR
Digestion Method: M-29 Analytical Method: EPA 6020B

AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	Reported Result: MDL (Total ug)	Reported Result: Reporting Limit (Total ug)	Reported Result: Analytical Results (Total ug)
-07	1	5-13-25	5-15-25	1000 <	2000	1000	20	0.300	0.250	0.100	2.40	4.80	2.40 <
-08	2	5-13-25	5-15-25	1000 <	2000	1000	20	0.300	0.250	0.100	2.40	4.80	2.40 <
-09	3	5-13-25	5-15-25	1000 <	2000	1000	20	0.315	0.265	0.100	2.38	4.75	2.38 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Selenium (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Hamermill Shredder Outlet Fraction 2A
Digestion Method: M-29

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-07	1	5-13-25	5-15-25	2000 <	4000	2000	20	0.300	0.250	0.100	4.80	9.60	4.80 <
-08	2	5-13-25	5-15-25	2000 <	4000	2000	20	0.300	0.250	0.100	4.80	9.60	4.80 <
-09	3	5-13-25	5-15-25	2000 <	4000	2000	20	0.315	0.265	0.100	4.75	9.51	4.75 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Cadmium (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Hamermill Shredder Outlet Fraction 2A
Digestion Method: M-29

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-07	1	5-13-25	5-15-25	329 J	500	300	20	0.300	0.250	0.100	0.720	1.20	0.788 J
-08	2	5-13-25	5-15-25	300 <	500	300	20	0.300	0.250	0.100	0.720	1.20	0.720 <
-09	3	5-13-25	5-15-25	344 J	500	300	20	0.315	0.265	0.100	0.713	1.19	0.818 J

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Lead (He) by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Hamermill Shredder Outlet Fraction 2A
Digestion Method: M-29

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6020B

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ng/L)	Instru. RL (ng/L)	Instru. MDL (ng/L)	Dilution	Total Volume of part 1 (L)	Amount of 1A Digested (L)	Final Volume of Digestate (1A) (L)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-07	1	5-13-25	5-15-25	3239	1000	200	20	0.300	0.250	0.100	0.480	2.40	7.77
-08	2	5-13-25	5-15-25	759 J	1000	200	20	0.300	0.250	0.100	0.480	2.40	1.82 J
-09	3	5-13-25	5-15-25	1176	1000	200	20	0.315	0.265	0.100	0.476	2.38	2.80

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Total Metals by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Filter
Analytical Method: EPA 29

Due Date: 5/16/25
Log Number: 250397-24
Analyst's Initials: TB/MR

									Reported Result		
Element	Date Prepped	Date Analyzed	Instru. Reading (ng/L)	Instru. Reporting Limit (ng/L)	MDL (ng/L)	Dilution	Digestate Volume (L)		MDL (ng/L)	Reporting Limit (Total ug)	Analytical Results (Total ug)
Beryllium	5-13-25	5-15-25	8.00 <	10	8.0	20	0.100		0.0160	0.0200	0.0160 <
Chromium (He)	5-13-25	5-15-25	2773	2000	700	20	0.100		1.40	4.00	5.55
Nickel (He)	5-13-25	5-15-25	9563	2000	500	20	0.100		1.00	4.00	19.1
Copper (He)	5-13-25	5-15-25	3281	1000	400	20	0.100		0.800	2.00	6.56
Arsenic (He)	5-13-25	5-15-25	1000 <	2000	1000	20	0.100		2.00	4.00	2.00 <
Selenium (He)	5-13-25	5-15-25	2000 <	4000	2000	20	0.100		4.00	8.00	4.00 <
Cadmium (He)	5-13-25	5-15-25	300 <	500	300	20	0.100		0.600	1.00	0.600 <
Lead (He)	5-13-25	5-15-25	200 <	1000	200	20	0.100		0.400	2.00	0.400 <

Footnotes:

In-House Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Total Metals by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: 0.1N HNO3 Reagent
Analytical Method: EPA 29

Due Date: 5/16/25
Log Number: 250397-20
Analyst's Initials: TB/MR

									Reported Result			
Element	Date Prepped	Date Analyzed	Instru. Reading (ng/L)	Instru. Reporting Limit (ng/L)	MDL (ng/L)	Dilution	Digestate Volume (L)	Volume of Sample Digested (L)	MDL (ug/L)	Reporting Limit (Total ug/L)	Analytical Results (Total ug/L)	
Beryllium	5-13-25	5-15-25	8.00 <	10	8.0	1	0.050	0.050	0.00800	0.0100	0.00800	<
Chromium (He)	5-13-25	5-15-25	700 <	2000	700	1	0.050	0.050	0.700	2.00	0.700	<
Nickel (He)	5-13-25	5-15-25	500 <	2000	500	1	0.050	0.050	0.500	2.00	0.500	<
Copper (He)	5-13-25	5-15-25	453 J	1000	400	1	0.050	0.050	0.400	1.00	0.453	J
Arsenic (He)	5-13-25	5-15-25	1000 <	2000	1000	1	0.050	0.050	1.00	2.00	1.00	<
Selenium (He)	5-13-25	5-15-25	2000 <	4000	2000	1	0.050	0.050	2.00	4.00	2.00	<
Cadmium (He)	5-13-25	5-15-25	655	500	300	1	0.050	0.050	0.300	0.500	0.655	
Lead (He)	5-13-25	5-15-25	200 <	1000	200	1	0.050	0.050	0.200	1.00	0.200	<

Footnotes:

In-House Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Total Metals by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: 5% HNO3/10%H2O2 Reagent
Analytical Method: EPA 29

Due Date: 5/16/25
Log Number: 250397-21
Analyst's Initials: TB/MR

									Reported Result			
Element	Date Prepped	Date Analyzed	Instru. Reading (ng/L)	Instru. Reporting Limit (ng/L)	MDL (ng/L)	Dilution	Digestate Volume (L)	Volume of Sample Digested (L)	MDL (ug/L)	Reporting Limit (Total ug/L)	Analytical Results (Total ug/L)	
Beryllium	5-13-25	5-15-25	8.00 <	10	8.0	1	0.050	0.050	0.00800	0.0100	0.00800	<
Chromium (He)	5-13-25	5-15-25	948 J	2000	700	1	0.050	0.050	0.700	2.00	0.948	J
Nickel (He)	5-13-25	5-15-25	906 J	2000	500	1	0.050	0.050	0.500	2.00	0.906	J
Copper (He)	5-13-25	5-15-25	616 J	1000	400	1	0.050	0.050	0.400	1.00	0.616	J
Arsenic (He)	5-13-25	5-15-25	1000 <	2000	1000	1	0.050	0.050	1.00	2.00	1.00	<
Selenium (He)	5-13-25	5-15-25	2000 <	4000	2000	1	0.050	0.050	2.00	4.00	2.00	<
Cadmium (He)	5-13-25	5-15-25	2417	500	300	1	0.050	0.050	0.300	0.500	2.42	
Lead (He)	5-13-25	5-15-25	200 <	1000	200	1	0.050	0.050	0.200	1.00	0.200	<

Footnotes:

In-House Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Total Metals by ICPMS Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Milli-Q Water Reagent
Analytical Method: EPA 29

Due Date: 5/16/25
Log Number: 250397-19
Analyst's Initials: TB/MR

									Reported Result		
Element	Date Prepped	Date Analyzed	Instru. Reading (ng/L)	Instru. Reporting Limit (ng/L)	MDL (ng/L)	Dilution	Digestate Volume (L)	Volume of Sample Digested (L)	MDL (ug/L)	Reporting Limit (Total ug/L)	Analytical Results (Total ug/L)
Beryllium	5-13-25	5-15-25	8.00 <	10	8.0	1	0.050	0.050	0.00800	0.0100	0.00800 <
Chromium (He)	5-13-25	5-15-25	700 <	2000	700	1	0.050	0.050	0.700	2.00	0.700 <
Nickel (He)	5-13-25	5-15-25	500 <	2000	500	1	0.050	0.050	0.500	2.00	0.500 <
Copper (He)	5-13-25	5-15-25	400 <	1000	400	1	0.050	0.050	0.400	1.00	0.400 <
Arsenic (He)	5-13-25	5-15-25	1000 <	2000	1000	1	0.050	0.050	1.00	2.00	1.00 <
Selenium (He)	5-13-25	5-15-25	2000 <	4000	2000	1	0.050	0.050	2.00	4.00	2.00 <
Cadmium (He)	5-13-25	5-15-25	300 <	500	300	1	0.050	0.050	0.300	0.500	0.300 <
Lead (He)	5-13-25	5-15-25	200 <	1000	200	1	0.050	0.050	0.200	1.00	0.200 <

Footnotes:

In-House Comments:

ALLIANCE TECHNICAL GROUP

MSP office
(763)786-6020

ICP Metals Reporting Form

Client: Metals Management Midwest (Sims)
Source: Hamermill Shredder Outlet

Run 1	Total ug Element/Fraction		MDL	RL	Total ug
Element	Fraction 1A	Fraction 2A	Total ug	Total ug	Element/Run
Zinc	140	112	2.48	9.92	252

Run 2	Total ug Element/Fraction		MDL	RL	Total ug
Element	Fraction 1A	Fraction 2A	Total ug	Total ug	Element/Run
Zinc	135	23.7	2.35	9.40	159

Run 3	Total ug Element/Fraction		MDL	RL	Total ug
Element	Fraction 1A	Fraction 2A	Total ug	Total ug	Element/Run
Zinc	112	20.9	2.61	10.4	133

ALLIANCE TECHNICAL GROUP
(763)786-6020

Zinc by ICP Reporting Form

Client:: Metals Management Midwest (Sims)
Sample Type: Hamermill Shredder Outlet
Digestion Method: M-29

Fraction 1A

Due Date: 5/16/25
Analyst's Initials: TB/MR
Analytical Method: EPA 6010D

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ug/mL)	Instru. RL (ug/mL)	Instru. MDL (ug/mL)	Dilution	Total Volume of part 1 (mL)	Amount of 1A Digested (mL)	Final Volume of Digestate (1A) (mL)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-01/-04	1	5-13-25	5-15-25	0.5454	0.020	0.0050	2	100	100	128	1.28	5.12	140
-02/-05	2	5-13-25	5-15-25	0.5891	0.020	0.0050	2	100	100	115	1.15	4.60	135
-03/-06	3	5-13-25	5-15-25	0.3944	0.020	0.0050	2	100	100	142	1.42	5.68	112
Method Blank		5-13-25	5-15-25	0.0050 <	0.020	0.0050	2	100	100	100	1.00	4.00	1.00 <

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Zinc by ICP Reporting Form

Client: Metals Management Midwest (Sims) Due Date: 5/16/25
Sample Type: Hamermill Shredder Outlet Fraction 2A Analyst's Initials: TB/MR
Digestion Method: M-29 Analytical Method: EPA 6010D

											Reported Result		
AST Log # 250397	Run	Prep Date	Analysis Date	Instru. Reading (ug/mL)	Instru. RL (ug/mL)	Instru. MDL (ug/mL)	Dilution	Total Volume of part 1 (mL)	Amount of 1A Digested (mL)	Final Volume of Digestate (1A) (mL)	MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
-07	1	5-13-25	5-15-25	0.4673	0.020	0.0050	2	300	250	100	1.20	4.80	112
-08	2	5-13-25	5-15-25	0.0989	0.020	0.0050	2	300	250	100	1.20	4.80	23.7
-09	3	5-13-25	5-15-25	0.0880	0.020	0.0050	2	315	265	100	1.19	4.75	20.9

Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Total Metals by ICP Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Filter
Analytical Method: EPA 29

Due Date: 5/16/25
Log Number: 250397-24
Analyst's Initials: TB/MR

									Reported Result		
Element	Date Prepped	Date Analyzed	Instru. Reading (ug/mL)	Instru. Reporting Limit (ug/mL)	MDL (ug/mL)	Dilution	Digestate Volume (mL)		MDL (Total ug)	Reporting Limit (Total ug)	Analytical Results (Total ug)
Zinc	5-13-25	5-15-25	0.0124 J	0.020	0.0050	2	100		1.00	4.00	2.48 J

Footnotes:

In-House Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Total Metals by ICP Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: 0.1N HNO3 Reagent
Analytical Method: EPA 29

Due Date: 5/16/25
Log Number: 250397-20
Analyst's Initials: TB/MR

									Reported Result		
Element	Date Prepped	Date Analyzed	Instru. Reading (ug/mL)	Instru. Reporting Limit (ug/mL)	MDL (ug/mL)	Dilution	Digestate Volume (mL)	Volume of Sample Digested (mL)	MDL (ug/mL)	Reporting Limit (ug/mL)	Analytical Results (ug/mL)
Zinc	5-13-25	5-15-25	0.0050 <	0.020	0.0050	1	50	50	0.00500	0.0200	0.00500 <

Footnotes:

In-House Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Total Metals by ICP Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: 5% HNO3/10%H2O2 Reagent
Analytical Method: EPA 29

Due Date: 5/16/25
Log Number: 250397-21
Analyst's Initials: TB/MR

									Reported Result		
Element	Date Prepped	Date Analyzed	Instru. Reading (ug/mL)	Instru. Reporting Limit (ug/mL)	MDL (ug/mL)	Dilution	Digestate Volume (mL)	Volume of Sample Digested (mL)	MDL (ug/mL)	Reporting Limit (ug/mL)	Analytical Results (ug/mL)
Zinc	5-13-25	5-15-25	0.0050 <	0.020	0.0050	1	50	50	0.00500	0.0200	0.00500 <

Footnotes:

In-House Comments:

ALLIANCE TECHNICAL GROUP
(763)786-6020

Total Metals by ICP Reporting Form

Client: Metals Management Midwest (Sims)
Sample Type: Milli-Q Water Reagent
Analytical Method: EPA 29

Due Date: 5/16/25
Log Number: 250397-19
Analyst's Initials: TB/MR

									Reported Result		
Element	Date Prepped	Date Analyzed	Instru. Reading (ug/mL)	Instru. Reporting Limit (ug/mL)	MDL (ug/mL)	Dilution	Digestate Volume (mL)	Volume of Sample Digested (mL)	MDL (ug/mL)	Reporting Limit (ug/mL)	Analytical Results (ug/mL)
Zinc	5-13-25	5-15-25	0.0050 <	0.020	0.0050	1	50	50	0.00500	0.0200	0.00500 <

Footnotes:

In-House Comments:

Alliance — Chain-Of-Custody

Alliance Technical Group, LLC - Lab Servi
4500 Ball Rd NE Circle Pines Mn 55014
(763) 786-6020

Client Name: Metal Management Midwest, Inc. (Sims Metal)
City, State: Chicago, IL
Source: Hammermill Shredder Outlet
Project No.: 25-0397

Turn Around Time: [✓] Standard [ ] Expedited ___ Number of Business Days
Blank Manuf./Lot #: 0.1 HNO_3 - Lot01-648 DI-23581
Blank Manuf./Lot #: 5% / 10% HNO_3 / H_2O_2 - Lot01-648
$KMnO_4$ - Field lot 001 (WSW)

Sample ID	Number of Containers	Date Collected	Time Recovered	Collector Initials	HOLD	Method/Media: Method 5 — Filter Number ~~83mm Quartz Filter~~	Method 5 — Probe Nozzle Rinse - Acetone	Method 29 — F/H Probe Rinse - 0.1 N HNO_3 01-06	Method 29 — B/H Imp - 0.1 N HNO_3 Rinse 07-09	Method 29 — Hg Knockout Imp - 0.1 N HNO_3 Rinse 10-12	Method 29 — Hg Imp - $KMnO_4$ and DI H_2O Rinse 13-15	Method 29 — Hg Imp - 8N HCl Rinse 16-18	Method 29 — Reagent Blanks	Method 29 — Quartz Filter # 01-03
M29 - Hammermill Shredder Outlet - Run 1	6	4-30	13:15	WSW				✓	✓	✓	✓	✓		✓
M29 - Hammermill Shredder Outlet - Run 2	6	4-30	16:35	WSW				✓	✓	✓	✓	✓		✓
M29 - Hammermill Shredder Outlet - Run 3	6	4-30	18:00	WSW				✓	✓	✓	✓	✓		✓
M29 - Quartz Filter (3) Reagent Blank -24	1	4-30	7:30	WSW									✓	
M29 - 0.1N HNO3 Reagent Blank -20	1	4-30	7:30	WSW									✓	
M29 - DI Water Reagent Blank -19	1	4-30	7:30	WSW									✓	
M29 - HN03/H2O2 Reagent Blank -21	1	4-30	7:30	WSW									✓	
M29 - KMnO4 Reagent Blank -22	1	4-30	7:30	WSW									✓	
M29 - 8N HCl Reagent Blank -23	1	4-30	7:30	WSW									✓	

Relinquished By: Wyatt Wilke Date: 4-30-15 Received By: [illegible] Date: 5/2/15 9:30
Relinquished By: ___ Date: ___ Received By: ___ Date: ___
Relinquished By: ___ Date: ___ Received By: ___ Date: ___
Sample Container Recieved Temperature (°F): ___

Page 1 of 2

Notes
AST Office: CRI CRIreports@alliancetg.com
Total selected metals include Arsenic, ~~Barium~~, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, and zinc Beryllium Manganese

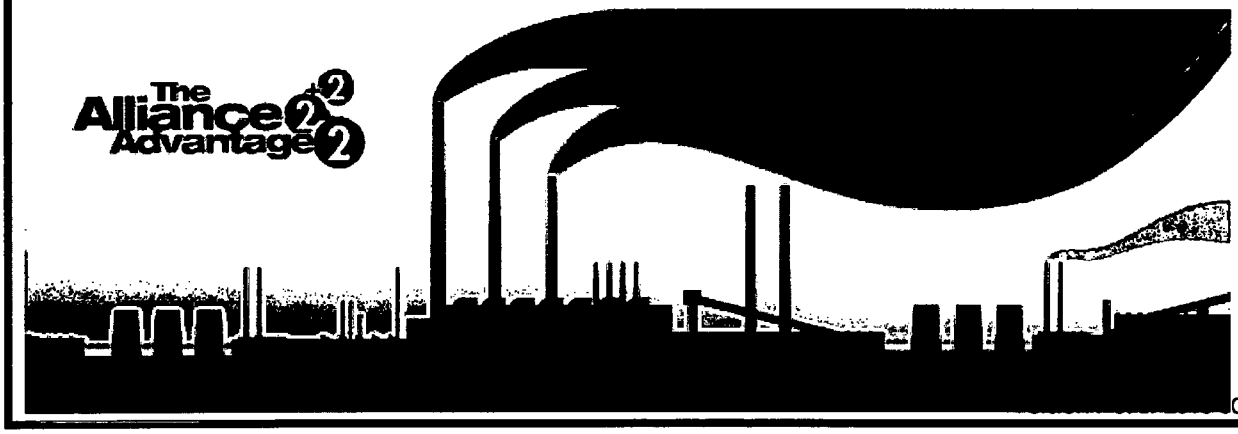
Alliance Technical Group
Analytical Services
4500 Ball Rd NE
Circle Pines, MN 55014
(763) 768-6020
www.Alliancetg.com

Analytical Laboratory Report

Metals Management Midwest (Sims)
Chicago, IL
Hamermill Shredder Outlet

EPA Methods 29 Mercury

Project No. AST-2025-0397



0_18.1

Certification Statement

Alliance Technical Group (ATG) has completed the analysis as described in this report. Results apply only to the source(s) tested and operating condition(s) for the specific test date(s) and time(s) identified within this report. All results are intended to be considered in their entirety, and ATG is not responsible for use of less than the complete test report without written consent. This report shall not be reproduced in full or in part without written approval from the customer.

To the best of my knowledge and abilities, all information, facts and test data are correct. Data presented in this report has been checked for completeness and is accurate, error-free and legible. Any deviations or problems are detailed in the relevant sections on the test report.

This document was prepared in portable document format (.pdf) and contains pages as identified in the bottom footer of this document.

Validation Signature

The analytical data and all QC contained within this report was reviewed and validated by the following individual.

Hailee Bonds

Digitally signed by Hailee Bonds
DN: O=Alliance Technical Group, CN=Hailee Bonds, E=hailee.bonds@alliancetg.com
Reason: I am the author of this document
Location: your signing location here
Date: 2025.05.16 16:10:10-05'00'
Foxit PDF Editor Version: 11.2.6

Hailee Bonds
MSP Lab Manager

Date

Pritha Banerjee

Digitally signed by Pritha Banerjee
DN: O=Alliance Technical Group, CN=Pritha Banerjee, E=pritha.banerjee@alliancetg.com
Reason: I am the author of this document
Location:
Date: 2025.05.16 16:08:48-05'00'
Foxit PDF Editor Version: 13.1.2

Pritha Banerjee
MSP Quality Assurance Associate

Date

Project Narrative

Analytical Methods:	Method 29 - Metals Emissions from Stationary Sources
RL Mercury (Hg)	The Reporting Limit (RL) For Hg is 0.1ug/L at the instrument. If the measured concentration for a fraction is less than the RL, the <RL was used in ensuing calculations.
Blank Correction:	No blank correct was perform unless otherwise noted.
Custody:	The samples were received by Blake Messer on 5/2/25 at ATG, Circle Pines, Minnesota. The samples were received in good condition with proper Chain-of-Custody documentation. No apparent container problems were noted upon receipt. Prior to analysis, the samples were kept secure with access limited to authorized personnel of ATG.
Labeling:	Acceptable
Approval by:	Hailee Bonds- Laboratory Manager
Equipment:	Perkin Elmer LIMS 400 (Hg04), SN:401S2301051
QC Notes:	The samples met the minimum criteria established by the relevant method.
Data Qualifiers	None
Reporting Notes:	NONE

Alliance Technical Group

MSP office

(763)786-6020

Total Mercury by Cold Vapor Atomic Absorption Summary Reporting Form

Client: Metals Management Midwest (Sims)

Source: M29, Hamermill Shredder Outlet

	Total ug Mercury/Fraction					Total ug Mercury/Run	Reporting Limit ug Hg/Run
Run	Fraction 1B	Fraction 2B	Fraction 3A	Fraction 3B	Fraction 3C		
1	0.0640 <	0.313	0.0500 <	0.432	2.28	3.14	0.514
2	0.0575 <	0.244	0.0510 <	0.158	0.960	1.47	0.508
3	0.0710 <	0.455	0.0500 <	0.912	2.61	4.10	0.529

Reagent Blanks	Mercury ug/L	RL ug/L
Filter	0.0500 <	0.0500
Milli-Q Water	0.111 <	0.111
0.1N HNO3	0.111 <	0.111
5%HNO3/10%H2O2	0.500 <	0.500
4%KMnO4/10%H2SO4	0.250 <	0.250
8N HCl	0.500 <	0.500

Alliance Technical Group

(763)786-6020

Total Mercury by Cold Vapor Atomic Absorption Reporting Form

Client: Metals Management Midwest (Sims)

Due Date: 5/16/25

Sample Type: M29, Hamermill Shredder Outlet Fraction 1B

Analyst's Initials: TB/MR

Digestion Method: EPA M-29/7470A

Analytical Method: EPA 7470A

														Reported Result	
AST Log #: 250397	Run	Digestion Date	Analysis Date	1st Instru. Reading (ppb)	2nd Instru. Reading (ppb)	3rd Instru. Reading (ppb)	Avg Instru. Reading (ppb)	% RSD	Instru. Reporting Limit (ppb)	Dilution	Volume of Sample Digested (L)	Final Volume of Sample Digestate (L)	Total Volume of sample (L)	Reporting Limit (ug)	Analytical Results (ug)
-01/-04	1	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.010	0.050	0.128	0.0640	0.0640 <
-02/-05	2	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.010	0.050	0.115	0.0575	0.0575 <
-03/-06	3	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.010	0.050	0.142	0.0710	0.0710 <
Method Blank		5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.010	0.050	0.100	0.0500	0.0500 <

Footnotes:

In-House Comments:

Alliance Technical Group

(763)786-6020

Total Mercury by Cold Vapor Atomic Absorption Reporting Form

Client: Metals Management Midwest (Sims)

Due Date: 5/16/25

Sample Type: M29, Hamermill Shredder Outlet Fraction 2B

Analyst's Initials: TB/MR

Digestion Method: EPA M-29/7470A

Analytical Method: EPA 7470A

														Reported Result	
AST Log #: 250397	Run	Digestion Date	Analysis Date	1st Instru. Reading (ppb)	2nd Instru. Reading (ppb)	3rd Instru. Reading (ppb)	Avg Instru. Reading (ppb)	% RSD	Instru. Reporting Limit (ppb)	Dilution	Volume of Sample Digested (L)	Final Volume of Sample Digestate (L)	Total Volume of sample (L)	Reporting Limit (ug)	Analytical Results (ug)
-07	1	5-14-25	5-15-25	0.218	0.208	0.200	0.209	4.32	0.10	1	0.010	0.050	0.300	0.150	0.313
-08	2	5-14-25	5-15-25	0.169	0.158	0.160	0.162	3.61	0.10	1	0.010	0.050	0.300	0.150	0.244
-09	3	5-14-25	5-15-25	0.288	0.285	0.294	0.289	1.59	0.10	1	0.010	0.050	0.315	0.158	0.455

Footnotes:

In-House Comments:

Alliance Technical Group

(763)786-6020

Total Mercury by Cold Vapor Atomic Absorption Reporting Form

Client: Metals Management Midwest (Sims) Due Date: 5/16/25

Sample Type: M29, Hamermill Shredder Outlet Fraction 3A Analyst's Initials: TB/MR

Digestion Method: EPA M-29/7470A Analytical Method: EPA 7470A

														Reported Result	
AST Log #: 250397	Run	Digestion Date	Analysis Date	1st Instru. Reading (ppb)	2nd Instru. Reading (ppb)	3rd Instru. Reading (ppb)	Avg Instru. Reading (ppb)	% RSD	Instru. Reporting Limit (ppb)	Dilution	Volume of Sample Digested (L)	Final Volume of Sample Digestate (L)	Total Volume of sample (L)	Reporting Limit (ug)	Analytical Results (ug)
-10	1	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.010	0.050	0.100	0.0500	0.0500 <
-11	2	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.010	0.050	0.102	0.0510	0.0510 <
-12	3	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.010	0.050	0.100	0.0500	0.0500 <

In-House Comments:

Alliance Technical Group

(763)786-6020

Total Mercury by Cold Vapor Atomic Absorption Reporting Form

Client: Metals Management Midwest (Sims)

Due Date: 5/16/25

Sample Type: M29, Hamermill Shredder Outlet

Fraction 3B

Analyst's Initials: TB/MR

Digestion Method: EPA M-29/7470A

Analytical Method: EPA 7470A

														Reported Result	
AST Log #: 250397	Run	Digestion Date	Analysis Date	1st Instru. Reading (ppb)	2nd Instru. Reading (ppb)	3rd Instru. Reading (ppb)	Avg Instru. Reading (ppb)	% RSD	Instru. Reporting Limit (ppb)	Dilution	Volume of Sample Digested (L)	Final Volume of Sample Digestate (L)	Total Volume of sample (L)	Reporting Limit (ug)	Analytical Results (ug)
-13	1	5-14-25	5-15-25	0.343	0.348	0.345	0.345	0.73	0.10	1	0.020	0.050	0.500	0.125	0.432
-14	2	5-14-25	5-15-25	0.124	0.126	0.130	0.127	2.41	0.10	1	0.020	0.050	0.500	0.125	0.158
-15	3	5-14-25	5-15-25	0.727	0.730	0.731	0.729	0.29	0.10	1	0.020	0.050	0.500	0.125	0.912

Footnotes:

In-House Comments:

Alliance Technical Group

(763)786-6020

Total Mercury by Cold Vapor Atomic Absorption Reporting Form

Client: Metals Management Midwest (Sims)

Due Date: 5/16/25

Sample Type: M29, Hamermill Shredder Outlet Fraction 3C

Analyst's Initials: TB/MR

Digestion Method: EPA M-29/7470A

Analytical Method: EPA 7470A

														Reported Result	
AST Log #: 250397	Run	Digestion Date	Analysis Date	1st Instru. Reading (ppb)	2nd Instru Reading (ppb)	3rd Instru. Reading (ppb)	Avg Instru. Reading (ppb)	% RSD	Instru. Reporting Limit (ppb)	Dilution	Volume of Sample Digested (L)	Final Volume of Sample Digestate (L)	Total Volume of sample (L)	Reporting Limit (ug)	Analytical Results (ug)
-16	1	5-14-25	5-15-25	1.823	1.828	1.826	1.826	0.14	0.10	1	0.010	0.050	0.250	0.125	2.28
-17	2	5-14-25	5-15-25	0.785	0.766	0.771	0.774	1.27	0.10	1	0.010	0.050	0.248	0.124	0.960
-18	3	5-14-25	5-15-25	2.125	2.077	2.067	2.090	1.48	0.10	1	0.010	0.050	0.250	0.125	2.61

Footnotes:

In-House Comments:

Alliance Technical Group

(763)786-6020

Total Mercury by Cold Vapor Atomic Absorption Reporting Form

Client: Metals Management Midwest (Sims)

Sample Type: M29, Reagents

Analytical Method: EPA 7470A

Due Date: 5/16/25

Analyst's Initials: TB/MR

														Reported Result	
AST Log #: 250397	Reagent	Digestion Date	Analysis Date	1st Instru. Reading (ppb)	2nd Instru. Reading (ppb)	3rd Instru. Reading (ppb)	Avg Instru. Reading (ppb)	% RSD	Instru. Reporting Limit (ppb)	Dilution	Volume of Sample Digested (L)	Final Volume of Sample Digestate (L)		Reporting Limit (ug/L)	Analytical Results (ug/L)
-19	Milli-Q Water	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.045	0.050		0.111	0.111 <
-20	0.1N HNO3	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.045	0.050		0.111	0.111 <
-21	5%HNO3/10%H2O2	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.010	0.050		0.500	0.500 <
-22	4%KMnO4/10%H2SO4	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.020	0.050		0.250	0.250 <
-23	8N HCl	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.010	0.050		0.500	0.500 <

In-House Comments:

Alliance Technical Group

(763)786-6020

Total Mercury by Cold Vapor Atomic Absorption Reporting Form

Client: Metals Management Midwest (Sims)

Due Date: 5/16/25

Sample Type: M29, Reagents

Analyst's Initials: TB/MR

Analytical Method: EPA 7470A

														Reported Result	
AST Log #: 250397	Reagent	Digestion Date	Analysis Date	1st Instru. Reading (ppb)	2nd Instru. Reading (ppb)	3rd Instru. Reading (ppb)	Avg Instru. Reading (ppb)	% RSD	Instru. Reporting Limit (ppb)	Dilution	Volume of Sample Digested (L)	Final Volume of Sample Digestate (L)	Total Volume of sample (L)	Reporting Limit (ug)	Analytical Results (ug)
-24	Filter	5-14-25	5-15-25	0.100 <	0.100 <	0.100 <	0.100 <	0.00	0.10	1	0.010	0.050	0.100	0.0500	0.0500 <

In-House Comments:

Alliance — Chain-Of-Custody

Alliance Technical Group, LLC - Lab Servi
4500 Ball Rd NE Circle Pines Mn 55014
(763) 786-6020

Client Name: Metal Management Midwest, Inc. (Sims Metal)
City, State: Chicago, IL
Source: Hammermill Shredder Outlet
Project No.: 25-0397

Turn Around Time: [✓] Standard [ ] Expedited ___ Number of Business Days

Blank Manuf./Lot #: 0.1 HNO_3 - Lab01-64B — DI-23584
Blank Manuf./Lot #: 5% / 10% HNO_3 / H_2O_2 - Lab01-64C
$KMnO_4$ - Field lot 001 (WSW)

Sample ID	Number of Containers	Date Collected	Time Recovered	Collector Initials	HOLD	Method 5: ~~Filter Number - 25mm Quartz Filter~~	Method 5: Probe Nozzle Rinse - Acetone	Method 29: F/H Probe Rinse - 0.1 N HNO_3 01-05	Method 29: B/H Imp- 0.1 N HNO_3 Rinse 07-09	Method 29: Hg Knockout Imp - 0.1 N HNO_3 Rinse 10-12	Method 29: Hg Imp - $KMnO_4$ and DI H_2O Rinse 13-15	Method 29: Hg Imp - 8N HCl Rinse 16-18	Method 29: Reagent Blanks	Method 29: Quartz Filter # 01-03
M29 - Hammermill Shredder Outlet - Run 1	6	4-30	13:15	WSW				✓	✓	✓	✓	✓		✓
M29 - Hammermill Shredder Outlet - Run 2	6	4-30	16:35	WSW				✓	✓	✓	✓	✓		✓
M29 - Hammermill Shredder Outlet - Run 3	6	4-30	19:00	WSW				✓	✓	✓	✓	✓		✓
M29 - Quartz Filter (3) Reagent Blank -24	1	4-30	7:30	WSW									✓	
M29 - 0.1N HNO_3 Reagent Blank -20	1	4-30	7:30	WSW									✓	
M29 - DI Water Reagent Blank -19	1	4-30	7:30	WSW									✓	
M29 - HNO_3/H_2O_2 Reagent Blank -21	1	4-30	7:30	WSW									✓	
M29 - $KMnO_4$ Reagent Blank -22	1	4-30	7:30	WSW									✓	
M29 - 8N HCl Reagent Blank -23	1	4-30	7:30	WSW									✓	

linquished By: Wyatt Wilke Date: 5-1 Received By: [illegible] Date: 5/2/15 9:30
linquished By: ___ Date: ___ Received By: ___ Date: ___
linquished By: ___ Date: ___ Received By: ___ Date: ___
Sample Container Recieved Temperature (°F) ___

Page 1 of 2

Notes
AST Office: CRI CRIreports@alliancetg.com
Total selected metals include Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, and zinc

Appendix D

Alliance TECHNICAL GROUP

QA/QC Data

Location Sims Metal - Chicago, IL
Source Hammermill Shredder System Outlet
Project No. AST-2025-0397
Parameter PM,CPM

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
4/30/25	SS-1-15	0.200	0.201	0.201	0.201	0.001	≤0.004 in.	SS

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?
4/30/25	PT-604-1	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
4/30/25	PR-604-1	261.0	262.0	0.1%	± 1.5 % (absolute)	4 '

Field Balance Check

Date	04/29/25	04/30/25				
Balance ID:	SCALE-59	SCALE-59				
Certified Weight ID:	CRI-1 KG-3	CRI-1 KG-3				
Certified Weight Expiration:	9/6/26	9/6/26				
Certified Weight (g):	1000.0	1000.0				
Measured Weight (g):	999.9	999.9				
Weight Difference (g):	0.1	0.1	–	–	–	–

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
4/30/25	Weather Station	NA	NA	NA	Chicago, IL

Date	Meter Box ID	Positive Pressure Leak Check
4/30/25	2570	Pass

Reagent Name	Lot/ID Number	Field Prep performed?	If Field Prep Performed: Field Lot Number	Date Prepared	Prepared By
DI	235845	No			
Acetone	240399	No			
Hexane	232666	No			

Posttest Purge

Run 1		Run 2		Run 3	
Flow Rate (lpm):	14	Flow Rate (lpm):	14	Flow Rate (lpm):	14
Clock Time	Temperature	Clock Time	Temperature	Clock Time	Temperature
12:10	72.0	14:45	71.0	17:30	72.0
12:25	72.0	15:00	72.0	17:45	72.0
12:40	71.0	15:15	71.0	18:00	72.0
12:55	72.0	15:30	71.0	18:15	71.0
13:10	71.0	15:45	72.0	18:30	71.0

Alliance TECHNICAL GROUP

QA/QC Data

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Parameter HCl

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
4/30/25	G-2-21	0.205	0.205	0.205	0.205	0.000	≤ 0.004 in.	glass

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?
4/30/25	PR-604-4	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
4/30/25	PR-604-4	54.0	54.0	0.0%	± 1.5 % (absolute)	4 '

Field Balance Check

Date	04/29/25	04/30/25				
Balance ID:	SCALE-59	SCALE-59				
Certified Weight ID:	CRI-1 KG-3	CRI-1 KG-3				
Certified Weight Expiration:	9/6/26	9/6/26				
Certified Weight (g):	1000.0	1000.0				
Measured Weight (g):	999.9	999.9				
Weight Difference (g):	0.1	0.1	--	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
4/30/25	Weather Station	NA	NA	NA	Chicago, IL

Date	Meter Box ID	Positive Pressure Leak Check
4/30/25	2716	Pass

Reagent Name	Lot/ID Number	Field Prep performed?	If Field Prep Performed: Field Lot Number	Date Prepared	Prepared By
0.1N H2SO4	LAB01-64A	No			
DI WATER	235845	No			

Alliance TECHNICAL GROUP

QA/QC Data

Location Sims Metal - Sims Metal
Source Hammermill Shredder Outlet
Project No. AST-2025-0397
Parameter Metals

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
4/30/25	G-3-22	0.210	0.210	0.210	0.210	0.000	≤ 0.004 in.	glass

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?
4/30/25	PR-604-5	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
4/30/25	PR-604-5	54.0	55.0	0.2%	± 1.5 % (absolute)	4 '

Field Balance Check

Date	04/29/25	04/30/25				
Balance ID:	SCALE-59	SCALE-59				
Certified Weight ID:	CRI-1 KG-3	CRI-1 KG-3				
Certified Weight Expiration:	9/6/26	9/6/26				
Certified Weight (g):	1000.0	1000.0				
Measured Weight (g):	999.9	999.9				
Weight Difference (g):	0.1	0.1	–	–	–	–

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
4/30/25	Weather Station	NA	NA	NA	Chicago, IL

Date	Meter Box ID	Positive Pressure Leak Check
4/30/25	2571	Pass

Reagent Name	Lot/ID Number	Field Prep performed?	If Field Prep Performed: Field Lot Number	Date Prepared	Prepared By
0.1N HNO3	LAB01-64B	No			
5%/10% HNO3/H202	LAB01-64C	No			
4% KMNO4	FIELD LOT 001	Yes	FIELD LOT 001	4/30/2025	WJW
DI WATER	235845	No			

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QA/QC Data

Location SIMS Metal - Chicago, IL
Source Hammermill Shredder System Inlet
Project No. AST-2025-0397
Parameter(s) VFR

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?	
4/30/25	PT-605-1	no	no	no	
Date	**Probe or Thermocouple ID**	**Reference Temp. (°F)**	**Indicated Temp. (°F)**	**Difference**	**Criteria**
4/30/25	PT-605-1	74.0	74.0	0.0%	± 1.5 % (absolute)
Date	**Barometric Pressure**	**Evidence of damage?**	**Reading Verified**	**Calibration or Repair required?**	**Weather Station Location**
4/30/25	Weather Station	NA	NA	NA	Chicago, IL

Equipment Detail - Dry Gas Meter

Console ID: MB-608
Meter S/N: 2570
Critical Orifice S/N: CO-1471S

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_I)	29.04					
Final Barometric Pressure, in. Hg	(Pb_F)	29.02					
Average Barometric Pressure, in. Hg	(Pb)	29.03					
Critifcal Orifice ID	(Y)	11	11	16	16	30	30
K' Factor, $ft^3 \cdot R^{1/2}$ / in. WC·min	(K')	0.3021	0.3021	0.4317	0.432	0.8255	0.826
Vacuum Pressure, in. Hg	(V_P)	23.0	23.0	20.5	20.5	15.0	15.0
Initial DGM Volume, ft^3	(Vm_I)	236.000	241.910	247.840	253.520	259.210	264.620
Final DGM Volume, ft^3	(Vm_F)	241.910	247.840	253.520	259.210	264.620	270.030
Total DGM Volume, ft^3	(Vm)	5.910	5.930	5.680	5.690	5.410	5.410
Ambient Temperature, °F	(Ta)	69	69	69	69	69	69
Initial DGM Temperature, °F	(Tm_I)	69	70	72	72	73	73
Final DGM Temperature, °F	(Tm_F)	70	72	72	73	73	74
Average DGM Temperature, °F	(Tm)	70	71	72	73	73	74
Elapsed Time	(Θ)	15.00	15.00	10.00	10.00	5.00	5.00
Meter Orifice Pressure, in. WC	(ΔH)	0.47	0.47	0.96	0.96	3.50	3.50
Standard Meter volume, ft^3	(Vmstd)	5.7258	5.7290	5.4839	5.4884	5.2469	5.2420
Standard Critical Orifice Volume, ft^3	(Vcr)	5.7212	5.7212	5.4504	5.4504	5.2111	5.2111
Meter Correction Factor	(Y)	0.999	0.999	0.994	0.993	0.993	0.994
Tolerance	--	0.004	0.003	0.001	0.002	0.002	0.001
Orifice Calibration Value	(ΔH @)	1.761	1.756	1.755	1.753	1.758	1.756
Tolerance	--	0.004	0.001	0.001	0.003	0.001	0.000
Orifice Cal Check	--	0.55		0.54		0.53	
Meter Correction Factor	**(Y)**	**0.995**					
Orifice Calibration Value	**(ΔH @)**	**1.756**					
Positive Pressure Leak Check		**Yes**					

Equipment Detail - Thermocouple Sensor

Reference Calibrator Make: PRACTICAL INSTRUMENT ELECYTONICS
Reference Calibrator Model: PIECAL 520B
Reference Calibrator S/N: 128210

Calibration Detail

Reference Temp.		Display Temp.		Accuracy	Absolute Difference
°F	°R	°F	°R	%	°F
0	460	0	460	0.0	0.03
68	528	69	529	-0.2	1
100	560	101	561	-0.2	1
223	683	226	686	-0.4	3
248	708	252	712	-0.6	4
273	733	277	737	-0.5	4
300	760	304	764	-0.5	4
400	860	402	862	-0.2	2
500	960	501	961	-0.1	1
600	1,060	603	1,063	-0.3	3
700	1,160	705	1,165	-0.4	5
800	1,260	805	1,265	-0.4	5
900	1,360	906	1,366	-0.4	6
1,000	1,460	1,006	1,466	-0.4	6
1,100	1,560	1,107	1,567	-0.4	7
1,200	1,660	1,207	1,667	-0.4	7

Personnel

Calibration By: Bailey Mattioli
Calibration Date: 3/17/2025
Reviewed By: Wyatt J Wille

Equipment Detail - Dry Gas Meter

Console ID: MB-610
Meter S/N: 2716
Critical Orifice S/N: CO-1471S

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_I)	28.99					
Final Barometric Pressure, in. Hg	(Pb_F)	28.92					
Average Barometric Pressure, in. Hg	(Pb)	28.96					
Critifcal Orifice ID	(Y)	11	11	16	16	30	30
K' Factor, $ft^3 \cdot R^{1/2}$ / in. WC·min	(K')	0.3210	0.321	0.4317	0.432	0.8255	0.826
Vacuum Pressure, in. Hg	(V_P)	21.5	21.5	20.0	20.0	16.0	16.0
Initial DGM Volume, ft^3	(Vm_I)	761.000	769.140	775.310	782.900	788.450	793.775
Final DGM Volume, ft^3	(Vm_F)	769.140	775.310	780.880	788.400	793.775	798.990
Total DGM Volume, ft^3	(Vm)	8.140	6.170	5.570	5.500	5.325	5.215
Ambient Temperature, °F	(Ta)	68	68	68	68	68	68
Initial DGM Temperature, °F	(Tm_I)	68	69	70	71	71	72
Final DGM Temperature, °F	(Tm_F)	69	70	70	71	72	72
Average DGM Temperature, °F	(Tm)	69	70	70	71	72	72
Elapsed Time	(Θ)	20.00	15.00	10.00	10.00	5.00	5.00
Meter Orifice Pressure, in. WC	(ΔH)	0.56	0.56	1.00	1.00	3.70	3.70
Standard Meter volume, ft^3	(Vmstd)	7.8827	5.9637	5.3846	5.3070	5.1684	5.0568
Standard Critical Orifice Volume, ft^3	(Vcr)	8.0922	6.0692	5.4415	5.4415	5.2026	5.2026
Meter Correction Factor	(Y)	1.027	1.018	1.011	1.025	1.007	1.029
Tolerance	--	0.007	0.002	0.009	0.006	0.013	0.010
Orifice Calibration Value	(ΔH @)	1.863	1.860	1.837	1.833	1.866	1.864
Tolerance	--	0.010	0.006	0.017	0.021	0.012	0.010
Orifice Cal Check	--	0.43		0.41		0.43	
Meter Correction Factor	**(Y)**	**1.019**					
Orifice Calibration Value	**(ΔH @)**	**1.854**					
Positive Pressure Leak Check		**Yes**					

Equipment Detail - Thermocouple Sensor

Reference Calibrator Make: PRACTICAL INSTRUMENT ELECTRONICS
Reference Calibrator Model: PIECAL 520B
Reference Calibrator S/N: 128210

Calibration Detail

Reference Temp.		Display Temp.		Accuracy	Absolute Difference
°F	°R	°F	°R	%	°F
0	460	-1	459	0.2	1
68	528	67	527	0.2	1
100	560	98	558	0.4	2
223	683	222	682	0.1	1
248	708	248	708	0.0	0
273	733	273	733	0.0	0
300	760	300	760	0.0	0
400	860	398	858	0.2	2
500	960	498	958	0.2	2
600	1,060	599	1,059	0.1	1
700	1,160	702	1,162	-0.2	2
800	1,260	801	1,261	-0.1	1
900	1,360	902	1,362	-0.1	2
1,000	1,460	1,002	1,462	-0.1	2
1,100	1,560	1,103	1,563	-0.2	3
1,200	1,660	1,203	1,663	-0.2	3

Personnel

Calibration By: Bailey Mattioli
Calibration Date: 3/17/2025
Reviewed By: Stacey Cunningham

Equipment Detail - Dry Gas Meter

Console ID: MB-609
Meter S/N: 2571
Critical Orifice S/N: CO-1471s

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_i)	29.05					
Final Barometric Pressure, in. Hg	(Pb_F)	28.99					
Average Barometric Pressure, in. Hg	(Pb)	29.02					
Critifcal Orifice ID	(Y)	11	11	16	16	30	30
K' Factor, $ft^3 \cdot R^{V2}$ / in. WC·min	(K')	0.3021	0.3021	0.4317	0.432	0.8255	0.826
Vacuum Pressure, in. Hg	(V_P)	23.0	23.0	22.0	22.0	17.0	17.0
Initial DGM Volume, ft^3	(Vm_i)	34.320	40.420	46.510	52.320	23.320	28.820
Final DGM Volume, ft^3	(Vm_F)	40.400	46.510	52.240	58.050	28.760	34.240
Total DGM Volume, ft^3	(Vm)	6.080	6.090	5.730	5.730	5.440	5.420
Ambient Temperature, °F	(Ta)	69	69	69	69	69	69
Initial DGM Temperature, °F	(Tm_i)	70	71	72	73	69	70
Final DGM Temperature, °F	(Tm_F)	71	72	73	73	69	70
Average DGM Temperature, °F	(Tm)	71	72	73	73	69	70
Elapsed Time	(Θ)	15.00	15.00	10.00	10.00	5.00	5.00
Meter Orifice Pressure, in. WC	(ΔH)	0.47	0.47	0.96	0.96	3.60	3.60
Standard Meter volume, ft^3	(Vmstd)	5.8774	5.8760	5.5251	5.5199	5.3154	5.2859
Standard Critical Orifice Volume, ft^3	(Vcr)	5.7192	5.7192	5.4485	5.4485	5.2094	5.2094
Meter Correction Factor	(Y)	0.973	0.973	0.986	0.987	0.980	0.986
Tolerance	--	0.008	0.008	0.005	0.006	0.001	0.005
Orifice Calibration Value	(ΔH @)	1.758	1.755	1.754	1.752	1.823	1.819
Tolerance	--	0.019	0.022	0.023	0.025	0.046	0.043
Orifice Cal Check	--	1.36		1.38		0.98	
Meter Correction Factor	**(Y)**	**0.981**					
Orifice Calibration Value	**(ΔH @)**	**1.777**					
Positive Pressure Leak Check		**Yes**					

Equipment Detail - Thermocouple Sensor

Reference Calibrator Make: Practical Instrument Electronics
Reference Calibrator Model: PIECAL 520B
Reference Calibrator S/N: 128210

Calibration Detail

Reference Temp.		Display Temp.		Accuracy	Absolute Difference
°F	°R	°F	°R	%	°F
0	460	1	461	-0.2	1
68	528	67	527	0.2	1
100	560	99	559	0.2	1
223	683	224	684	-0.1	1
248	708	249	709	-0.1	1
273	733	274	734	-0.1	1
300	760	301	761	-0.1	1
400	860	400	860	0.0	0
500	960	499	959	0.1	1
600	1,060	601	1,061	-0.1	1
700	1,160	703	1,163	-0.3	3
800	1,260	803	1,263	-0.2	3
900	1,360	903	1,363	-0.2	3
1,000	1,460	1,004	1,464	-0.3	4
1,100	1,560	1,104	1,564	-0.3	4
1,200	1,660	1,205	1,665	-0.3	5

Personnel

Calibration By: Connor Nelson
Calibration Date: 3/17/2025
Reviewed By: Stacey Cunningham

HAWKEYE STATE SCALE INC.

www.hawkeyestatescale.com

Email info@hawkeyestatescale.com

Main Office · 1357 HWY 965 NW Swisher, IA 52338

Phone: 319-364-4173 · Fax: 319-857-4156

ISO/IEC 17025: 2017 **Accredited**

Locations: Cedar Rapids and Mason City

Hawkeye State Scale, Inc. PJLA CC# 72488 calibration: Certifies the below list meets or exceeds all published specifications. The calibrations/tests within the certificate/report are traceable through the National Institute of Standards and Technology (NIST) or another National Metrology Institute to the International System of Units (SI Unites) or have been derived from accepted values or natural physical constants, or have been derived by ration or self-calibration techniques. Traceability may be evidenced by reporting the unique identification of the standard(s) used, and/or the unique certificate or report number by which traceability has been established. All calibration activities performed are in compliance with ISO/IEC 17025. Calibration and Measurement Capability represents expanded uncertainties at approximately 95% confidence level using a coverage factor of K=2. Decision rule: uncertainty is not taken into account RESULTS LISTED BELOW PERTAIN ONLY TO ITEM(S) CALIBRATED

Customer Location ☐ **Place in Service**

Customer:	Alliance Technical Group - Hiawatha	Customer ID:	2523
Contact:	Rohit Surathu	Work Order:	34442
Phone #:	3852829361	Date:	9/6/24
Address:	1355 Sherman Rd Hiawatha	File Identifier:	24a

Scale or Equipment Calibration Details

Scale Make:		Model:		SN:	
Indicator Make:	cardinal	Model:	qcs-65	SN:	a14315260
Printer Make:		Model:		SN:	
Remote Make:		Model:		SN:	
Smartcan Make:		Model:		SN:	
Loadcell Make:		Model:		SN:	
Location:		Special Inst:		Scale #:	1

Section or Corner	Indication AS FOUND	Tolerance	Pass Y N	Applied Load	Tolerance	Indication AS FOUND	Pass Y N	Indication AS LEFT	Pass Y N	Uncertainty
1 20	20		Yes	1		1.000	Yes	1.000	Yes	
2 20	20		Yes	5		5.000	Yes	5.000	Yes	
3 20	20		Yes	10		10.000	Yes	10.000	Yes	
4 20	20		Yes	50		50.000	Yes	50.000	Yes	
5				65		65.000	Yes	65.000	Yes	
6				30		30.000	Yes	30.000	Yes	
7										
	AS LEFT			CRI-1KG-1		1000.000		1000.000	Yes	
1 20	20			CRI-1KG-2		1000.000		1000.000	Yes	
2 20	20			CRI-1KG-3		1000.000		1000.000	Yes	
3 20	20									
4 20	20									
5										
6										
7										

Hawkeye State Scale Inc. ISO Certification Information

Truck No.	Shop	Weight Cert No.	w23-010	Tech No.	53-16
Company Reg. No	53	Dept:		Descript:	Test Weights
Platform Size:		Sections:		Division:	.002
Capacity:	65#	CLC:		Cal Procedure	HB-44

Condition of scale:			
Remarks:	Expiration Date: 9/6/26	Sign as Accepted:	
Technician:	Matthew Clark	Email:	0
Reviewed By:		Date:	

REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN PERMISSION FROM HAWKEYE STATE SCALE INC.

Alliance TECHNICAL GROUP

QA Data

Location Sims Metal - Chicago, IL
Source Hammermill Shredder System Inlet and Outlet
Project No. AST-2025-0397

Parameter	THC - Inlet	O_2 - Outlet	CO_2 - Outlet	CO - Outlet	NOx - Outlet	SO_2 - Outlet	THC - Outlet
Make	CAI	Servomex	Servomex	Thermo	CAI	BOVAR	CAI
Model	700	4900	4900	48C	700LX	721-M	100 LX
S/N	2014006	100589	100589	48C-74944-378	2307011	VE-721M-8666-4	2405033
Operating Range	10000	25	30	200	300	100	100
Cylinder ID							
Zero	NA	NA	NA	NA	NA	NA	NA
Low	EB0156826	NA	NA	NA	NA	NA	EB0002040
Mid	EB0156826	CC770014	CC770014	CC773048	CC773048	EB0078156	EB0002040
High	EB0156826	CC770014	CC770014	CC773048	CC773048	EB0078156	EB0002040
Cylinder Certified Values							
Zero	NA	NA	NA	NA	NA	NA	NA
Low	4980	NA	NA	NA	NA	NA	499
Mid	4980	22.07	21.8	498	473	497	499
High	4980	22.07	21.8	498	473	497	499
Cylinder Expiration Date							
Zero	NA	NA	NA	NA	NA	NA	NA
Low	6/3/31	NA	NA	NA	NA	NA	5/16/31
Mid	6/3/31	4/27/32	4/27/32	8/24/32	8/24/32	9/27/31	5/16/31
High	6/3/31	4/27/32	4/27/32	8/24/32	8/24/32	9/27/31	5/16/31
Type of Sample Line	Heated Sample Line	Heated Sample Line					

Alliance TECHNICAL GROUP

Calibration Data

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2025-0397
Date: 4/30/25

Parameter	THC - Inlet	O_2 - Outlet	CO_2 - Outlet	CO - Outlet	NOx - Outlet	SO_2 - Outlet	THC - Outlet
Expected Average Concentration	700.00	20.00	0.50	25.00	10.00	25.00	25.00
Span Between							
Low	1050.00	20.00	0.50	25.00	10.00	25.00	37.50
High	1750.00	100.00	20.00	125.00	50.00	125.00	62.50
Desired Span	2000.00	22.07	21.80	80.00	50.00	60.00	90.00
Low Range Gas							
Low	500.00	NA	NA	NA	NA	NA	22.50
High	700.00	NA	NA	NA	NA	NA	31.50
Mid Range Gas							
Low	900.00	8.83	8.72	32.00	20.00	24.00	40.50
High	1100.00	13.24	13.08	48.00	30.00	36.00	49.50
High Range Gas							
Low	1600.00	NA	NA	NA	NA	NA	72.00
High	1800.00	NA	NA	NA	NA	NA	81.00
Actual Concentration (% or ppm)							
Zero	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Low	600.00	NA	NA	NA	NA	NA	25.00
Mid	1000.00	10.00	9.88	40.00	25.00	30.00	45.00
High	1700.00	22.07	21.80	80.00	50.00	60.00	75.00
Response Time (seconds)	30.00	30.00	30.00	30.00	30.00	90.00	30.00
Upscale Calibration Gas (C_{MA})	Mid	Mid	Mid	Mid	Mid	Mid	Mid
Instrument Response (% or ppm)							
Zero	-6.47	0.04	0.12	0.16	0.00	0.06	-0.18
Low	588.31	NA	NA	NA	NA	NA	24.43
Mid	998.47	9.98	9.58	40.59	24.75	30.55	44.38
High	1696.07	22.04	21.83	80.40	49.77	60.30	74.94
Performance (% of Span or Cal. Gas Conc.)							
Zero	0.00	0.18	0.55	0.20	0.00	0.10	0.00
Low	-1.02	NA	NA	NA	NA	NA	-1.72
Mid	0.34	0.09	1.37	0.74	0.50	0.92	-1.14
High	0.00	0.14	0.14	0.50	0.46	0.50	0.00
Status							
Zero	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Low	PASS	NA	NA	NA	NA	NA	PASS
Mid	PASS	PASS	PASS	PASS	PASS	PASS	PASS
High	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Alliance TECHNICAL GROUP

Bias/Drift Determinations

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2025-0397

Parameter	THC - Inlet	O_2 - Outlet	CO_2 - Outlet	CO - Outlet	NOx - Outlet	SO_2 - Outlet	THC - Outlet
Run 1 Date 4/30/25							
Span Value	2,000.00	22.07	21.80	80.00	50.00	60.00	90.00
Initial Instrument Zero Cal Response	-6.47	0.04	0.12	0.16	0.00	0.06	-0.18
Initial Instrument Upscale Cal Response	998.47	9.98	9.58	40.59	24.75	30.55	44.38
Pretest System Zero Response	-6.67	0.06	0.11	0.37	0.00	0.98	-0.24
Posttest System Zero Response	-3.76	0.04	0.08	0.42	0.06	1.71	-0.30
Pretest System Upscale Response	995.11	9.95	9.47	41.06	24.19	29.99	44.33
Posttest System Upscale Response	998.13	9.90	9.33	41.21	24.67	30.96	45.19
Bias (%)							
Pretest Zero	NA	0.09	-0.05	0.26	0.00	1.53	NA
Posttest Zero	NA	0.00	-0.18	0.33	0.12	2.75	NA
Pretest Span	NA	-0.14	-0.50	0.59	-1.12	-0.93	NA
Posttest Span	NA	-0.36	-1.15	0.77	-0.16	0.68	NA
Drift (%)							
Zero	0.15	-0.09	-0.14	0.06	0.12	1.22	-0.07
Mid	0.15	-0.23	-0.64	0.19	0.96	1.62	0.96
Run 2 Date 4/30/25							
Span Value	2,000.00	22.07	21.80	80.00	50.00	60.00	90.00
Instrument Zero Cal Response	-6.47	0.04	0.12	0.16	0.00	0.06	-0.18
Instrument Upscale Cal Response	998.47	9.98	9.58	40.59	24.75	30.55	44.38
Pretest System Zero Response	-3.76	0.04	0.08	0.42	0.06	1.71	-0.30
Posttest System Zero Response	-3.94	0.07	0.08	0.38	0.07	1.05	-0.08
Pretest System Upscale Response	998.13	9.90	9.33	41.21	24.67	30.96	45.19
Posttest System Upscale Response	1,000.30	9.86	9.35	40.81	24.14	29.97	45.32
Bias (%)							
Pretest Zero	NA	0.00	-0.18	0.33	0.12	2.75	NA
Posttest Zero	NA	0.14	-0.18	0.28	0.14	1.65	NA
Pretest Span	NA	-0.36	-1.15	0.77	-0.16	0.68	NA
Posttest Span	NA	-0.54	-1.06	0.27	-1.22	-0.97	NA
Drift (%)							
Zero	-0.01	0.14	0.00	-0.05	0.02	-1.10	0.24
Mid	0.11	-0.18	0.09	-0.50	-1.06	-1.65	0.14
Run 3 Date 4/30/25							
Span Value	2,000.00	22.07	21.80	80.00	50.00	60.00	90.00
Instrument Zero Cal Response	-6.47	0.04	0.12	0.16	0.00	0.06	-0.18
Instrument Upscale Cal Response	998.47	9.98	9.58	40.59	24.75	30.55	44.38
Pretest System Zero Response	-3.94	0.07	0.08	0.38	0.07	1.05	-0.08
Posttest System Zero Response	-3.38	0.07	0.10	0.21	0.07	-0.62	-0.01
Pretest System Upscale Response	1,000.30	9.86	9.35	40.81	24.14	29.97	45.32
Posttest System Upscale Response	1,004.02	9.88	9.35	42.32	24.29	28.64	45.20
Bias (%)							
Pretest Zero	NA	0.14	-0.18	0.28	0.14	1.65	NA
Posttest Zero	NA	0.14	-0.09	0.06	0.14	-1.13	NA
Pretest Span	NA	-0.54	-1.06	0.27	-1.22	-0.97	NA
Posttest Span	NA	-0.45	-1.06	2.16	-0.92	-3.18	NA
Drift (%)							
Zero	0.03	0.00	0.09	-0.21	0.00	-2.78	0.08
Mid	0.19	0.09	0.00	1.89	0.30	-2.22	-0.13

RED BALL
TECHNICAL GAS SERVICES

PJLA Calibration and Testing
Accreditation #62754

Red Ball Technical Gas Service
555 Craig Kennedy Way
Shreveport, LA 71107
800-551-8150
PGVP Vendor ID # G12023

EPA PROTOCOL GAS CERTIFICATE OF ANALYSIS

Cylinder Number:	EB0156826	**Certification Date:**	06/05/2023
Product ID Number:	124111	**Expiration Date:**	06/03/2031
Cylinder Pressure:	1900 PSIG	**MFG Facility:**	- Shreveport - LA
COA #	EB0156826.20230522-0	**Lot Number:**	EB0156826.20230522
Customer PO. NO.:		**Tracking Number:**	107558910
Customer:		**Previous Certification Dates:**	

This calibration standard has been certified per the May 2012 EPA Traceability Protocol, Document EPA-600/R-12/531, using procedure G2.

Do Not Use This Cylinder Below 100 psig (0.7 Megapascal).

Certified Concentration(s)

Component	Concentration	Uncertainty	Analytical Principle	Assayed On
Propane	**4980 PPM**	±20 PPM	FTIR	06/05/2023
Nitrogen	Balance			

Analytical Measurement Data Available Online.

Reference Standard(s)

Serial Number	Lot	Expiration	Type	Balance	Component	Concentration	Uncertainty(%)	NIST Reference
EB0102908	EB0102908.20171121	05/12/2026	GMIS	N2	C3H8	242 PPM	0.429	2644a

Analytical Instrumentation

Component	Principle	Make	Model	Serial	MPC Date
C3H8	FTIR	MKS	MKS 2031DJG2EKVS13T	017146467	06/05/2023

SMART-CERT

This is to certify the gases referenced have been calibrated/tested, and verified to meet the defined specifications. This calibration/test was performed using Gases or Scales that are traceable through National Institute of Standards and Technology (NIST) to the International System of Units (SI). The basis of compliance stated is a comparison of the measurement parameters to the specified or required calibration/testing process. The expanded uncertainties use a coverage factor of k=2 to approximate the 95% confidence level of the measurement, unless otherwise noted. This calibration certificate applies only to the item described and shall not be reproduced other than in full, without written approval from Red Ball Technical Gas Services. If not included, the uncertainty of calibrations are available upon request and were taken into account when determining pass or fail.

Tim Davis

Timothy Davis
Analytical Chemist
Assay Laboratory: Red Ball TGS
Version 02-J, Revised on 2018-09-17

RED BALL
TECHNICAL GAS SERVICES

PJLA
Calibration and Testing
Accreditation #62754

Red Ball Technical Gas Service
555 Craig Kennedy Way
Shreveport, LA 71107
800-551-8150
PGVP Vendor ID # G12024

EPA PROTOCOL GAS CERTIFICATE OF ANALYSIS

Cylinder Number:	CC770014	**Certification Date:**	04/29/2024
Product ID Number:	123956	**Expiration Date:**	04/27/2032
Cylinder Pressure:	1900 PSIG	**MFG Facility:**	- Shreveport - LA
COA #	CC770014.20240412-0	**Lot Number:**	CC770014.20240412
Customer PO. NO.:		**Tracking Number:**	108895942
Customer:		**Previous Certification Dates:**	

This calibration standard has been certified per the May 2012 EPA Traceability Protocol, Document EPA-600/R-12/531, using procedure G2.

Do Not Use This Cylinder Below 100 psig (0.7 Megapascal).

Certified Concentration(s)

Component	Concentration	Uncertainty	Analytical Principle	Assayed On
Carbon Dioxide	**21.8 %**	±0.14 %	FTIR	04/29/2024
Oxygen	**22.07 %**	±0.06 %	MPA	04/16/2024
Nitrogen	Balance			

Analytical Measurement Data Available Online.

Reference Standard(s)

Serial Number	Lot	Expiration	Type	Balance	Component	Concentration	Uncertainty(%)	NIST Reference
CC520205	CC520205.20230108	07/09/2031	GMIS	N2	O2	20.01 %	0.112	SRM 2659a
CC749195	CC749195.20230228	07/09/2031	GMIS	N2	O2	20.01 %	0.112	SRM 2659a
EB0022009	EB0022009.20201022	04/05/2030	GMIS	N2	CO2	24.76 %	0.237	C1847810.03

Analytical Instrumentation

Component	Principle	Make	Model	Serial	MPC Date
O2	MPA	Thermo	410i	1162980025	03/18/2024
CO2	FTIR	MKS	MKS 2031DJG2EKVS13T	017146467	04/29/2024

SMART-CERT

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Brandon Theus
Laboratory Supervisor
Assay Laboratory: Red Ball TGS
Version 02-J, Revised on 2018-09-17

RED BALL
TECHNICAL GAS SERVICES

PJLA
Calibration and Testing
Accreditation #62754

Red Ball Technical Gas Service
555 Craig Kennedy Way
Shreveport, LA 71107
800-551-8150
PGVP Vendor ID # G12024

EPA PROTOCOL GAS CERTIFICATE OF ANALYSIS

Cylinder Number:	CC773048	**Certification Date:**	08/26/2024
Product ID Number:	124545	**Expiration Date:**	08/24/2032
Cylinder Pressure:	1900 PSIG	**MFG Facility:**	- Shreveport - LA
COA #	CC773048.20240815-0	**Lot Number:**	CC773048.20240815
Customer PO. NO.:		**Tracking Number:**	109190437
Customer:		**Previous Certification Dates:**	

This calibration standard has been certified per the May 2012 EPA Traceability Protocol, Document EPA-600/R-12/531, using procedure G1.

Do Not Use This Cylinder Below 100 psig (0.7 Megapascal).

Certified Concentration(s)

Component	Concentration	Uncertainty	Analytical Principle	Assayed On
Carbon Monoxide	498 PPM	±3 PPM	GCF	08/21/2024
Nitric Oxide	473 PPM	±1.5 PPM	Chemiluminescence	08/19/2024, 08/26/2024
Total Oxides of Nitrogen	474 PPM			
Nitrogen	Balance			

Analytical Measurement Data Available Online.

Reference Standard(s)

Serial Number	Lot	Expiration	Type	Balance	Component	Concentration	Uncertainty(%)	NIST Reference
FF60186	1-M-23	09/30/2027	SRM	N2	CO	988.7 PPM	0.202	SRM 1681b
CC219454	CC219454.20220204	04/18/2031	GMIS	N2	NO	610 PPM	0.522	SRM 1687b
CC734591	CC734591.20200508	10/17/2031	GMIS	N2	CO	557 PPM	0.323	SRM 1681b
EB0156742	EB0156742.20230628	11/07/2031	GMIS	N2	NO	397.2 PPM	0.514	SRM 1687b
SX31740	SX31740.20231106	04/18/2032	GMIS	N2	NO	1420 PPM	0.234	G2281801.02

Analytical Instrumentation

Component	Principle	Make	Model	Serial	MPC Date
NO	Chemiluminescence	Thermo	42i-HL	1162380008	08/07/2024
CO	GCF	Thermo	T48i	11708001	08/07/2024

SMART-CERT

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Brandon Theus
Laboratory Supervisor
Assay Laboratory: Red Ball TGS
Version 02-K, Revised on 2023-09-07

RED BALL
TECHNICAL GAS SERVICES

PJLA Calibration and Testing
Accreditation #62754

Red Ball Technical Gas Service
555 Craig Kennedy Way
Shreveport, LA 71107
800-551-8150
PGVP Vendor ID # G12023

EPA PROTOCOL GAS CERTIFICATE OF ANALYSIS

Cylinder Number:	EB0078156	Certification Date:	09/29/2023
Product ID Number:	123897	Expiration Date:	09/27/2031
Cylinder Pressure:	1900 PSIG	MFG Facility:	- Shreveport - LA
COA #	EB0078156.20230911-0	Lot Number:	EB0078156.20230911
Customer PO. NO.:		Tracking Number:	084268428
Customer:		Previous Certification Dates:	

This calibration standard has been certified per the May 2012 EPA Traceability Protocol, Document EPA-600/R-12/531, using procedure G1.

Do Not Use This Cylinder Below 100 psig (0.7 Megapascal).

Certified Concentration(s)

Component	Concentration	Uncertainty	Analytical Principle	Assayed On
Sulfur Dioxide	497 PPM	±2 PPM	NDIR	09/15/2023, 09/29/2023
Nitrogen	Balance			

Analytical Measurement Data Available Online.

Reference Standard(s)

Serial Number	Lot	Expiration	Type	Balance	Component	Concentration	Uncertainty(%)	NIST Reference
CC238422	CC238422.20220224	04/10/2031	GMIS	N2	SO2	964 PPM	0.41	SRM 1663a
EB0001966	EB0001966.20200625	03/16/2029	GMIS	N2	SO2	437.1 PPM	0.417	SRM 1663a
EB0027535	EB0027535.20200625	06/22/2030	GMIS	N2	SO2	614 PPM	0.4	SRM 1663a

Analytical Instrumentation

Component	Principle	Make	Model	Serial	MPC Date
SO2	NDIR	Horiba	VIA-510 SO2	G000G2A	08/17/2023
SO2	NDIR	Horiba	VIA-510 SO2	G000G2A	09/27/2023

SMART-CERT

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Tim Davis

Timothy Davis
Analytical Chemist
Assay Laboratory: Red Ball TGS
Version 02-J, Revised on 2018-09-17

RED BALL
TECHNICAL GAS SERVICES

PJLA Calibration and Testing
Accreditation #62754

Red Ball Technical Gas Service
555 Craig Kennedy Way
Shreveport, LA 71107
800-551-8150
PGVP Vendor ID # G12023

EPA PROTOCOL GAS CERTIFICATE OF ANALYSIS

Cylinder Number:	EB0002040	Certification Date	05/18/2023
Product ID Number:	124238	Expiration Date:	05/16/2031
Cylinder Pressure:	1900 PSIG	MFG Facility:	- Shreveport - LA
COA #	EB0002040 20230424-0	Lot Number:	EB0002040 20230424
Customer PO. NO.:		Tracking Number:	3374571
Customer:		Previous Certification Dates:	

This calibration standard has been certified per the May 2012 EPA Traceability Protocol, Document EPA-600/R-12/531, using procedure G1.

Do Not Use This Cylinder Below 100 psig (0.7 Megapascal).

Certified Concentration(s)

Component	Concentration	Uncertainty	Analytical Principle	Assayed On
Propane	499 PPM	±3 PPM	FTIR	05/18/2023
Nitrogen	Balance			

Analytical Measurement Data Available Online.

Reference Standard(s)

Serial Number	Lot	Expiration	Type	Balance	Component	Concentration	Uncertainty(%)	NIST Reference
eb0055333	eb0055333 20160107g	05/17/2024	GMIS	N2	C3H8	750 PPM	0.635	2647a

Analytical Instrumentation

Component	Principle	Make	Model	Serial	MPC Date
C3H8	FTIR	MKS	MKS 2031DJG2EKVS13T	017146467	05/18/2023

SMART-CERT

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Tim Davis

Timothy Davis
Analytical Chemist
Assay Laboratory: Red Ball TGS
Version 02.J, Revised on 2018-09-17

Alliance TECHNICAL GROUP

Stratification Check

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2025-0397
Date: 4/30/2025

Traverse Point	Time	O_2 (%)	CO_2 (%)	NOx (ppm)	SO_2 (ppm)
A-1	9:51	19.99	0.65	3.80	1.51
2	9:54	20.02	0.62	3.66	1.62
3	9:57	20.01	0.63	3.77	1.57
Average		20.0	0.6	3.7	1.6
Criteria Met		Single Point	Single Point	Single Point	Single Point

Alliance TECHNICAL GROUP

Response Times

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2025-0397

Response Times, seconds							
Parameter	**THC - Inlet**	**O_2 - Outlet**	**CO_2 - Outlet**	**CO - Outlet**	**NOx - Outlet**	**SO_2 - Outlet**	**THC - Outlet**
Zero	30	30	30	30	30	90	30
Low	30	NA	NA	NA	NA	NA	30
Mid	30	30	30	30	30	90	30
High	30	--	--	--	--	--	30
Average	30.0	30.0	30.0	30.0	30.0	90.0	30.0

Alliance TECHNICAL GROUP

NOx Converter Check

Location: Sims Metal - Chicago, IL
Project No.: AST-2025-0397

NO_2 Converter Check - Outlet					
Analyzer Make	CAI	**Pre-Test Date**	4/29/25	**Time**	16:18
Analyzer Model	700LX	**Pre-Test Concentration, ppm**			42.92
Serial Number	2307011	**Pre-Test Efficiency, %**			90.2
Cylinder ID Number	EB0157719	**Post-Test Date**	--	**Time**	--
Cylinder Exp. Date	3/6/28	**Post-Test Concentration, ppm**			--
Cylinder Concentration, ppm	47.6	**Post-Test Efficiency, %**			-

**Required Efficiency is ≥ 90 %.*

RED BALL TECHNICAL GAS SERVICES

FJLA Calibration and Testing Accreditation #82754

Red Ball Technical Gas Service
655 Craig Kennedy Way
Shreveport, LA 71107
800-551-8150
PGVP Vendor ID # G12025

EPA PROTOCOL GAS CERTIFICATE OF ANALYSIS

Cylinder Number:	EB0157719	Certification Date:	03/07/2025
Product ID Number:	124731	Expiration Date:	03/08/2028
Cylinder Pressure:	1900 PSIG	MFG Facility:	- Shreveport - LA
COA #	EB0157719.20250224-0	Lot Number:	EB0157719.20250224
Customer PO. NO.:		Tracking Number:	107556444
Customer:		Previous Certification Dates:	

This calibration standard has been certified per the May 2012 EPA Traceability Protocol, Document EPA-600/R-12/531, using procedure G1.

Do Not Use This Cylinder Below 100 psig (0.7 Megapascal).

Certified Concentration(s)

Component	Concentration	Uncertainty	Analytical Principle	Assayed On
Nitrogen Dioxide	47.6 PPM	±0.5 PPM	FTIR	02/28/2025, 03/07/2025

Air Balance

Analytical Measurement Data Available Online.

Reference Standard(s)

Serial Number	Lot	Expiration	Type	Balance	Component	Concentration	Uncertainty(%)	NIST Reference
EB0004878	EB0004878.20230418	12/05/2027	GMIS	AIR	NO2	60.69 PPM	1.022	C2384201.02
EB0026167	EB0026167.20230418	12/05/2027	GMIS	AIR	NO2	91.4 PPM	1.018	C2384201.02

Analytical Instrumentation

Component	Principle	Make	Model	Serial	MPC Date
NO2	FTIR	MKS	MKS 2031GPPP1A5ZK1XX	112428254	02/17/2025

SMART-CERT

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Aaron Varelas

Aaron Varelas
Analytical Chemist
Assay Laboratory: Red Ball TGS
Version 02-N, Revised on 2024-11-03

Alliance TECHNICAL GROUP

M205 QA Data

Location: Sims Metal - Chicago, IL
Source: Hammermill Shredder System Inlet and Outlet
Project No.: AST-2025-0397
Date 4/29/25

Method Criteria	EPA
Parameter	O2
Make	Servomex
Model	4900
S/N	100589
Span	25.0
Cylinder Number ID	
Zero	NA
Mid	CC738412
High	CC770014
Cylinder Certified Values	
Zero	0.0
Mid	9.97
High	22.07
Instrument Response (% or ppm)	
Zero	0.05
Mid	9.95
High	21.97
Calibration Gas Selection (% of Span)	
Mid	39.9
High	88.3
Calibration Error Performance (% of Span)	
Zero	0.2
Mid	-0.1
High	-0.4
Linearity (% of Range)	
	0 0

Analyzer Make: Servomex
Analyzer Model: 4900
Analyzer SN: 100589
Environics ID: 8411
Component/Balance Gas: O_2/N_2
Cylinder Gas ID (Dilution): CC770014
Cylinder Gas Concentration (Dilution), ppm: 22.07
Cylinder Gas ID (Mid-Level): CC738412
Cylinder Gas Concentration (Mid-Level), ppm: 9.97

Target Mass Flow Contollers	Target Dilution (%)	Target Flow Rate lpm	Target Concentration (ppm)	Actual Concentration (ppm)	Injection 1 Analyzer Concentration (ppm)	Injection 2 Analyzer Concentration (ppm)	Injection 3 Analyzer Concentration (ppm)	Average Analyzer Concentration (ppm)	Difference (ppm)	Average Error (±2%)
10L/5L	80.0	5.0	17.7	17.7	17.61	17.62	17.61	17.61	-0.09	-0.5%
10L/5L	50.0	5.0	11.0	11.0	10.98	10.97	10.96	10.97	-0.03	-0.3%
10L/1L	20.0	4.0	4.4	4.4	4.43	4.44	4.43	4.43	0.03	0.8%
10L/1L	10.0	4.0	2.2	2.2	2.21	2.22	2.22	2.22	0.02	0.8%

*Not all AST Environics Units have 2-10L Mass Flow Controllers. For these units the 90% @ 7lpm and 80% @ 7lpm injections will not be conducted.

Average Analyzer Concentration (ppm)	Injection 1 Error (±2%)	Injection 2 Error (±2%)	Injection 3 Error (±2%)
17.61	0.0%	0.0%	0.0%
10.97	0.1%	0.0%	-0.1%
4.43	-0.1%	0.2%	-0.1%
2.22	-0.3%	0.2%	0.2%

Mid-Level Supply Gas Calibration Direct to Analyzer

Calibration Gas Concentration (ppm)	Injection 1 Analyzer Concentration (ppm)	Injection 2 Analyzer Concentration (ppm)	Injection 3 Analyzer Concentration (ppm)	Average Analyzer Concentration (ppm)	Difference (ppm)	Average Error (±2%)
9.97	9.92	9.94	9.93	9.93	-0.04	-0.4%

RED BALL
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PJLA
Calibration and Testing
Accreditation #62754

Red Ball Technical Gas Service
555 Craig Kennedy Way
Shreveport, LA 71107
800-551-8150
PGVP Vendor ID # G12023

EPA PROTOCOL GAS CERTIFICATE OF ANALYSIS

Cylinder Number:	CC738412	**Certification Date:**	09/13/2023
Product ID Number:	124300	**Expiration Date:**	09/11/2031
Cylinder Pressure:	1900 PSIG	**MFG Facility:**	- Shreveport - LA
COA #	CC738412.20230821-0	**Lot Number:**	CC738412.20230821
Customer PO. NO.:		**Tracking Number:**	103897741
Customer:		**Previous Certification Dates:**	

This calibration standard has been certified per the May 2012 EPA Traceability Protocol, Document EPA-600/R-12/531, using procedure G1.

Do Not Use This Cylinder Below 100 psig (0.7 Megapascal).

Certified Concentration(s)

Component	Concentration	Uncertainty	Analytical Principle	Assayed On
Carbon Dioxide	**9.94 %**	±0.09 %	FTIR	08/30/2023
Oxygen	**9.97 %**	±0.03 %	MPA	09/13/2023

Nitrogen Balance

Analytical Measurement Data Available Online.

Reference Standard(s)

Serial Number	Lot	Expiration	Type	Balance	Component	Concentration	Uncertainty(%)	NIST Reference
CC737012	CC737012.20230228	07/09/2031	GMIS	N2	O2	20 %	0.112	SRM 2659a
EB0004315	EB0004315.20201022	04/05/2030	GMIS	N2	CO2	24.75 %	0.237	C2160301.03

Analytical Instrumentation

Component	Principle	Make	Model	Serial	MPC Date
CO2	FTIR	MKS	MKS 2031DJG2EKVS13T	017146467	08/29/2023
O2	MPA	Thermo	410i	1162980025	09/13/2023

SMART-CERT

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Brandon Theus
Laboratory Supervisor
Assay Laboratory: Red Ball TGS
Version 02-J, Revised on 2018-09-17

Alliance SOURCE TESTING	Mass Flow Controller Calibration	Document ID	620.009
		Revision	22.0
		Effective Date	12/16/22
Issuing Department	Tech Services	Page	1 of 1

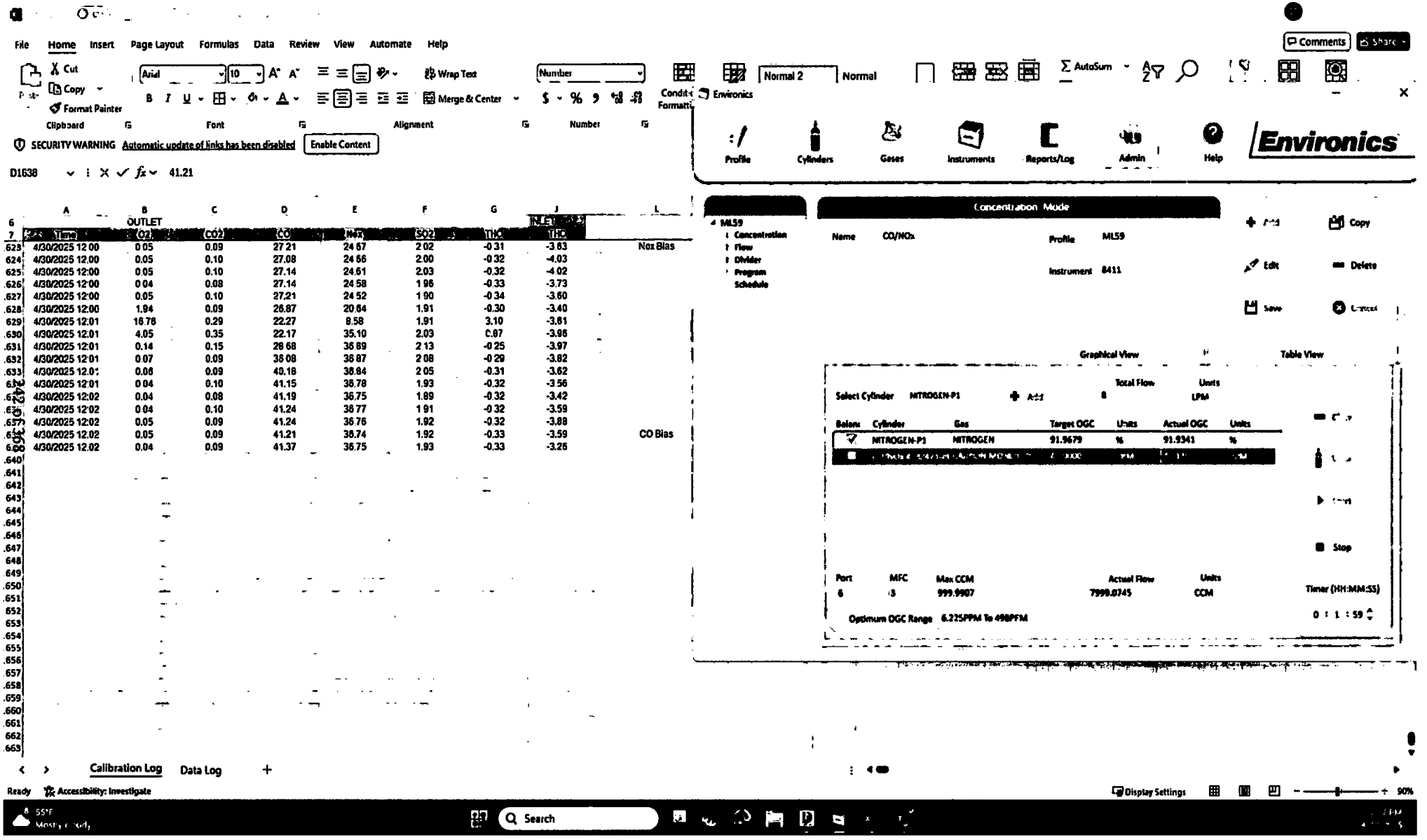
Dilution System Make:	Environics
Dilution System Model:	4040
Dilution System S/N:	8411
Calibration Equipment Make:	Alicat Scientific
Calibration Equipment Model:	M-10SLPD/5MM-D/5M, M-1SLPM-D/5M
Calibration Equipment S/N:	505949, 505950
Flow Cell S/N:	505949
Flow Cell S/N:	505950
Calibration Gas:	Nitrogen
Barometric Pressure, mmHg:	743.46
Ambient Temperature, °F:	65

Mass Flow Controller ID	#1			# 2			# 3		
Size, ccm:	10,000			10,000			1,000		
Make:	Environics			Environics			Environics		
Model:	EFC202			EFC202			EFC202		
S/N:	626687004			558416002			626685001		
	Set Flow cc/min	**True Flow cc/min**	**Difference**	**Set Flow cc/min**	**True Flow cc/min**	**Difference**	**Set Flow cc/min**	**True Flow cc/min**	**Difference**
5%	500	510	2.0%	500	552	10.4%	50	50	0.0%
10%	1,000	1,020	2.0%	1,000	1,054	5.4%	100	102	2.0%
20%	2,000	2,043	2.2%	2,000	2,058	2.9%	200	205	2.5%
30%	3,000	3,060	2.0%	3,000	3,062	2.1%	300	307	2.3%
40%	4,000	4,078	2.0%	4,000	4,060	1.5%	400	410	2.5%
50%	5,000	5,095	1.9%	5,000	5,045	0.9%	500	512	2.4%
60%	6,000	6,108	1.8%	6,000	6,038	0.6%	600	614	2.3%
70%	7,000	7,118	1.7%	7,000	7,029	0.4%	700	717	2.4%
80%	8,000	8,116	1.5%	8,000	8,020	0.2%	800	820	2.5%
90%	9,000	9,120	1.3%	9,000	9,014	0.2%	900	924	2.7%
100%	10,000	10,138	1.4%	10,000	10,025	0.2%	1,000	1,030	3.0%

Note: The mass flow controller's calibration values are used by the dilution system's operating software to improve accuracy. These calibrations are not necessarily indicative of the systems overall performance. Performance is verified by conducting a Method 205 prior to each field use.

Calibration Performed By: Jacob Hand

Date: 4/8/2025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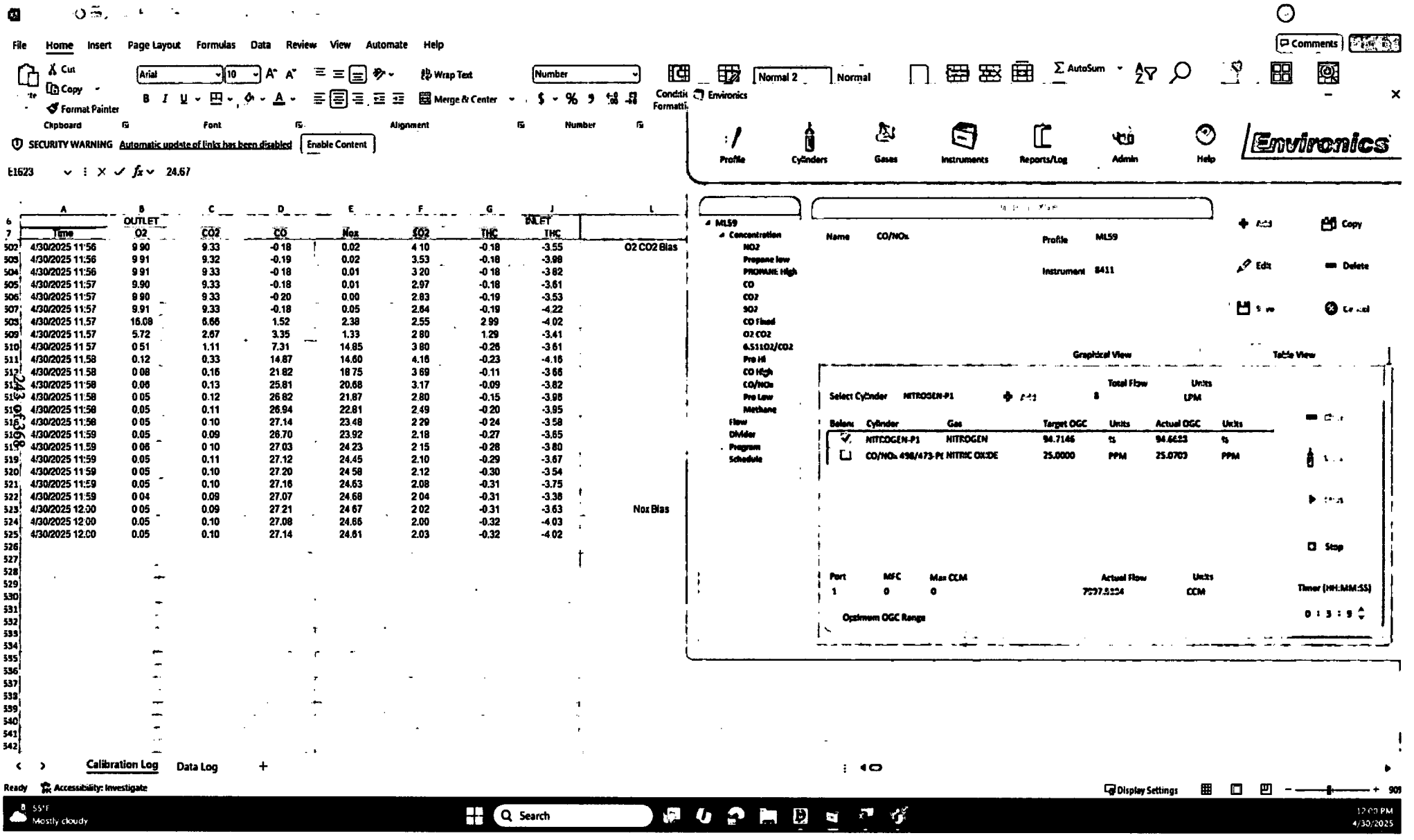
Comments Share
Cut Copy Format Painter
Arial 10 Wrap Text Number Normal 2 Normal AutoSum
Merge & Center
Clipboard Font Alignment Number
SECURITY WARNING Automatic update of links has been disabled Enable Content
D1638 41.21
OUTLET INLET
Item O2 CO2 CO NOx SO2 THC THC
4/30/2025 12:00 0.05 0.09 27.21 24.67 2.02 -0.31 -3.63
4/30/2025 12:00 0.05 0.10 27.08 24.66 2.00 -0.32 -4.03
4/30/2025 12:00 0.05 0.10 27.14 24.61 2.03 -0.32 -4.02
4/30/2025 12:00 0.04 0.08 27.14 24.58 1.96 -0.33 -3.73
4/30/2025 12:00 0.05 0.10 27.21 24.52 1.90 -0.34 -3.60
4/30/2025 12:00 1.94 0.09 26.87 20.84 1.91 -0.30 -3.40
4/30/2025 12:01 16.78 0.29 22.27 8.58 1.91 3.10 -3.61
4/30/2025 12:01 4.05 0.35 22.17 35.10 2.03 0.87 -3.96
4/30/2025 12:01 0.14 0.15 26.68 36.89 2.13 -0.25 -3.97
4/30/2025 12:01 0.07 0.09 36.08 36.87 2.08 -0.29 -3.82
4/30/2025 12:01 0.06 0.09 40.16 36.84 2.05 -0.31 -3.62
4/30/2025 12:01 0.04 0.10 41.15 36.78 1.93 -0.32 -3.56
4/30/2025 12:02 0.04 0.08 41.19 36.75 1.89 -0.32 -3.42
4/30/2025 12:02 0.04 0.10 41.24 36.77 1.91 -0.32 -3.59
4/30/2025 12:02 0.05 0.09 41.24 36.76 1.92 -0.32 -3.88
4/30/2025 12:02 0.05 0.09 41.21 36.74 1.92 -0.33 -3.59
4/30/2025 12:02 0.04 0.09 41.37 36.75 1.93 -0.33 -3.26
Nox Bias
CO Bias
Calibration Log Data Log
Ready Accessibility: Investigate
Profile Cylinders Gases Instruments Reports/Log Admin Help
Environics
ML59
Concentration
Flow
Divider
Program
Schedule
Concentration Mode
Name CO/NOx
Profile ML59
Instrument 8411
Copy
Edit
Delete
Graphical View
Table View
Select Cylinder NITROGEN-P1
Total Flow
Units
LPM
Select Cylinder Gas Target OGC Units Actual OGC Units
NITROGEN-P1 NITROGEN 91.9679 % 91.9341 %
Stop
Port MFC Max CCM Actual Flow Units
6 3 999.9907 7999.0745 CCM
Timer (HH:MM:SS)
Optimum OGC Range 6.225PPM To 498PPM
0 : 1 : 59
Display Settings
90%
55°F
Search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Format Painter
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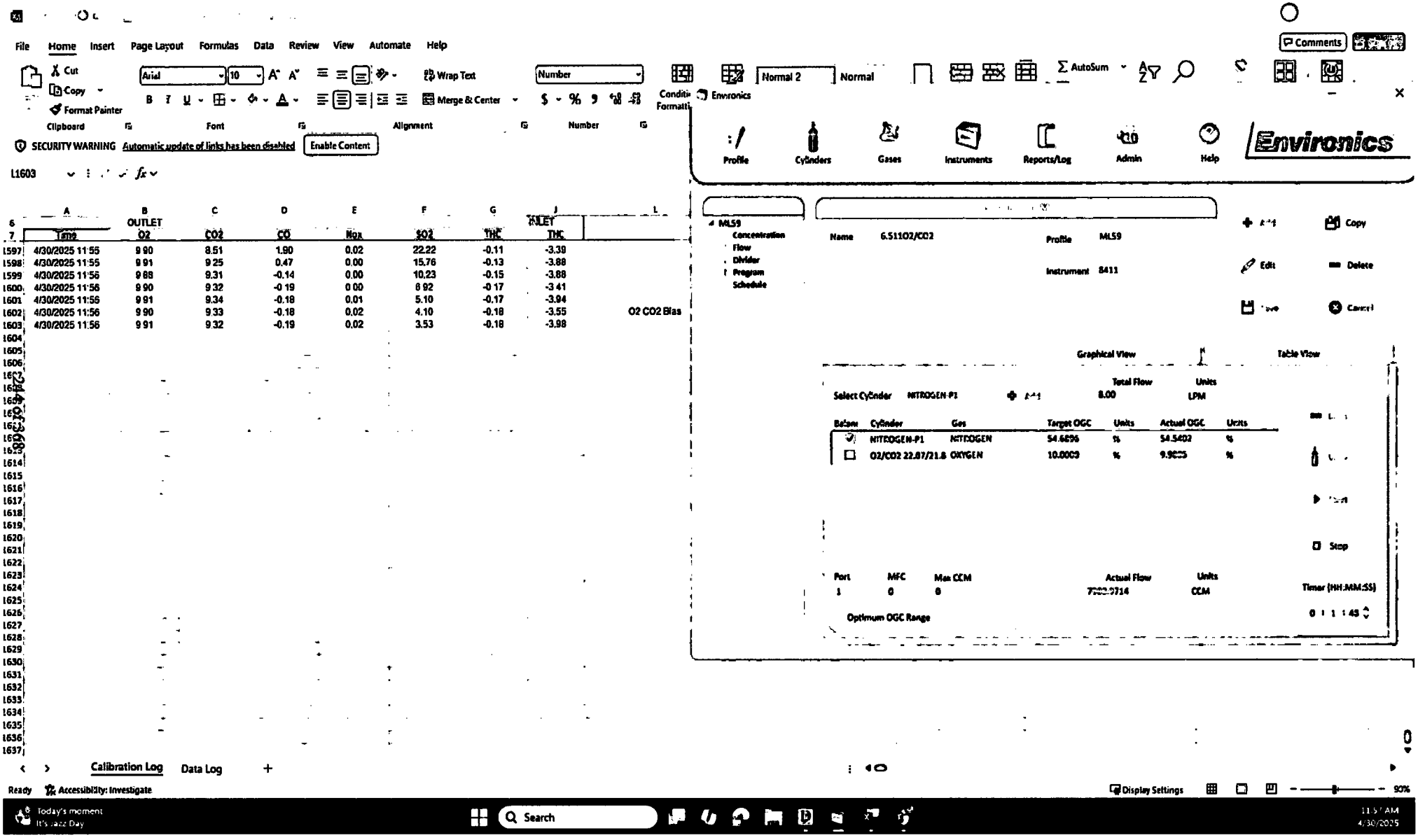
SECURITY WARNING
Automatic update of links has been disabled
Enable Content
E1623
24.67
Environics
Profile
Cylinders
Gases
Instruments
Reports/Log
Admin
Help
Environics
ML59
Concentration
NO2
Propane low
PROPANE High
CO
CO2
SO2
CO Flood
O2 CO2
6.5%O2/CO2
Pre HI
CO High
CO/NOx
Pre Low
Methane
Flow
Divider
Program
Schedule
Name CO/NOx
Profile ML59
Instrument 8411
Add
Copy
Edit
Delete
Save
Cancel
Graphical View
Table View
Select Cylinder NITROGEN-P1
Add
Total Flow 8
Units LPM
Select
Cylinder
Gas
Target OGC
Units
Actual OGC
Units
NITROGEN-P1
NITROGEN
94.7146
%
94.6623
%
CO/NOx 498/473-Pt
NITRIC OXIDE
25.0000
PPM
25.0703
PPM
Start
Stop
Port
MFC
Max CCM
Actual Flow
Units
1
0
0
7097.5124
CCM
Timer (HH:MM:SS)
0 : 3 : 9
Optimum OGC Range
OUTLET
OUTLET
Time
O2
CO2
CO
Nox
SO2
THC
THC
O2 CO2 Bias
Nox Bias
4/30/2025 11:56 9.90 9.33 -0.18 0.02 4.10 -0.18 -3.55
4/30/2025 11:56 9.91 9.32 -0.19 0.02 3.53 -0.18 -3.98
4/30/2025 11:56 9.91 9.33 -0.18 0.01 3.20 -0.18 -3.82
4/30/2025 11:57 9.90 9.33 -0.18 0.01 2.97 -0.18 -3.61
4/30/2025 11:57 9.90 9.33 -0.20 0.00 2.83 -0.19 -3.53
4/30/2025 11:57 9.91 9.33 -0.18 0.05 2.64 -0.19 -4.22
4/30/2025 11:57 16.08 6.66 1.52 2.38 2.55 2.99 -4.02
4/30/2025 11:57 5.72 2.67 3.35 1.33 2.80 1.29 -3.41
4/30/2025 11:57 0.51 1.11 7.31 14.85 3.80 -0.26 -3.61
4/30/2025 11:58 0.12 0.33 14.87 14.60 4.16 -0.23 -4.16
4/30/2025 11:58 0.08 0.16 21.82 18.75 3.69 -0.11 -3.66
4/30/2025 11:58 0.06 0.13 25.81 20.68 3.17 -0.09 -3.82
4/30/2025 11:58 0.05 0.12 26.82 21.87 2.80 -0.15 -3.98
4/30/2025 11:58 0.05 0.11 26.94 22.81 2.49 -0.20 -3.95
4/30/2025 11:58 0.05 0.10 27.14 23.48 2.29 -0.24 -3.58
4/30/2025 11:59 0.05 0.09 26.70 23.92 2.18 -0.27 -3.65
4/30/2025 11:59 0.06 0.10 27.03 24.23 2.15 -0.28 -3.80
4/30/2025 11:59 0.05 0.11 27.12 24.45 2.10 -0.29 -3.67
4/30/2025 11:59 0.05 0.10 27.20 24.58 2.12 -0.30 -3.54
4/30/2025 11:59 0.05 0.10 27.16 24.63 2.08 -0.31 -3.75
4/30/2025 11:59 0.04 0.09 27.07 24.68 2.04 -0.31 -3.38
4/30/2025 12:00 0.05 0.09 27.21 24.67 2.02 -0.31 -3.63
4/30/2025 12:00 0.05 0.10 27.08 24.66 2.00 -0.32 -4.03
4/30/2025 12:00 0.05 0.10 27.14 24.61 2.03 -0.32 -4.02
Calibration Log
Data Log
Ready
Accessibility: Investigate
Display Settings
55°F
Mostly cloudy
Search
12:00 PM
4/30/2025



File Home Insert Page Layout Formulas Data Review View Automate Help

Comments

Cut Copy Format Painter | Arial 10 | Wrap Text | Merge & Center | Number | Normal 2 | Normal | AutoSum

Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

L1603

	A	B	C	D	E	F	G	J
6		OUTLET						INLET
7	Time	O2	CO2	CO	Nox	SO2	THC	THC
1597	4/30/2025 11:55	9 90	8.51	1.90	0.02	22.22	-0.11	-3.39
1598	4/30/2025 11:55	9 91	9 25	0.47	0.00	15.76	-0.13	-3.88
1599	4/30/2025 11:56	9 88	9.31	-0.14	0.00	10.23	-0.15	-3.88
1600	4/30/2025 11:56	9 90	9 32	-0 19	0 00	8 92	-0 17	-3 41
1601	4/30/2025 11:56	9 91	9.34	-0.18	0.01	5.10	-0.17	-3.94
1602	4/30/2025 11:56	9 90	9.33	-0.18	0.02	4.10	-0.18	-3.55
1603	4/30/2025 11:56	9 91	9 32	-0.19	0.02	3.53	-0.18	-3.98

O2 CO2 Bias

Calibration Log Data Log +

Ready Accessibility: Investigate

Environics

Profile Cylinders Gases Instruments Reports/Log Admin Help

Environics

ML59
Concentration
Flow
Divider
Program
Schedule

Name 6.51102/CO2 Profile ML59

Instrument 8411

Copy Edit Delete Cancel

Graphical View Table View

Select Cylinder NITROGEN-P1 Total Flow 8.00 Units LPM

Select	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN-P1	NITROGEN	54.6696	%	54.5402	%
☐	O2/CO2 22.07/21.8	OXYGEN	10.0009	%	9.9625	%

Step

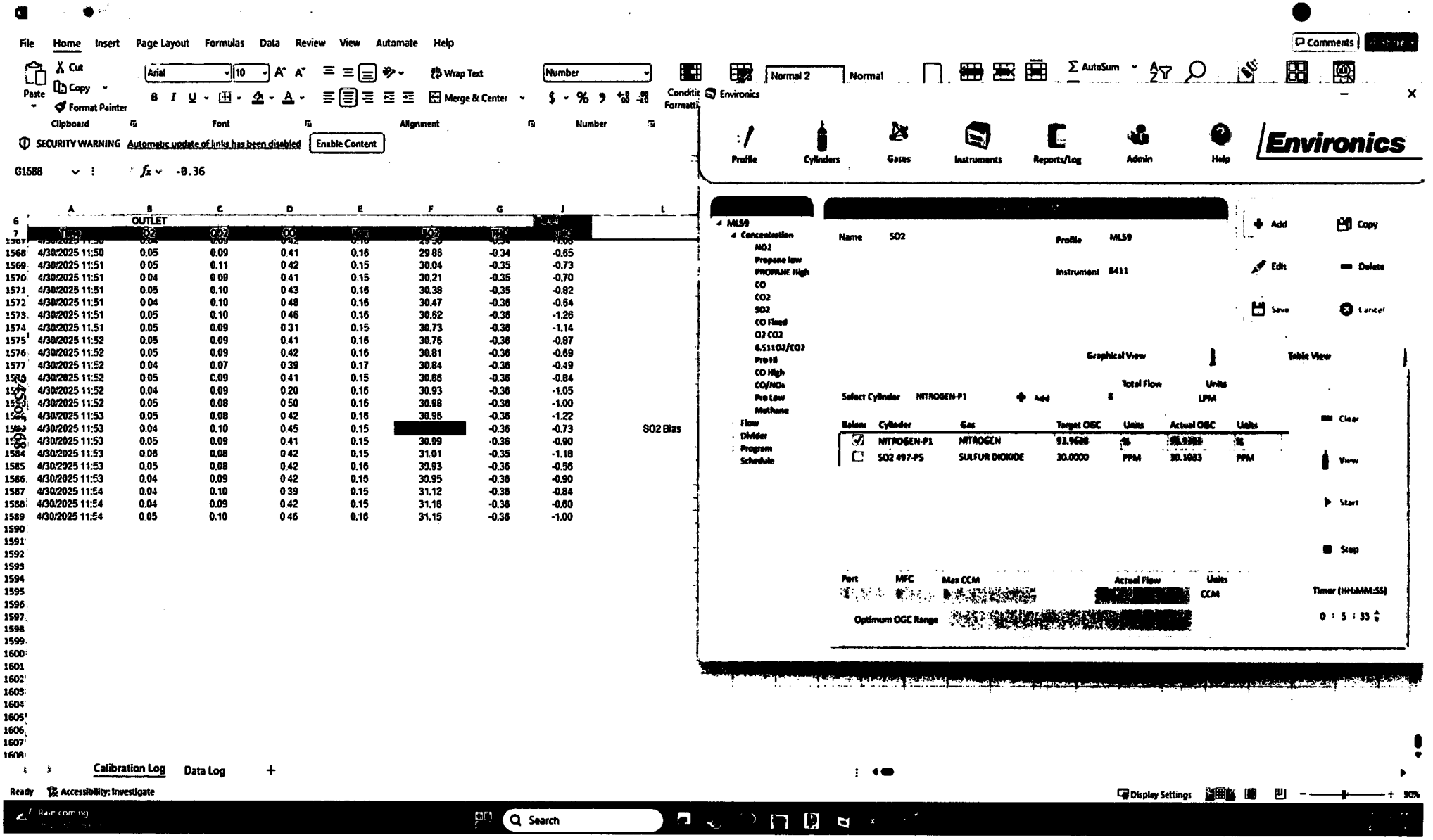
Port	MFC	Max CCM	Actual Flow	Units
1	0	0	7200.0714	CCM

Timer (HH:MM:SS) 0 : 1 : 45

Optimum OGC Range

Display Settings 90%

Today's moment It's Jazz Day Search 11:57 AM 4/30/2025



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Comments

Cut Copy Format Painter Paste

Arial 10 Wrap Text Merge & Center Number Normal 2 Normal AutoSum

Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

G1588 -0.36

Environics

Profile Cylinders Gases Instruments Reports/Log Admin Help

Environics

OUTLET

6								
7	Time	O2	CO2	CO	NO	NO2	NOx	NO2
1567	4/30/2025 11:50	0.04	0.09	0.42	0.16	29.90	-0.34	-1.08
1568	4/30/2025 11:50	0.05	0.09	0.41	0.16	29.86	-0.34	-0.65
1569	4/30/2025 11:51	0.05	0.11	0.42	0.15	30.04	-0.35	-0.73
1570	4/30/2025 11:51	0.04	0.09	0.41	0.15	30.21	-0.35	-0.70
1571	4/30/2025 11:51	0.05	0.10	0.43	0.16	30.38	-0.35	-0.82
1572	4/30/2025 11:51	0.04	0.10	0.48	0.16	30.47	-0.36	-0.64
1573	4/30/2025 11:51	0.05	0.10	0.46	0.16	30.62	-0.36	-1.26
1574	4/30/2025 11:51	0.05	0.09	0.31	0.15	30.73	-0.36	-1.14
1575	4/30/2025 11:52	0.05	0.09	0.41	0.16	30.76	-0.36	-0.87
1576	4/30/2025 11:52	0.05	0.09	0.42	0.16	30.81	-0.36	-0.69
1577	4/30/2025 11:52	0.04	0.07	0.39	0.17	30.84	-0.36	-0.49
1578	4/30/2025 11:52	0.05	0.09	0.41	0.15	30.86	-0.36	-0.84
1579	4/30/2025 11:52	0.04	0.09	0.20	0.16	30.93	-0.36	-1.05
1580	4/30/2025 11:52	0.05	0.08	0.50	0.16	30.98	-0.36	-1.00
1581	4/30/2025 11:53	0.05	0.08	0.42	0.16	30.96	-0.36	-1.22
1582	4/30/2025 11:53	0.04	0.10	0.45	0.15	[redacted]	-0.36	-0.73
1583	4/30/2025 11:53	0.05	0.09	0.41	0.15	30.99	-0.36	-0.90
1584	4/30/2025 11:53	0.06	0.08	0.42	0.15	31.01	-0.35	-1.18
1585	4/30/2025 11:53	0.05	0.08	0.42	0.16	30.93	-0.36	-0.56
1586	4/30/2025 11:53	0.04	0.09	0.42	0.16	30.95	-0.36	-0.90
1587	4/30/2025 11:54	0.04	0.10	0.39	0.15	31.12	-0.36	-0.84
1588	4/30/2025 11:54	0.04	0.09	0.42	0.15	31.18	-0.36	-0.80
1589	4/30/2025 11:54	0.05	0.10	0.46	0.16	31.15	-0.36	-1.00

SO2 Bias

ML59
- Concentration
  - NO2
  - Propane low
  - PROPANE High
  - CO
  - CO2
  - SO2
  - CO Flued
  - O2 CO2
  - 6.511O2/CO2
  - Pro HI
  - CO High
  - CO/NOx
  - Pro Low
  - Methane
- Flow
- Divider
- Program
- Schedule

Name SO2 Profile ML59

Instrument 8411

Add Copy Edit Delete Save Cancel

Graphical View Table View

Total Flow Units

Select Cylinder NITROGEN-P1 Add 8 LPM

Select	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN-P1	NITROGEN	93.9608	%	[redacted]	%
☐	SO2 497-PS	SULFUR DIOXIDE	30.0000	PPM	30.1083	PPM

Clear View Start Stop

Port MFC Max CCM Actual Flow Units

[redacted] CCM

Timer (HH:MM:SS) 0 : 5 : 33

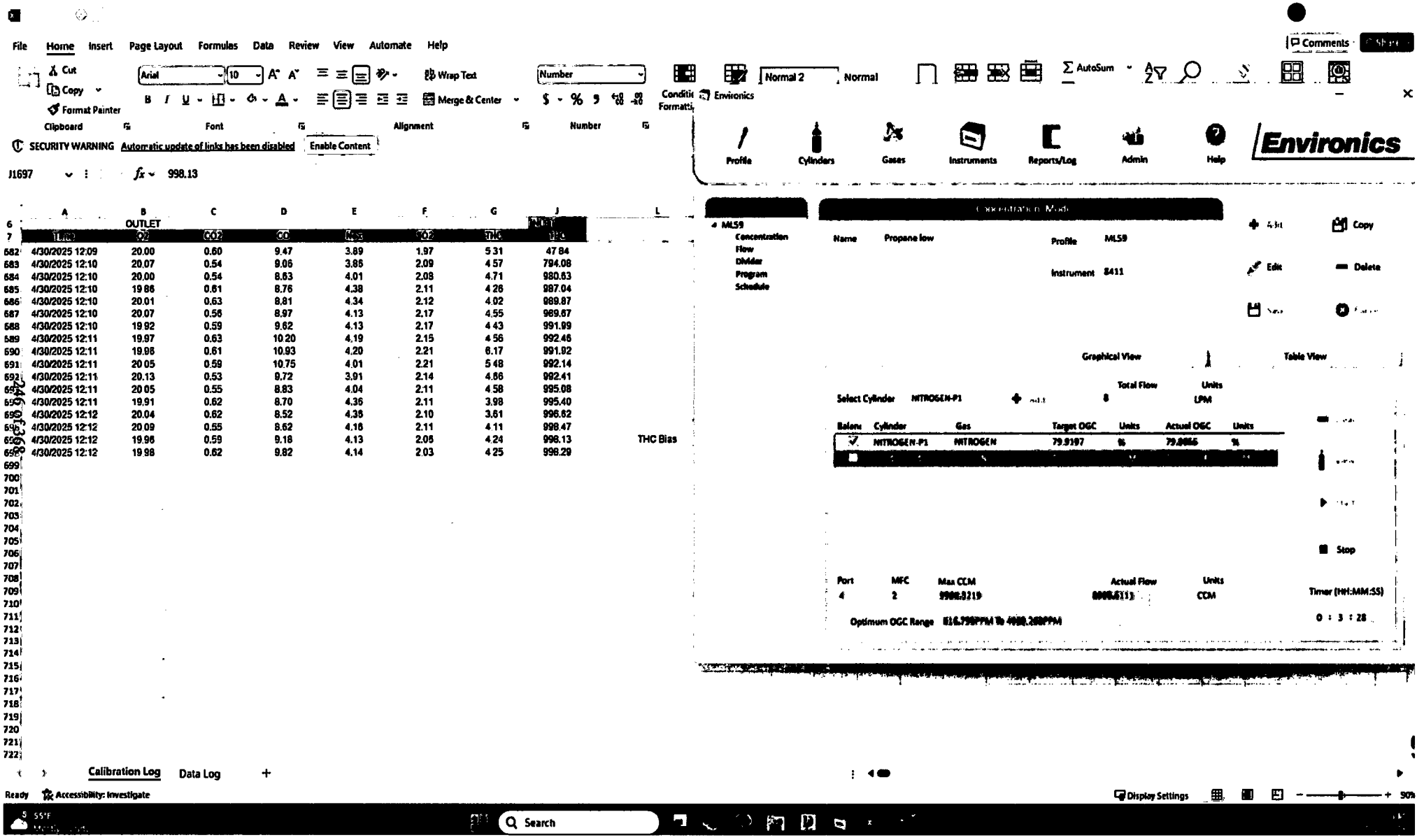
Optimum OGC Range [redacted]

Calibration Log Data Log +

Ready Accessibility: Investigate

Display Settings 90%

Search



File Home Insert Page Layout Formulas Data Review View Automate Help

Cut Copy Format Painter — Arial 10 — Wrap Text — Merge & Center — Number — Normal 2 — Normal — AutoSum — Environics

Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

J1697 998.13

	A	B OUTLET	C	D	E	F	G	J
6								INLET
7	Time	O2	CO2	CO	NO	SO2	THC	THC
582	4/30/2025 12:09	20.00	0.60	9.47	3.89	1.97	5.31	47.84
583	4/30/2025 12:10	20.07	0.54	9.06	3.86	2.09	4.57	794.08
584	4/30/2025 12:10	20.00	0.54	8.63	4.01	2.08	4.71	980.63
585	4/30/2025 12:10	19.86	0.61	8.76	4.38	2.11	4.26	987.04
586	4/30/2025 12:10	20.01	0.63	8.81	4.34	2.12	4.02	989.87
587	4/30/2025 12:10	20.07	0.56	8.97	4.13	2.17	4.55	989.67
588	4/30/2025 12:10	19.92	0.59	9.62	4.13	2.17	4.43	991.99
589	4/30/2025 12:11	19.97	0.63	10.20	4.19	2.15	4.56	992.46
590	4/30/2025 12:11	19.98	0.61	10.93	4.20	2.21	6.17	991.92
591	4/30/2025 12:11	20.05	0.59	10.75	4.01	2.21	5.48	992.14
592	4/30/2025 12:11	20.13	0.53	9.72	3.91	2.14	4.86	992.41
593	4/30/2025 12:11	20.05	0.55	8.83	4.04	2.11	4.58	995.08
594	4/30/2025 12:11	19.91	0.62	8.70	4.36	2.11	3.98	995.40
595	4/30/2025 12:12	20.04	0.62	8.52	4.36	2.10	3.81	996.62
596	4/30/2025 12:12	20.09	0.55	8.62	4.16	2.11	4.11	998.47
597	4/30/2025 12:12	19.96	0.59	9.18	4.13	2.05	4.24	998.13
598	4/30/2025 12:12	19.98	0.62	9.82	4.14	2.03	4.25	998.29

THC Bias

Profile Cylinders Gases Instruments Reports/Log Admin Help Environics

MLS9
Concentration
Flow
DMdar
Program
Schedule

Concentration Mode

Name Propane low Profile MLS9

Instrument 8411

Add Copy Edit Delete Save Cancel

Graphical View Table View

Select Cylinder NITROGEN-P1 Add Total Flow 0 Units LPM

Balanc	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
✓	NITROGEN-P1	NITROGEN	79.9197	%	79.8866	%

Start Stop

Port	MFC	Max CCM	Actual Flow	Units
4	2	9998.9219	8008.6111	CCM

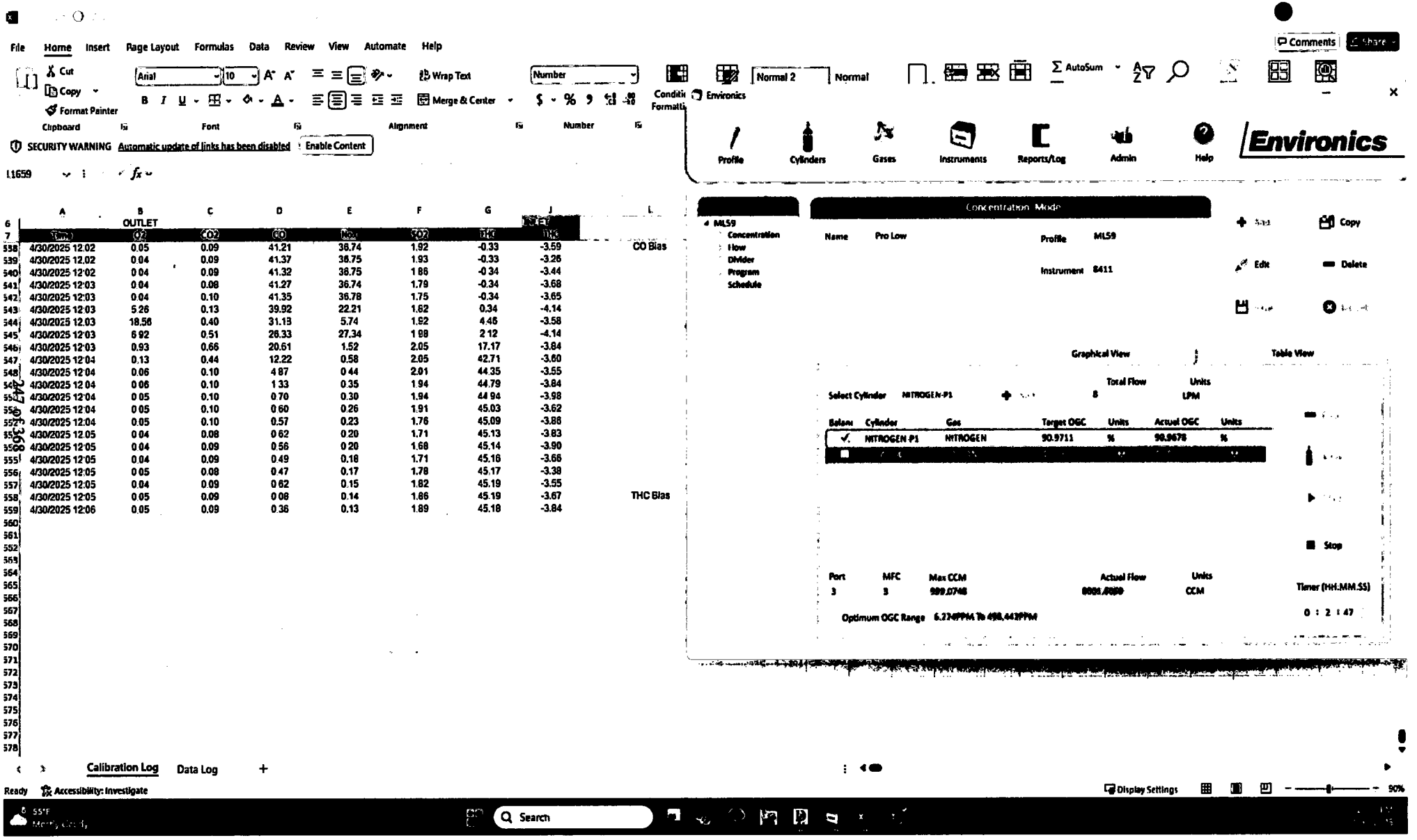
Timer (HH:MM:SS) 0 : 3 : 28

Optimum OGC Range 816.759PPM To 4998.269PPM

Calibration Log Data Log +

Ready Accessibility: Investigate Display Settings 90%

55°F Search



File Home Insert Page Layout Formulas Data Review View Automate Help

SECURITY WARNING Automatic update of links has been disabled Enable Content

L1659

	A	B	C	D	E	F	G	J	L
6		OUTLET						OUTLET	
7	Time	O2	CO2	CO	NO	SO2	THC	THC	
538	4/30/2025 12:02	0.05	0.09	41.21	38.74	1.92	-0.33	-3.59	CO Bias
539	4/30/2025 12:02	0.04	0.09	41.37	38.75	1.93	-0.33	-3.26	
540	4/30/2025 12:02	0.04	0.09	41.32	38.75	1.86	-0.34	-3.44	
541	4/30/2025 12:03	0.04	0.08	41.27	38.74	1.79	-0.34	-3.68	
542	4/30/2025 12:03	0.04	0.10	41.35	38.78	1.75	-0.34	-3.65	
543	4/30/2025 12:03	5.26	0.13	39.92	22.21	1.62	0.34	-4.14	
544	4/30/2025 12:03	18.56	0.40	31.18	5.74	1.92	4.46	-3.58	
545	4/30/2025 12:03	6.92	0.51	26.33	27.34	1.98	2.12	-4.14	
546	4/30/2025 12:03	0.93	0.66	20.61	1.52	2.05	17.17	-3.84	
547	4/30/2025 12:04	0.13	0.44	12.22	0.58	2.05	42.71	-3.60	
548	4/30/2025 12:04	0.06	0.10	4.87	0.44	2.01	44.35	-3.55	
549	4/30/2025 12:04	0.06	0.10	1.33	0.35	1.94	44.79	-3.84	
550	4/30/2025 12:04	0.05	0.10	0.70	0.30	1.94	44.94	-3.98	
551	4/30/2025 12:04	0.05	0.10	0.60	0.26	1.91	45.03	-3.62	
552	4/30/2025 12:04	0.05	0.10	0.57	0.23	1.76	45.09	-3.86	
553	4/30/2025 12:05	0.04	0.08	0.62	0.20	1.71	45.13	-3.83	
554	4/30/2025 12:05	0.04	0.09	0.56	0.20	1.68	45.14	-3.90	
555	4/30/2025 12:05	0.04	0.09	0.49	0.18	1.71	45.16	-3.66	
556	4/30/2025 12:05	0.05	0.08	0.47	0.17	1.78	45.17	-3.38	
557	4/30/2025 12:05	0.04	0.09	0.62	0.15	1.82	45.19	-3.55	
558	4/30/2025 12:05	0.05	0.09	0.08	0.14	1.86	45.19	-3.67	THC Bias
559	4/30/2025 12:06	0.05	0.09	0.36	0.13	1.89	45.18	-3.84	

Calibration Log Data Log

Ready Accessibility: Investigate

Profile Cylinders Gases Instruments Reports/Log Admin Help Environics

MLS9
Concentration
Flow
Divider
Program
Schedule

Concentration Mode

Name Pro Low Profile MLS9

Instrument 8411

Copy Edit Delete

Graphical View Table View

Select Cylinder NITROGEN-P1 8 Total Flow LPM Units

Balance	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
✓	NITROGEN-P1	NITROGEN	90.9711	%	90.9678	%

Stop

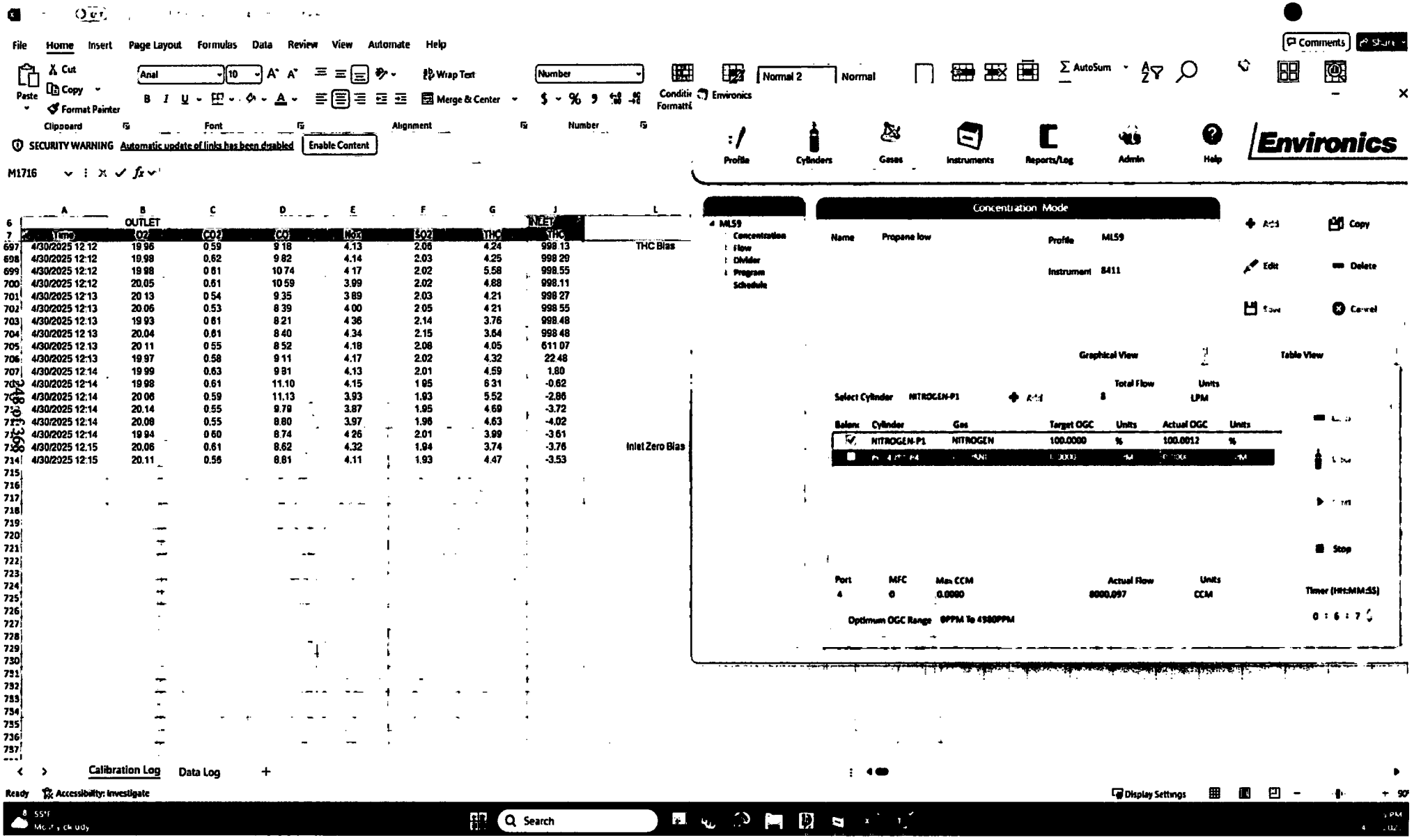
Port	MFC	Max CCM	Actual Flow	Units
3	3	999.0748	0000.0000	CCM

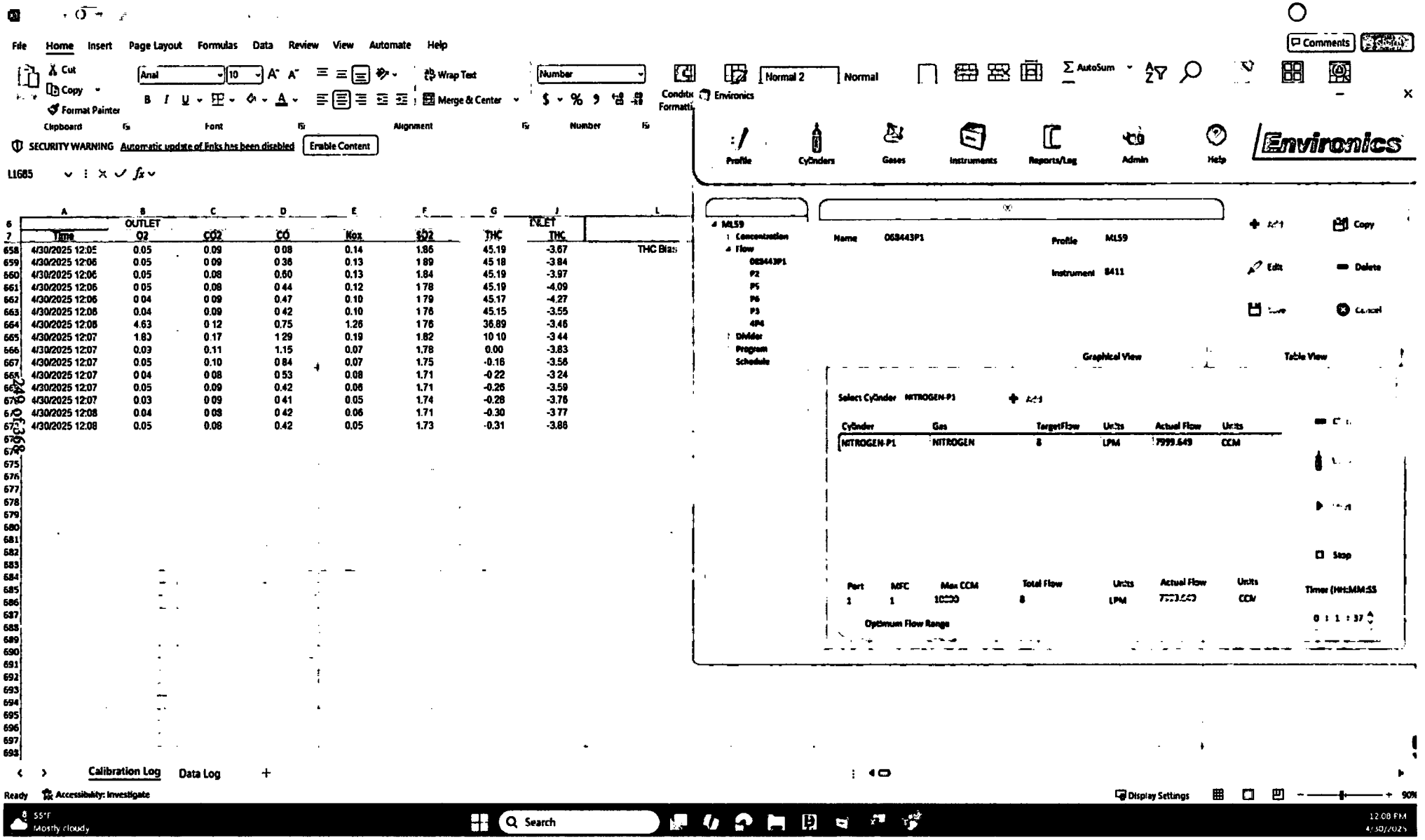
Timer (HH:MM:SS) 0 : 2 : 47

Optimum OGC Range 6.2749PPM To 498.443PPM

Display Settings 90%

55°F Search


File Home Insert Page Layout Formulas Data Review View Automate Help
SECURITY WARNING Automatic update of links has been disabled Enable Content
M1716
OUTLET
Time O2 CO2 CO NOx SO2 THC
INLET
THC
4/30/2025 12:12 19.96 0.59 9.18 4.13 2.06 4.24 998.13
4/30/2025 12:12 19.98 0.62 9.82 4.14 2.03 4.25 998.29
4/30/2025 12:12 19.98 0.61 10.74 4.17 2.02 5.58 998.55
4/30/2025 12:12 20.05 0.61 10.59 3.99 2.02 4.88 998.11
4/30/2025 12:13 20.13 0.54 9.35 3.89 2.03 4.21 998.27
4/30/2025 12:13 20.06 0.53 8.39 4.00 2.05 4.21 998.55
4/30/2025 12:13 19.93 0.61 8.21 4.36 2.14 3.76 998.48
4/30/2025 12:13 20.04 0.61 8.40 4.34 2.15 3.64 998.48
4/30/2025 12:13 20.11 0.55 8.52 4.18 2.08 4.05 611.07
4/30/2025 12:13 19.97 0.58 9.11 4.17 2.02 4.32 22.48
4/30/2025 12:14 19.99 0.63 9.81 4.13 2.01 4.59 1.80
4/30/2025 12:14 19.98 0.61 11.10 4.15 1.95 6.31 -0.62
4/30/2025 12:14 20.06 0.59 11.13 3.93 1.93 5.52 -2.86
4/30/2025 12:14 20.14 0.55 9.79 3.87 1.95 4.69 -3.72
4/30/2025 12:14 20.08 0.55 8.80 3.97 1.96 4.63 -4.02
4/30/2025 12:14 19.94 0.60 8.74 4.26 2.01 3.99 -3.61
4/30/2025 12:15 20.06 0.61 8.62 4.32 1.94 3.74 -3.76
4/30/2025 12:15 20.11 0.56 8.61 4.11 1.93 4.47 -3.53
THC Bias
Inlet Zero Bias
Calibration Log
Data Log
Ready
Accessibility: Investigate
Profile Cylinders Gases Instruments Reports/Log Admin Help
Environics
Concentration Mode
ML59
Concentration
Flow
Divider
Program
Schedule
Name Propane low
Profile ML59
Instrument 8411
Add
Copy
Edit
Delete
Save
Cancel
Graphical View
Table View
Total Flow
Units
Select Cylinder NITROGEN-P1
8
LPM
Select Cylinder Gas Target OGC Units Actual OGC Units
NITROGEN-P1 NITROGEN 100.0000 % 100.0012 %
Start
Stop
Port MFC Max CCM Actual Flow Units
4 0 0.0000 8000.097 CCM
Timer (HH:MM:SS)
Optimum OGC Range 0PPM To 4980PPM
0 : 6 : 7
Display Settings
Search



File Home Insert Page Layout Formulas Data Review View Automate Help

Comments

Cut Copy Format Painter | Arial | 10 | Wrap Text | Merge & Center | Number | Normal 2 | Normal | AutoSum | Environics

Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

L1685

	A	B	C	D	E	F	G	J	L
6		OUTLET						INLET	
7	Time	O2	CO2	CO	Nox	SO2	THC	THC	
658	4/30/2025 12:05	0.05	0.09	0.08	0.14	1.86	45.19	-3.67	THC Bias
659	4/30/2025 12:06	0.05	0.09	0.36	0.13	1.89	45.18	-3.84	
660	4/30/2025 12:06	0.05	0.08	0.60	0.13	1.84	45.19	-3.97	
661	4/30/2025 12:06	0.05	0.08	0.44	0.12	1.78	45.19	-4.09	
662	4/30/2025 12:06	0.04	0.09	0.47	0.10	1.79	45.17	-4.27	
663	4/30/2025 12:06	0.04	0.09	0.42	0.10	1.76	45.15	-3.55	
664	4/30/2025 12:06	4.63	0.12	0.75	1.26	1.76	36.89	-3.46	
665	4/30/2025 12:07	1.80	0.17	1.29	0.19	1.82	10.10	-3.44	
666	4/30/2025 12:07	0.03	0.11	1.15	0.07	1.78	0.00	-3.83	
667	4/30/2025 12:07	0.05	0.10	0.84	0.07	1.75	-0.16	-3.56	
668	4/30/2025 12:07	0.04	0.08	0.53	0.08	1.71	-0.22	-3.24	
669	4/30/2025 12:07	0.05	0.09	0.42	0.06	1.71	-0.26	-3.59	
670	4/30/2025 12:07	0.03	0.09	0.41	0.05	1.74	-0.28	-3.76	
671	4/30/2025 12:08	0.04	0.08	0.42	0.06	1.71	-0.30	-3.77	
672	4/30/2025 12:08	0.05	0.08	0.42	0.05	1.73	-0.31	-3.86	

Profile CyCinders Gases Instruments Reports/Log Admin Help Environics

ML59
Concentration
Flow
068443P1
P2
P5
P6
P3
4P4
Divider
Program
Schedule

Name 068443P1 Profile ML59

Instrument 8411

Add Copy Edit Delete Save Cancel

Graphical View Table View

Select CyCinder NITROGEN-P1 Add

CyCinder	Gas	TargetFlow	Units	Actual Flow	Units
NITROGEN-P1	NITROGEN	8	LPM	7999.649	CCM

Start Stop

Port	MFC	Max CCM	Total Flow	Units	Actual Flow	Units
1	1	10000	8	LPM	7999.649	CCM

Optimum Flow Range

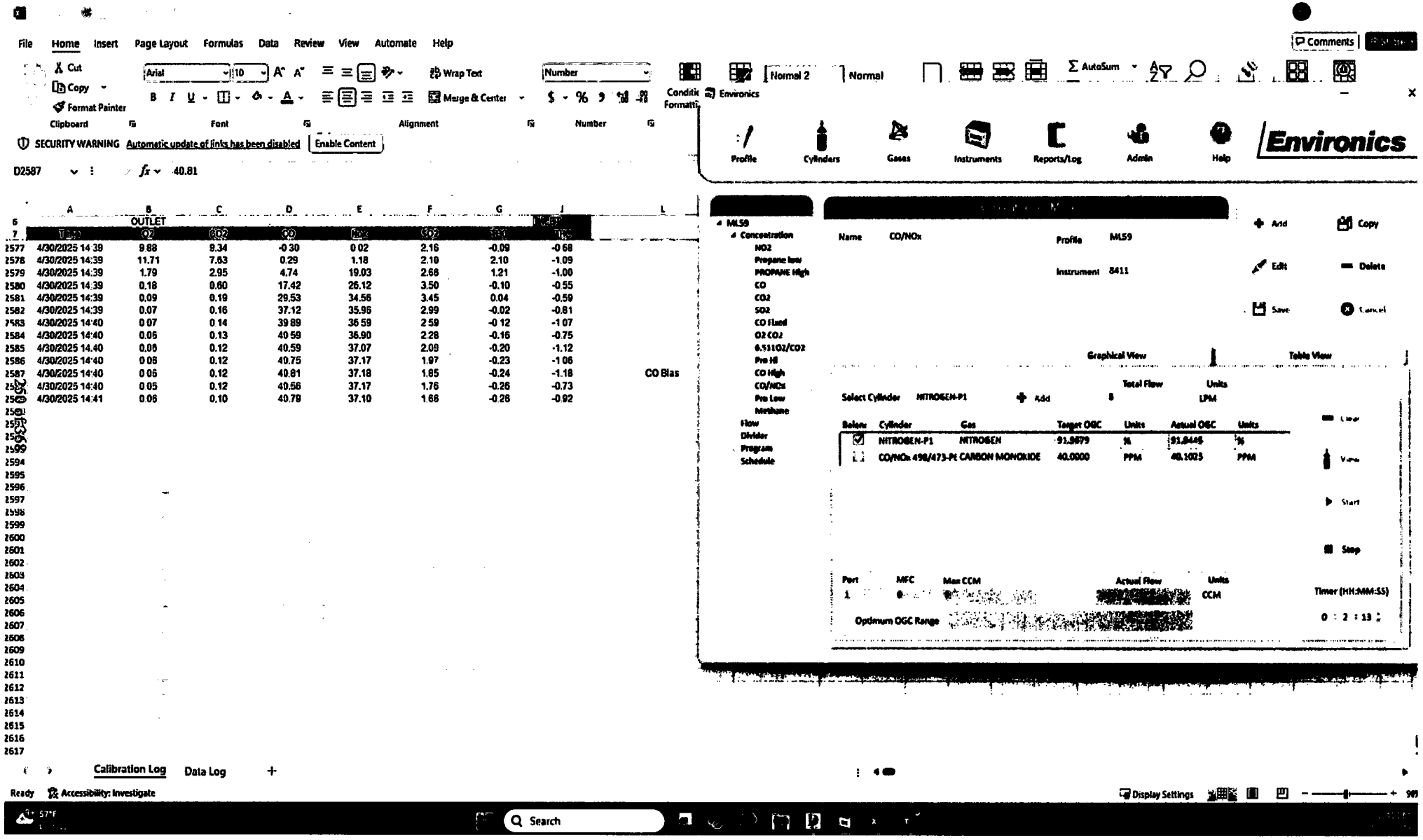
Timer (HH:MM:SS) 0 : 1 : 37

Calibration Log Data Log +

Ready Accessibility: Investigate

Display Settings 90%

55°F Mostly cloudy Search 12:08 PM 4/30/2025



File Home Insert Page Layout Formulas Data Review View Automate Help

Cut Copy Format Painter — Arial 10 — Wrap Text — Merge & Center — Number — Normal 2 — Normal — AutoSum — Comments

Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

D2587 40.81

	A	B	C	D	E	F	G	J	L
6		OUTLET							
7	Time	O2	CO2	CO	NOx	SO2	NO	TNO	
2577	4/30/2025 14:39	9.88	9.34	-0.30	0.02	2.16	-0.09	-0.68	
2578	4/30/2025 14:39	11.71	7.63	0.29	1.18	2.10	2.10	-1.09	
2579	4/30/2025 14:39	1.79	2.95	4.74	19.03	2.68	1.21	-1.00	
2580	4/30/2025 14:39	0.18	0.60	17.42	26.12	3.50	-0.10	-0.55	
2581	4/30/2025 14:39	0.09	0.19	29.53	34.56	3.45	0.04	-0.59	
2582	4/30/2025 14:39	0.07	0.16	37.12	35.96	2.99	-0.02	-0.81	
2583	4/30/2025 14:40	0.07	0.14	39.89	36.59	2.59	-0.12	-1.07	
2584	4/30/2025 14:40	0.06	0.13	40.59	36.90	2.28	-0.16	-0.75	
2585	4/30/2025 14:40	0.06	0.12	40.59	37.07	2.09	-0.20	-1.12	
2586	4/30/2025 14:40	0.06	0.12	40.75	37.17	1.97	-0.23	-1.06	
2587	4/30/2025 14:40	0.06	0.12	40.81	37.18	1.85	-0.24	-1.18	CO Bias
2588	4/30/2025 14:40	0.05	0.12	40.56	37.17	1.76	-0.26	-0.73	
2589	4/30/2025 14:41	0.06	0.10	40.79	37.10	1.66	-0.26	-0.92	
2590									
2591									
2592									
2593									
2594									
2595									
2596									
2597									
2598									
2599									
2600									
2601									
2602									
2603									
2604									
2605									
2606									
2607									
2608									
2609									
2610									
2611									
2612									
2613									
2614									
2615									
2616									
2617									

Calibration Log Data Log +

Ready Accessibility: Investigate

Environics

Profile Cylinders Gases Instruments Reports/Log Admin Help

ML59
- Concentration
  - NO2
  - Propane low
  - PROPANE High
  - CO
  - CO2
  - SO2
  - CO Fixed
  - O2 CO2
  - 6.5110Z/CO2
  - Pro HI
  - CO High
  - CO/NOx
  - Pro Low
  - Methane
- Flow
- Divider
- Program
- Schedule

Name CO/NOx Profile ML59

Instrument 8411

Add Copy Edit Delete Save Cancel

Graphical View Table View

Select Cylinder NITROGEN-P1 Add 8 Total Flow LPM Units

Select	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN-P1	NITROGEN	91.9879	%	91.8448	%
☐	CO/NOx 498/473-Pt	CARBON MONOXIDE	40.0000	PPM	40.1025	PPM

Clear View Start Stop

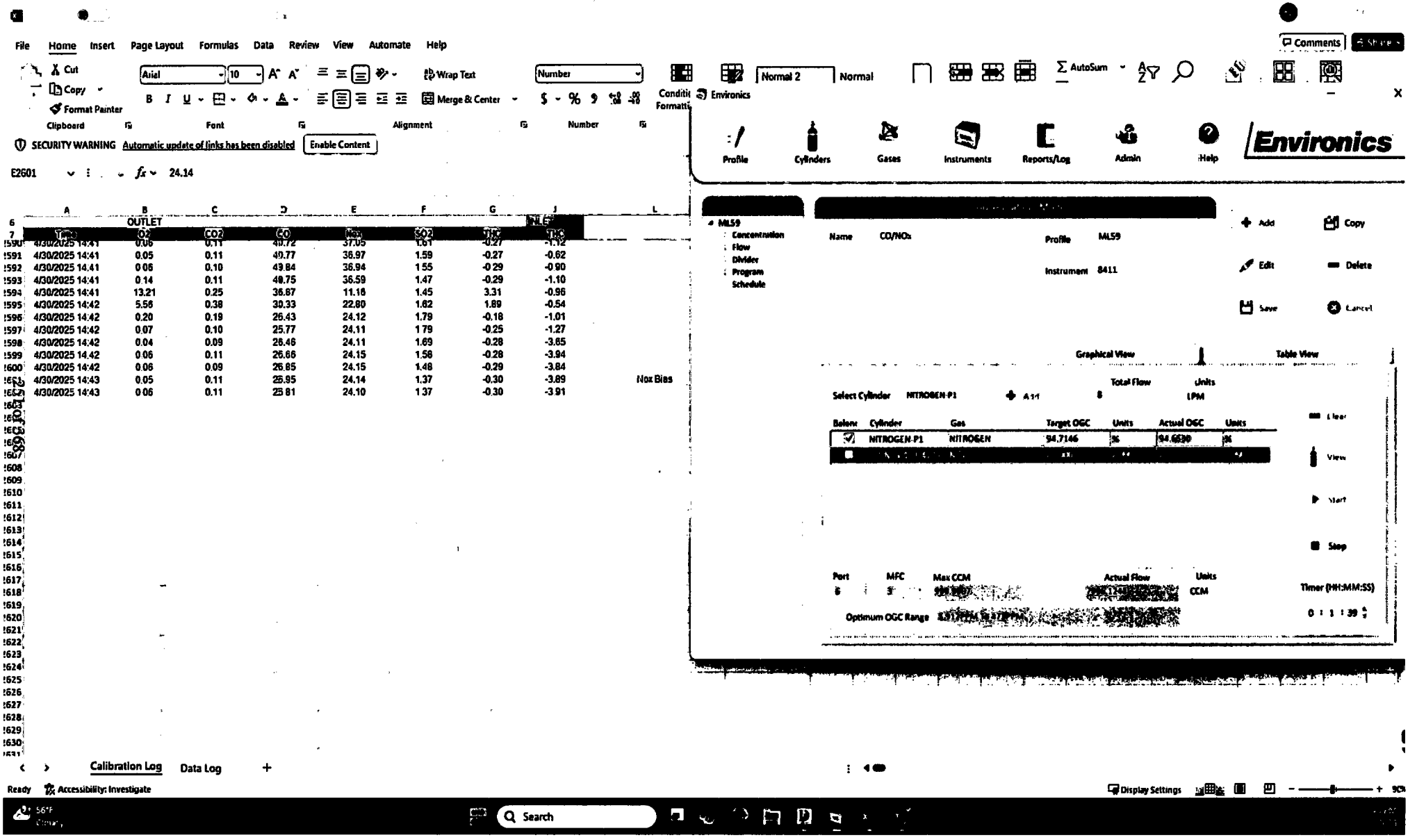
Port	MFC	Max CCM	Actual Flow	Units
1	6	[redacted]	[redacted]	CCM

Optimum OGC Range [redacted]

Timer (HH:MM:SS) 0 : 2 : 13

Display Settings

57°F Search



File Home Insert Page Layout Formulas Data Review View Automate Help

Comments Share

Cut Copy Format Painter | Arial 10 | Wrap Text | Merge & Center | Number | Normal 2 | Normal | AutoSum

Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

E2601 24.14

	A	B	C	D	E	F	G	J	L
6		OUTLET						INLET	
7	TIME	SO2	CO2	CO	NOx	SO2	THC	THC	
590	4/30/2025 14:41	0.06	0.11	40.72	37.05	1.61	-0.27	-1.12	
591	4/30/2025 14:41	0.05	0.11	40.77	36.97	1.59	-0.27	-0.62	
592	4/30/2025 14:41	0.06	0.10	40.84	36.94	1.55	-0.29	-0.90	
593	4/30/2025 14:41	0.14	0.11	40.75	36.59	1.47	-0.29	-1.10	
594	4/30/2025 14:41	13.21	0.25	36.87	11.16	1.45	3.31	-0.96	
595	4/30/2025 14:42	5.56	0.38	30.33	22.80	1.62	1.89	-0.54	
596	4/30/2025 14:42	0.20	0.19	26.43	24.12	1.79	-0.18	-1.01	
597	4/30/2025 14:42	0.07	0.10	25.77	24.11	1.79	-0.25	-1.27	
598	4/30/2025 14:42	0.04	0.09	26.46	24.11	1.69	-0.28	-3.65	
599	4/30/2025 14:42	0.06	0.11	26.66	24.15	1.58	-0.28	-3.94	
600	4/30/2025 14:42	0.06	0.09	26.85	24.15	1.48	-0.29	-3.84	
601	4/30/2025 14:43	0.05	0.11	25.95	24.14	1.37	-0.30	-3.89	Nox Bias
602	4/30/2025 14:43	0.06	0.11	25.81	24.10	1.37	-0.30	-3.91	

Environics

Profile Cylinders Gases Instruments Reports/Log Admin Help

Environics

ML59
Concentration
Flow
Divider
Program
Schedule

Name CO/NOx Profile ML59

Instrument 8411

Add Copy Edit Delete Save Cancel

Graphical View Table View

Select Cylinder NITROGEN-P1 A11 8 Total Flow Units LPM

Select	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN-P1	NITROGEN	94.7146	%	94.6530	%

Clear View Start Stop

Port MFC Max CCM Actual Flow Units

6 5 CCM

Optimum OGC Range

Timer (HH:MM:SS) 0 : 1 : 39

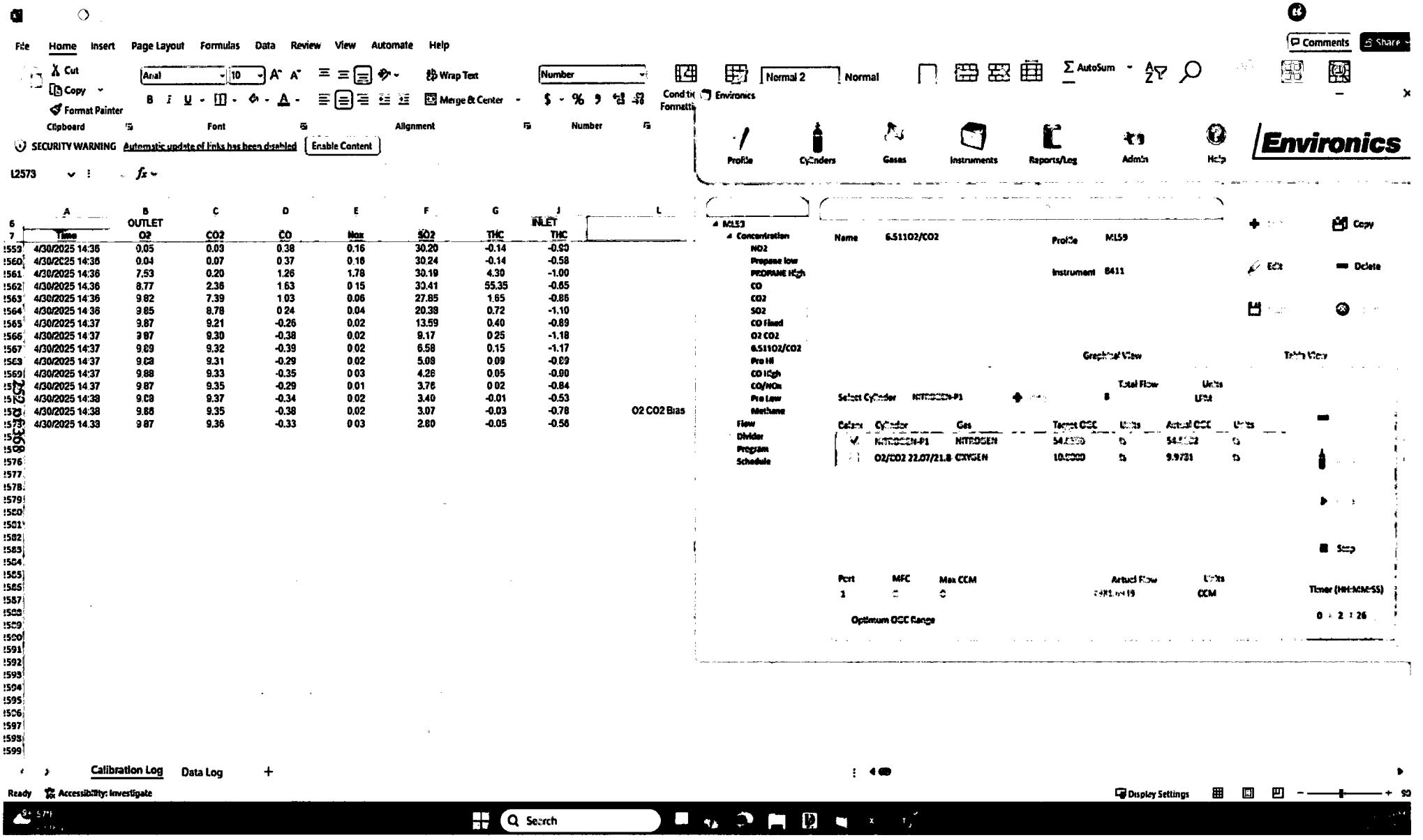
Calibration Log Data Log +

Ready Accessibility: Investigate

Display Settings

56°F Clear

Search



File Home Insert Page Layout Formulas Data Review View Automate Help

Cut Copy Format Painter — Clipboard

Arial 10 — Font

Wrap Text Merge & Center — Alignment

Number — Number

Normal 2 Normal — Conditional Formatting

AutoSum

Comments Share

SECURITY WARNING Automatic update of links has been disabled Enable Content

L2573

	A	B	C	D	E	F	G	J	L
6		OUTLET						INLET	
7	Time	O2	CO2	CO	Nox	SO2	THC	THC	
1559	4/30/2025 14:35	9.05	9.03	0.38	0.16	30.20	-0.14	-0.90	
1560	4/30/2025 14:36	9.04	9.07	0.37	0.16	30.24	-0.14	-0.58	
1561	4/30/2025 14:36	7.53	9.20	1.26	1.78	30.19	4.30	-1.00	
1562	4/30/2025 14:36	8.77	2.36	1.63	0.15	30.41	55.35	-0.65	
1563	4/30/2025 14:36	9.82	7.39	1.03	0.06	27.85	1.65	-0.86	
1564	4/30/2025 14:36	9.85	8.78	0.24	0.04	20.38	0.72	-1.10	
1565	4/30/2025 14:37	9.87	9.21	-0.26	0.02	13.59	0.40	-0.89	
1566	4/30/2025 14:37	9.87	9.30	-0.38	0.02	9.17	0.25	-1.18	
1567	4/30/2025 14:37	9.89	9.32	-0.39	0.02	6.58	0.15	-1.17	
1568	4/30/2025 14:37	9.88	9.31	-0.29	0.02	5.08	0.09	-0.89	
1569	4/30/2025 14:37	9.88	9.33	-0.35	0.03	4.26	0.05	-0.90	
1570	4/30/2025 14:37	9.87	9.35	-0.29	0.01	3.78	0.02	-0.84	
1571	4/30/2025 14:38	9.08	9.37	-0.34	0.02	3.40	-0.01	-0.53	
1572	4/30/2025 14:38	9.88	9.35	-0.38	0.02	3.07	-0.03	-0.78	O2 CO2 Bias
1573	4/30/2025 14:39	9.87	9.36	-0.33	0.03	2.80	-0.05	-0.56	

252 of 369

Environics

Profile Cylinders Gases Instruments Reports/Log Admin Help

ML53
- Concentration
  - NO2
  - Propane low
  - PROPANE High
  - CO
  - CO2
  - SO2
  - CO filed
  - O2 CO2
  - 6.51102/CO2
  - Pre HI
  - CO HIgh
  - CO/NOx
  - Pre Low
  - Methane
- Flow
- Divider
- Program
- Schedule

Name 6.51102/CO2 Profile ML53

Instrument B411

Copy Edit Delete

Graphical View Table View

Total Flow Units

Select Cylinder NITROGEN-P1 8 LPM

Select	Cylinder	Gas	Target CCC	Units	Actual CCC	Units
✓	NITROGEN-P1	NITROGEN	54.5350	%	54.5152	%
	O2/CO2 22.07/21.8	OXYGEN	10.0000	%	9.9781	%

Step

Port	MFC	Max CCM	Actual Flow	Units
1			1481.0419	CCM

Timer (HH:MM:SS) 0 : 2 : 26

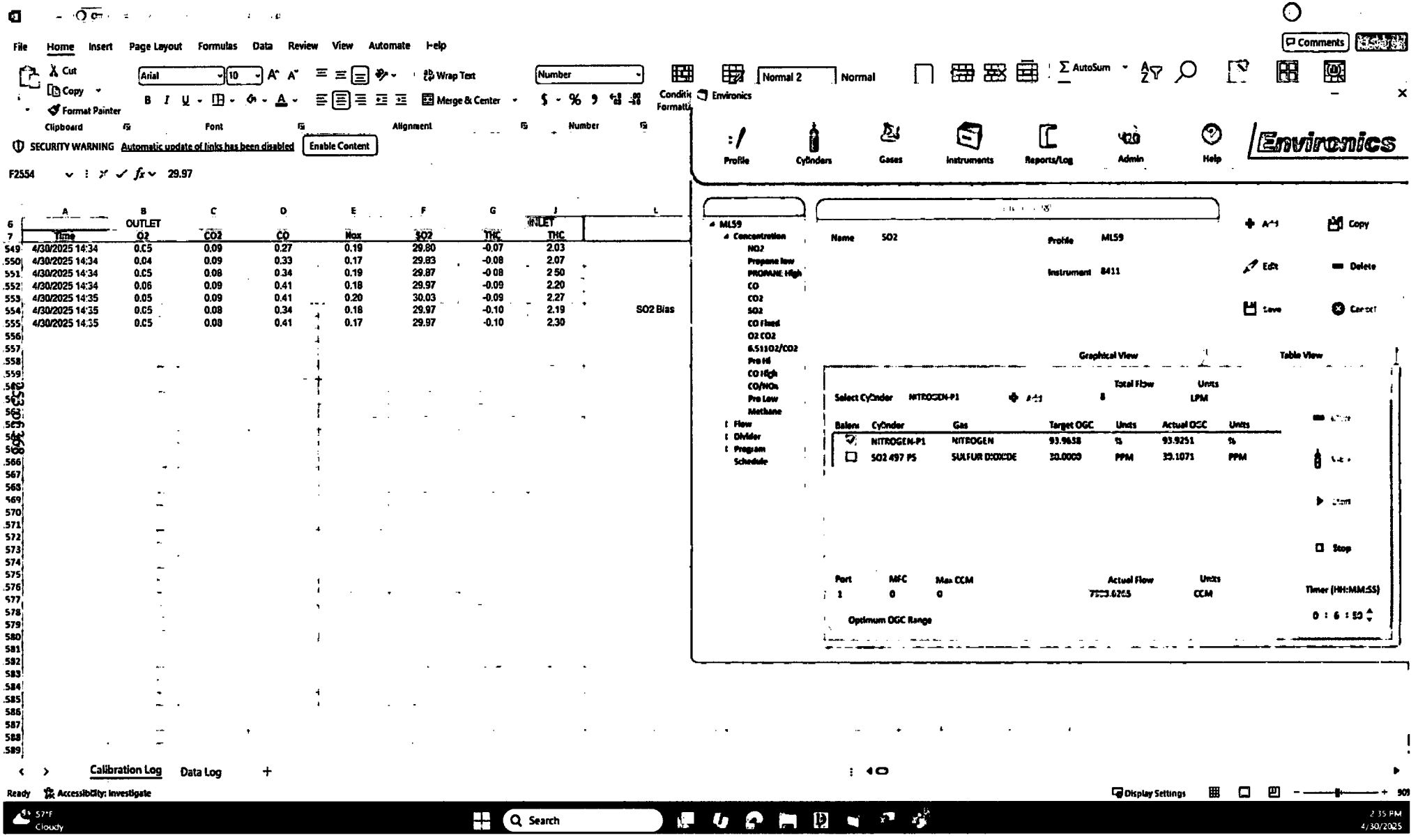
Optimum CCC Range

Calibration Log Data Log +

Ready Accessibility: Investigate

Display Settings

Search



File Home Insert Page Layout Formulas Data Review View Automate Help

Cut Copy Format Painter — Arial 10 — Wrap Text — Merge & Center — Number — Normal 2 — Normal — AutoSum

Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

F2554 29.97

	A	B	C	D	E	F	G	J	L
6		OUTLET						INLET	
7	Time	O2	CO2	CO	Nox	SO2	THC	THC	
549	4/30/2025 14:34	0.05	0.09	0.27	0.19	29.80	-0.07	2.03	
550	4/30/2025 14:34	0.04	0.09	0.33	0.17	29.83	-0.08	2.07	
551	4/30/2025 14:34	0.05	0.08	0.34	0.19	29.87	-0.08	2.50	
552	4/30/2025 14:34	0.06	0.09	0.41	0.18	29.97	-0.09	2.20	
553	4/30/2025 14:35	0.05	0.09	0.41	0.20	30.03	-0.09	2.27	
554	4/30/2025 14:35	0.05	0.08	0.34	0.18	29.97	-0.10	2.19	SO2 Bias
555	4/30/2025 14:35	0.05	0.08	0.41	0.17	29.97	-0.10	2.30	

Calibration Log Data Log +

Ready Accessibility: Investigate

Environics

Profile Cylinders Gases Instruments Reports/Log Admin Help Environics

ML59
- Concentration
  - NO2
  - Propane low
  - PROPANE High
  - CO
  - CO2
  - SO2
  - CO Filtered
  - O2 CO2
  - 6.51102/CO2
  - Pro Hi
  - CO High
  - CO/NOx
  - Pro Low
  - Methane
- Flow
- Divider
- Program
- Schedule

Name SO2 Profile ML59

Instrument 8411

Add Copy Edit Delete Save Cancel

Graphical View Table View

Select Cylinder NITROGEN-P1 Add 8 Total Flow LPM Units

Balanc	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN-P1	NITROGEN	93.9638	%	93.9251	%
☐	SO2 497 PS	SULFUR DIOXIDE	30.0009	PPM	35.1071	PPM

Start Stop

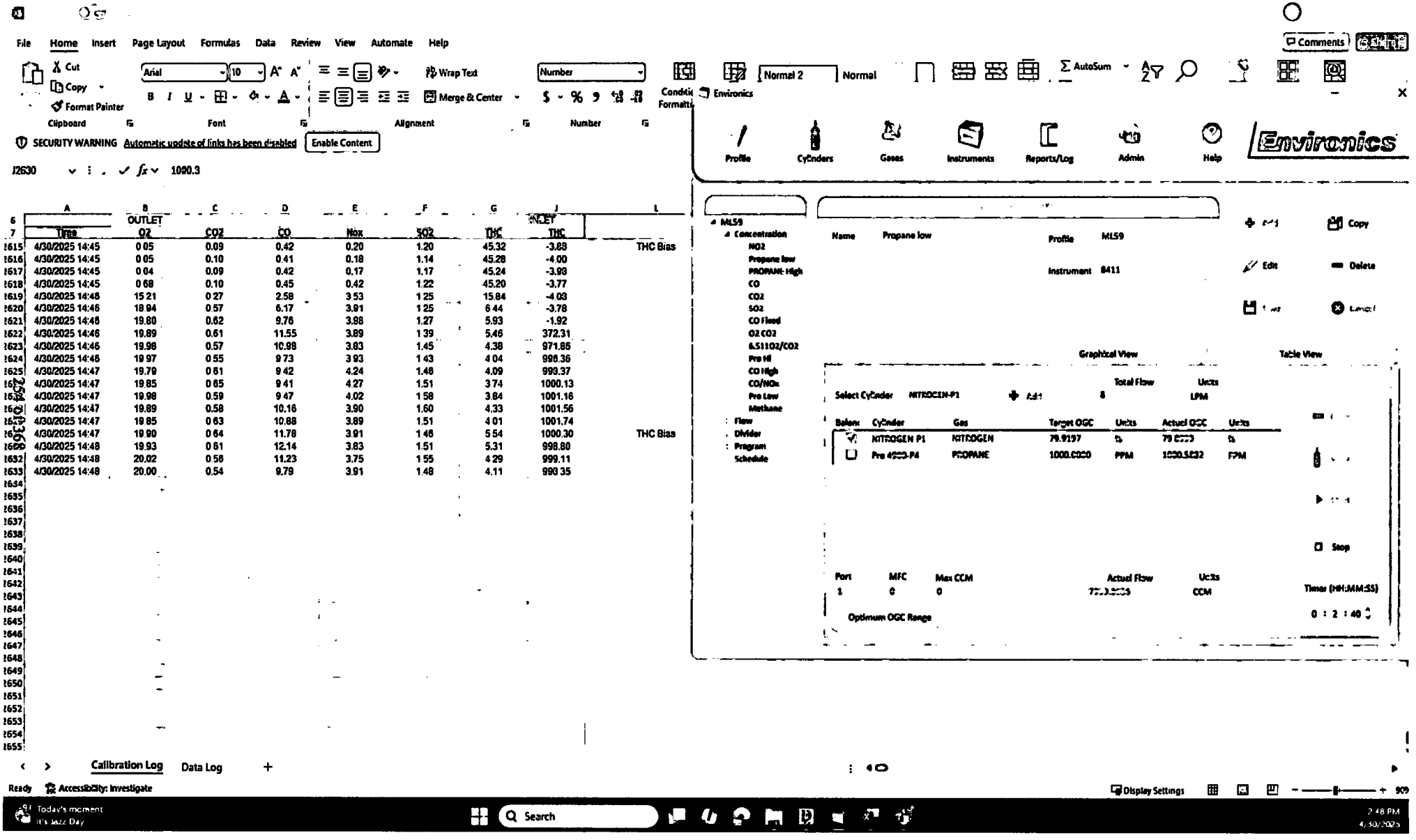
Port	MFC	Max CCM	Actual Flow	Units
1	0	0	7553.6265	CCM

Timer (HH:MM:SS) 0 : 6 : 50

Optimum OGC Range

Display Settings

57°F Cloudy Search 2:35 PM 4/30/2025



File Home Insert Page Layout Formulas Data Review View Automate Help

Comments

Cut Copy Format Painter

Arial 10 Wrap Text Number Normal 2 Normal AutoSum

Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

J2630 1090.3

	A	B	C	D	E	F	G	J	L
6		OUTLET						INLET	
7	Time	O2	CO2	CO	Nox	SO2	THC	THC	
1615	4/30/2025 14:45	0 05	0.09	0.42	0.20	1.20	45.32	-3.68	THC Bias
1616	4/30/2025 14:45	0 05	0.10	0.41	0.18	1.14	45.28	-4.00	
1617	4/30/2025 14:45	0 04	0.09	0.42	0.17	1.17	45.24	-3.98	
1618	4/30/2025 14:45	0 68	0.10	0.45	0.42	1.22	45.20	-3.77	
1619	4/30/2025 14:46	15 21	0 27	2.58	3 53	1 25	15.84	-4 03	
1620	4/30/2025 14:46	18 94	0 57	6.17	3.91	1 25	6 44	-3.78	
1621	4/30/2025 14:46	19.80	0.62	9.76	3.98	1.27	5.93	-1.92	
1622	4/30/2025 14:46	19.89	0.61	11.55	3.89	1 39	5.46	372.31	
1623	4/30/2025 14:46	19.98	0.57	10.98	3.83	1.45	4.38	971.86	
1624	4/30/2025 14:46	19 97	0 55	9 73	3 93	1 43	4 04	998.36	
1625	4/30/2025 14:47	19.79	0 61	9 42	4.24	1.48	4.09	998.37	
1626	4/30/2025 14:47	19 85	0 65	9 41	4 27	1.51	3 74	1000.13	
1627	4/30/2025 14:47	19.98	0.59	9 47	4.02	1 58	3.84	1001.16	
1628	4/30/2025 14:47	19.89	0.58	10.16	3.90	1.60	4.33	1001.56	
1629	4/30/2025 14:47	19 85	0 63	10.88	3.89	1.51	4 01	1001.74	
1630	4/30/2025 14:47	19 90	0 64	11.78	3 91	1 46	5 54	1000.30	THC Bias
1631	4/30/2025 14:48	19.93	0 61	12.14	3.83	1.51	5.31	998.80	
1632	4/30/2025 14:48	20.02	0 56	11.23	3.75	1 55	4 29	999.11	
1633	4/30/2025 14:48	20.00	0.54	9.79	3.91	1.48	4.11	998 35	

Calibration Log Data Log +

Ready Accessibility: Investigate

Environics

Profile CyCnders Gases Instruments Reports/Log Admin Help

MLS9
- Concentration
  - NO2
  - Propane low
  - PROPANE-High
  - CO
  - CO2
  - SO2
  - CO Flood
  - O2 CO2
  - 6.5 1102/CO2
  - Pre HI
  - CO High
  - CO/NOx
  - Pre Low
  - Methane
- Flow
- Divider
- Program
- Schedule

Name Propane low Profile MLS9

Instrument 8411

Copy Edit Delete

Graphical View Table View

Select CyCnder NITROGEN-P1 Total Flow 8 Units LPM

Balanc	CyCnder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN P1	NITROGEN	79.9197	%	79 [illegible]	%
☐	Pre 4000-P4	PROPANE	1000.0000	PPM	1030.5832	PPM

Stop

Port	MFC	Max CCM	Actual Flow	Units
1	0	0	[illegible]	CCM

Timer (HH:MM:SS) 0 : 2 : 48

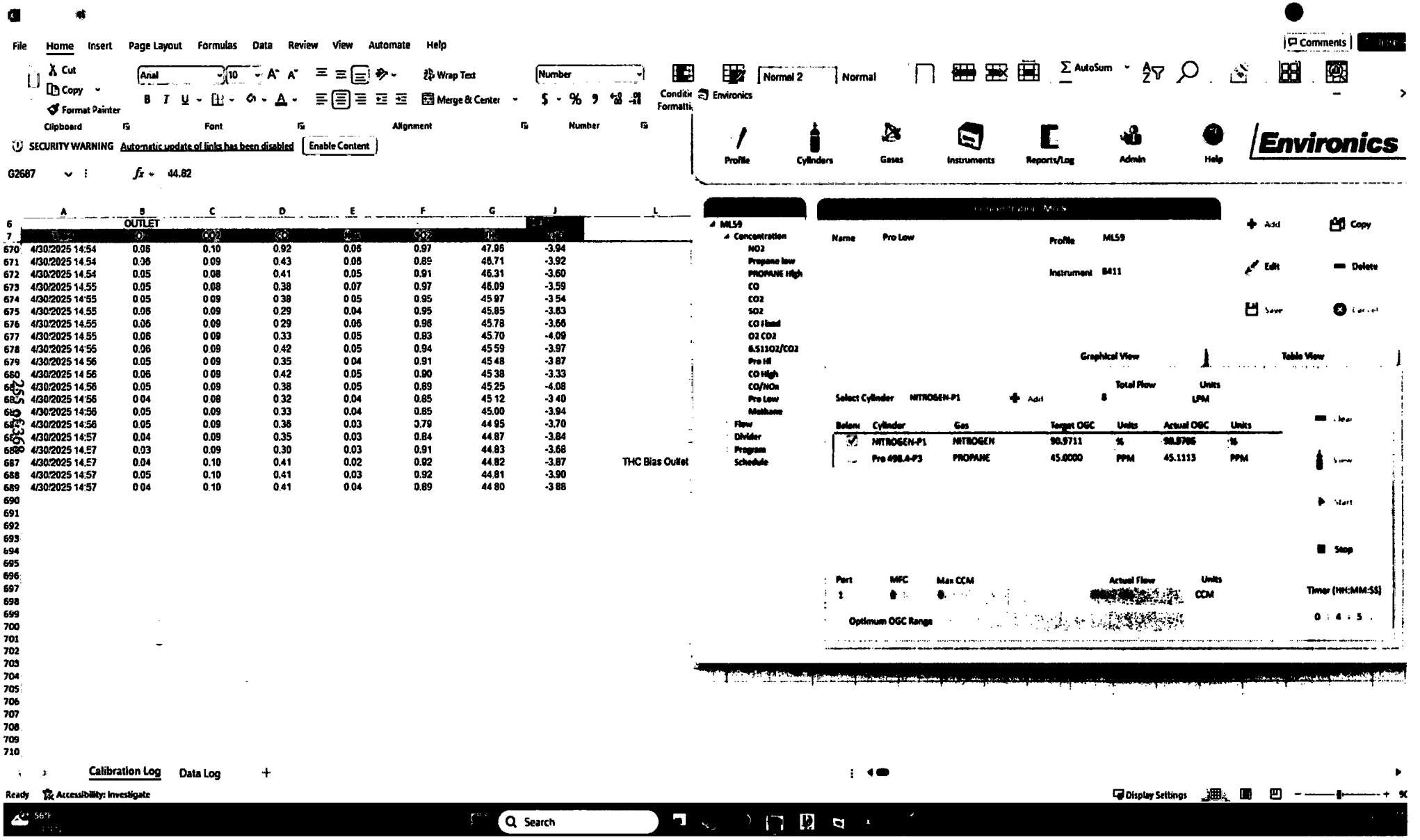
Optimum OGC Range

Display Settings

Today's moment It's Jazz Day

Search

2:48 PM 4/30/2025



File Home Insert Page Layout Formulas Data Review View Automate Help

Comments

Cut Copy Format Painter Arial 10 Wrap Text Number Normal 2 Normal AutoSum

Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

G2687 44.82

Environics

Profile Cylinders Gases Instruments Reports/Log Admin Help

	A	B	C	D	E	F	G	J	L
6		OUTLET							
7									
670	4/30/2025 14:54	0.08	0.10	0.92	0.06	0.97	47.96	-3.94	
671	4/30/2025 14:54	0.06	0.09	0.43	0.06	0.89	46.71	-3.92	
672	4/30/2025 14:54	0.05	0.08	0.41	0.05	0.91	46.31	-3.60	
673	4/30/2025 14:55	0.05	0.08	0.38	0.07	0.97	46.09	-3.59	
674	4/30/2025 14:55	0.05	0.09	0.38	0.05	0.95	45.97	-3.54	
675	4/30/2025 14:55	0.06	0.09	0.29	0.04	0.95	45.85	-3.63	
676	4/30/2025 14:55	0.06	0.09	0.29	0.06	0.98	45.78	-3.66	
677	4/30/2025 14:55	0.06	0.09	0.33	0.05	0.93	45.70	-4.09	
678	4/30/2025 14:55	0.06	0.09	0.42	0.05	0.94	45.59	-3.97	
679	4/30/2025 14:56	0.05	0.09	0.35	0.04	0.91	45.48	-3.87	
680	4/30/2025 14:56	0.06	0.09	0.42	0.05	0.90	45.38	-3.33	
681	4/30/2025 14:56	0.05	0.09	0.38	0.05	0.89	45.25	-4.08	
682	4/30/2025 14:56	0.04	0.08	0.32	0.04	0.85	45.12	-3.40	
683	4/30/2025 14:56	0.05	0.09	0.33	0.04	0.85	45.00	-3.94	
684	4/30/2025 14:56	0.05	0.09	0.36	0.03	0.79	44.95	-3.70	
685	4/30/2025 14:57	0.04	0.09	0.35	0.03	0.84	44.87	-3.84	
686	4/30/2025 14:57	0.03	0.09	0.30	0.03	0.91	44.83	-3.68	
687	4/30/2025 14:57	0.04	0.10	0.41	0.02	0.92	44.82	-3.87	THC Bias Outlet
688	4/30/2025 14:57	0.05	0.10	0.41	0.03	0.92	44.81	-3.90	
689	4/30/2025 14:57	0.04	0.10	0.41	0.04	0.89	44.80	-3.88	
690									
691									
692									
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705									
706									
707									
708									
709									
710									

ML59
- Concentration
  - NO2
  - Propane low
  - PROPANE High
  - CO
  - CO2
  - SO2
  - CO Hiad
  - O2 CO2
  - 8.51SO2/CO2
  - Pro HI
  - CO High
  - CO/NOx
  - Pro Low
  - Methane
- Flow
- Divider
- Program
- Schedule

Name Pro Low Profile ML59

Instrument 8411

Add Copy Edit Delete Save Cancel

Graphical View Table View

Total Flow Units

Select Cylinder NITROGEN-P1 Add 8 LPM

Select	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN-P1	NITROGEN	90.9711	%	90.8705	%
☐	Pro 498.4-P3	PROPANE	45.0000	PPM	45.1113	PPM

Clear View Start Stop

Port	MFC	Max CCM	Actual Flow	Units
1		0		CCM

Timer (HH:MM:SS) 0 : 4 : 5

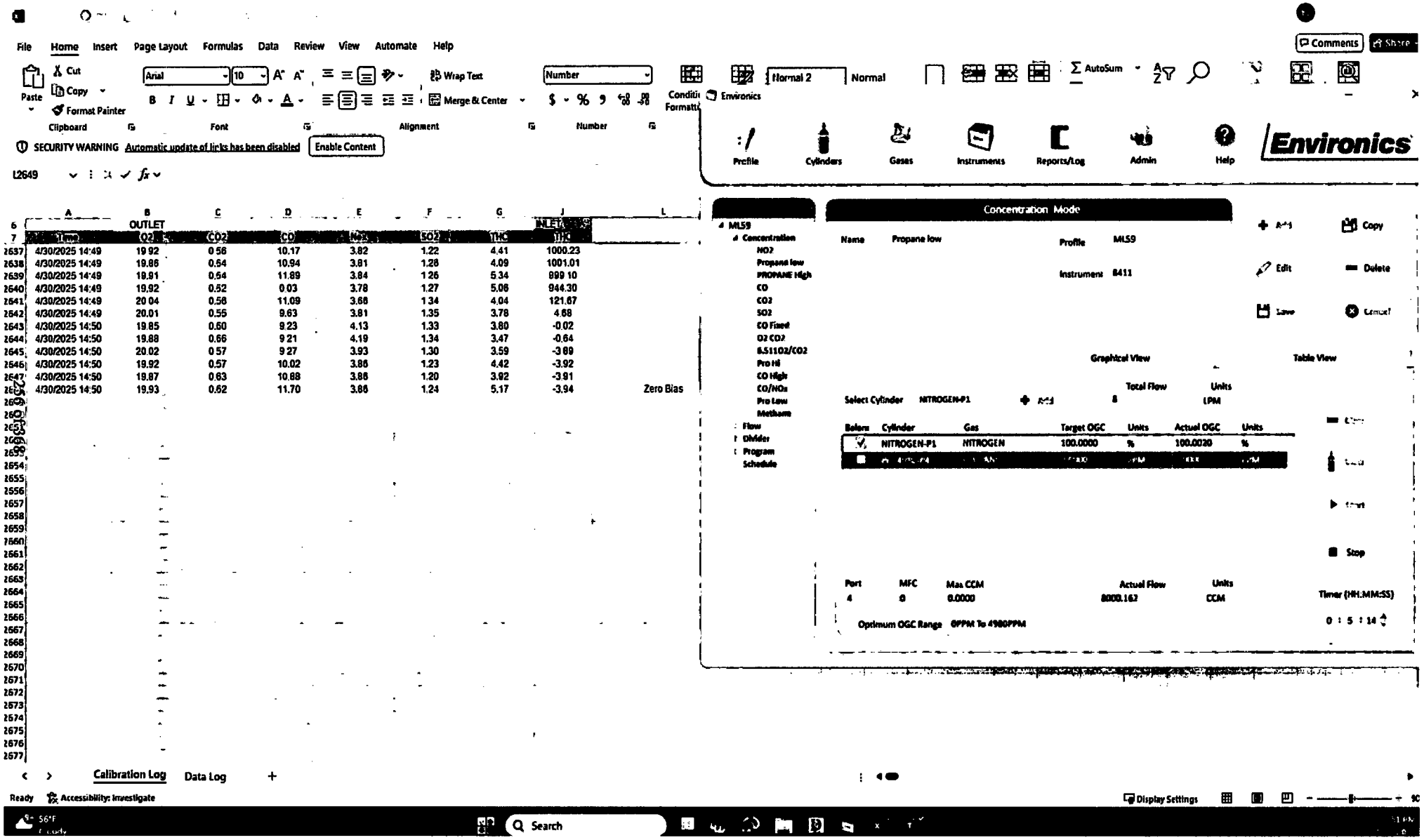
Optimum OGC Range

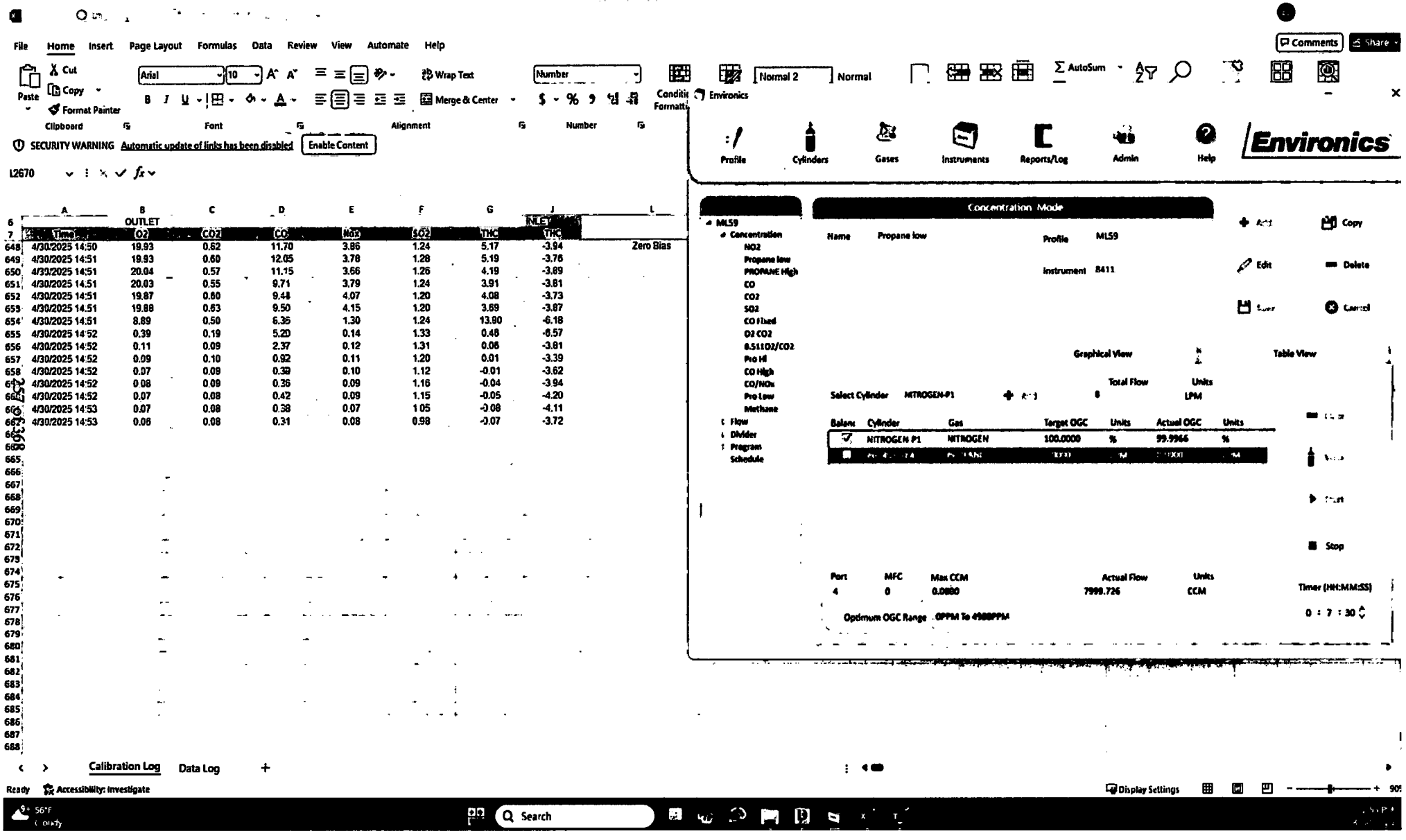
Calibration Log Data Log +

Ready Accessibility: Investigate

Display Settings

56°F Search


File Home Insert Page Layout Formulas Data Review View Automate Help
Comments Share
Cut Copy Format Painter Paste
Arial 10 Wrap Text Merge & Center Number
Normal 2 Normal AutoSum
Clipboard Font Alignment Number
SECURITY WARNING Automatic update of links has been disabled Enable Content
L2649
OUTLET INLET
Time O2 CO2 CO NO2 SO2 THC THC
4/30/2025 14:49 19.92 0.56 10.17 3.82 1.22 4.41 1000.23
4/30/2025 14:49 19.86 0.54 10.94 3.81 1.28 4.09 1001.01
4/30/2025 14:49 19.91 0.54 11.89 3.84 1.26 5.34 999.10
4/30/2025 14:49 19.92 0.52 0.03 3.78 1.27 5.06 944.30
4/30/2025 14:49 20.04 0.58 11.09 3.68 1.34 4.04 121.67
4/30/2025 14:49 20.01 0.55 9.63 3.81 1.35 3.78 4.68
4/30/2025 14:50 19.85 0.50 9.23 4.13 1.33 3.80 -0.02
4/30/2025 14:50 19.88 0.66 9.21 4.19 1.34 3.47 -0.64
4/30/2025 14:50 20.02 0.57 9.27 3.93 1.30 3.59 -3.89
4/30/2025 14:50 19.92 0.57 10.02 3.86 1.23 4.42 -3.92
4/30/2025 14:50 19.87 0.63 10.88 3.86 1.20 3.92 -3.91
4/30/2025 14:50 19.93 0.62 11.70 3.86 1.24 5.17 -3.94
Zero Bias
Calibration Log
Data Log
Ready
Accessibility: Investigate
Environics
Profile Cylinders Gases Instruments Reports/Log Admin Help
Environics
Concentration Mode
ML59
Concentration
NO2
Propane low
PROPANE High
CO
CO2
SO2
CO Fixed
O2 CO2
8.51102/CO2
Pro Hi
CO High
CO/NOx
Pro Low
Methane
Flow
Divider
Program
Schedule
Name Propane low
Profile ML59
Instrument 8411
Add
Copy
Edit
Delete
Save
Cancel
Graphical View
Table View
Total Flow
Units
Select Cylinder NITROGEN-P1
Add
8
LPM
Below Cylinder Gas Target OGC Units Actual OGC Units
NITROGEN-P1 NITROGEN 100.0000 % 100.0020 %
Start
Stop
Port MFC Max CCM Actual Flow Units
4 8 8.0000 8000.162 CCM
Timer (HH:MM:SS)
Optimum OGC Range 0PPM To 4980PPM
0 : 5 : 14
Display Settings
56°F
Search



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Comments Share

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Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

L2670

	A	B	C	D	E	F	G	J	L
6		OUTLET						NLET	
7	Time	O2	CO2	CO	NOx	SO2	THC	THC	
648	4/30/2025 14:50	19.93	0.62	11.70	3.86	1.24	5.17	-3.94	Zero Bias
649	4/30/2025 14:51	19.93	0.60	12.05	3.78	1.28	5.19	-3.76	
650	4/30/2025 14:51	20.04	0.57	11.15	3.66	1.26	4.19	-3.89	
651	4/30/2025 14:51	20.03	0.55	9.71	3.79	1.24	3.91	-3.81	
652	4/30/2025 14:51	19.87	0.60	9.48	4.07	1.20	4.08	-3.73	
653	4/30/2025 14:51	19.88	0.63	9.50	4.15	1.20	3.69	-3.87	
654	4/30/2025 14:51	8.89	0.50	6.35	1.30	1.24	13.90	-6.18	
655	4/30/2025 14:52	0.39	0.19	5.20	0.14	1.33	0.48	-6.57	
656	4/30/2025 14:52	0.11	0.09	2.37	0.12	1.31	0.06	-3.81	
657	4/30/2025 14:52	0.09	0.10	0.92	0.11	1.20	0.01	-3.39	
658	4/30/2025 14:52	0.07	0.09	0.39	0.10	1.12	-0.01	-3.62	
659	4/30/2025 14:52	0.08	0.09	0.36	0.09	1.16	-0.04	-3.94	
660	4/30/2025 14:52	0.07	0.08	0.42	0.09	1.15	-0.05	-4.20	
661	4/30/2025 14:53	0.07	0.08	0.38	0.07	1.05	-0.08	-4.11	
662	4/30/2025 14:53	0.08	0.08	0.31	0.08	0.98	-0.07	-3.72	

Calibration Log Data Log

Ready Accessibility: Investigate

Profile Cylinders Gases Instruments Reports/Log Admin Help Environics

Concentration Mode

ML59
Concentration
NO2
Propane low
PROPANE High
CO
CO2
SO2
CO Flued
O2 CO2
8.5 O2/CO2
Pro HI
CO High
CO/NOx
Pro Low
Methane
Flow
Divider
Program
Schedule

Name Propane low Profile ML59

Instrument 8411

Add Copy Edit Delete Save Cancel

Graphical View Table View

Total Flow Units

Select Cylinder NITROGEN-P1 Add 0 LPM

Select	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN P1	NITROGEN	100.0000	%	99.9966	%
☐	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Edit Start Stop

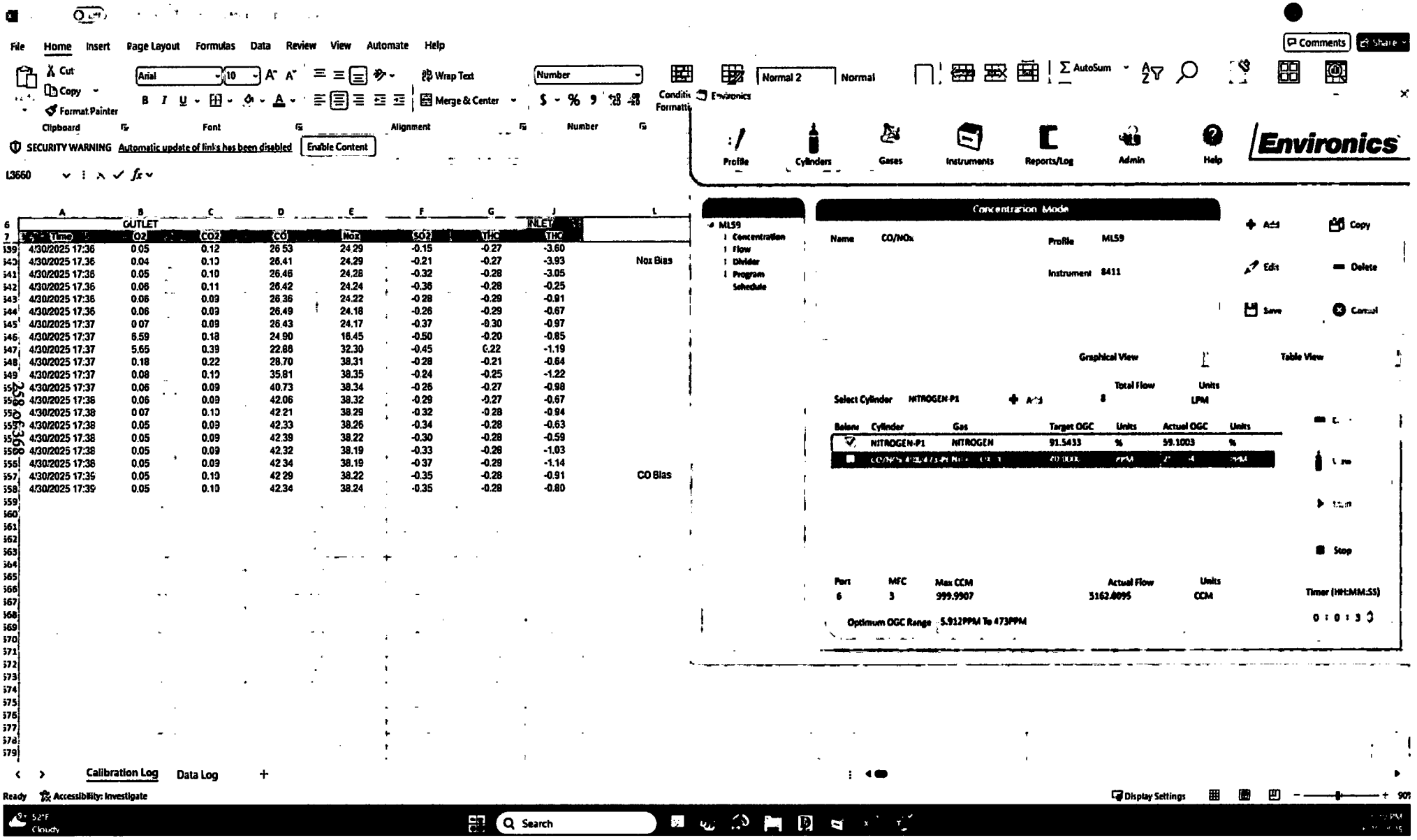
Port	MFC	Max CCM	Actual Flow	Units
4	0	0.0000	7999.726	CCM

Timer (HH:MM:SS) 0 : 7 : 30

Optimum OGC Range 0PPM To 4988PPM

Display Settings

56°F Cloudy Search



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Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

L3660

	A	B	C	D	E	F	G	J	L
6		OUTLET						INLET	
7	Time	O2	CO2	CO	Nox	SO2	THC	THC	
539	4/30/2025 17:36	0.05	0.12	26.53	24.29	-0.15	-0.27	-3.60	
540	4/30/2025 17:36	0.04	0.10	26.41	24.29	-0.21	-0.27	-3.93	Nox Bias
541	4/30/2025 17:36	0.05	0.10	26.46	24.28	-0.32	-0.28	-3.05	
542	4/30/2025 17:36	0.06	0.11	26.42	24.24	-0.36	-0.28	-0.25	
543	4/30/2025 17:36	0.06	0.09	26.36	24.22	-0.28	-0.29	-0.91	
544	4/30/2025 17:36	0.06	0.09	26.49	24.18	-0.26	-0.29	-0.67	
545	4/30/2025 17:37	0.07	0.09	26.43	24.17	-0.37	-0.30	-0.97	
546	4/30/2025 17:37	6.59	0.18	24.90	16.45	-0.50	-0.20	-0.85	
547	4/30/2025 17:37	5.65	0.39	22.88	32.30	-0.45	0.22	-1.19	
548	4/30/2025 17:37	0.18	0.22	28.70	38.31	-0.28	-0.21	-0.64	
549	4/30/2025 17:37	0.08	0.10	35.81	38.35	-0.24	-0.25	-1.22	
550	4/30/2025 17:37	0.06	0.09	40.73	38.34	-0.26	-0.27	-0.98	
551	4/30/2025 17:38	0.06	0.09	42.06	38.32	-0.29	-0.27	-0.67	
552	4/30/2025 17:38	0.07	0.10	42.21	38.29	-0.32	-0.28	-0.94	
553	4/30/2025 17:38	0.05	0.09	42.33	38.26	-0.34	-0.28	-0.63	
554	4/30/2025 17:38	0.05	0.09	42.39	38.22	-0.30	-0.28	-0.59	
555	4/30/2025 17:38	0.05	0.09	42.32	38.19	-0.33	-0.28	-1.03	
556	4/30/2025 17:38	0.05	0.09	42.34	38.19	-0.37	-0.29	-1.14	
557	4/30/2025 17:39	0.05	0.10	42.29	38.22	-0.35	-0.28	-0.91	CO Bias
558	4/30/2025 17:39	0.05	0.10	42.34	38.24	-0.35	-0.28	-0.80	
559									
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577									
578									
579									

Calibration Log Data Log +

Ready Accessibility: Investigate

Profile Cylinders Gases Instruments Reports/Log Admin Help Environics

ML59
- Concentration
- Flow
- Divider
- Program
- Schedule

Concentration Mode

Name CO/NOx Profile ML59

Instrument 8411

Add Copy Edit Delete Save Cancel

Graphical View Table View

Total Flow Units

Select Cylinder NITROGEN-P1 Add 8 LPM

Balanc	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN-P1	NITROGEN	91.5433	%	59.1003	%
☐	CO/NOx 473PPM-P1	[illegible]	20.1006	PPM	[illegible]	PPM

Purge Stop

Port	MFC	Max CCM	Actual Flow	Units
6	3	999.9907	5162.8095	CCM

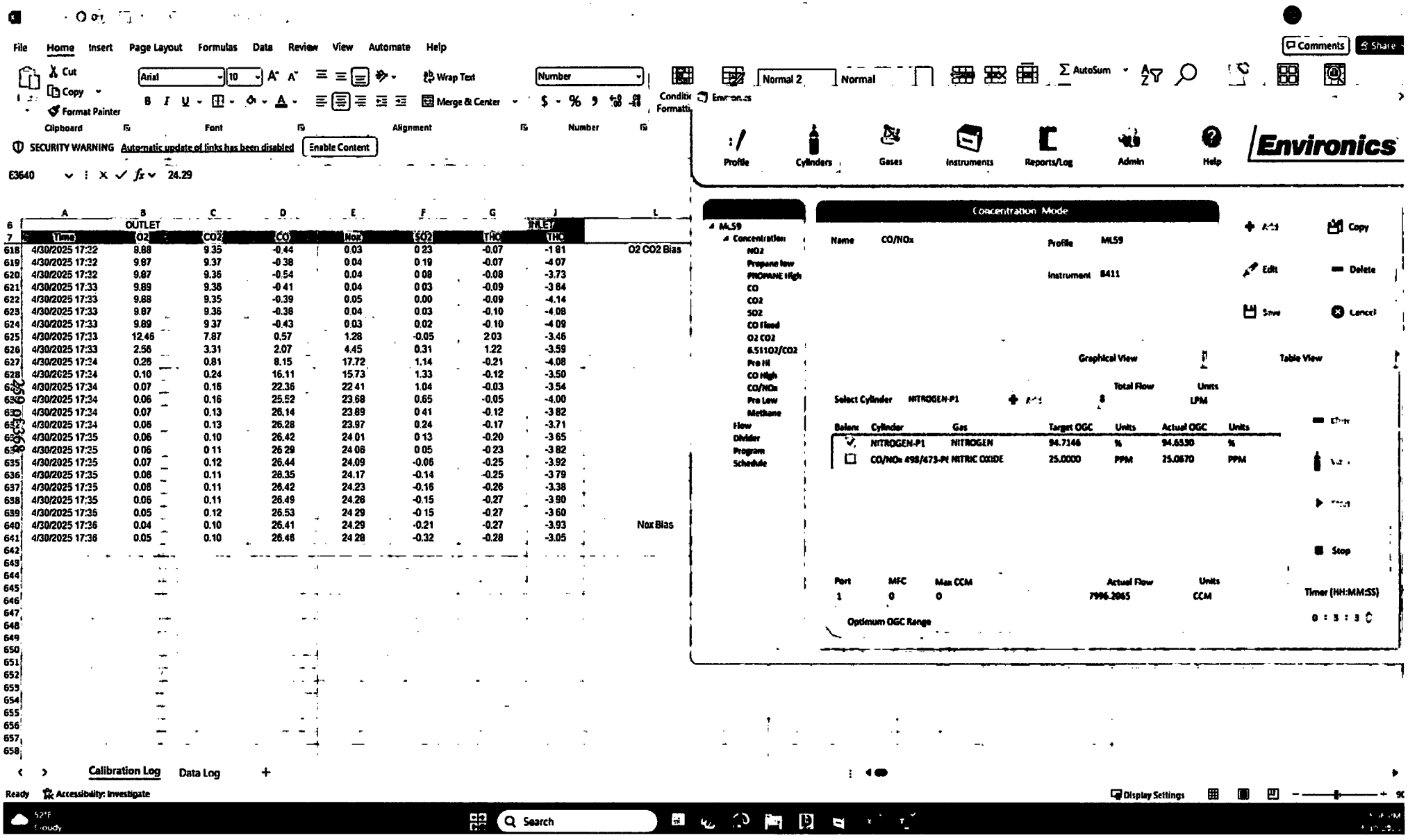
Timer (HH:MM:SS)

Optimum OGC Range 5.912PPM To 473PPM

0 : 0 : 3

Display Settings

52°F Cloudy Search



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Comments Share

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Clipboard Font Alignment Number

SECURITY WARNING Auto-matic update of links has been disabled Enable Content

E3640 24.29

	A	B	C	D	E	F	G	J	L
6		OUTLET						INLET	
7	Time	O2	CO2	CO	NOx	SO2	THC	THC	
618	4/30/2025 17:32	9.88	9.35	-0.44	0.03	0.23	-0.07	-1.81	O2 CO2 Bias
619	4/30/2025 17:32	9.87	9.37	-0.38	0.04	0.19	-0.07	-4.07	
620	4/30/2025 17:32	9.87	9.36	-0.54	0.04	0.08	-0.08	-3.73	
621	4/30/2025 17:33	9.89	9.36	-0.41	0.04	0.03	-0.09	-3.84	
622	4/30/2025 17:33	9.88	9.35	-0.39	0.05	0.00	-0.09	-4.14	
623	4/30/2025 17:33	9.87	9.36	-0.38	0.04	0.03	-0.10	-4.08	
624	4/30/2025 17:33	9.89	9.37	-0.43	0.03	0.02	-0.10	-4.09	
625	4/30/2025 17:33	12.46	7.87	0.57	1.28	-0.05	2.03	-3.46	
626	4/30/2025 17:33	2.56	3.31	2.07	4.45	0.31	1.22	-3.59	
627	4/30/2025 17:34	0.26	0.81	8.15	17.72	1.14	-0.21	-4.08	
628	4/30/2025 17:34	0.10	0.24	16.11	15.73	1.33	-0.12	-3.50	
629	4/30/2025 17:34	0.07	0.16	22.36	22.41	1.04	-0.03	-3.54	
630	4/30/2025 17:34	0.06	0.16	25.52	23.68	0.65	-0.05	-4.00	
631	4/30/2025 17:34	0.07	0.13	26.14	23.89	0.41	-0.12	-3.82	
632	4/30/2025 17:34	0.06	0.13	26.28	23.97	0.24	-0.17	-3.71	
633	4/30/2025 17:35	0.06	0.10	26.42	24.01	0.13	-0.20	-3.65	
634	4/30/2025 17:35	0.06	0.11	26.29	24.08	0.05	-0.23	-3.82	
635	4/30/2025 17:35	0.07	0.12	26.44	24.09	-0.06	-0.25	-3.92	
636	4/30/2025 17:35	0.08	0.11	26.35	24.17	-0.14	-0.25	-3.79	
637	4/30/2025 17:35	0.08	0.11	26.42	24.23	-0.16	-0.26	-3.38	
638	4/30/2025 17:35	0.06	0.11	26.49	24.26	-0.15	-0.27	-3.90	
639	4/30/2025 17:36	0.05	0.12	26.53	24.29	-0.15	-0.27	-3.60	
640	4/30/2025 17:36	0.04	0.10	26.41	24.29	-0.21	-0.27	-3.93	Nox Bias
641	4/30/2025 17:36	0.05	0.10	26.48	24.28	-0.32	-0.28	-3.05	

Calibration Log Data Log +

Ready Accessibility: Investigate

Display Settings

Profile Cylinders Gases Instruments Reports/Log Admin Help Environics

ML59
- Concentration
  - NO2
  - Propane low
  - PROPANE High
  - CO
  - CO2
  - SO2
  - CO filed
  - O2 CO2
  - 8.51102/CO2
  - Pre HI
  - CO High
  - CO/NOx
  - Pre Low
  - Methane
- Flow
- Divider
- Program
- Schedule

Concentration Mode

Name CO/NOx Profile ML59

Instrument 8411

Add Copy Edit Delete Save Cancel

Graphical View Table View

Total Flow Units

Select Cylinder NITROGEN-P1 Add 8 LPM

Select	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN-P1	NITROGEN	94.7146	%	94.6330	%
☐	CO/NOx 498/673-PI	NITRIC OXIDE	25.0000	PPM	25.0870	PPM

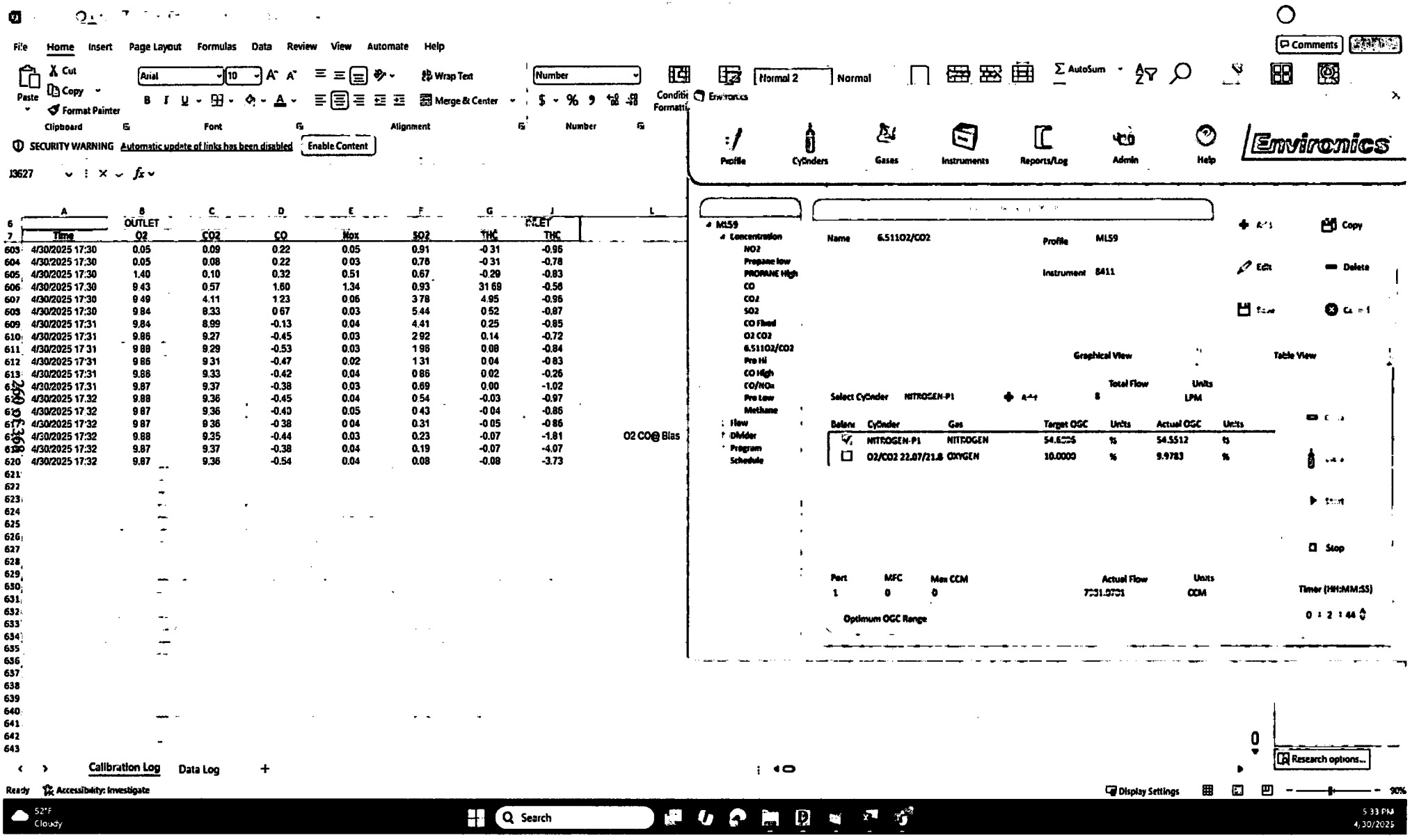
Start Stop

Port	MFC	Max CCM	Actual Flow	Units
1	0	0	7996.2065	CCM

Timer (HH:MM:SS) 0 : 3 : 3 0

Optimum OGC Range

52°F Cloudy Search



File Home Insert Page Layout Formulas Data Review View Automate Help

SECURITY WARNING Automatic update of links has been disabled Enable Content

J3627

	A	B	C	D	E	F	G	J
6		OUTLET						INLET
7	Time	O2	CO2	CO	Nox	SO2	THC	THC
603	4/30/2025 17:30	0.05	0.09	0.22	0.05	0.91	-0 31	-0.96
604	4/30/2025 17:30	0.05	0.08	0.22	0 03	0.78	-0 31	-0.78
605	4/30/2025 17:30	1.40	0.10	0.32	0.51	0.67	-0.29	-0.83
606	4/30/2025 17:30	9 43	0.57	1.60	1.34	0.93	31 69	-0.56
607	4/30/2025 17:30	9 49	4.11	1 23	0 06	3 78	4.95	-0.96
608	4/30/2025 17:30	9 84	8.33	0 67	0.03	5.44	0 52	-0.87
609	4/30/2025 17:31	9.84	8.99	-0.13	0.04	4.41	0.25	-0.85
610	4/30/2025 17:31	9.86	9.27	-0.45	0.03	2 92	0.14	-0.72
611	4/30/2025 17:31	9 88	9.29	-0.53	0.03	1 98	0.08	-0.84
612	4/30/2025 17:31	9 86	9 31	-0.47	0.02	1 31	0 04	-0 83
613	4/30/2025 17:31	9.86	9.33	-0.42	0.04	0 86	0 02	-0.26
614	4/30/2025 17:31	9.87	9.37	-0.38	0.03	0.69	0.00	-1.02
615	4/30/2025 17:32	9.88	9.36	-0.45	0.04	0 54	-0.03	-0.97
616	4/30/2025 17:32	9 87	9.36	-0.40	0.05	0 43	-0 04	-0.86
617	4/30/2025 17:32	9 87	9 36	-0 38	0 04	0.31	-0 05	-0 86
618	4/30/2025 17:32	9.88	9.35	-0.44	0.03	0.23	-0.07	-1.81
619	4/30/2025 17:32	9.87	9.37	-0.38	0.04	0.19	-0.07	-4.07
620	4/30/2025 17:32	9.87	9.36	-0.54	0.04	0.08	-0.08	-3.73

O2 CO@ Bias

Calibration Log Data Log +

Ready Accessibility: Investigate

Profile Cylinders Gases Instruments Reports/Log Admin Help Environics

ML59
- Concentration
  - NO2
  - Propane low
  - PROPANE High
  - CO
  - CO2
  - SO2
  - CO Fhod
  - O2 CO2
  - 6.511O2/CO2
  - Pro Hi
  - CO High
  - CO/NOx
  - Pro Low
  - Methane
- Flow
- DMder
- Program
- Schedule

Name 6.511O2/CO2 Profile ML59

Instrument 8411

Copy Edit Delete

Graphical View Table View

Select Cylinder NITROGEN-P1 Total Flow 8 Units LPM

Select	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN-P1	NITROGEN	54.6555	%	54.5512	%
☐	O2/CO2 22.07/21.8	OXYGEN	10.0000	%	9.9783	%

Stop

Port	MFC	Max CCM	Actual Flow	Units
1	0	0	7031.9701	CCM

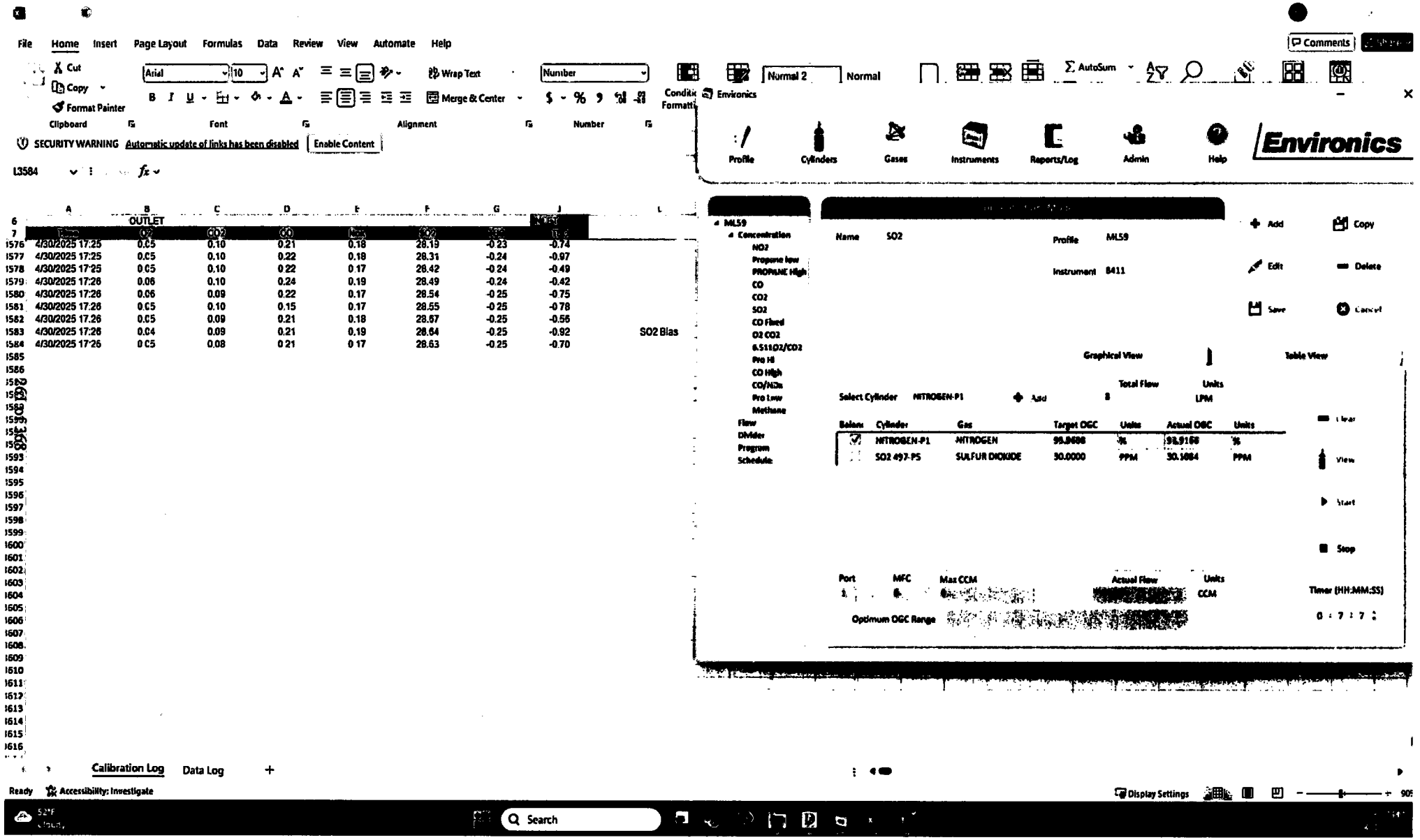
Timer (HH:MM:SS) 0 : 2 : 44

Optimum OGC Range

Research options...

Display Settings 90%

52°F Cloudy Search 5:33 PM 4/30/2025



File Home Insert Page Layout Formulas Data Review View Automate Help

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Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

L3584

	A	B	C	D	E	F	G	J	L
6		OUTLET						NOX	
7	Time	O2	CO2	CO	NO	SO2	NO	NO2	
1576	4/30/2025 17:25	0.05	0.10	0.21	0.18	28.19	-0.23	-0.74	
1577	4/30/2025 17:25	0.05	0.10	0.22	0.18	28.31	-0.24	-0.97	
1578	4/30/2025 17:25	0.05	0.10	0.22	0.17	28.42	-0.24	-0.49	
1579	4/30/2025 17:26	0.06	0.10	0.24	0.19	28.49	-0.24	-0.42	
1580	4/30/2025 17:26	0.06	0.09	0.22	0.17	28.54	-0.25	-0.75	
1581	4/30/2025 17:26	0.05	0.10	0.15	0.17	28.55	-0.25	-0.78	
1582	4/30/2025 17:26	0.05	0.09	0.21	0.18	28.57	-0.25	-0.56	
1583	4/30/2025 17:26	0.04	0.09	0.21	0.19	28.64	-0.25	-0.92	SO2 Bias
1584	4/30/2025 17:26	0.05	0.08	0.21	0.17	28.63	-0.25	-0.70	

Environics

Profile Cylinders Gases Instruments Reports/Log Admin Help

ML59
- Concentration
  - NO2
  - Propane low
  - PROPANE High
  - CO
  - CO2
  - SO2
  - CO Fixed
  - O2 CO2
  - 6.511O2/CO2
  - Pro HI
  - CO High
  - CO/NOx
  - Pro Low
  - Methane
- Flow
- Divider
- Program
- Schedule

Name SO2 Profile ML59

Instrument 8411

Add Copy Edit Delete Save Cancel

Graphical View Table View

Total Flow Units

Select Cylinder NITROGEN-P1 Add 8 LPM

Select	Cylinder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN-P1	NITROGEN	99.9000	%	98.9168	%
☐	SO2 497-PS	SULFUR DIOXIDE	30.0000	PPM	30.1084	PPM

Clear View Start Stop

Port	MFC	Max CCM	Actual Flow	Units
1	6	[redacted]	[redacted]	CCM

Optimum OGC Range [redacted]

Timer (HH:MM:SS) 0 : 7 : 7

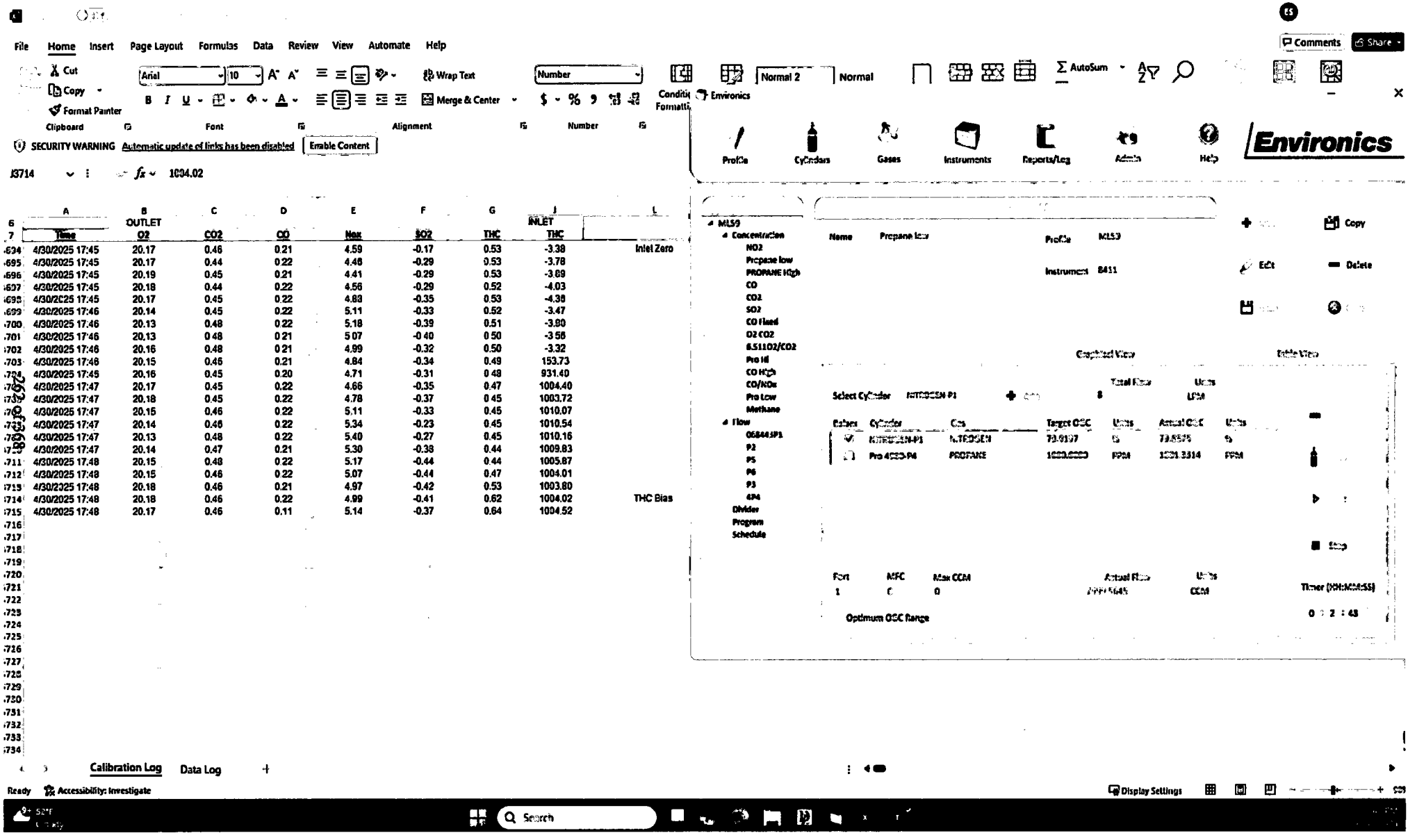
Calibration Log Data Log +

Ready Accessibility: Investigate

Display Settings

52°F Cloudy

Search



File Home Insert Page Layout Formulas Data Review View Automate Help

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Clipboard Font Alignment Number

SECURITY WARNING Automatic update of links has been disabled Enable Content

J3714 1004.02

	A	B	C	D	E	F	G	J	L
6		OUTLET						INLET	
7	Time	O2	CO2	CO	Nox	SO2	THC	THC	
694	4/30/2025 17:45	20.17	0.46	0.21	4.59	-0.17	0.53	-3.38	Inlet Zero
695	4/30/2025 17:45	20.17	0.44	0.22	4.48	-0.29	0.53	-3.78	
696	4/30/2025 17:45	20.19	0.45	0.21	4.41	-0.29	0.53	-3.69	
697	4/30/2025 17:45	20.18	0.44	0.22	4.56	-0.29	0.52	-4.03	
698	4/30/2025 17:45	20.17	0.45	0.22	4.83	-0.35	0.53	-4.38	
699	4/30/2025 17:46	20.14	0.45	0.22	5.11	-0.33	0.52	-3.47	
700	4/30/2025 17:46	20.13	0.48	0.22	5.18	-0.39	0.51	-3.80	
701	4/30/2025 17:46	20.13	0.48	0.21	5.07	-0.40	0.50	-3.56	
702	4/30/2025 17:46	20.16	0.48	0.21	4.99	-0.32	0.50	-3.32	
703	4/30/2025 17:46	20.15	0.46	0.21	4.84	-0.34	0.49	153.73	
704	4/30/2025 17:45	20.16	0.45	0.20	4.71	-0.31	0.48	931.40	
705	4/30/2025 17:47	20.17	0.45	0.22	4.66	-0.35	0.47	1004.40	
706	4/30/2025 17:47	20.18	0.45	0.22	4.78	-0.37	0.45	1003.72	
707	4/30/2025 17:47	20.15	0.46	0.22	5.11	-0.33	0.45	1010.07	
708	4/30/2025 17:47	20.14	0.46	0.22	5.34	-0.23	0.45	1010.54	
709	4/30/2025 17:47	20.13	0.48	0.22	5.40	-0.27	0.45	1010.16	
710	4/30/2025 17:47	20.14	0.47	0.21	5.30	-0.38	0.44	1009.83	
711	4/30/2025 17:48	20.15	0.48	0.22	5.17	-0.44	0.44	1005.87	
712	4/30/2025 17:48	20.15	0.48	0.22	5.07	-0.44	0.47	1004.01	
713	4/30/2025 17:48	20.18	0.46	0.21	4.97	-0.42	0.53	1003.80	
714	4/30/2025 17:48	20.18	0.46	0.22	4.99	-0.41	0.62	1004.02	THC Bias
715	4/30/2025 17:48	20.17	0.46	0.11	5.14	-0.37	0.64	1004.52	
716									
717									
718									
719									
720									
721									
722									
723									
724									
725									
726									
727									
728									
729									
730									
731									
732									
733									
734									

Calibration Log Data Log +

Ready Accessibility: Investigate

Environics

Profile CyCinders Gases Instruments Reports/Log Admin Help

Environics

MLS9
- Concentration
  - NO2
  - Propane low
  - PROPANE High
  - CO
  - CO2
  - SO2
  - CO Flued
  - O2 CO2
  - 6.51102/CO2
  - Pro Id
  - CO High
  - CO/NOx
  - Pro Low
  - Methane
- Flow
  - 06844P1
  - P2
  - P5
  - P6
  - P3
  - 4P4
- Divider
- Program
- Schedule

Name Propane low Profile MLS9

Instrument 8411

Copy Edit Delete

Graphical View Table View

Select Cylinder NITROGEN P1 Total Flow 8 Units LPM

Select	CyCinder	Gas	Target OSC	Units	Actual OSC	Units
☑	NITROGEN-P1	NITROGEN	79.0197	%	79.5575	%
☐	Pro 4CED-P4	PROPANE	1000.0000	PPM	1021.3314	PPM

Port MFC Max CCM Actual Flow Units

1 0 0 CCM

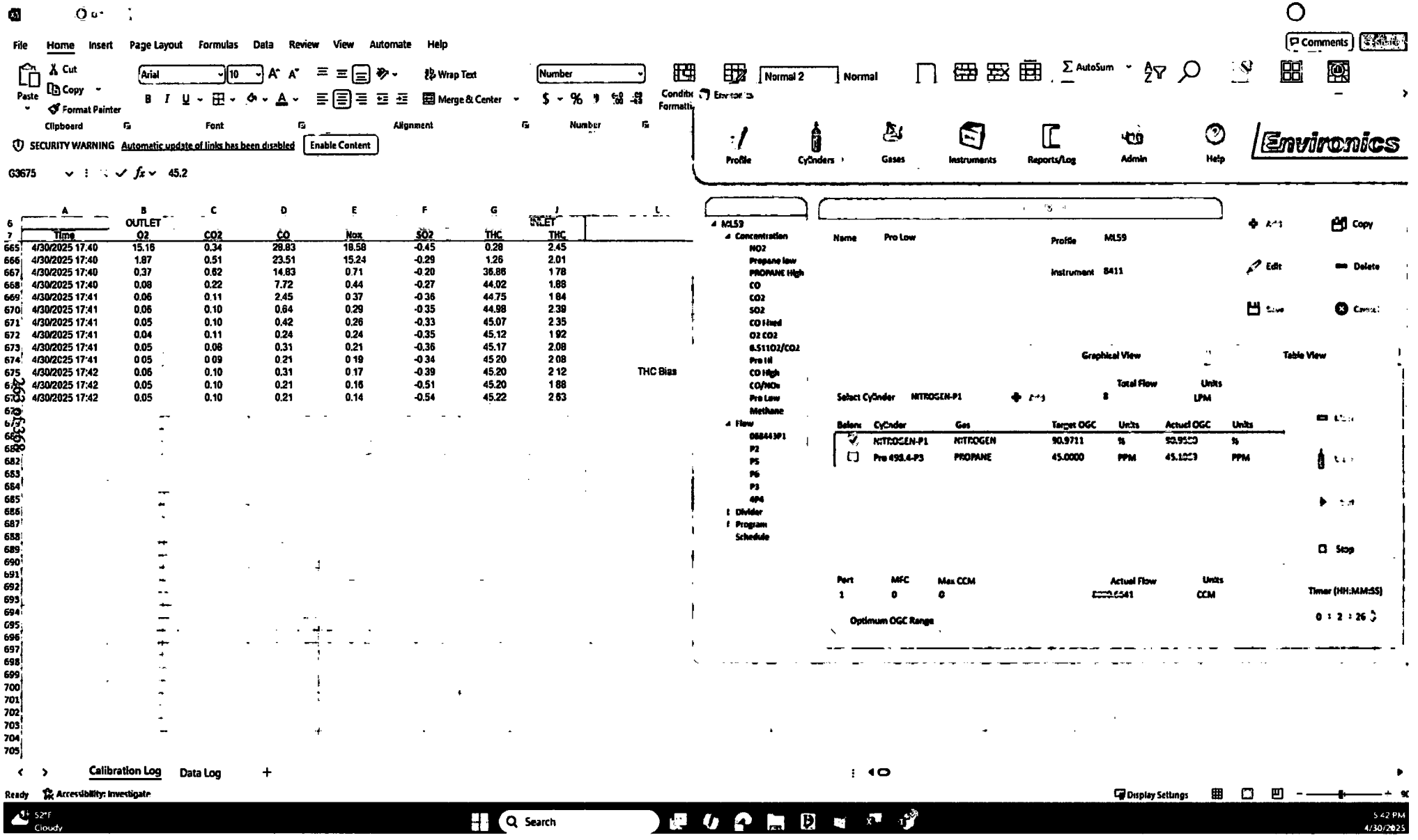
Optimum OSC Range

Timer (HH:MM:SS) 0 : 2 : 48

Stop

Display Settings

Search



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Comments

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G3675 45.2

	A	B	C	D	E	F	G	J
6		OUTLET						INLET
7	Time	O2	CO2	CO	Nox	SO2	THC	THC
665	4/30/2025 17:40	15.16	0.34	28.83	18.58	-0.45	0.28	2.45
666	4/30/2025 17:40	1.87	0.51	23.51	15.24	-0.29	1.26	2.01
667	4/30/2025 17:40	0.37	0.62	14.83	0.71	-0.20	36.86	1.78
668	4/30/2025 17:40	0.08	0.22	7.72	0.44	-0.27	44.02	1.88
669	4/30/2025 17:41	0.06	0.11	2.45	0.37	-0.36	44.75	1.84
670	4/30/2025 17:41	0.06	0.10	0.64	0.29	-0.35	44.98	2.39
671	4/30/2025 17:41	0.05	0.10	0.42	0.26	-0.33	45.07	2.35
672	4/30/2025 17:41	0.04	0.11	0.24	0.24	-0.35	45.12	1.92
673	4/30/2025 17:41	0.05	0.08	0.31	0.21	-0.36	45.17	2.08
674	4/30/2025 17:41	0.05	0.09	0.21	0.19	-0.34	45.20	2.08
675	4/30/2025 17:42	0.06	0.10	0.31	0.17	-0.39	45.20	2.12
676	4/30/2025 17:42	0.05	0.10	0.21	0.16	-0.51	45.20	1.88
677	4/30/2025 17:42	0.05	0.10	0.21	0.14	-0.54	45.22	2.63

THC Bias

Calibration Log Data Log +

Ready Accessibility: Investigate

Profile CyCnders Gases Instruments Reports/Log Admin Help Environics

ML59
- Concentration
  - NO2
  - Propane low
  - PROPANE High
  - CO
  - CO2
  - SO2
  - CO Filed
  - O2 CO2
  - 8.5110/CO2
  - Pro Hi
  - CO High
  - CO/NOx
  - Pro Low
  - Methane
- Flow
  - 08844391
  - P2
  - P5
  - P6
  - P3
  - 4P4
- Divider
- Program
- Schedule

Name Pro Low Profile ML59

Instrument 8411

Copy Edit Delete

Graphical View Table View

Total Flow Units

Select CyCnder NITROGEN-P1 8 LPM

Below	CyCnder	Gas	Target OGC	Units	Actual OGC	Units
☑	NITROGEN-P1	NITROGEN	90.9711	%	90.9500	%
☐	Pro 498.4-P3	PROPANE	45.0000	PPM	45.1009	PPM

Stop

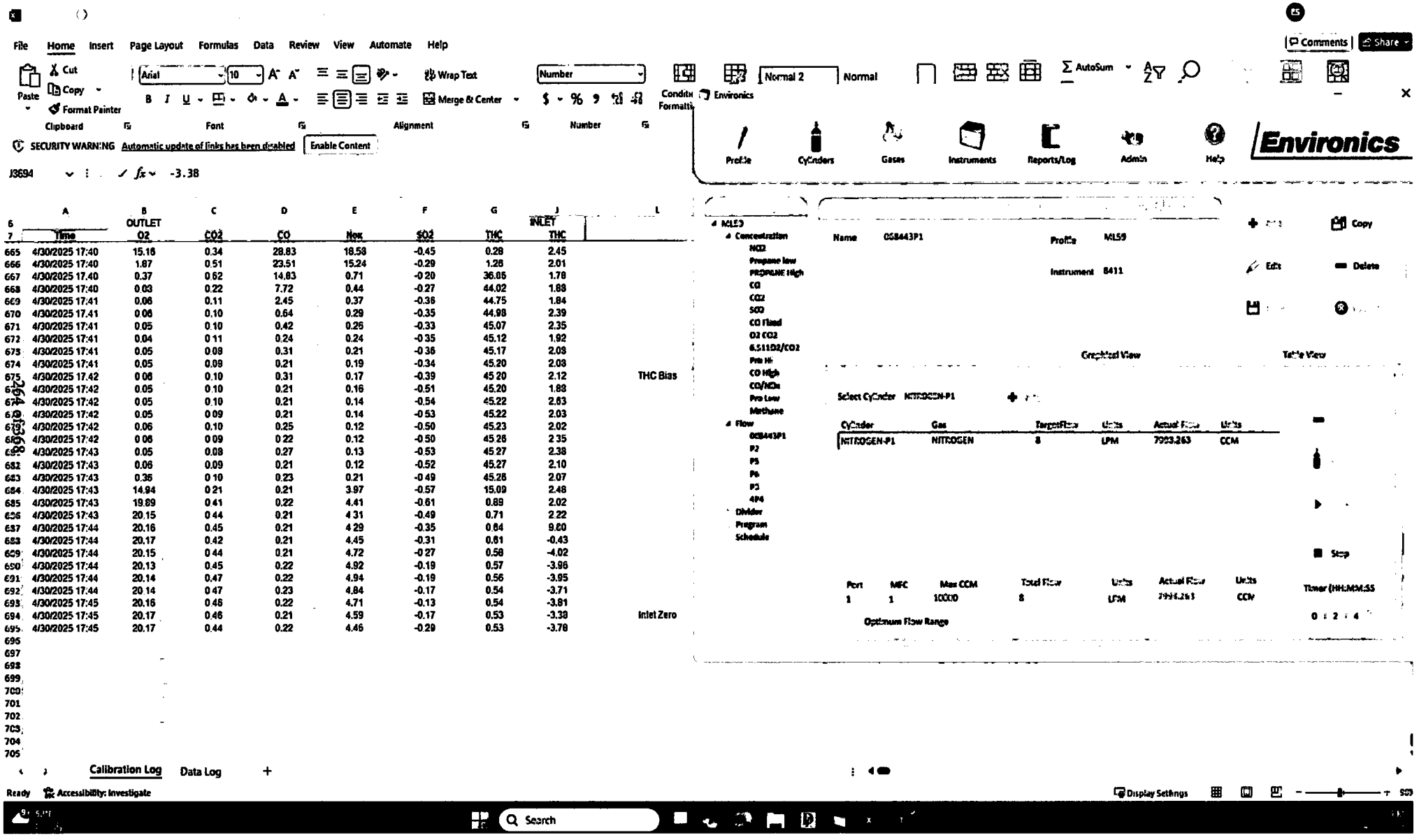
Port	MFC	Max CCM	Actual Flow	Units
1	0	0	0.6541	CCM

Timer (HH:MM:SS) 0 : 2 : 26

Optimum OGC Range

Display Settings

52°F Cloudy Search 5:42 PM 4/30/2025



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Comments Share

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J3694 -3.38

Environics

Profile CyCinders Gases Instruments Reports/Log Admin Help

	A	B	C	D	E	F	G	J	L
6		OUTLET						INLET	
7	Time	O2	CO2	CO	Nox	SO2	THC	THC	
665	4/30/2025 17:40	15.16	0.34	28.83	18.58	-0.45	0.28	2.45	
666	4/30/2025 17:40	1.87	0.51	23.51	15.24	-0.29	1.28	2.01	
667	4/30/2025 17:40	0.37	0.62	14.83	0.71	-0.20	36.05	1.78	
668	4/30/2025 17:40	0.03	0.22	7.72	0.44	-0.27	44.02	1.88	
669	4/30/2025 17:41	0.06	0.11	2.45	0.37	-0.36	44.75	1.84	
670	4/30/2025 17:41	0.06	0.10	0.64	0.29	-0.35	44.98	2.39	
671	4/30/2025 17:41	0.05	0.10	0.42	0.26	-0.33	45.07	2.35	
672	4/30/2025 17:41	0.04	0.11	0.24	0.24	-0.35	45.12	1.92	
673	4/30/2025 17:41	0.05	0.08	0.31	0.21	-0.36	45.17	2.08	
674	4/30/2025 17:41	0.05	0.09	0.21	0.19	-0.34	45.20	2.03	
675	4/30/2025 17:42	0.06	0.10	0.31	0.17	-0.39	45.20	2.12	THC Bias
676	4/30/2025 17:42	0.05	0.10	0.21	0.16	-0.51	45.20	1.88	
677	4/30/2025 17:42	0.05	0.10	0.21	0.14	-0.54	45.22	2.03	
678	4/30/2025 17:42	0.05	0.09	0.21	0.14	-0.53	45.22	2.03	
679	4/30/2025 17:42	0.06	0.10	0.25	0.12	-0.50	45.23	2.02	
680	4/30/2025 17:42	0.06	0.09	0.22	0.12	-0.50	45.26	2.35	
681	4/30/2025 17:43	0.05	0.08	0.27	0.13	-0.53	45.27	2.38	
682	4/30/2025 17:43	0.06	0.09	0.21	0.12	-0.52	45.27	2.10	
683	4/30/2025 17:43	0.36	0.10	0.23	0.21	-0.49	45.28	2.07	
684	4/30/2025 17:43	14.94	0.21	0.21	3.97	-0.57	15.09	2.48	
685	4/30/2025 17:43	19.89	0.41	0.22	4.41	-0.61	0.89	2.02	
686	4/30/2025 17:43	20.15	0.44	0.21	4.31	-0.49	0.71	2.22	
687	4/30/2025 17:44	20.16	0.45	0.21	4.29	-0.35	0.64	9.60	
688	4/30/2025 17:44	20.17	0.42	0.21	4.45	-0.31	0.61	-0.43	
689	4/30/2025 17:44	20.15	0.44	0.21	4.72	-0.27	0.58	-4.02	
690	4/30/2025 17:44	20.13	0.45	0.22	4.92	-0.19	0.57	-3.96	
691	4/30/2025 17:44	20.14	0.47	0.22	4.94	-0.19	0.56	-3.95	
692	4/30/2025 17:44	20.14	0.47	0.23	4.84	-0.17	0.54	-3.71	
693	4/30/2025 17:45	20.16	0.46	0.22	4.71	-0.13	0.54	-3.81	
694	4/30/2025 17:45	20.17	0.46	0.21	4.59	-0.17	0.53	-3.38	Inlet Zero
695	4/30/2025 17:45	20.17	0.44	0.22	4.46	-0.29	0.53	-3.78	
696									
697									
698									
699									
700									
701									
702									
703									
704									
705									

ML59
- Concentration
  - NO2
  - Propane low
  - PROPANE High
  - CO
  - CO2
  - SO2
  - CO Flood
  - O2 CO2
  - 6.511O2/CO2
  - Pro Hi
  - CO High
  - CO/NOx
  - Pro Low
  - Methane
- Flow
  - 0SB443P1
  - P2
  - P5
  - P6
  - P3
  - 4P4
- Divider
- Program
- Schedule

Name 0SB443P1 Profile ML59

Instrument 8411

Copy Edit Delete

Graphical View Table View

Select CyCinder NITROGEN-P1

CyCinder	Gas	TargetFlow	Units	Actual Flow	Units
NITROGEN-P1	NITROGEN	8	LPM	7993.263	CCM

Stop

Port	MFC	Max CCM	Total Flow	Units	Actual Flow	Units
1	1	10000	8	LPM	7993.263	CCM

Optimum Flow Range

Timer (HH:MM:SS)

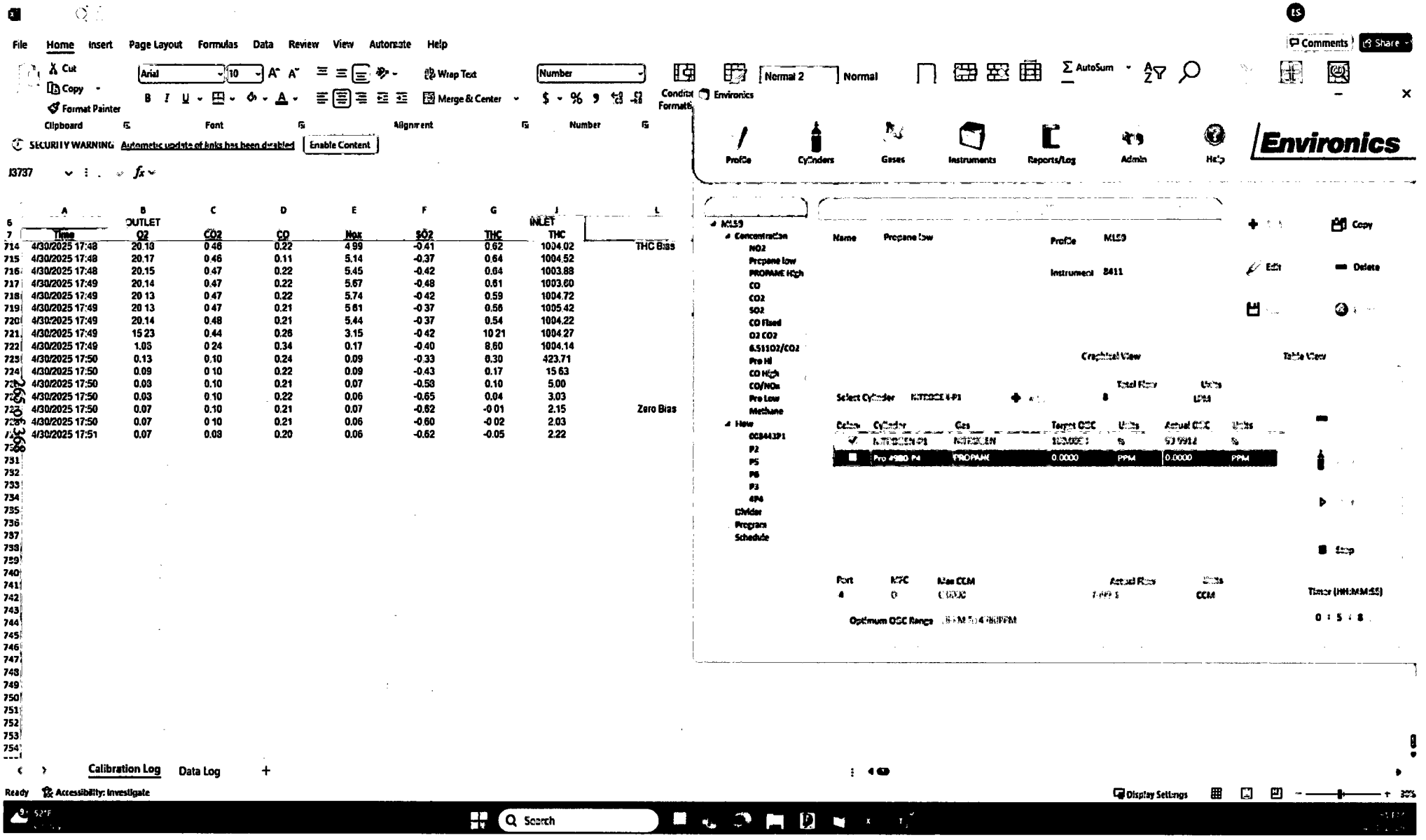
0 : 2 : 4

Calibration Log Data Log +

Ready Accessibility: Investigate

Display Settings

Search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Comments Share
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Arial 10 Wrap Text Number Normal 2 Normal AutoSum
Merge & Center
Clipboard Font Alignment Number
SECURITY WARNING Automatic update of links has been disabled Enable Content
I3737
OUTLET INLET
Time O2 CO2 CO Nox SO2 THC THC
4/30/2025 17:48 20.18 0.46 0.22 4.99 -0.41 0.62 1004.02
4/30/2025 17:48 20.17 0.46 0.11 5.14 -0.37 0.64 1004.52
4/30/2025 17:48 20.15 0.47 0.22 5.45 -0.42 0.64 1003.88
4/30/2025 17:49 20.14 0.47 0.22 5.67 -0.48 0.61 1003.60
4/30/2025 17:49 20.13 0.47 0.22 5.74 -0.42 0.59 1004.72
4/30/2025 17:49 20.13 0.47 0.21 5.61 -0.37 0.56 1005.42
4/30/2025 17:49 20.14 0.48 0.21 5.44 -0.37 0.54 1004.22
4/30/2025 17:49 15.23 0.44 0.26 3.15 -0.42 10.21 1004.27
4/30/2025 17:49 1.03 0.24 0.34 0.17 -0.40 8.60 1004.14
4/30/2025 17:50 0.13 0.10 0.24 0.09 -0.33 6.30 423.71
4/30/2025 17:50 0.09 0.10 0.22 0.09 -0.43 0.17 15.63
4/30/2025 17:50 0.03 0.10 0.21 0.07 -0.53 0.10 5.00
4/30/2025 17:50 0.03 0.10 0.22 0.06 -0.65 0.04 3.03
4/30/2025 17:50 0.07 0.10 0.21 0.07 -0.62 -0.01 2.15
4/30/2025 17:50 0.07 0.10 0.21 0.06 -0.60 -0.02 2.03
4/30/2025 17:51 0.07 0.09 0.20 0.06 -0.62 -0.05 2.22
THC Bias
Zero Bias
Calibration Log Data Log
Ready Accessibility: Investigate
Profile Cylinders Gases Instruments Reports/Log Admin Help
Environics
MLS9
Concentration
NO2
Propane low
PROPANE High
CO
CO2
SO2
CO filed
O2 CO2
6.51SO2/CO2
Pro HI
CO High
CO/NOx
Pro Low
Methane
Flow
0CB443P1
P2
P5
P6
P3
4P4
Divider
Program
Schedule
Name Propane low
Profile MLS9
Instrument 8411
Copy
Edit
Delete
Graphical View
Table View
Select Cylinder
Total Flow
Units
LPM
Select Cylinder Gas Target OSC Units Actual OSC Units
INTERCEN P1 INTERCEN % 93.9912 %
Pro 4580 P4 PROPANE 0.0000 PPM 0.0000 PPM
Stop
Port MFC Max CCM Actual Flow Units
4 0 CCM
Optimum OSC Range
Time (HH:MM:SS)
0 : 5 : 8
Display Settings
Search

Appendix E

Test 1

Ticket #	Material	Gross	Tare	Net	NT
		Pounds			
TYGEDF	Lite Iron	47560	29980	17580	8.79
CYGERP	Lite Iron	71220	38320	32900	16.45
TYGEWN	Lite Iron	73020	39880	33140	16.57
TYGFRT	Lite Iron	69660	39780	29880	14.94
TYGFJG	Lite Iron	75640	45500	30140	15.07
CYGGMF	Lite Iron	73740	38280	35460	17.73
MYGGLW	Lite Iron	64840	42460	22380	11.19
CYGJOW	Lite Iron	64980	45240	19720	9.86
TYGGUX	Lite Iron	55180	37700	17480	8.74
TYGGZV	Lite Iron	51040	29940	21100	10.55
TYGFZL	Lite Iron	39900	34100	5800	2.90
TYGHNN	Lite Iron	51620	45360	6260	3.13
CYGHOA	Lite Iron	72440	38280	34160	17.08
			Total Lite Iron		153.00

TYFVKN	Car bodies	76120	40500	35620	17.81
TYFTMX	Car bodies	84380	40540	43840	21.92
TYFVBX	Car bodies (M/T)	78660	30440	48220	24.11
TYFUTA	Car bodies	75300	37140	38160	19.08
TYFTHX	Car bodies (M/T)	59740	36780	22960	11.48
TYFVVF	Car bodies	80300	35800	44500	22.25
TYFXAS	Car bodies	77340	37060	40280	20.14
TYFXIA	Car bodies	77790	33500	44280	22.14
			Total ELVs		158.93

Test Total (NT)	311.93

TVFVBX	Car bodies with motors/trans	40220	20.11
TYFTHX	Car bodies with motors/trans	18960	9.48
			29.59

Approx 19% weigtht of ELVs was cars with motors/transmissions

Test 2

Ticket #	Material	Gross	Tare	Net	NT
		Pounds			
CYGNOE	Lite Iron	65200	38220	26980	13.49
TYGMNV	Lite Iron	77860	44620	33240	16.62
CYGMXU	Lite Iron	70640	51240	19400	9.70
CYGMXF	Lite Iron	70360	38160	32200	16.10
TYGMMJ	Lite Iron	65480	36520	28960	14.48
TYGMHH	Lite Iron	59580	37500	22080	11.04
TYGLTK	Lite Iron	71320	43180	28140	14.07
TYGLRL	Lite Iron	54520	32980	21540	10.77
TYGLNT	Lite Iron	58520	33740	24780	12.39
TYGLNN	Lite Iron	70380	39920	30460	15.23
TYGLOK	Lite Iron	72780	45880	26900	13.45
TYGLQN	Lite Iron	49400	29920	19480	9.74
TYGLOZ	Lite Iron	59300	34600	24700	12.35
			Total Lite Iron		169.43

TYFXRA	Car bodies	67100	38660	28440	14.22
TYFYJS	Car bodies	77900	35760	42140	21.07
TYFZWZ	Car bodies (M/T)	61300	36760	24540	12.27
TYFZZC	Car bodies (M/T)	79340	30380	48960	24.48
TYGCEH	Car bodies (M/T)	75940	29740	46200	23.10
TYGCUR	Car bodies (M/T)	68320	36760	31560	15.78
TYGDGE	Car bodies	78260	40280	37980	18.99
TYGDEQ	Car bodies (M/T)	70940	33820	37120	18.56
			Total ELVs		148.47

Test Total (NT)	317.9

TYGCUR	Car bodies with motors/trans	31560	15.78
TYGCEH	Car bodies with motors/trans	36200	18.10
TYFZZC	Car bodies with motors/trans	40960	20.48
TYFZWZ	Car bodies with motors/trans	20540	10.27
TYGDEQ	Car bodies with motors/trans	27120	13.56
			78.19

Approx 53% weigtht of ELVs was cars with motors/tranmissions

Test 3

Ticket #	Material	Gross	Tare	Net	NT
		Pounds			
TYGPEW	Lite Iron	76360	42860	33500	16.75
TYGPGS	Lite Iron	74620	43480	31140	15.57
TYGPKL	Lite Iron	70420	37760	32660	16.33
TYGPNG	Lite Iron	69320	37700	31620	15.81
TYGPLW	Lite Iron	53600	39540	14060	7.03
TYGPQL	Lite Iron	66520	39820	26700	13.35
TYGQBE	Lite Iron	69520	35940	33580	16.79
TYGQJT	Lite Iron	47080	29820	17260	8.63
TYGRHO	Lite Iron	55760	32420	23340	11.67
TYGRVJ	Lite Iron	55920	34600	21320	10.66
CYGTMP	Lite Iron	64120	38260	25860	12.93
CYGUGZ	Lite Iron	79600	45640	33960	16.98
			Total Lite Iron		162.50

TYGMHZ	Car bodies (M/T)	79480	30020	49460	24.73
TYGKRX	Car bodies (M/T)	71860	30200	41660	20.83
TYGPOW	Car bodies (M/T)	62920	36180	26740	13.37
TYGPPQ	Car bodies	74160	36980	37180	18.59
TYGRMT	Car bodies (M/T)	82400	29820	52580	26.29
TYGSHV	Car bodies	79680	40000	39680	19.84
TYGRVT	Car bodies	79020	36900	42120	21.06
TYGTKN	Car bodies (M/T)	67520	36940	30580	15.29
			Total ELVs		160.00

Test Total (NT)	322.50

TYGKRK	Car bodies with motors/trans	33660	16.83
TYGMHZ	Car bodies with motors/trans	41460	20.73
TYGRMT	Car bodies with motors/trans	46580	23.29
TYGTKN	Car bodies with motors/trans	30580	15.29
TYGPOW	Car bodies with motors/trans	22740	11.37
			87.51

Approx 55% weigtht of ELVs was cars with motors/tranmissions

Shredder Throughput Rate

	Run 1	Run 2	Run 3	Average
Light Iron (NT)	153.00	169.43	162.50	
ELV (NT)	158.93	148.47	160.00	
Additional Grapples (NT)	0	0	43.68	
Left on Ground (NT)	2.688	0	0	
Total Material Feed (NT)	309.24	317.90	366.18	
Total Run Time (min)	110	105	108	
Throughput Rate (NT/hr)	168.6775	181.6571	203.4333	184.5893
% ELV	51%	47%	44%	47%

Net Throughput Evaluation

Total Active Feed Time (min)*	98.05	82.9	99.73	
Net Throughput Rate (NT/hr)	189.2353	230.0844	220.3028	213.2075

Notes

-5300 lb left on ground at conclusion of Test Run No. 1 - Reflected above

-Thirty-nine (39) additional grapples of Light Iron added to Test Run No. 3. (Each grapple at 1 gross ton)

* - Belt is feeding the shredder (excludes belt pauses while shredder actively processing material)

Natural Gas Usage

Test Run 1		
	Time	NG Usage (ccf)
Start	9:51	44131
Stop	11:41	44417
	Total (cf):	28600

Test Run 2		
	Time	NG Usage (ccf)
Start	12:42	44576
Stop	14:27	44851
	Total (cf):	27500

Test Run 3		
	Time	NG Usage (ccf)
Start	15:30	45021
Stop	17:18	45297
	Total (cf):	27600

Note(s):
-Natural gas usage based on meter observations during test event.

Control System Parametric Data

HOUR	BAGHOUSE 1 DIFF PRESSURE	BAGHOUSE 2 DIFF PRESSURE	BAGHOUSE 3 DIFF PRESSURE	BAGHOUSE 4 DIFF PRESSURE	BAGHOUSE 5 DIFF PRESSURE	BAGHOUSE 6 DIFF PRESSURE
	WC	WC	WC	WC	WC	WC
09:00 - 09:59 AM	3.281224	4.707369	4.096114	3.484241	4.342428	4.620849
10:00 - 10:59 AM	3.410485	4.716957	4.165282	3.524044	4.40315	4.641072
11:00 - 11:59 AM	3.635209	4.72315	4.381986	3.684272	4.612298	4.813985
12:00 - 12:59 PM	3.745657	4.759783	4.474546	3.771957	4.708472	4.734374
01:00 - 01:59 PM	3.816407	4.636723	4.516678	3.820248	4.749162	4.686607
02:00 - 02:59 PM	3.931023	4.603263	4.630392	3.925657	4.830465	4.742301
03:00 - 03:59 PM	3.995773	4.718598	4.679763	3.976272	4.778539	4.669213
04:00 - 04:59 PM	4.067735	4.763955	4.734525	4.031825	4.761278	4.769752
05:00 - 05:59 PM	2.787047	3.116497	3.158443	2.804021	3.137953	3.119901

*** Average hourly data for April 30, 2025.*

Control System Parametric Data

DSI SORBENT INJECTION RATE	VENTURI WATER FLOW METER	VENTURI DIFF PRESSURE	CYCLONE DIFF PRESSURE	RTO COMBUSTION TEMPERATURE CONTROL
lb/hr	GPM	WC	WC	F
39.792899	424.6337	-32.316977	-5.691314	1600.234349
39.714571	423.88273	-31.354202	-5.788274	1600.562888
39.896861	424.582417	-31.213762	-5.801692	1599.184987
39.963156	424.391058	-31.615059	-5.847482	1600.619571
39.820213	424.419047	-31.187535	-5.853048	1600.01269
39.910967	425.148694	-31.394529	-5.661985	1599.721658
39.634391	424.771675	-31.610265	-5.828878	1600.711788
39.871205	424.288917	-31.018054	-5.748632	1599.811001
22.96501	245.259594	-18.084038	-3.730513	1604.12775

** Average hourly data for April 30, 2025.*

Appendix F

Calibration Logs

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/29/2025 13:43	20.68	0.20	27.34	0.04	571.62	-4.26	-12.29
4/29/2025 13:43	20.67	0.20	26.32	0.05	570.82	-4.26	-12.34
4/29/2025 13:43	20.67	0.21	26.47	0.05	570.47	-4.26	-12.57
4/29/2025 13:44	20.67	0.18	26.63	0.04	570.71	-4.26	-12.03
4/29/2025 13:44	20.67	0.17	27.30	0.04	570.67	-4.26	-12.97
4/29/2025 13:44	20.67	0.19	26.34	0.04	570.51	-4.26	-12.76
4/29/2025 13:44	20.65	0.19	26.72	0.04	570.52	-4.27	-12.47
4/29/2025 13:44	20.66	0.19	26.30	0.05	570.87	-4.26	-12.44
4/29/2025 13:44	20.67	0.19	26.33	0.04	571.83	-4.26	-12.72
4/29/2025 13:45	20.66	0.20	27.21	0.05	572.04	-4.27	-12.60
4/29/2025 13:45	20.65	0.19	26.79	0.05	571.24	-4.27	-12.75
4/29/2025 13:45	20.67	0.19	26.59	0.04	570.22	-4.27	-12.34
4/29/2025 13:45	20.65	0.20	26.35	0.02	570.44	-4.27	-12.63
4/29/2025 13:45	20.65	0.19	26 25	0.05	570.77	-4.27	-12.79
4/29/2025 13:45	20.67	0.19	25.18	0.03	570.18	-4.27	-12.58
4/29/2025 13:46	20.66	0.17	24.28	0.04	570.46	-4.26	-12.51
4/29/2025 13:46	20.66	0.18	24.79	0.04	570.82	-4.27	-12.64
4/29/2025 13:46	20.66	0.19	25.21	0.03	571.23	-4.26	-12.15
4/29/2025 13:46	20.66	0.20	25.88	0.04	571.69	-4.26	-12.25
4/29/2025 13:46	20.66	0.19	26.00	0.05	571.71	-4.27	-12.22
4/29/2025 13:46	20.66	0.20	25.69	0.04	571.47	-4.27	-12.27
4/29/2025 13:47	20.65	0.20	25.54	0.03	572.28	-4.26	-12.56
4/29/2025 13:47	20.65	0.21	25.28	0.02	572.43	-4.26	-12.66
4/29/2025 13:47	20.66	0.20	24.04	0.05	571.12	-4.26	-12.55
4/29/2025 13:47	20.64	0.19	23.37	0.03	570.14	-4.26	-12.21
4/29/2025 13:47	20.64	0.19	23.81	0.04	570.93	-4.26	-12.73
4/29/2025 13:47	20.65	0.20	24.47	0.05	571.33	-4 26	-12.18
4/29/2025 13:48	20.65	0.19	24.25	0.05	571.34	-4.25	-12.29
4/29/2025 13:48	20.65	0.20	24.01	0.04	571.60	-4.25	-12.81
4/29/2025 13:48	20.64	0.20	23.59	0.04	571.68	-4.25	-12.58
4/29/2025 13:48	20 65	0.18	23.01	0.04	571.46	-4.25	-12.77
4/29/2025 13:48	20.64	0.18	22.41	0.04	571.87	-4.25	-12.20
4/29/2025 13:48	20.65	0.20	22.41	0.02	571.83	-4.25	-12.54
4/29/2025 13:49	20.64	0.19	23.97	0.04	571.23	-4.25	-12.44
4/29/2025 13:49	20.64	0.20	24.24	0.03	571.07	-4.25	-12.39
4/29/2025 13:49	20.64	0.19	23.30	0.03	570.61	-4.24	-12.54
4/29/2025 13:49	20.65	0.19	22.42	0.05	570.85	-4.24	-12.68
4/29/2025 13:49	20.64	0.19	22.91	0.03	571.63	-4.24	-12.25
4/29/2025 13:49	20.64	0.19	23.84	0.04	571.71	-4.23	-12.69
4/29/2025 13:50	20.65	0.19	24.01	0.03	572.53	-4.24	-12.64
4/29/2025 13:50	20.64	0.19	22.79	0.04	572.28	-4.23	-12.73
4/29/2025 13:50	20.64	0.20	22.14	0.03	571.26	-4.22	-12.14
4/29/2025 13:50	20.65	0.19	21.02	0.03	571.26	-4.22	-12.60
4/29/2025 13:50	20.64	0.20	21.14	0.04	571.40	-4.22	-13.12
4/29/2025 13:50	20.64	0.19	21.84	0.04	571.38	-4.22	-12.47
4/29/2025 13:51	20.63	0.19	23.78	0.03	570.75	-4.21	-12.58
4/29/2025 13:51	20.64	0.19	23.58	0.04	569.71	-4.21	-12.76
4/29/2025 13:51	20 65	0 20	22.74	0.04	569.88	-4.21	-12.73
4/29/2025 13:51	20.65	0.19	21.81	0.02	570.65	-4.21	-12.79
4/29/2025 13:51	20.63	0.20	21.25	0.02	570 65	-4.20	-12.74
4/29/2025 13:51	20.64	0.20	21.70	0.02	570.79	-4.20	-12.08
4/29/2025 13:52	20.64	0.20	22.52	0.03	571.19	-4.20	-12.46
4/29/2025 13:52	20.65	0.19	22.82	0.04	570.74	-4.20	-12.58
4/29/2025 13:52	20.65	0.18	21.78	0.03	569.65	-4.20	-12.17
4/29/2025 13:52	20.65	0.18	21.60	0.04	569.89	-4.20	-12.17
4/29/2025 13:52	20.65	0.20	21.19	0.04	570.69	-4.19	-12.54
4/29/2025 13:52	20.64	0.19	21.72	0.03	570.78	-4.19	-12.39
4/29/2025 13:53	20.64	0.19	22.33	0.03	571.38	-4.19	-12.92
4/29/2025 13:53	20 65	0.18	21,99	0.02	571.82	-4.19	-12.27
4/29/2025 13:53	20.64	0.19	20.57	0.04	571.69	-4.19	-12.84
4/29/2025 13:53	20.66	0.19	19.88	0.04	570.96	-4.19	-12.68
4/29/2025 13:53	20.63	0.19	19.53	0.04	571.08	-4.18	-12.42
4/29/2025 13:53	20.65	0.18	20.50	0.04	570.86	-4.19	-12.24
4/29/2025 13:54	20.65	0.18	20.62	0.04	569.70	-4.18	-11.93
4/29/2025 13:54	20.65	0.19	20.40	0.04	570.78	-4 18	-12.12
4/29/2025 13:54	20.64	0.20	20.50	0.02	571.60	-4.18	-12.59
4/29/2025 13:54	20.65	0.19	20.50	0.03	571.98	-4 18	-12.34
4/29/2025 13:54	20.65	0.19	20.60	0.02	572.04	-4.18	-12.56
4/29/2025 13:54	20.65	0.20	19.94	0.03	571.87	-4.18	-12.65
4/29/2025 13:55	20.64	0.20	19.90	0.02	571.64	-4.18	-12.77
4/29/2025 13:55	20 65	0 20	18.87	0.02	570 64	-4.18	-11.94
4/29/2025 13:55	20.65	0.18	19.35	0.02	571.47	-4.18	-12.22
4/29/2025 13:55	20.65	0.18	19.24	0.03	570.85	-4.18	-12.10
4/29/2025 13:55	20.64	0.20	19.48	0.05	570.08	-4.17	-12.32
4/29/2025 13:55	20.65	0.19	20.12	0.03	570.34	-4.17	-12.50
4/29/2025 13:56	20.64	0.19	20.38	0.02	570.46	-4.18	-13.10
4/29/2025 13:56	20.64	0.20	21.04	0.01	569.89	-4.18	-12.35
4/29/2025 13:56	20.64	0.20	21.52	0.02	569.92	-4.17	-12.05
4/29/2025 13:56	20.64	0.20	21.59	0.02	570.62	-4.17	-12.42
4/29/2025 13:56	20.65	0.18	20.54	0.02	571.54	-4 17	-12.07
4/29/2025 13:56	20.65	0.20	20.57	0.03	571.89	-4.18	-12.84
4/29/2025 13:57	20.65	0.19	20.43	0.02	571.41	-4.18	-12.87
4/29/2025 13:57	20.65	0.19	19.92	0.03	570.75	-4.18	-12.74
4/29/2025 13:57	20.65	0.19	20.08	0.03	571.22	-4.18	-13.15

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	NOx	SO2	THC	THC
4/29/2025 13:57	20.64	0.20	18.67	0.01	571.54	-4.17	-12.37
4/29/2025 13:57	20.65	0.19	18.64	0.02	570.15	-4.17	-12.75
4/29/2025 13:57	20.65	0.19	18.96	0.02	568.82	-4.17	-12.58
4/29/2025 13:58	20.65	0.19	19.00	0.02	569.48	-4.17	-12.54
4/29/2025 13:58	20.64	0.18	17.97	0.02	570.61	-4.17	-12.33
4/29/2025 13:58	20.64	0.19	16.98	0.02	570.59	-4.17	-12.39
4/29/2025 13:58	20.66	0.19	17.25	0.01	569.84	-4.17	-12.62
4/29/2025 13.58	20.65	0.20	17.32	0.02	570 45	-4.18	-12.45
4/29/2025 13:58	20.65	0.20	17.93	0.03	571.28	-4.18	-12.68
4/29/2025 13:59	20.65	0.20	18.35	0.03	571.11	-4.18	-12.70
4/29/2025 13:59	20.67	0.18	17.73	0.01	570.52	-4.18	-12.53
4/29/2025 13:59	20.67	0.18	17.96	0.04	569.08	-4.18	-12.56
4/29/2025 13:59	20.66	0.20	17.54	0.04	568.36	-4.17	-12.50
4/29/2025 13:59	20.65	0.19	16.10	0.02	568.62	-4.17	-12.67
4/29/2025 13:59	20.65	0.18	15.73	0.00	568.44	-4.18	-12.68
4/29/2025 14:00	20.66	0.20	15.65	0.01	568.85	-4.18	-12.49
4/29/2025 14:00	20.66	0.19	16.28	0.02	569.54	-4.18	-12.61
4/29/2025 14:00	20.66	0.20	16.18	0.02	569.79	-4.18	-12.43
4/29/2025 14:00	20.65	0.19	16.29	0.01	570.32	-4.18	-12.60
4/29/2025 14:00	20.66	0.19	16.09	0.03	570.79	-4.18	-12.35
4/29/2025 14:00	20.66	0.19	16.45	0.02	570.42	-4.17	-12.56
4/29/2025 14:01	20.65	0.20	16.22	0.01	570.60	-4.18	-12.70
4/29/2025 14:01	20.65	0.20	14.89	0.02	570.96	-4.18	-12.48
4/29/2025 14:01	20 66	0.19	14.15	0.01	569.89	-4.18	-12.33
4/29/2025 14:01	20.65	0.19	13.85	0.02	570.06	-4.18	-12.70
4/29/2025 14:01	20.66	0.18	14.35	0.03	570.12	-4.18	-12.37
4/29/2025 14:01	20.66	0.19	14.74	0.02	570.03	-4.18	-12.97
4/29/2025 14:02	20.66	0.20	14.57	0.01	570.04	-4.18	-12.59
4/29/2025 14:02	20.64	0.20	14.09	0.02	569.71	-4.19	-12.48
4/29/2025 14:02	20.66	0.19	13.63	0.03	568.54	-4.18	-12.31
4/29/2025 14:02	20.67	0.20	13.59	0.01	567.68	-4.19	-12.26
4/29/2025 14:02	20.66	0.19	12.90	0.02	568.05	-4.19	-12.52
4/29/2025 14:02	20.66	0.20	12.51	0.02	569.51	-4.19	-12.75
4/29/2025 14:03	20.65	0.19	12.69	0.03	570.13	-4.19	-12.32
4/29/2025 14:03	20.65	0.19	13.17	0.03	569.58	-4.19	-12.36
4/29/2025 14:03	20.66	0.19	13.11	0.01	568.98	-4.19	-12.60
4/29/2025 14:03	20.65	0.20	13.60	0.01	568.99	-4.20	-12.51
4/29/2025 14:03	20.65	0.20	13.16	0.02	569.53	-4.20	-12.75
4/29/2025 14:03	20.65	0.20	13.08	0.01	569.67	-4.20	-12.31
4/29/2025 14:04	20.67	0.20	12.66	0.02	568.05	-4.20	-12.97
4/29/2025 14:04	20.66	0.19	12.28	0.02	568.12	-4.21	-12.78
4/29/2025 14:04	20.65	0.21	11.75	0.02	569.20	-4.21	-12.20
4/29/2025 14:04	20.66	0.20	11.72	0.01	569.57	-4.21	-12.30
4/29/2025 14:04	20.65	0.19	11.45	0.01	569.38	-4.21	-12.49
4/29/2025 14.04	20.66	0.21	11.39	0.01	569 78	-4.21	-12.94
4/29/2025 14:05	20.64	0.19	11.25	0.00	570.19	-4.22	-12.35
4/29/2025 14:05	20.65	0.20	11.76	0.00	570.08	-4.22	-12.64
4/29/2025 14:05	20.65	0.20	11.99	0.01	570.56	-4.22	-12.40
4/29/2025 14:05	20.67	0.20	11.77	0.02	570.87	-4.22	-12.40
4/29/2025 14:05	20.65	0.20	10.03	0.02	571.31	-4.23	-12.50
4/29/2025 14:05	20.65	0.20	9.95	0.01	569.84	-4.23	-12.51
4/29/2025 14:06	20.64	0.21	10.96	0.03	568.60	-4.23	-12.77
4/29/2025 14:06	20.64	0.20	11.19	0.02	568.60	-4.24	-12.34
4/29/2025 14:06	20.65	0.21	10.73	0.03	569.68	-4.24	-12.63
4/29/2025 14:06	20.67	0.20	9.55	0.01	570.57	-4.24	-12.58
4/29/2025 14:06	20.65	0.21	9.66	-0.01	569.79	-4.24	-12.44
4/29/2025 14:06	20.64	0.21	9.80	0.01	568.40	-4.25	-12.65
4/29/2025 14:07	20.65	0.21	10.03	0.00	568.56	3.13	-12.40
4/29/2025 14:07	20.64	0.20	10.73	0.01	567.77	11.12	-12.61
4/29/2025 14:07	20.65	0.20	10.77	0.00	567.26	10.57	-12.51
4/29/2025 14:07	20.65	0.20	10.65	0.01	567.45	9.62	-12 23
4/29/2025 14:07	20.64	0.20	11.21	0.01	568.18	8.66	-12.28
4/29/2025 14:07	20.65	0.20	11.05	0.01	568.73	7.91	-12.27
4/29/2025 14:08	20.65	0.20	10.27	0.01	569.30	7.23	-12.37
4/29/2025 14:08	20.64	0.21	9.12	0.00	569.40	6.36	-12.43
4/29/2025 14:08	20.65	0.20	9.42	0.01	567.86	5.46	-12.25
4/29/2025 14:08	20.64	0.20	8.53	0.01	566.49	4.95	-12.08
4/29/2025 14:08	20.65	0.19	8.23	0.02	566.32	4.64	-12.61
4/29/2025 14:08	20.66	0.21	7.89	0.01	566.34	4.41	-12.54
4/29/2025 14:09	20.65	0.21	7.53	0.01	567.16	4.27	-12.59
4/29/2025 14:09	20.65	0.21	7.22	0.02	567.40	4.18	-12.91
4/29/2025 14:09	20.65	0.20	7.16	0.02	567.63	4.10	-12.48
4/29/2025 14:09	20 65	0 20	7,66	0.02	567.59	4.04	-12.49
4/29/2025 14:09	20.64	0.20	7.86	0.00	567.44	3.97	-12.43
4/29/2025 14:09	20.64	0.21	7.24	0.01	567.18	3.92	-12.38
4/29/2025 14:10	20.65	0.21	7.16	-0.01	567.38	3.88	-12.63
4/29/2025 14:10	20.64	0.22	6.85	0.02	567.33	3.83	-12.38
4/29/2025 14:10	20.65	0.21	6.58	0.01	566.88	3.78	-12.30
4/29/2025 14:10	20.65	0.21	5.96	0.01	567.15	3.76	-12.77
4/29/2025 14:10	20.63	0.20	6.05	0.01	566.80	3.77	-12.76
4/29/2025 14:10	20.66	0.21	6.03	0.01	565.88	3.78	-12.36
4/29/2025 14:11	20.64	0.21	6.66	0.01	566.40	3.79	-12.39
4/29/2025 14:11	20.64	0.21	6.80	0.01	566.43	3.78	-10.60
4/29/2025 14:11	20.63	0.21	6.91	0.01	566.13	3.78	-12.50

Calibration Log

	OUTLET						
Time	O2	CO2	CO	N2	NO2	THC	NMHC
4/29/2025 14:11	20.65	0.21	7.66	0.01	566.51	3.79	-12.53
4/29/2025 14:11	20.65	0.22	7.14	0.00	566.54	3.78	-12.58
4/29/2025 14:11	20.66	0.22	6.94	0.01	566.59	3.76	-12.93
4/29/2025 14:12	20.64	0.24	7.16	0.01	566.44	3.74	66.76
4/29/2025 14:12	20.62	0.23	7.43	0.00	565.89	3.71	-3.34
4/29/2025 14:12	20.66	0.23	7.61	0.01	565.46	3.68	-3.61
4/29/2025 14:12	20.66	0.21	8.05	0.02	565.42	3.64	-3.57
4/29/2025 14:12	20.65	0.23	7.14	0.03	565.60	3.62	-3.63
4/29/2025 14:12	20.65	0.22	7.03	0.01	566.34	3.59	-3.66
4/29/2025 14:13	20.66	0.21	6.27	0.00	565.67	3.56	-3.90
4/29/2025 14:13	20.65	0.22	5.85	0.01	565.11	3.52	-3.43
4/29/2025 14:13	20.64	0.23	4.95	0.01	564.42	3.47	-4.04
4/29/2025 14:13	20.66	0.24	4.33	0.01	563.52	3.42	-3.62
4/29/2025 14:13	20.65	0.24	4.90	0.00	281.57	3.37	-3.87
4/29/2025 14:13	20.65	0.23	4.34	0.01	281.35	3.31	-3.81
4/29/2025 14:14	20.65	0.22	4.07	0.00	281.60	3.25	-3.57
4/29/2025 14:14	20.65	0.22	3.84	0.00	281.67	3.16	-3.66
4/29/2025 14:14	20.66	0.23	4.66	0.01	281.56	3.07	-3.79
4/29/2025 14:14	20.65	0.22	5.20	0.01	281.46	2.97	-3.66
4/29/2025 14:14	20.65	0.22	5.23	0.00	281.66	2.86	-3.53
4/29/2025 14:14	20.64	0.22	4.72	0.00	281.28	2.76	-4.12
4/29/2025 14:15	20.65	0.23	4.79	0.02	281.00	2.67	-4.06
4/29/2025 14:15	20.66	0.23	4.17	0.01	281.00	2.60	-5.68
4/29/2025 14:15	20.64	0.24	3.79	0.09	280.96	2.54	-6.71
4/29/2025 14:15	20.63	0.22	3.86	0.02	281.30	2.49	-6.94
4/29/2025 14:15	20.63	0.24	3.96	0.02	279.74	2.44	-6.59
4/29/2025 14:15	20.63	0.23	3.06	0.00	277.00	2.39	-6.59
4/29/2025 14:16	20.62	0.23	2.26	0.01	275.11	2.34	-6.61
4/29/2025 14:16	19.30	0.23	1.95	0.19	273.91	2.30	-6.51
4/29/2025 14:16	2.63	0.18	2.57	0.03	273.24	2.28	-6.62
4/29/2025 14:16	0.09	0.14	2.42	-0.01	273.10	2.26	-7.00
4/29/2025 14:16	0.75	0.20	2.83	6.23	272.24	2.25	-6.16
4/29/2025 14:16	0.89	0.23	4.01	38.73	270.76	2.24	-6.46
4/29/2025 14:17	0.12	0.15	31.09	49.90	269.46	2.22	-6.83
4/29/2025 14:17	0.05	0.15	53.27	49.96	268.28	2.20	-7.20
4/29/2025 14:17	0.04	0.15	57.88	50.18	267.33	2.20	-6.44
4/29/2025 14:17	0.03	0.14	56.46	50.20	266.48	2.19	-6.49
4/29/2025 14:17	0.03	0.14	56.77	50.20	265.88	2.18	-6.80
4/29/2025 14:17	0.03	0.14	56.66	50.32	265.27	2.17	-6.36
4/29/2025 14:18	0.02	0.15	56.82	50.56	264.66	2.16	-6.41
4/29/2025 14:18	0.01	0.14	56.60	50.76	263.91	2.15	-6.57
4/29/2025 14:18	0.03	0.15	56.46	50.96	263.69	2.14	-6.96
4/29/2025 14:18	0.02	0.14	56.66	51.11	263.14	2.13	-6.54
4/29/2025 14:18	0.02	0.15	56.86	51.20	262.60	2.10	-6.97
4/29/2025 14:18	0.03	0.14	56.32	51.25	262.04	2.10	-6.86
4/29/2025 14:19	0.02	0.16	56.18	51.26	317.32	2.10	-6.82
4/29/2025 14:19	0.01	0.15	56.08	51.27	372.76	2.08	-6.53
4/29/2025 14:19	0.01	0.16	55.61	51.28	371.90	2.08	-6.13
4/29/2025 14:19	0.01	0.14	55.58	50.41	371.49	2.09	-6.99
4/29/2025 14:19	0.02	0.14	55.40	50.06	370.74	2.08	-6.36
4/29/2025 14:19	0.01	0.14	55.47	50.03	370.31	2.07	-6.69
4/29/2025 14:20	0.01	0.13	55.78	50.00	329.14	2.06	-6.69
4/29/2025 14:20	0.01	0.14	56.24	49.97	-36.95	2.06	-6.77
4/29/2025 14:20	0.00	0.15	55.43	49.94	-36.90	2.06	-7.00
4/29/2025 14:20	0.01	0.15	55.77	49.90	-36.89	2.05	-6.40
4/29/2025 14:20	0.00	0.15	56.77	49.86	-36.90	2.04	-6.86
4/29/2025 14:20	0.00	0.14	56.23	49.83	-36.84	2.05	-6.79
4/29/2025 14:21	0.01	0.15	56.01	49.81	-36.80	2.04	-6.77
4/29/2025 14:21	0.01	0.13	56.36	45.07	-36.76	2.03	-6.90
4/29/2025 14:21	3.07	0.15	56.93	29.96	-36.77	2.04	-6.68
4/29/2025 14:21	19.40	0.19	54.03	20.28	-36.81	2.04	-6.71
4/29/2025 14:21	20.83	0.16	19.15	24.57	-36.93	2.04	-6.78
4/29/2025 14:21	20.90	0.15	4.36	29.96	-36.98	2.03	-6.63
4/29/2025 14:22	20.91	0.15	0.21	31.37	-37.07	2.03	-6.49
4/29/2025 14:22	20.91	0.15	0.51	31.14	-37.09	2.03	-6.95
4/29/2025 14:22	20.91	0.15	0.88	29.79	-37.13	2.03	-6.24
4/29/2025 14:22	20.92	0.14	1.26	34.11	-37.12	2.02	-6.84
4/29/2025 14:22	20.92	0.14	1.76	37.11	-37.12	2.01	-6.68
4/29/2025 14:22	20.92	0.14	2.00	38.25	-37.24	2.03	-6.63
4/29/2025 14:23	20.93	0.15	0.96	38.96	-37.31	2.03	-6.36
4/29/2025 14:23	20.92	0.16	-0.27	39.44	-37.32	2.02	-6.93
4/29/2025 14:23	20.93	0.14	0.82	39.75	-37.26	2.01	-6.70
4/29/2025 14:23	20.93	0.15	1.86	39.99	-37.23	2.02	-6.58
4/29/2025 14:23	20.94	0.14	3.69	40.15	-37.24	2.03	-7.05
4/29/2025 14:23	20.93	0.15	5.14	40.24	-37.20	2.02	-6.55
4/29/2025 14:24	20.93	0.15	5.01	40.52	-37.15	2.01	-6.41
4/29/2025 14:24	20.93	0.16	2.91	40.89	-37.17	2.02	-6.74
4/29/2025 14:24	20.94	0.14	0.60	41.12	-37.17	2.01	-6.01
4/29/2025 14:24	20.94	0.14	0.82	41.69	-37.10	2.02	-3.27
4/29/2025 14:24	20.92	0.14	1.78	41.98	-37.10	2.01	-3.73
4/29/2025 14:24	20.93	0.15	1.69	42.36	-37.09	2.01	-3.87
4/29/2025 14:25	20.93	0.14	1.08	42.68	-37.10	2.01	-5.54
4/29/2025 14:25	20.92	0.14	0.82	42.99	-37.08	2.00	-6.82
4/29/2025 14:25	20.89	0.15	0.56	20.80	-37.06	2.01	-6.38

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/29/2025 14:25	20.79	0.19	0.35	0.80	-36.92	1.98	-6.41
4/29/2025 14:25	20.75	0.23	-0.30	0.55	-36.62	1.92	-6.68
4/29/2025 14:25	20.72	0.23	-0.12	0.41	-36.44	1.90	-6.64
4/29/2025 14:26	20.70	0.23	0.01	0.36	-36.38	1.90	-6.93
4/29/2025 14:26	20.68	0.24	0.17	0.31	-36.38	1.90	-7.00
4/29/2025 14:26	20.69	0.24	0.20	0.27	-36.36	1.90	-6.77
4/29/2025 14:26	20.67	0.24	0.23	0.24	-36.39	1.90	-7.09
4/29/2025 14:26	20.67	0.23	-0.05	0.22	-36.47	1.90	-6.77
4/29/2025 14:26	20.68	0.24	-0.21	0.22	-36.49	1.91	-6.46
4/29/2025 14:27	20.67	0.23	0.10	0.19	-36.48	1.91	-6.68
4/29/2025 14:27	20.68	0.23	-0.34	0.16	-36.46	1.91	-6.79
4/29/2025 14:27	20.68	0.23	-0.22	0.15	-36.50	1.90	-7.06
4/29/2025 14:27	20.67	0.24	-0.31	0.13	-36.44	1.90	-6.88
4/29/2025 14:27	20.65	0.24	0.07	0.13	-36.29	1.92	-6.89
4/29/2025 14:27	20.67	0.23	-0.01	0.13	-36.20	1.92	-6.81
4/29/2025 14:28	20.66	0.23	0.16	0.11	-36.20	1.91	-6.60
4/29/2025 14:28	20.68	0.23	-0.09	0.11	-36.23	1.91	-6.95
4/29/2025 14:28	20.68	0.24	-0.17	0.12	-36.15	1.92	-6.80
4/29/2025 14:28	20.65	0.25	0.09	0.10	-36.11	1.96	-6.76
4/29/2025 14:28	20.66	0.23	0.14	0.10	-36.08	1.97	-6.36
4/29/2025 14:28	20.67	0.23	0.69	0.10	-36.05	1.99	-6.94
4/29/2025 14:29	20.67	0.23	1.99	0.09	-36.02	2.01	-6.82
4/29/2025 14:29	20.65	0.24	1.37	0.09	-36.03	2.01	-6.86
4/29/2025 14:29	20.66	0.24	0.20	0.09	-36.03	2.01	-6.78
4/29/2025 14:29	20.66	0.25	0.25	0.09	-35.97	2.01	-6.68
4/29/2025 14:29	20.66	0.24	0.18	0.09	-35.93	2.00	-6.54
4/29/2025 14:29	20.67	0.24	-0.10	0.08	-35.91	2.00	-6.12
4/29/2025 14:30	20.66	0.24	0.23	0.08	-35.84	2.00	-6.69
4/29/2025 14:30	20.66	0.24	-0.25	0.09	-35.82	1.97	-6.47
4/29/2025 14:30	20.65	0.23	0.92	0.09	-35.85	1.97	-6.56
4/29/2025 14:30	20.67	0.23	0.78	0.07	-35.82	2.00	-6.17
4/29/2025 14:30	20.66	0.24	1.17	0.07	-35.75	2.00	-6.26
4/29/2025 14:30	20.67	0.24	-0.08	0.06	-35.69	2.02	-6.64
4/29/2025 14:31	20.66	0.23	-0.14	0.06	-35.73	2.01	-7.18
4/29/2025 14:31	20.66	0.23	-0.02	0.07	-35.74	2.02	-6.47
4/29/2025 14:31	20.67	0.24	0.16	0.07	-35.65	2.00	-6.53
4/29/2025 14:31	20.68	0.24	0.52	0.05	-35.54	1.96	-6.58
4/29/2025 14:31	20.67	0.24	-0.24	0.06	-35.46	1.98	-6.63
4/29/2025 14:31	20.67	0.24	-0.19	0.06	-35.40	2.02	-7.05
4/29/2025 14:32	20.66	0.23	-0.36	0.05	-35.43	2.01	-7.11
4/29/2025 14:32	20.66	0.23	0.51	0.05	-35.40	2.15	-6.61
4/29/2025 14:32	20.67	0.24	0.58	0.05	-35.42	2.35	-7.09
4/29/2025 14:32	20.67	0.23	-0.19	0.06	-35.45	2.55	-6.81
4/29/2025 14:32	20.67	0.24	0.37	0.06	-35.44	4.40	-6.81
4/29/2025 14:32	20.68	0.24	-0.29	0.06	-35.46	4.78	-3.89
4/29/2025 14:33	20.67	0.24	0.07	0.05	-35.45	5.87	-3.94
4/29/2025 14:33	20.68	0.24	0.05	0.06	-35.38	4.88	-4.03
4/29/2025 14:33	20.69	0.22	1.32	0.05	-35.40	5.14	-3.79
4/29/2025 14:33	20.68	0.22	2.28	0.05	-35.46	5.08	-3.53
4/29/2025 14:33	20.68	0.23	3.09	0.04	-35.38	7.16	-3.64
4/29/2025 14:33	20.69	0.23	3.61	0.03	-35.33	11.91	-1.45
4/29/2025 14:34	20.68	0.23	2.37	0.05	-35.44	16.75	1.05
4/29/2025 14:34	20.69	0.23	0.84	0.05	-35.62	19.03	2.89
4/29/2025 14:34	20.69	0.24	0.03	0.05	-35.77	25.22	7.98
4/29/2025 14:34	20.67	0.23	0.11	0.06	-36.01	31.89	10.56
4/29/2025 14:34	20.67	0.22	0.99	0.05	-36.33	27.63	14.18
4/29/2025 14:34	20.68	0.23	0.53	0.04	-36.52	23.41	13.69
4/29/2025 14:35	20.69	0.23	0.27	0.06	-36.53	22.31	13.58
4/29/2025 14:35	20.70	0.23	0.73	0.06	-36.37	22.48	13.55
4/29/2025 14:35	20.69	0.22	2.18	0.06	-36.21	22.65	13.14
4/29/2025 14:35	20.68	0.23	3.29	0.05	-36.08	20.20	10.75
4/29/2025 14:35	20.68	0.23	2.96	0.04	-36.06	19.58	10.86
4/29/2025 14:35	20.68	0.24	1.83	0.04	-36.01	22.79	13.78
4/29/2025 14:36	20.69	0.23	0.89	0.05	-35.96	21.53	13.69
4/29/2025 14:36	20.68	0.24	0.51	0.04	-35.90	17.46	11.03
4/29/2025 14:36	20.67	0.24	0.07	0.05	-35.73	14.39	8.21
4/29/2025 14:36	20.67	0.25	0.30	0.05	-35.60	14.76	16.96
4/29/2025 14:36	20.39	0.32	0.46	5.29	-35.52	19.81	82.60
4/29/2025 14:36	20.10	0.55	2.68	8.29	-35.51	14.23	84.56
4/29/2025 14:37	20.02	0.66	14.87	7.85	-35.40	13.30	150.02
4/29/2025 14:37	19.99	0.69	22.58	7.52	-35.10	13.20	165.83
4/29/2025 14:37	19.94	0.71	23.18	7.61	-34.91	13.67	147.90
4/29/2025 14:37	19.92	0.74	23.37	8.03	-34.76	13.50	125.05
4/29/2025 14:37	19.93	0.75	24.06	8.40	-34.63	13.27	120.27
4/29/2025 14:37	19.95	0.72	25.79	8.36	-34.59	13.14	133.85
4/29/2025 14:38	19.96	0.72	27.17	8.35	-34.65	12.94	145.28
4/29/2025 14:38	19.98	0.72	28.54	8.58	-34.66	11.94	115.63
4/29/2025 14:38	20.04	0.71	29.10	8.75	-34.66	13.16	143.60
4/29/2025 14:38	19.98	0.69	28.62	8.58	-34.62	13.45	162.17
4/29/2025 14:38	19.95	0.69	26.16	8.19	-34.61	13.44	161.57
4/29/2025 14:38	19.96	0.72	25.00	8.05	-34.61	12.44	141.77
4/29/2025 14:39	19.92	0.72	25.54	8.16	-34.56	12.29	107.19
4/29/2025 14:39	19.94	0.74	27.46	8.15	-34.43	12.02	101.66
4/29/2025 14:39	19.96	0.73	28.49	7.86	-34.39	11.69	115.01

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/29/2025 14:39	19.95	0.70	28.59	7.81	-34.40	11.48	111.05
4/29/2025 14:39	19.98	0.71	29.63	7.81	-34.46	10.76	156.13
4/29/2025 14:39	20.04	0.68	29.83	7.63	-34.43	12.42	161.30
4/29/2025 14:40	19.99	0.66	28.90	7.42	-34.26	13.00	151.32
4/29/2025 14:40	19.95	0.71	26.64	7.18	-34.18	12.71	142.49
4/29/2025 14:40	19.96	0.73	24.30	7.19	-34.18	11.75	119.74
4/29/2025 14:40	19.92	0.71	25.82	7.36	-34.11	11.20	87.67
4/29/2025 14:40	19.93	0.73	27.66	7.49	-34.08	11.08	105.99
4/29/2025 14:40	19.95	0.71	29.11	7.27	-34.05	11.01	156.23
4/29/2025 14:41	19.96	0.71	28.80	7.35	-34.00	11.20	111.65
4/29/2025 14:41	19.96	0.71	28.88	7.50	-33.97	10.55	143.85
4/29/2025 14:41	20.03	0.68	28.94	7.36	-33.91	11.86	220.00
4/29/2025 14:41	19.97	0.69	28.94	7.28	-33.89	13.26	181.24
4/29/2025 14:41	19.94	0.72	27.81	7.27	-33.93	13.59	142.52
4/29/2025 14:41	19.93	0.74	26.09	7.56	-34.01	12.57	133.73
4/29/2025 14:42	19.92	0.74	27.79	7.97	-34.06	11.61	169.07
4/29/2025 14:42	19.92	0.74	29.62	8.17	-34.11	12.00	188.28
4/29/2025 14:42	19.91	0.73	30.33	7.96	-34.03	12.60	185.02
4/29/2025 14:42	19.92	0.74	29.03	7.84	-33.91	12.87	258.26
4/29/2025 14:42	19.94	0.75	28.77	7.82	-33.87	11.91	185.09
4/29/2025 14:42	20.01	0.71	30.90	7.83	-33.90	13.18	182.69
4/29/2025 14:43	19.96	0.69	31.79	7.55	-33.93	13.15	288.35
4/29/2025 14:43	19.92	0.72	30.86	7.37	-33.85	13.09	271.58
4/29/2025 14:43	19.92	0.74	30.19	7.52	-33.72	12.28	240.98
4/29/2025 14:43	19.90	0.74	31.28	7.70	-33.59	11.80	205.19
4/29/2025 14:43	19.91	0.73	32.68	7.84	-33.46	11.85	168.37
4/29/2025 14:43	19.93	0.73	34.74	7.67	6.67	11.91	161.94
4/29/2025 14:44	19.94	0.72	35.94	7.54	33.36	11.87	158.34
4/29/2025 14:44	19.97	0.70	37.23	7.62	33.36	10.96	125.28
4/29/2025 14:44	20.07	0.67	37.13	7.74	33.35	11.79	118.46
4/29/2025 14:44	20.01	0.66	35.52	7.75	33.37	12.04	170.06
4/29/2025 14:44	19.97	0.69	32.90	7.60	33.39	12.21	314.55
4/29/2025 14:44	19.95	0.71	28.23	7.76	33.28	12.80	218.31
4/29/2025 14:45	19.93	0.72	25.73	7.93	33.23	13.22	159.03
4/29/2025 14:45	19.94	0.73	24.43	7.91	33.23	12.81	783.90
4/29/2025 14:45	19.89	0.74	25.39	7.72	33.33	19.05	947.85
4/29/2025 14:45	19.80	0.82	28.33	8.01	33.70	27.36	556.91
4/29/2025 14:45	19.81	0.88	31.28	8.23	35.09	22.89	298.89
4/29/2025 14:45	19.95	0.80	32.25	8.14	36.87	19.88	267.60
4/29/2025 14:46	19.96	0.74	36.27	7.91	37.43	17.16	266.55
4/29/2025 14:46	19.96	0.72	39.39	7.95	36.83	15.49	168.81
4/29/2025 14:46	19.97	0.71	38.98	8.18	35.82	13.31	140.28
4/29/2025 14:46	19.98	0.71	36.46	8.19	34.89	11.65	142.04
4/29/2025 14:46	19.97	0.70	33.63	7.91	34.16	11.04	158.41
4/29/2025 14:46	19.99	0.68	31.79	7.47	33.66	10.97	156.64
4/29/2025 14:47	19.99	0.69	29.41	7.32	33.26	11.15	177.75
4/29/2025 14:47	20.00	0.69	28.77	7.27	33.07	11.20	171.64
4/29/2025 14:47	20.08	0.66	29.47	7.16	32.95	12.24	210.77
4/29/2025 14:47	20.02	0.64	31.40	7.07	32.84	12.55	299.59
4/29/2025 14:47	19.96	0.69	31.67	6.99	32.81	13.05	270.58
4/29/2025 14:47	19.95	0.71	30.77	7.09	32.75	12.45	316.42
4/29/2025 14:48	19.91	0.73	31.28	7.22	32.70	11.95	276.96
4/29/2025 14:48	19.93	0.73	33.10	7.30	32.66	11.82	256.59
4/29/2025 14:48	19.95	0.72	35.40	7.07	32.66	11.81	367.43
4/29/2025 14:48	19.94	0.73	37.88	7.00	32.61	12.51	305.42
4/29/2025 14:48	19.94	0.74	40.14	7.04	32.55	12.04	241.04
4/29/2025 14:48	20.04	0.70	42.62	6.97	32.47	12.36	167.42
4/29/2025 14:49	20.02	0.66	43.82	6.77	32.39	12.34	204.97
4/29/2025 14:49	20.01	0.67	41.20	6.61	32.39	11.84	200.80
4/29/2025 14:49	19.97	0.69	37.15	6.97	32.30	11.18	162.42
4/29/2025 14:49	19.96	0.70	35.15	7.19	32.20	10.33	138.26
4/29/2025 14:49	19.98	0.71	33.69	7.27	32.17	9.99	120.10
4/29/2025 14:49	20.00	0.69	32.88	7.00	32.20	10.12	140.83
4/29/2025 14:50	19.99	0.67	32.54	6.90	32.23	10.46	263.06
4/29/2025 14:50	19.98	0.69	32.74	7.00	32.18	10.85	289.73
4/29/2025 14:50	20.04	0.68	33.02	7.07	32.09	12.08	245.09
4/29/2025 14:50	19.99	0.67	32.52	7.06	32.03	13.05	239.32
4/29/2025 14:50	19.98	0.70	31.84	6.83	31.96	12.98	256.38
4/29/2025 14:50	19.96	0.72	32.34	6.76	31.92	12.06	216.51
4/29/2025 14:51	19.94	0.72	35.44	6.92	31.90	11.26	154.71
4/29/2025 14:51	19.95	0.71	37.52	7.18	31.85	10.70	127.05
4/29/2025 14:51	19.99	0.69	36.95	6.87	31.87	10.44	141.44
4/29/2025 14:51	20.00	0.68	36.36	6.72	31.87	10.50	152.10
4/29/2025 14:51	19.99	0.69	35.75	6.67	31.84	10.43	193.66
4/29/2025 14:51	20.07	0.67	35.48	6.61	31.77	11.57	176.03
4/29/2025 14:52	20.01	0.66	32.76	6.68	31.71	12.37	146.34
4/29/2025 14:52	19.99	0.67	29.73	6.58	31.71	12.00	147.48
4/29/2025 14:52	19.98	0.69	27.62	6.64	31.71	11.39	132.06
4/29/2025 14:52	19.98	0.68	28.48	6.85	31.70	11.00	153.26
4/29/2025 14:52	19.95	0.71	30.00	6.99	31.66	10.69	311.70
4/29/2025 14:52	19.94	0.72	31.45	6.89	31.60	11.47	252.98
4/29/2025 14:53	19.93	0.73	29.57	6.93	31.54	11.95	237.22
4/29/2025 14:53	19.93	0.73	31.88	6.89	31.45	11.25	227.92
4/29/2025 14:53	20.03	0.70	34.04	6.71	31.43	11.38	314.03

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/29/2025 14:53	19.98	0.69	39.67	6.59	31.43	12.73	229.55
4/29/2025 14:53	19.96	0.69	41.80	6.42	31.44	12.69	193.34
4/29/2025 14:53	19.96	0.72	39.77	6.46	31.50	11.82	186.23
4/29/2025 14:54	19.97	0.71	36.98	6.65	31.50	11.09	167.75
4/29/2025 14:54	19.96	0.71	37.30	6.89	31.43	10.96	173.60
4/29/2025 14:54	19.98	0.72	38.13	6.86	31.34	10.80	149.39
4/29/2025 14:54	19.99	0.70	36.32	6.78	31.19	10.81	138.99
4/29/2025 14:54	19.97	0.69	35.59	6.79	31.15	10.16	122.66
4/29/2025 14:54	20.07	0.68	36.68	6.74	31.22	10.73	102.08
4/29/2025 14:55	20.04	0.65	37.09	6.68	31.20	11.77	79.36
4/29/2025 14:55	20.04	0.66	35.21	6.44	31.13	11.24	99.03
4/29/2025 14:55	19.99	0.68	31.30	6.46	31.06	10.59	115.43
4/29/2025 14:55	19.98	0.68	28.12	6.64	31.01	10.14	126.04
4/29/2025 14:55	19.95	0.71	26.46	6.86	30.99	10.30	126.12
4/29/2025 14:55	19.98	0.71	25.01	6.80	30.93	10.54	115.69
4/29/2025 14:56	19.98	0.70	25.24	6.72	30.92	10.45	98.04
4/29/2025 14:56	19.97	0.71	26.55	6.82	30.95	9.67	122.70
4/29/2025 14:56	20.06	0.68	29.49	6.80	30.93	9.89	138.89
4/29/2025 14:56	20.04	0.64	31.79	6.70	30.85	11.40	106.40
4/29/2025 14:56	20.02	0.66	31.11	6.58	30.79	11.13	88.91
4/29/2025 14:56	19.98	0.70	28.23	6.65	30.81	10.36	67.10
4/29/2025 14:57	19.99	0.71	25.95	6.79	30.82	9.55	57.78
4/29/2025 14:57	19.96	0.70	27.21	6.99	30.79	9.24	64.79
4/29/2025 14:57	19.98	0.69	27.46	6.82	30.70	9.14	60.30
4/29/2025 14:57	19.98	0.69	25.55	6.62	30.71	9.18	73.55
4/29/2025 14:57	19.98	0.69	23.34	6.66	30.66	9.15	106.75
4/29/2025 14:57	20.05	0.67	22.03	6.68	30.61	9.90	94.59
4/29/2025 14:58	20.02	0.67	22.34	6.66	30.58	11.13	116.98
4/29/2025 14:58	19.98	0.68	20.76	6.53	30.54	11.03	107.67
4/29/2025 14:58	19.93	0.70	20.32	6.49	30.49	10.62	89.44
4/29/2025 14:58	19.96	0.71	21.31	6.54	30.46	9.85	69.25
4/29/2025 14.58	19.95	0.71	23.31	6.67	30.39	9.51	79.76
4/29/2025 14:58	19.96	0.71	24.69	6.62	30.37	9.52	87.66
4/29/2025 14:59	19.97	0.71	25.33	6.55	30.38	9.66	69.81
4/29/2025 14:59	19.95	0.70	24.92	6.58	30.29	9.32	130.38
4/29/2025 14:59	20.03	0.68	24.51	6.63	30.24	9.76	216.22
4/29/2025 14:59	19.99	0.66	25.64	6.74	30.25	12.24	153.09
4/29/2025 14:59	19.96	0.70	24.47	6.72	30.22	11.95	103.41
4/29/2025 14:59	19.94	0.72	23.38	6.81	30.16	10.71	90.74
4/29/2025 15:00	19.97	0.72	24.49	6.89	30.15	9.75	78.42
4/29/2025 15:00	19.94	0.73	28.05	7.09	30.10	9.53	62.64
4/29/2025 15:00	19.94	0.73	30.71	6.93	30.07	9.83	74.43
4/29/2025 15:00	19.97	0.71	29.57	6.76	30.02	9.55	62.02
4/29/2025 15:00	19.94	0.70	27.06	6.74	30.02	9.01	51.13
4/29/2025 15:00	20.04	0.69	26.36	6.66	30.03	8.81	67.23
4/29/2025 15:01	20.02	0.66	25.95	6.62	30.05	9.94	66.25
4/29/2025 15:01	19.99	0.68	24.95	6.50	30.01	10.06	69.01
4/29/2025 15:01	19.95	0.71	22.55	6.57	29.93	9.83	82.42
4/29/2025 15:01	19.98	0.70	21.58	6.77	29.90	9.40	69.35
4/29/2025 15:01	19.91	0.73	21.72	6.94	29.90	9.74	222.70
4/29/2025 15:01	19.92	0.73	21.69	6.90	29.90	10.96	226.80
4/29/2025 15:02	19.90	0.73	23.99	6.84	29.86	11.77	155.23
4/29/2025 15:02	19.88	0.74	28.81	6.97	29.79	10.54	137.83
4/29/2025 15:02	19.99	0.73	29.02	7.00	29.75	9.73	205.06
4/29/2025 15:02	19.99	0.71	32.29	6.96	29.72	11.24	160.49
4/29/2025 15:02	19.95	0.71	33.96	6.70	29.72	11.04	105.44
4/29/2025 15:02	19.93	0.72	30.71	6.56	29.72	10.29	88.85
4/29/2025 15:03	19.94	0.72	28.39	6.63	29.79	9.39	142.56
4/29/2025 15:03	19.90	0.72	29.08	6.89	29.86	9.42	188.14
4/29/2025 15:03	19.91	0.73	29.71	6.94	29.82	10.25	268.09
4/29/2025 15:03	19.92	0.73	27.71	6.88	29.70	10.78	232.87
4/29/2025 15:03	19.89	0.75	26.46	6.89	29.65	10.40	235.42
4/29/2025 15:03	19.98	0.73	29.01	6.84	29.58	10.05	202.18
4/29/2025 15:04	20.01	0.69	34.46	6.75	29.50	11.76	143.09
4/29/2025 15:04	19.97	0.71	36.21	6.40	29.50	11.86	115.48
4/29/2025 15:04	19.94	0.73	32.89	6.24	29.59	11.54	127.04
4/29/2025 15:04	19.98	0.72	29.69	6.28	29.59	10.35	199.89
4/29/2025 15:04	19.91	0.72	29.60	6.67	29.51	10.27	227.50
4/29/2025 15:04	19.92	0.76	29.91	6.80	29.42	11.01	248.56
4/29/2025 15:05	19.93	0.74	29.12	6.66	29.39	11.59	191.25
4/29/2025 15:05	19.91	0.74	30.12	6.68	29.45	10.84	170.91
4/29/2025 15:05	20.00	0.72	34.37	6.72	29.50	9.71	145.26
4/29/2025 15:05	20.02	0.69	38.61	6.61	29.47	10.93	125.77
4/29/2025 15:05	19.99	0.69	39.38	6.42	29.39	11.02	181.91
4/29/2025 15:05	19.93	0.71	34.81	6.38	29.28	11.27	426.94
4/29/2025 15:06	19.92	0.74	30.76	6.58	29.21	11.19	425.23
4/29/2025 15:06	19.86	0.78	30.36	7.02	29.17	11.93	309.69
4/29/2025 15:06	19.89	0.79	35.20	7.03	29.13	12.20	235.14
4/29/2025 15:06	19.95	0.76	36.41	6.73	29.18	11.64	233.30
4/29/2025 15:06	19.96	0.73	39.55	6.70	29.29	10.88	215.30
4/29/2025 15:06	20.01	0.71	43.61	6.65	29.35	10.57	171.04
4/29/2025 15:07	20.04	0.69	43.67	6.56	29.38	11.50	181.34
4/29/2025 15:07	20.00	0.69	39.75	6.33	29.30	11.07	200.43
4/29/2025 15:07	19.96	0.70	34.83	6.26	29.20	11.21	165.35

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/29/2025 15:07	19.98	0.72	32.47	6.37	29.15	10.77	179.17
4/29/2025 15:07	19.94	0.73	31.93	6.59	29.13	9.80	186.95
4/29/2025 15:07	19.96	0.73	30.97	6.64	29.20	9.66	257.29
4/29/2025 15:08	19.97	0.72	30.52	6.48	29.33	10.32	247.27
4/29/2025 15:08	19.94	0.72	30.53	6.46	29.42	10.62	188.18
4/29/2025 15:08	20.01	0.73	32.43	6.45	29.42	9.82	146.11
4/29/2025 15:08	20.06	0.68	35.28	6.42	29.43	10.76	119.73
4/29/2025 15:08	20.06	0.67	38.03	6.26	29.48	10.46	102.76
4/29/2025 15:08	20.15	0.64	36.09	6.08	29.52	9.51	138.22
4/29/2025 15:09	20.16	0.60	32.85	6.30	29.48	8.87	137.53
4/29/2025 15:09	20.13	0.62	29.73	6.62	29.39	8.68	135.04
4/29/2025 15:09	20.12	0.62	27.34	6.67	29.55	9.31	171.89
4/29/2025 15:09	20.15	0.63	25 32	6.62	29.85	10.45	163.04
4/29/2025 15:09	20.15	0.62	24.41	6.73	29.93	10.71	127.72
4/29/2025 15:09	20.14	0.62	24.84	6.76	29.86	9.89	143.98
4/29/2025 15:10	20.12	0.62	27.43	6.73	29.70	10.73	124.69
4/29/2025 15:10	20.13	0.62	28.60	6.74	29.52	10.68	118.84
4/29/2025 15:10	20.11	0.63	26.95	6.74	29.38	9 94	121 06
4/29/2025 15:10	20.08	0.63	25.09	7.05	29.24	9.55	125.87
4/29/2025 15:10	20.05	0.65	25.67	7.45	29.04	9 40	133.29
4/29/2025 15:10	20.05	0.67	25.03	7.74	28.92	9.73	120.26
4/29/2025 15:11	20.07	0.65	24.27	7.70	28.91	10.10	110.88
4/29/2025 15:11	20.09	0.65	24.26	7.92	28.98	9.55	317.01
4/29/2025 15:11	20 03	0 66	26.57	8,72	28.91	9.51	293.08
4/29/2025 15:11	20.00	0.69	28.04	11.10	28.83	11.84	196.65
4/29/2025 15:11	20.03	0.70	28.04	14.84	28.88	11.91	161.96
4/29/2025 15:11	20.04	0.68	26.96	17.46	28.92	10.68	144.31
4/29/2025 15:12	20.02	0.68	28.56	16.14	28.95	9.76	149.14
4/29/2025 15:12	19.99	0.68	31.64	14.36	29.02	9.68	135.85
4/29/2025 15:12	19.99	0.71	31.70	13.39	29.00	10.31	123.07
4/29/2025 15:12	20.02	0.70	28.80	12.41	28 93	10.55	123.30
4/29/2025 15:12	20.05	0.67	26.65	11.50	28.87	9.54	151.00
4/29/2025 15:12	20.04	0.66	25.98	10.90	28.80	8.84	130.88
4/29/2025 15:13	20.02	0.69	26.21	10.53	28.72	10.20	134.50
4/29/2025 15:13	20.03	0.69	26.19	10.41	28.71	10.37	132.57
4/29/2025 15:13	20.04	0.66	24.00	10.38	28.67	9.83	115.77
4/29/2025 15:13	20.00	0.68	21.52	10.39	28.60	9.07	90.17
4/29/2025 15:13	19.98	0.70	22.02	10.20	28.51	9.99	87.27
4/29/2025 15:13	19.96	0.71	23.91	9.68	28.40	41.22	103.84
4/29/2025 15:14	19.99	0.70	23.38	9.12	28.33	29.15	92.23
4/29/2025 15:14	20.00	0.70	23.25	9.03	28.39	16.31	93.94
4/29/2025 15:14	19.99	0.69	23.19	9.18	28.35	10.48	95.50
4/29/2025 15:14	20.00	0.71	24.98	9.37	28.35	9.97	85.89
4/29/2025 15:14	20.01	0.69	26.02	9.48	28.37	9.74	89.23
4/29/2025 15:14	19 98	0 71	24.89	9,62	28.34	8.94	83.51
4/29/2025 15:15	19.96	0.71	22.68	9.91	28.38	8.46	74.40
4/29/2025 15:15	19.91	0.73	23.27	10.07	28.38	8.08	111.55
4/29/2025 15:15	19.90	0.75	23.03	10.01	28.34	8.30	104.35
4/29/2025 15:15	19.94	0.75	21.48	9.61	28,32	8.62	94.84
4/29/2025 15.15	19.98	0.73	20.35	9.33	28.33	8.16	108 37
4/29/2025 15:15	19.98	0.71	21.30	9.30	28.31	7.49	127.29
4/29/2025 15:16	19.98	0.71	24.34	9.30	28.26	6.62	171.09
4/29/2025 15:16	19.99	0.70	25.00	9.14	28.29	9.68	143.39
4/29/2025 15:16	19.96	0.72	22.39	9.14	28.30	9.40	116.98
4/29/2025 15:16	19.94	0.73	20.39	9.34	28.24	8.58	183.87
4/29/2025 15:16	19.88	0.74	20.98	9.55	28.19	8 88	336.67
4/29/2025 15:16	19.83	0.78	22.18	9.73	28.19	10.20	278.97
4/29/2025 15:17	19.86	0.78	27.98	9.61	28.14	10.80	197.28
4/29/2025 15:17	19.92	0.77	35.42	9.47	28.11	10.02	170.61
4/29/2025 15:17	19.94	0.76	36.79	9.49	28.07	8.47	118.16
4/29/2025 15:17	19.98	0.73	39.46	9.16	28.03	9.00	195.64
4/29/2025 15:17	20.01	0.71	33.60	8.79	28.04	9.72	190.82
4/29/2025 15:17	19.96	0.70	31.06	9.09	28.07	9.67	159.35
4/29/2025 15:18	19.96	0.71	26.52	9.43	28.05	8.87	147.69
4/29/2025 15:18	19.91	0.73	23.53	9.58	28.05	8.49	129.02
4/29/2025 15:18	19.92	0.75	22.97	9.56	28.10	8.71	154.19
4/29/2025 15:18	19.95	0.73	23.72	8.99	28.08	9.04	167.33
4/29/2025 15:18	19.97	0.74	25.12	8.69	28.04	8.87	186.97
4/29/2025 15:18	19.96	0.73	26.93	8.67	28.09	8.05	173.39
4/29/2025 15:19	19.98	0.72	29.19	8.86	28.19	8.95	134.02
4/29/2025 15:19	20.01	0.71	29.30	8.97	28.22	9.34	123.70
4/29/2025 15:19	19.98	0.71	27.68	9.01	28.24	8.85	147.15
4/29/2025 15:19	19,96	0.72	25.79	9.20	28.15	8.37	141.57
4/29/2025 15:19	19.90	0.73	25.34	9.29	28.07	8.19	116.50
4/29/2025 15:19	19.90	0.76	24.97	9.28	28.05	8.36	120.00
4/29/2025 15:20	19.94	0.75	22.95	8.86	28.12	8.68	115.15
4/29/2025 15:20	19.97	0.72	21.07	8.55	28.20	8.59	109.87
4/29/2025 15:20	19.98	0.71	20.47	8.47	28.19	7.72	134.65
4/29/2025 15:20	20.00	0.70	21.97	8.21	28.11	9.01	126.44
4/29/2025 15:20	20.01	0.71	22.56	7.99	28.05	9.79	158.20
4/29/2025 15:20	20.00	0.70	21.02	7.95	28.04	9.85	122.67
4/29/2025 15:21	19.98	0.73	19.15	8,10	28.04	9.39	111.13
4/29/2025 15:21	19.93	0.74	19.07	8.17	28.12	8.87	141.60
4/29/2025 15:21	19.91	0,77	19.15	8.20	28.18	9.42	127.60

Callbration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/29/2025 15:21	19.95	0.75	19.42	7.98	28.17	9.74	101.25
4/29/2025 15:21	19.98	0.72	19.51	7.79	28.23	9.14	89.92
4/29/2025 15:21	20.00	0.72	20.22	7.85	28.26	8.06	120.23
4/29/2025 15:22	20.00	0.70	22.78	7.78	28.14	9.28	130.38
4/29/2025 15:22	20.02	0.69	24.15	7.70	28.08	10.22	87.38
4/29/2025 15:22	20.00	0.70	22.99	7.61	28.08	9.48	68.06
4/29/2025 15:22	19.97	0.71	20.71	7.74	28.05	8.47	150.43
4/29/2025 15:22	19.91	0.72	19.21	7.87	27.98	8.86	134.92
4/29/2025 15:22	19.89	0.76	18.46	7.98	28.04	10.24	121.87
4/29/2025 15:23	19.92	0.76	17.94	7.76	28.16	10.48	142.42
4/29/2025 15:23	19.96	0.74	17.67	7.56	28.23	9.75	136.64
4/29/2025 15:23	19.97	0.71	19.49	7.73	28.21	8.46	137.88
4/29/2025 15:23	19.99	0.72	21.50	7.80	28.19	8.90	175.88
4/29/2025 15:23	20.00	0.70	22.18	7.79	28.20	9.69	267.55
4/29/2025 15:23	19.95	0.71	20.20	7.71	28.17	10.04	225.10
4/29/2025 15:24	19.93	0.74	17.54	7.74	28.07	9.52	254.72
4/29/2025 15:24	19.86	0.75	18.95	7.93	27.96	9.18	211.31
4/29/2025 15:24	19.85	0.77	22.21	8.11	27.90	9.55	206 31
4/29/2025 15:24	19.91	0.77	24.91	7.94	27.82	9.71	300.23
4/29/2025 15:24	19.94	0.75	25.65	7.79	27.71	10.11	347.76
4/29/2025 15:24	19.91	0.76	27.31	7.87	27.65	9.32	365.16
4/29/2025 15:25	19.92	0.77	30.36	7.92	27.62	10.35	347.66
4/29/2025 15:25	19.96	0.76	32.47	7.84	27.54	10.92	319.89
4/29/2025 15:25	19.96	0.74	31.21	7.55	27.52	10.30	269.32
4/29/2025 15:25	19.91	0.73	28.95	7.55	27.52	9.59	286.61
4/29/2025 15:25	19.87	0.78	29.78	7.55	27.56	9.02	226.89
4/29/2025 15:25	19.87	0.79	29.80	7.61	27.63	8.91	157.79
4/29/2025 15:26	19.92	0.76	29.13	7.37	27.60	8.78	155.98
4/29/2025 15:26	19.98	0.71	28.57	7.12	27.58	8.41	174.10
4/29/2025 15:26	19.98	0.70	29.53	7.12	27.61	7.99	318.79
4/29/2025 15:26	19.98	0.70	30.94	7.07	27.56	9.07	489.76
4/29/2025 15:26	19.96	0.71	30.15	7.02	27.62	11.05	408.88
4/29/2025 15:26	19.93	0.75	27.88	6.83	27.58	10.78	404.13
4/29/2025 15:27	19.89	0.77	25.35	6.94	27.56	10.06	1355.14
4/29/2025 15:27	19.71	0.83	26.95	7.38	27.52	11.77	1176.15
4/29/2025 15:27	19.60	0.95	32.29	7.72	27.46	13.96	680.16
4/29/2025 15:27	19.73	0.94	39.85	7.62	27.45	13.20	479.86
4/29/2025 15:27	19.88	0.84	44.74	7.39	27.46	11.70	433.47
4/29/2025 15:27	19.93	0.78	47.22	7.43	27.40	10.23	308.50
4/29/2025 15:28	20.01	0.74	49.08	7.52	27.40	9.83	228.67
4/29/2025 15:28	20.07	0.69	35.84	7.47	27.43	9.82	154.55
4/29/2025 15:28	20.10	0.65	30.18	7.21	27.49	8.84	108.58
4/29/2025 15:28	20.08	0.64	28.62	7.07	27.51	7.99	122.75
4/29/2025 15:28	20.05	0.66	28.20	7.08	27.48	7.56	193.11
4/29/2025 15:28	20.01	0.67	26 92	7.46	27.45	8.08	217.20
4/29/2025 15:29	20.03	0.69	23.57	7.61	27.46	8.69	157.10
4/29/2025 15:29	20.06	0.68	20.97	7.61	27.43	8.92	166.89
4/29/2025 15:29	20.05	0.66	21.97	7.67	27.44	8.25	155.13
4/29/2025 15:29	20.08	0.66	25.63	7.96	27.41	8.57	135.99
4/29/2025 15:29	20.10	0.66	29.11	8.42	27.40	9.12	111.96
4/29/2025 15:29	20.10	0.64	28.58	8.49	27.49	8.91	98.48
4/29/2025 15:30	20.06	0.66	24.73	8.50	27.50	8.38	197.28
4/29/2025 15:30	20.01	0.68	23.91	8.63	27.44	8.08	281.74
4/29/2025 15:30	19.95	0.73	23.48	8.88	27.40	8.81	182.73
4/29/2025 15:30	19.97	0.74	21.43	8.52	27.39	8.85	290.58
4/29/2025 15:30	20.00	0.72	23.94	8.26	27.40	9.13	305.11
4/29/2025 15:30	19.98	0.72	27.36	8.63	27.36	8.97	189.39
4/29/2025 15:31	20.03	0.72	31.28	8.72	27.39	8.81	138.09
4/29/2025 15:31	20.08	0.67	34.30	8.41	27.44	9.13	155.15
4/29/2025 15:31	20.06	0.67	33.55	8.17	27.40	8.69	242.37
4/29/2025 15:31	20.02	0.71	29.53	8.26	27.44	8.50	268 16
4/29/2025 15:31	19.94	0.72	26.60	8.19	27.43	8.45	191.26
4/29/2025 15:31	19.92	0.75	24.87	8.19	27.40	8.54	134.66
4/29/2025 15:32	19.97	0.74	23.84	8.10	27.44	8.46	100.85
4/29/2025 15:32	20.02	0.70	24.83	7.97	27.44	8.19	77.68
4/29/2025 15:32	20.03	0.69	27.00	7.90	27.42	7.74	114.09
4/29/2025 15:32	20.07	0.66	29.01	8.30	27.43	8.00	136.16
4/29/2025 15:32	20.09	0.65	29.00	8.72	27.37	9.06	124.91
4/29/2025 15:32	20.06	0.65	24.34	8.44	27.34	9.04	129.90
4/29/2025 15:33	20.02	0.67	20.50	8.24	27.41	8.53	151.34
4/29/2025 15:33	19.96	0.70	20.29	8.11	27.44	8.15	152.44
4/29/2025 15:33	19.91	0.73	21.95	8.23	27.47	8.26	98.15
4/29/2025 15:33	19 95	0.74	21.83	8.23	27.50	8.39	83.82
4/29/2025 15:33	20.02	0.71	21.53	8.08	27.48	8.37	145.25
4/29/2025 15:33	20.00	0.70	23.67	7.92	27.46	8.06	167.80
4/29/2025 15:34	20.04	0.69	26.37	8.05	27.44	8.53	142.02
4/29/2025 15:34	20.07	0.67	26.17	8.20	27.38	9.64	197.18
4/29/2025 15:34	20.04	0.66	23.22	8.25	27.36	9.44	221.86
4/29/2025 15:34	19.98	0.71	21.37	8.63	27.33	8.86	254.18
4/29/2025 15:34	19.90	0.75	22.82	9.06	27.36	8.65	291.20
4/29/2025 15:34	19.84	0.78	24.29	9.32	27.37	9.05	188.52
4/29/2025 15:35	19.93	0.77	24.60	8.82	27.44	9.11	139.48
4/29/2025 15:35	19.98	0.74	26.34	8.30	27.44	8.95	143.11
4/29/2025 15:35	20.00	0.71	30.13	8.04	27.42	8.53	187.09

Calibration Log

	OUTLET						
[illegible]	O2	CO2	CO	NOx	SO2	[illegible]	[illegible]
4/29/2025 15:35	20.04	0.70	34.02	7.88	27.41	8.95	190.22
4/29/2025 15:35	20.07	0.66	34.07	7.79	27.36	10.16	218.31
4/29/2025 15:35	20.05	0.65	30.11	7.62	27.38	9.89	178.91
4/29/2025 15:36	19.99	0.70	26.44	7.79	27.46	9.01	127.87
4/29/2025 15:36	19.96	0.71	23.83	7.94	27.50	8.19	91.73
4/29/2025 15:36	19.93	0.73	24.17	8.06	27.55	7.89	153.15
4/29/2025 15:36	19.96	0.73	25.95	7.90	27.54	8.33	237.65
4/29/2025 15:36	19.98	0.71	25.54	7.95	27.41	9.31	278.88
4/29/2025 15:36	19.96	0.72	24.02	8.61	27.32	9.32	212.35
4/29/2025 15:37	20.00	0.72	25.34	9.22	27.31	9.12	166.60
4/29/2025 15:37	20.08	0.68	28.52	9.46	27.33	9.60	196.31
4/29/2025 15:37	20.06	0.67	30.50	9.92	27.37	9.29	150.25
4/29/2025 15:37	20.00	0.69	29.14	10.56	27.42	8.72	117.71
4/29/2025 15:37	19.95	0.71	27.94	10.61	27.45	8.08	113.74
4/29/2025 15:37	19.92	0.74	26.94	10.35	27.41	7.87	142.49
4/29/2025 15:38	19.95	0.75	25.79	9.76	27.39	8.36	129.05
4/29/2025 15:38	19.99	0.72	24.38	9.11	27.39	8.55	230.29
4/29/2025 15:38	19.98	0.70	24.06	8.88	27.33	8.32	198.22
4/29/2025 15:38	20.03	0.71	25.01	8.79	27.30	8.47	156.36
4/29/2025 15:38	20.08	0.68	27.11	8.57	27.38	9.44	150.44
4/29/2025 15:38	20.08	0.66	27.49	8.39	27.51	9.17	140.49
4/29/2025 15:39	20.04	0.67	26.11	8.34	27.48	8.56	119.13
4/29/2025 15:39	19.99	0.69	24.78	8.46	27.39	8.09	122.40
4/29/2025 15:39	19.92	0.73	24.57	8.77	27.32	8.14	106.32
4/29/2025 15:39	19.97	0.72	23.09	9.01	27.35	8.63	88.68
4/29/2025 15:39	20.00	0.70	21.50	9.01	27.43	8.71	73.95
4/29/2025 15:39	20.01	0.70	21.44	9.31	27.50	8.21	84.70
4/29/2025 15:40	20.06	0.68	23.16	9.39	27.50	8.04	398.02
4/29/2025 15:40	20.02	0.66	24.07	9.51	27.46	10.01	378.19
4/29/2025 15:40	19.91	0.71	23.80	9.49	27.43	10.69	239.81
4/29/2025 15:40	19.81	0.78	22.34	9.46	27.44	9.54	179 92
4/29/2025 15:40	19.78	0.82	22.31	9.31	27.48	8 48	149.93
4/29/2025 15:40	19.72	0.86	27.19	9.15	27.45	8.50	149.10
4/29/2025 15:41	19.78	0.86	30.13	8.93	27.45	9.58	142.12
4/29/2025 15:41	19.81	0.83	28.76	8.72	27.44	9.83	101.04
4/29/2025 15:41	19.82	0.80	26.51	8.77	27.46	9.03	91.01
4/29/2025 15:41	19.91	0.78	25.64	8.77	27.51	8.44	91.48
4/29/2025 15:41	19.98	0.73	26.08	8.62	27.62	9.45	92.76
4/29/2025 15:41	19.98	0.71	23.32	8.62	27.64	9.33	98.40
4/29/2025 15:42	19.86	0.75	19.50	9 85	27.63	8.38	95.64
4/29/2025 15:42	19.83	0.78	16.58	11.72	27.56	7.66	72.23
4/29/2025 15:42	19.75	0.84	16.15	12.45	27.55	7.46	54.51
4/29/2025 15:42	19.79	0.84	15.52	12.01	27.52	7.81	49.23
4/29/2025 15:42	19.85	0.81	15.58	11.69	27.48	7.68	77.61
4/29/2025 15:42	19.84	0.80	15.67	11.81	27.45	7.36	88.09
4/29/2025 15:43	19.92	0.78	17.11	12.04	27.49	7.03	61.97
4/29/2025 15:43	19.99	0.73	17.71	11.49	27.56	8.03	49.98
4/29/2025 15:43	19.99	0.70	16.64	10.44	27.61	7.84	113.93
4/29/2025 15:43	19.88	0.74	14.22	10.24	27.57	7.39	114.05
4/29/2025 15:43	19.85	0.78	13.78	10.10	27.52	7.03	100.09
4/29/2025 15:43	19.75	0.82	13.56	9.93	27.49	7.02	107.68
4/29/2025 15:44	19.80	0.83	13.66	9.38	27.51	7.72	120.60
4/29/2025 15:44	19.82	0.82	13.64	8.97	27.53	8.16	111.73
4/29/2025 15:44	19.83	0.80	15.98	9.19	27.58	8.03	263.06
4/29/2025 15:44	19.87	0.78	18.28	10.54	27.61	8.14	198.44
4/29/2025 15:44	19.93	0.75	19.78	11.89	27.52	9.49	399.39
4/29/2025 15:44	19.88	0.75	20.78	12.93	27.54	9.88	364.72
4/29/2025 15:45	19.70	0.82	19.89	13.77	27.57	9.51	294.71
4/29/2025 15:45	19.68	0.88	20.33	14.08	27.57	8.70	247.05
4/29/2025 15:45	19.59	0.91	22.52	14.73	27.55	8.32	179.37
4/29/2025 15:45	19.65	0.92	26.36	14.05	27.58	9.63	137 43
4/29/2025 15:45	19.73	0.87	27.89	12.84	27.55	8.33	111.75
4/29/2025 15:45	19.76	0.83	27.68	12.43	27.49	7.49	129.12
4/29/2025 15:46	19.82	0.81	28.34	12.27	27.49	6.69	162.50
4/29/2025 15:46	19.90	0.78	25.82	12.16	27.48	7.76	162.75
4/29/2025 15:46	19.90	0.74	24.12	12.03	27.48	8.18	206.24
4/29/2025 15:46	19.77	0.77	19.63	12.05	27.51	7.88	180.05
4/29/2025 15:46	19.74	0.84	16.53	12.25	27.50	7.30	125.55
4/29/2025 15:46	19.66	0.87	16.93	12.52	27.49	6.74	102.81
4/29/2025 15:47	19.72	0.88	18.36	12.56	27.51	7.03	77.00
4/29/2025 15:47	19.77	0.85	19.35	12.64	27.48	6.96	60.27
4/29/2025 15:47	19.79	0.80	19.35	12.58	27.45	6.56	72.45
4/29/2025 15:47	19.83	0.81	19.58	12.26	27.38	6.48	205.16
4/29/2025 15:47	19.90	0.75	19.10	11.75	27.41	7.71	205.43
4/29/2025 15:47	19.90	0.75	17.68	11.51	27.45	8.15	144.89
4/29/2025 15:48	19.81	0.78	15.52	11.45	27.48	7.59	165.99
4/29/2025 15:48	19.78	0.82	14.12	11.46	27.50	7.07	104.32
4/29/2025 15:48	19.69	0.86	15.09	11.57	27.52	6.73	73.73
4/29/2025 15:48	19.74	0.87	17.05	11.05	27.60	6.72	70.21
4/29/2025 15:48	19.78	0.82	17.01	10.40	27.68	6.75	71.80
4/29/2025 15:48	19.80	0.80	16.69	10.05	27.62	6.46	87.23
4/29/2025 15:49	19.85	0.79	17.38	9.93	27.58	5.97	97,56
4/29/2025 15:49	19.93	0.77	17.59	9.75	27.57	6.95	161.76
4/29/2025 15:49	19.93	0.73	16.16	9.62	27.53	7.66	102.61

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/29/2025 15:49	19.82	0.76	13.84	9.60	27.48	7.39	105.99
4/29/2025 15:49	19.81	0.79	12.12	9.61	27.48	6.76	121.01
4/29/2025 15:49	19.70	0.82	13.36	9.90	27.47	6.45	85.60
4/29/2025 15:50	19.73	0.85	13.64	9.91	27.46	6.64	58.45
4/29/2025 15:50	19.78	0.82	13.63	9.47	27.39	6.54	46.33
4/29/2025 15:50	19.80	0.80	14.77	9.22	27.39	6.41	39.84
4/29/2025 15:50	19.87	0.79	16.65	9.22	27.45	6.01	33.40
4/29/2025 15:50	19.95	0.73	17.46	9.02	27.44	6.68	29.13
4/29/2025 15:50	19.98	0.70	16.52	8.72	27.50	6.93	23.98
4/29/2025 15:51	19.88	0.71	13.86	8.71	27.46	6.41	20.99
4/29/2025 15:51	19.86	0.77	11.86	8.73	27.43	6.15	18.41
4/29/2025 15:51	19.76	0.79	10.92	8.88	27.47	5.67	16.90
4/29/2025 15:51	19.78	0.82	11.01	8.58	27.51	5.88	14.85
4/29/2025 15:51	19.82	0.81	10.15	8.13	27.54	6.03	13.66
4/29/2025 15:51	19.84	0.78	10.12	7.92	27.55	6.02	13.29
4/29/2025 15:52	19.87	0.76	11.12	7.99	27.61	5.51	10.64
4/29/2025 15:52	19.98	0.74	12.07	7.92	27.63	6.01	10.77
4/29/2025 15:52	20.00	0.71	12.74	7.63	27.59	6.27	10.89
4/29/2025 15:52	19.89	0.71	11.18	7.61	27.52	5.96	8.78
4/29/2025 15:52	19.86	0.75	10.46	7.78	27.51	5.57	7.75
4/29/2025 15:52	19.76	0.78	9.89	8.03	27.48	5.13	8.04
4/29/2025 15:53	19.78	0.82	8.57	7.92	27.45	5.38	7.89
4/29/2025 15:53	19.83	0.79	8.04	7.54	27.49	5.64	7.95
4/29/2025 15:53	19.85	0.76	8.26	7.39	27.54	5.58	7.45
4/29/2025 15:53	19.89	0.77	8.94	7.42	27.53	5.21	6.84
4/29/2025 15:53	19.97	0.72	9.72	7.38	27.46	5.79	4.55
4/29/2025 15:53	20.00	0.68	9.81	7.27	27.51	6.24	4.79
4/29/2025 15:54	19.90	0.70	8.78	7.31	27.57	5.94	4.57
4/29/2025 15:54	19.88	0.75	8.32	7.48	27.59	5.60	5.04
4/29/2025 15:54	19.77	0.77	7.84	7.80	27.58	5.35	4.51
4/29/2025 15:54	19.78	0.80	7.81	7.75	27.60	5.61	4.85
4/29/2025 15:54	19.83	0.79	7.85	7.38	27.54	5.88	5.13
4/29/2025 15:54	19.85	0.77	7.90	7.16	27.50	5.94	5.06
4/29/2025 15:55	19.88	0.76	8.59	7.24	27.50	5.40	5.00
4/29/2025 15:55	19.99	0.73	9.12	7.20	27.48	5.79	5.01
4/29/2025 15:55	20.02	0.67	9 81	7.01	27.43	6.05	4.88
4/29/2025 15:55	19.91	0.71	9.49	7.02	27.47	5.85	4.19
4/29/2025 15:55	19.89	0.75	8.44	7.24	27.51	5.49	1.78
4/29/2025 15:55	19.79	0.76	7.36	7.52	27.43	5.19	1.78
4/29/2025 15:56	19.80	0.81	7.63	7.56	27 43	5.41	1.94
4/29/2025 15:56	19.82	0.79	8.22	7.18	27.42	5.57	2.15
4/29/2025 15:56	19.85	0.77	7.63	7.05	27.43	5.49	2.00
4/29/2025 15:56	19.89	0.76	7.90	7.12	27.49	5.22	1 62
4/29/2025 15:56	19.96	0.72	9.01	7.08	27.47	5.73	1.87
4/29/2025 15:56	20.03	0.68	9.28	6.89	27.49	6.05	2.44
4/29/2025 15:57	19.93	0.69	8.74	6.87	27.53	5.81	2.11
4/29/2025 15:57	19.89	0.74	8.11	7.06	27.62	5.42	1.96
4/29/2025 15:57	19.80	0.78	7.14	7.30	27.62	5.05	1.66
4/29/2025 15:57	19 80	0,81	7.13	7.31	27.57	5.16	2.36
4/29/2025 15:57	19.85	0.78	7.55	7.00	27.62	5.43	1.80
4/29/2025 15:57	19.87	0.77	6.57	6.78	27.61	5.50	2.00
4/29/2025 15:58	19.89	0.75	7.80	6.89	27.53	5.17	2.15
4/29/2025 15:58	19.99	0.72	8.58	6.83	27.50	5.65	1.87
4/29/2025 15:58	20.03	0.68	8.89	6.71	27.56	6.06	2.10
4/29/2025 15:58	19.94	0.68	8.58	6.69	27.52	5.62	2.14
4/29/2025 15:58	19.90	0.73	8.15	6.86	27.42	5.16	2.17
4/29/2025 15:58	19.81	0.76	7.67	7.06	27.44	5.00	2.20
4/29/2025 15:59	19.80	0.80	8.51	7.12	27.51	5.11	2.20
4/29/2025 15:59	19.84	0.78	7.87	6.86	27.47	5.41	2.09
4/29/2025 15:59	19.88	0.77	7.74	6.66	27.42	5.66	1.96
4/29/2025 15:59	19.89	0.76	8.16	6.68	27.45	5.34	1.86
4/29/2025 15:59	19.99	0.73	10.03	6.66	27.48	5.65	2.08
4/29/2025 15:59	20.03	0.67	10.60	6.56	27.56	6.00	1.61
4/29/2025 16:00	19.96	0.69	9.79	6.53	27.59	5.65	2.20
4/29/2025 16:00	19.90	0.73	8.73	6.67	27.57	5.15	1.46
4/29/2025 16:00	19.81	0.77	8.19	6.95	27.49	4.84	-1.14
4/29/2025 16:00	19.80	0.80	7.61	7.03	27.43	5.10	-0.98
4/29/2025 16:00	19.84	0.79	7.42	6.71	27.46	5.55	-0.62
4/29/2025 16:00	19.88	0.77	7.36	6.52	27.51	5.41	-0.84
4/29/2025 16:01	18.23	0.71	7.61	4.87	27.54	4.92	-1.19
4/29/2025 16:01	2.81	0.43	7.85	0.36	27.57	1.10	-0.94
4/29/2025 16:01	0.21	0.18	8.95	0.17	27.59	0.22	-0.77
4/29/2025 16:01	0.13	0.17	7.97	0.13	27.52	0.13	-0.20
4/29/2025 16:01	0.12	0.17	5.86	0.12	27.45	0.10	-0.88
4/29/2025 16:01	0.11	0 18	2.28	0.13	27.44	0.07	-1.04
4/29/2025 16:02	0.11	0.17	0.17	0.11	27.39	0.05	-0.92
4/29/2025 16:02	0.09	0.18	0.18	0.11	27.38	0.04	-0.84
4/29/2025 16:02	0.10	0.18	0.08	0.11	27.43	0.03	-0.83
4/29/2025 16:02	0.10	0.15	0.17	0.09	27.48	0.02	-0.53
4/29/2025 16:02	0.09	0.17	-0.27	0.09	27.52	0.01	-1.14
4/29/2025 16:02	0.10	0.17	0.14	0.09	27.52	0.01	-0.85
4/29/2025 16:03	0.09	0.16	0.40	0 09	27.46	0.00	-1.05
4/29/2025 16:03	0.10	0.18	0 89	0.10	27.43	0.00	-0.73
4/29/2025 16:03	0.09	0.17	0.42	0.08	27.50	-0.01	-0.74

Calibration Log

Time	OUTLET O2	CO2	CO	Nox	SO2	THC	INLET THC
4/29/2025 16:03	0.09	0.17	0.34	0.07	27.47	-0.01	-1.07
4/29/2025 16:03	0.09	0.17	-0.27	0.07	-0.06	-0.01	-0.84
4/29/2025 16:03	0.08	0.18	-0.59	0.07	-0.03	-0.01	-0.83
4/29/2025 16:04	11.18	0.19	-0.41	0.07	0.00	0.33	-1.27
4/29/2025 16:04	10.97	0.21	-0.23	8.65	-0.06	0.93	-1.00
4/29/2025 16:04	0.71	0.18	6.66	30.18	-0.14	0.38	-0.76
4/29/2025 16:04	0.18	0.17	37.58	27.42	-0.04	0.73	-1.14
4/29/2025 16:04	0.11	0.17	48.98	30.70	0.10	0.58	-0.78
4/29/2025 16:04	0.10	0.16	50.90	34.95	0.19	0.37	-1.14
4/29/2025 16:05	0.09	0 16	50.97	39.27	0.24	0.27	-1.06
4/29/2025 16:05	0.10	0.16	51.16	43.51	0.20	0.21	-0.86
4/29/2025 16:05	0.08	0.16	51.22	46.58	0.18	0.17	-0.61
4/29/2025 16:05	0.09	0.16	51.33	48.32	0.18	0.15	-0.88
4/29/2025 16:05	0.08	0.17	52.17	49.18	0.10	0.12	-0.83
4/29/2025 16:05	0.08	0.17	51.72	49.56	0.00	0.10	-0.80
4/29/2025 16:06	0.07	0.17	52.19	49.68	-0.15	0.09	-1.03
4/29/2025 16:06	0.07	0.17	51.74	49.65	-0.21	0.07	-0.97
4/29/2025 16:06	0.09	0.17	51.94	49.64	-0.18	0.07	-1.10
4/29/2025 16:06	0.08	0.16	51.95	49.41	-0.18	0.06	-0.94
4/29/2025 16:06	0.08	0.17	52.05	49.22	-0.18	0.06	-0.78
4/29/2025 16:06	1.11	0.17	51.77	44.65	-0.17	0.05	-0.82
4/29/2025 16:07	17.04	0.19	46.94	4.19	-0.25	0.81	-0.80
4/29/2025 16:07	20.47	0.22	14.72	1.42	-0.32	1.31	-0.65
4/29/2025 16:07	20.62	0.24	1.24	1.12	-0.28	1.32	-0.67
4/29/2025 16:07	20.66	0.23	0.37	0.95	-0.23	1.31	-0.59
4/29/2025 16:07	20.65	0.22	0.10	0.87	-0.22	1.31	-0.73
4/29/2025 16:07	20.67	0.24	0.05	0.76	-0.26	1.30	-0.87
4/29/2025 16:08	20.67	0.25	0.42	0.73	-0 24	1.30	-1.11
4/29/2025 16:08	20.66	0.24	0.07	0.68	-0.24	1.30	-0.78
4/29/2025 16:08	20.66	0.23	0.27	0.63	-0.30	1.29	-0.87
4/29/2025 16:08	20.67	0.23	0.33	0.58	-0.28	1.27	-0.65
4/29/2025 16:08	20.67	0.24	1.16	0 55	-0.25	1.26	-1.17
4/29/2025 16:08	20.68	0.24	1.14	0.50	-0.21	1.25	-0.74
4/29/2025 16:09	20.67	0.23	0.69	0.49	-0.21	1.25	-0.92
4/29/2025 16:09	20.67	0.22	0.41	0.48	-0.20	1.25	-0.76
4/29/2025 16:09	20.67	0.23	0.30	0.44	-0.21	1.25	-0.98
4/29/2025 16:09	20.67	0.24	0.03	0.42	-0.26	1.25	-0.49
4/29/2025 16:09	20.69	0.22	0.05	0.39	-0.33	1.24	13.70
4/29/2025 16:09	20.68	0.22	0.43	0.36	-0.37	1.24	1064.90
4/29/2025 16:10	20.69	0.24	0.18	0.36	-0.31	1.24	4374.75
4/29/2025 16:10	20.68	0.23	-0.20	0.34	-0.22	1.24	4908.98
4/29/2025 16:10	20.67	0 24	-0.44	0.33	-0.23	1.24	4970.42
4/29/2025 16:10	20.68	0.23	0.41	0.31	-0.33	1.24	4996.41
4/29/2025 16:10	20.67	0.23	0.50	0.28	-0.35	1.24	5011.36
4/29/2025 16:10	20.68	0.24	-0.03	0.27	-0.32	1.25	5023.12
4/29/2025 16:11	20.69	0.22	-0.16	0.27	-0.34	1.25	5028.70
4/29/2025 16:11	20.70	0.23	-0.33	0.26	-0.33	1.24	5033.29
4/29/2025 16:11	20.68	0.24	-0.24	0.23	-0 35	1.23	5034.70
4/29/2025 16:11	20.69	0.22	0.12	0.24	-0.33	1.24	5035.71
4/29/2025 16:11	20.69	0.23	0.21	0.22	-0.28	1.23	5010 02
4/29/2025 16:11	20.68	0.23	0.15	0.23	-0.24	1.23	4938.60
4/29/2025 16:12	20.68	0.24	-0.32	0.22	-0.25	1.23	2127.99
4/29/2025 16:12	20.69	0.24	0.01	0.21	-0.36	1.23	100.67
4/29/2025 16:12	20.68	0.23	0.01	0.20	-0.44	1.24	36.00
4/29/2025 16:12	20.68	0.23	0.17	0.21	-0.46	1.24	25.47
4/29/2025 16:12	20.68	0.23	0.09	0.18	-0.44	1.23	20.57
4/29/2025 16:12	20.69	0.22	-0.30	0.18	-0.39	1.23	15.73
4/29/2025 16:13	20.70	0.23	0.02	0.16	-0.42	1.23	14.72
4/29/2025 16:13	20.69	0.23	0.13	0.16	-0.39	1.23	12.85
4/29/2025 16:13	20.70	0.22	0.80	0.17	-0.36	1.23	11.77
4/29/2025 16:13	20.68	0.24	0.45	0.15	-0.40	1.23	10.82
4/29/2025 16:13	20.69	0.23	0.33	0.15	-0.42	1.23	10.90
4/29/2025 16:13	20.69	0.24	0.30	0.15	-0.37	1.23	11.07
4/29/2025 16:14	20.66	0.23	-0.07	0.26	-0.36	1.23	7.29
4/29/2025 16:14	8.95	0.23	-0.08	9.45	-0.41	32.34	4.85
4/29/2025 16:14	0.88	0.22	0.06	0.39	-0.35	44.29	449.91
4/29/2025 16:14	0.18	0.18	0.68	0.24	-0.30	51.86	1588.50
4/29/2025 16:14	0.12	0.16	2.56	0.19	-0.24	51.97	42.50
4/29/2025 16:14	0.10	0.17	4.00	0.19	-0.25	51.91	11.03
4/29/2025 16:15	0.11	0.16	3.18	0.15	-0.30	51.85	5.80
4/29/2025 16:15	3.70	0.17	1.46	0.16	-0.41	48.89	5.02
4/29/2025 16:15	18.09	0.17	0.51	20.84	-0.44	4.86	4.82
4/29/2025 16:15	20.74	0.18	0.27	32.68	-0.34	1.69	4.84
4/29/2025 16:15	20.91	0.17	0.28	35.26	-0.15	1.65	5.09
4/29/2025 16:15	20.92	0.18	0.01	36.11	-0.02	1.64	4.62
4/29/2025 16:16	20.94	0.17	0.22	35.95	0.03	5.60	5.07
4/29/2025 16:16	20.95	0.18	-0.06	34.24	0.05	5.96	3.07
4/29/2025 16:16	20.95	0.18	-0.20	35.52	0.11	3.45	2.80
4/29/2025 16:16	20.95	0.17	-0.45	37.77	0.09	2.63	3.58
4/29/2025 16:16	20.95	0.18	0.13	38.72	0.06	2.18	4.75
4/29/2025 16:16	20.95	0.18	0.18	39.57	0.10	1.92	3.90
4/29/2025 16:17	20.94	0 17	-0.14	41.14	0,17	1.75	1.75
4/29/2025 16:17	20.95	0.18	0.29	42.34	0.18	1.65	1.61
4/29/2025 16:17	20.94	0.17	0.30	42.75	0.09	1.59	2.54

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/29/2025 16:17	20.95	0.17	-0.37	42.82	0.08	1.54	1.73	
4/29/2025 16:17	20.95	0.17	-0.09	42.88	0.11	1.53	2.27	
4/29/2025 16:17	20.95	0.19	0.39	42.92	0.16	1.55	2.37	
4/29/2025 16:18	20.94	0.17	0.44	42.93	0.11	1.55	2.16	
4/29/2025 16:18	20.94	0.17	-0.02	42.92	0.07	1.52	2.21	
4/29/2025 16:18	20.94	0.17	-0.10	42.92	0.07	1.48	2.30	Nox Conv
4/29/2025 16:18	20.94	0.17	-0.10	42.94	0.12	1.47	1.77	
4/29/2025 16:18	20.95	0.18	0.08	42.92	0.18	1.45	2.38	
4/29/2025 16:18	20.95	0.17	0.30	42.94	0.17	1.81	2.07	
4/29/2025 16:19	20.92	0.17	0.33	34.31	0.09	1.70	1.81	
4/29/2025 16:19	10.68	0.17	0.19	9.25	0.07	1.54	2.05	
4/29/2025 16:19	0.27	0.17	0.25	0.39	-0.11	1.56	1.94	
4/29/2025 16:19	0.06	0 18	0.07	0.28	-0.36	1.54	1.86	
4/29/2025 16:19	0.05	0.17	-0.45	0.23	-0.63	1.50	2.75	
4/29/2025 16:19	0.05	0.17	-0.13	0.20	-0.84	1.46	2.26	
4/29/2025 16:20	0.05	0.18	0.05	0.19	-0.83	1.44	2.02	
4/29/2025 16:20	0.05	0.18	0.37	0.18	-0.80	1.43	1.87	
4/29/2025 16:20	0.05	0.18	0.08	0.15	-0.78	1 42	2.36	
4/29/2025 16:20	0.05	0.17	0.20	-0.76	-0.80	1.42	1.87	
4/29/2025 16:20	0.05	0.18	0.11	0.15	-0 72	1.41	2.04	
4/29/2025 16:20	0.04	0.17	-0.25	0.13	-0.71	1.40	2.16	
4/29/2025 16:21	0.05	0.17	0.13	0.12	-0.74	1.40	1.96	
4/29/2025 16:21	0.06	0.18	0.00	0.10	-0.81	1.40	2.17	
4/29/2025 16:21	0.05	0.18	-0.22	0.11	-0.91	1.39	2.17	205 Zero
4/29/2025 16:21	0.03	0.17	0.19	0.11	-0.93	1.39	1.90	
4/29/2025 16:21	0.04	0.18	0.26	0.12	-0.89	1.39	1.90	
4/29/2025 16:21	0.80	0.19	0.18	1.38	-0.83	1.39	2.09	
4/29/2025 16:22	18.22	3.41	0.27	0.94	-0.83	1.39	1.80	
4/29/2025 16:22	21.84	16.50	0.54	0.16	-0.88	1.38	1.97	
4/29/2025 16:22	21.98	21.74	0.56	0.12	-0.93	1.38	2.50	
4/29/2025 16:22	21.97	22.33	0.79	0.10	-0.90	1.38	1.99	205 Span
4/29/2025 16:22	21.98	22.39	1.40	0.09	-0.83	1.37	1.93	
4/29/2025 16:22	21.98	22.39	0.88	0.10	-0.92	1.38	2.02	
4/29/2025 16:23	21.93	22.37	0.85	0.11	-0.97	1.38	2.10	
4/29/2025 16:23	21.91	22.32	1.05	0.34	-0.89	1.37	2.37	
4/29/2025 16:23	13.27	17.82	0.98	0.18	-0.80	1.38	2.10	
4/29/2025 16:23	10.00	11.14	0.09	0.09	-0.74	1.37	1.86	
4/29/2025 16:23	9.95	9.93	0.20	0.08	-0.79	1.38	2.28	
4/29/2025 16:23	9.96	9.91	0.34	0.08	-0.87	1.37	2.05	
4/29/2025 16:24	9.95	9.91	-0.23	0.06	-0.95	1.37	1.76	
4/29/2025 16:24	9.95	9.94	-0.41	0.05	-0.99	1.37	2.52	205 Mid
4/29/2025 16:24	10.16	9.99	0.32	0.07	-0.98	1.37	1.85	
4/29/2025 16:24	16.98	13 06	-0.29	0.05	-0.99	1.37	1.36	
4/29/2025 16:24	17.62	17.56	-0.07	0.06	-1.03	1.38	1.14	
4/29/2025 16:24	17.64	17.89	-0.39	0.07	-1.01	1.38	1.86	
4/29/2025 16:25	17.61	17.90	-0.07	0.07	-0.96	1.37	1.66	
4/29/2025 16:25	17.64	17.90	0.14	0.05	-0.98	2.22	1.73	
4/29/2025 16:25	17.21	17.72	0 36	0.06	-0.97	2.46	2.51	
4/29/2025 16:25	11.17	14.09	0.25	0.05	-0.97	1.67	2.10	
4/29/2025 16.25	10.96	11.04	0.17	0.05	-0.89	1.55	1.94	
4/29/2025 16:25	10.97	10.95	0.16	0.05	-0.92	1.48	0.47	
4/29/2025 16:26	10.97	10.96	0.23	0.05	-0.99	1.49	1.64	
4/29/2025 16:26	10.98	10.96	-0.21	0.07	-1.02	1.64	1.10	
4/29/2025 16:26	10.98	10.96	0.03	0.06	-0.98	1.49	-0.77	205 50
4/29/2025 16:26	10.98	10.97	0.00	0.06	-0.96	1.43	0.38	
4/29/2025 16:26	10.03	10.57	0.34	0.06	-0.99	1.40	0.84	
4/29/2025 16:26	4.41	6.58	0.02	0.06	-1.01	1.39	-0.65	
4/29/2025 16:27	4 44	4.35	0.02	0.06	-1.00	1.42	1.82	
4/29/2025 16:27	4.43	4.41	-0.17	0.06	-1.03	1.46	0.90	205 20
4/29/2025 16:27	4.42	4.37	0.24	0.05	-1.06	1.41	1.08	
4/29/2025 16:27	2.50	3.45	0.21	0.41	-1.02	1.39	2.15	
4/29/2025 16:27	2.22	2.40	0.07	0.06	-0.97	1.39	-0.43	
4/29/2025 16:27	2.22	2.34	-0 15	0.05	-1.04	1.40	-0.14	
4/29/2025 16:28	2.21	2.33	-0.07	0.04	-1.09	1.39	0.54	205 10
4/29/2025 16:28	2.97	2.47	0.01	0.05	-1.13	1.59	0.41	
4/29/2025 16:28	9.36	5.34	-0.27	0.05	-1.16	1.71	-0.17	
4/29/2025 16:28	9.92	9.59	0.52	0.05	-1.16	1.61	-0.79	
4/29/2025 16:28	9.92	9.89	-0.22	0.03	-1.18	1.49	0.64	
4/29/2025 16:28	9.94	9.88	-0.26	0.04	-1.17	1.44	0.94	
4/29/2025 16:29	9.92	9.89	-0.01	0.05	-1.15	1.42	1.32	205 mid
4/29/2025 16:29	9.95	9.90	-0.10	0 05	-1.12	1.41	0 40	
4/29/2025 16:29	12.54	10.59	0.09	0.05	-1.11	1.42	-0.27	
4/29/2025 16:29	17.48	15.12	-0.19	0.03	-1.17	1.39	0.14	
4/29/2025 16:29	17.61	18.01	-0.31	0.05	-1.20	1.38	0.04	
4/29/2025 16:29	17.62	17.89	0.33	0.04	-1.19	1.38	-0.55	205 80
4/29/2025 16:30	17.61	17.86	0.57	0.03	-1.17	1.37	-0.32	
4/29/2025 16:30	17.61	17.87	1.45	0.04	-1.19	1.37	0.73	
4/29/2025 16:30	16.23	17.39	1.65	0.05	-1.27	1.37	0.46	
4/29/2025 16:30	10.97	13.17	1.62	0.04	-1.20	1.37	1.09	
4/29/2025 16:30	10.96	10.90	2.16	0.04	-1.21	1.37	-0.37	
4/29/2025 16:30	10.97	10.94	1.08	0.05	-1.23	1.37	1.22	
4/29/2025 16:31	10.96	10.94	0.70	0.04	-1.18	1.37	1.26	
4/29/2025 16:31	10.97	10.97	0.56	0.05	-1.24	1.37	1.14	
4/29/2025 16:31	10.97	10.96	0.09	0.05	-1.29	1.37	-0.74	

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/29/2025 16:31	10.97	10.98	0.03	0.05	-1.27	1.37	-0.58	
4/29/2025 16:31	10.97	10.95	-0.49	0.05	-1.26	1.36	0.56	205 50
4/29/2025 16:31	10.90	10.86	0.30	0.05	-1.30	1.36	-1.38	
4/29/2025 16:32	5.00	7.50	-0.01	0.05	-1.27	1.36	0.96	
4/29/2025 16:32	4.43	4.52	0.04	0.04	-1.15	1.36	1.15	
4/29/2025 16:32	4.43	4.42	-0.09	0.04	-1.15	1.36	-1.00	
4/29/2025 16:32	4.44	4.42	0.15	0.05	-1.24	1.36	-0.40	
4/29/2025 16:32	4.43	4.41	0.17	0.04	-1.36	1.37	0.22	
4/29/2025 16:32	4.46	4.44	0.06	0.05	-1.37	1.36	-1.11	
4/29/2025 16:33	4.45	4.43	0 18	0.04	-1.32	1.36	-0.48	
4/29/2025 16:33	4.44	4.42	-0.08	0.04	-1.34	1.36	-0.63	205 20
4/29/2025 16:33	4.46	4.42	-0.29	0.04	-1.38	1.36	-1.08	
4/29/2025 16:33	3.64	4.14	0.10	0.10	-1.40	1.35	0.47	
4/29/2025 16:33	2.26	2.90	0.13	0.05	-1.40	1.36	-0.59	
4/29/2025 16:33	2.21	2.35	0.13	0.06	-1.43	1.37	-0.61	
4/29/2025 16:34	2.22	2.34	0.13	0.06	-1.39	1.37	-0.82	205 10
4/29/2025 16:34	2.22	2.34	-0.44	0.03	-1.37	1.36	0.50	
4/29/2025 16:34	3.02	2.46	-0.17	0.04	-1.35	1.36	-0.42	
4/29/2025 16:34	9.35	5.32	0.04	0.03	-1.42	1.36	-0.86	
4/29/2025 16:34	9.94	9.63	0.02	0.05	-1.53	1.36	-1.09	
4/29/2025 16:34	9.94	9.90	-0.21	0.03	-1.56	1.36	-0.88	
4/29/2025 16:35	9 93	9,90	-0.14	0.04	-1.59	1.35	-0.37	
4/29/2025 16:35	9.92	9.89	0.30	0.04	-1.58	1.35	0.89	
4/29/2025 16:35	9.94	9.87	0.36	0.04	-1.56	1.35	-1.10	
4/29/2025 16:35	9.94	9.86	0.29	0.04	-1.55	1.35	1.19	205 mid
4/29/2025 16:35	14.59	11.48	0.44	0.05	-1.52	1.35	-1.10	
4/29/2025 16:35	17.54	16.56	0.39	0.04	-1.60	1.35	-1.22	
4/29/2025 16:36	17.60	17.89	0.10	0.05	-1.63	1.34	-0.54	
4/29/2025 16:36	17.60	17.87	-0.49	0.05	-1.68	1.34	-1.24	
4/29/2025 16:36	17.59	17.88	-0.45	0.05	-1.62	1.34	-0.98	
4/29/2025 16:36	17.61	17.88	0.10	0.05	-1.57	1.34	-1.08	
4/29/2025 16:36	17.60	17.88	0.07	0.04	-1.46	1.33	-1.19	
4/29/2025 16:36	17.61	17.86	0.03	0.04	-1.43	1.33	-0.42	205 80
4/29/2025 16:37	16.46	17.44	0.19	0.04	-1.51	1.34	-1.22	
4/29/2025 16:37	10.98	13.52	0.26	0.04	-1.49	1.34	-1.02	
4/29/2025 16:37	10.95	10.92	1.62	0.04	-1.44	1.34	-0.79	
4/29/2025 16:37	10.96	10.95	1.94	0.04	-1.48	1.34	-0.31	
4/29/2025 16:37	10.95	10.93	1.81	0.05	-1.50	1.34	-1.01	
4/29/2025 16:37	10.95	10.94	1.21	0.05	-1.58	1.34	-0.91	
4/29/2025 16:38	10.96	10.95	0.66	0.05	-1.65	1.35	-0.88	205 50
4/29/2025 16:38	7.53	9.31	0.04	0.04	-1.66	1.35	1.08	
4/29/2025 16:38	4.40	5.24	0 22	0.04	-1.54	1.34	-0.10	
4/29/2025 16:38	4.42	4.38	0.25	0.05	-1.48	1.34	1.02	
4/29/2025 16:38	4.43	4.42	0.55	0.04	-1.51	1.34	-1.20	
4/29/2025 16:38	4.43	4.43	0 13	0.03	-1.58	1.34	-0.48	205 20
4/29/2025 16:39	4.43	4.42	-0.05	0.04	-1.67	1.35	-0.14	
4/29/2025 16:39	3 53	4.09	-0.01	0.05	-1.73	1.34	-0.74	
4/29/2025 16:39	2.25	2.82	0.44	0.06	-1.71	1.34	-1.19	
4/29/2025 16:39	2.22	2.35	-0.09	0.06	-1.69	1.33	0.10	
4/29/2025 16:39	2.21	2.35	-0.83	0.06	-1.67	1.34	0.35	
4/29/2025 16:39	2.21	2.35	0.28	0.06	-1.61	1.33	-1.08	
4/29/2025 16:40	2.22	2.33	0.49	0.06	-1.62	1.33	-0.87	205 10
4/29/2025 16:40	4.35	2.74	0.01	0.06	-1.69	1.34	-0.23	
4/29/2025 16:40	9.60	6.36	0.17	0.06	-1.83	1.34	-1.08	
4/29/2025 16:40	9.94	9.90	-0.12	0.05	-1.85	1.34	-0.81	
4/29/2025 16:40	9.93	9.89	-0.23	0.05	-1.72	1.34	-1.13	
4/29/2025 16:40	9.91	9.90	0.31	0.05	-1.65	1.33	0.57	
4/29/2025 16:41	9.93	9.92	0.14	0.05	-1.60	1.34	0.58	205 mid
4/29/2025 16:41	9.92	9.89	-0.11	0.06	-1.64	1.34	-0.90	
4/29/2025 16:41	9.91	9.88	-0.04	0.13	-1.70	1.34	-0.20	
4/29/2025 16:41	9.91	9.86	0.06	0.21	-1.69	1.34	-0.56	
4/29/2025 16:41	9.00	9.44	0.25	0.20	-1.67	1.34	1.40	
4/29/2025 16:41	0.75	3.46	-0.20	0.09	-1.68	1.34	-0.68	
4/29/2025 16:42	0.05	0.39	-0.22	0.09	-1.63	1.33	-0.79	
4/29/2025 16:42	0.05	0.21	0.23	0.08	-1.64	1.33	-0.46	
4/29/2025 16:42	0.04	0.20	0.46	0.07	-1.76	1.34	0.51	
4/29/2025 16:42	0.04	0.19	0.61	0.05	-0.58	1.34	-0.57	
4/29/2025 16:42	0.04	0.19	0.06	0.04	-0.03	1.33	-0.55	
4/29/2025 16:42	0.03	0.19	0.15	0.04	-0.03	1.33	-0.50	
4/29/2025 16:43	0.05	0.19	0.06	0.04	-0.02	1.33	-0.87	
4/29/2025 16:43	0.04	0.18	0.32	0.06	-0.01	1.34	-0.85	
4/29/2025 16:43	0.03	0 19	-0.11	0.05	-0.02	1.34	-0.80	
4/29/2026 16:43	0 04	0.18	-0.01	0.05	-0.01	1.33	-0.90	
4/29/2025 16:43	0.04	0.18	-0.07	0.05	0.00	1.33	-0.51	
4/29/2025 16:43	0.03	0.18	0.03	0.05	0.00	1.32	-0.72	
4/29/2025 16:44	0.04	0.17	0.41	0.04	0.00	1.32	-0.68	
4/29/2025 16:44	0.03	0.17	-0.38	0.05	-0.08	1.32	-0.76	
4/29/2025 16:44	0.03	0.19	-0.29	0.04	-0.11	1.33	-1.24	
4/29/2025 16:44	0.02	0.18	0.02	0.10	-0.06	1.32	-0.66	
4/29/2025 16:44	0.03	0.19	0.30	0.14	0.02	1.32	-0.80	
4/29/2025 16:44	0.03	0.19	-0.22	0.14	0.06	1.33	-0.48	
4/29/2025 16:45	0.02	0.19	-0.05	0.16	0.06	1.33	-0.85	
4/29/2025 16:45	0.02	0.19	0.21	0.17	0.07	1.32	-0.83	
4/29/2025 16:45	0 30	0.27	0 47	0.17	0.03	1.32	-0.88	

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/29/2025 16:45	1.01	0.81	0.25	0.12	-0.03	1.32	-0.91
4/29/2025 16:45	1.07	0.96	-0.01	1.66	-0.03	1.32	-0.82
4/29/2025 16:45	0.94	0.40	-0.57	4.84	0.87	1.32	-0.85
4/29/2025 16:46	0.11	0.20	-0.11	4.58	7.12	1.32	-1.13
4/29/2025 16:46	0.05	0.19	0.05	3.19	19.19	1.37	-0.97
4/29/2025 16:46	0.04	0.19	-0.17	2.87	32.67	1.36	-1.18
4/29/2025 16:46	0.04	0.18	-0 23	2.40	41.77	1.34	-0.98
4/29/2025 16:46	0.04	0.17	0.26	1.90	46.85	1.33	-0.96
4/29/2025 16:46	0.05	0.18	-0.08	1.52	49.78	1.32	-0.86
4/29/2025 16:47	0.03	0.17	0.10	1.25	51.63	1.31	-0.78
4/29/2025 16:47	0.04	0.18	0.30	1.06	53.01	1.32	-1.16
4/29/2025 16:47	0.04	0.19	0.23	0.93	54.02	1.33	-0.99
4/29/2025 16:47	0.03	0.17	-0.32	0.85	54.62	1.33	-0.81
4/29/2025 16:47	0.03	0.19	0.32	0.81	54.92	1.33	-0.96
4/29/2025 16:47	0.03	0.18	0.59	0.76	55.17	1.32	-0.92
4/29/2025 16:48	0.03	0.18	0.03	0.70	55.37	1.33	-0.63
4/29/2025 16:48	0.03	0.18	0.00	0.68	55.51	1.32	-0.90
4/29/2025 16:48	0.04	0.18	0.25	0.66	55.63	1.32	-0.80
4/29/2025 16:48	0.04	0.17	0.50	0.64	55.65	1.32	-1.14
4/29/2025 16:48	0.03	0.17	0.52	0.63	55.73	1.32	-1.06
4/29/2025 16:48	0.04	0.18	0.54	0.61	55.82	1.33	-0.86
4/29/2025 16:49	0.03	0 17	-0.07	0.60	55.82	1.33	-0.76
4/29/2025 16:49	0.03	0.18	0.56	0.58	55.81	1.33	-0.92
4/29/2025 16:49	0.03	0.18	0.22	0.60	55.78	1.32	-0.43
4/29/2025 16:49	0.03	0.17	0.58	0.59	55.80	1.32	-0.60
4/29/2025 16:49	0.03	0.17	0.51	0.58	55.86	1.32	-1.09
4/29/2025 16:49	0.04	0.18	0.37	0.55	55.87	1.32	-0.60
4/29/2025 16:50	0.04	0.19	0.55	0.58	55.90	1.32	-0.44
4/29/2025 16:50	0.04	0.17	0.36	0.57	55.92	1.33	-0.92
4/29/2025 16:50	0.03	0.17	0.50	0.56	55.90	1.33	-0.82
4/29/2025 16:50	0.04	0.18	0.43	0.59	55.93	1.32	-0.64
4/29/2025 16:50	0.04	0.18	-0.18	0.62	55.90	1.32	-0.67
4/29/2025 16:50	0.03	0.18	-0.02	0.67	55.85	1.33	-0.71
4/29/2025 16:51	0.04	0.18	-0.19	0.74	55.72	1.33	-1.00
4/29/2025 16:51	0.04	0.18	-0.13	0.84	58.03	1.33	-1.00
4/29/2025 16.51	0.03	0.18	0.04	0.91	59.40	1.33	-0.71
4/29/2025 16:51	0.03	0.17	0.18	0.98	59.09	1.33	-0.70
4/29/2025 16:51	0.03	0.16	0.09	1.06	58.84	1.33	-0.93
4/29/2025 16:51	0.03	0.18	0.31	1.10	58.67	1.35	-0.87
4/29/2025 16:52	0.04	0.18	-0.27	1.12	58.62	1.35	-1.22
4/29/2025 16:52	0.03	0.16	0.13	1.11	59.40	1.34	-1.21
4/29/2025 16:52	0.04	0.17	0.06	0.90	59.93	4.41	-1.00
4/29/2025 16:52	0.03	0.16	-0.27	0.07	55.69	2.89	-1.24
4/29/2025 16:52	0.03	0.17	0.32	0.04	37.04	1.92	-1.27
4/29/2025 16:52	0.04	0.17	0.38	0.04	18.08	1.72	-1.22
4/29/2025 16:53	0.03	0.16	0.93	0.05	7.40	1.57	-2.20
4/29/2025 16:53	0.04	0.16	1.06	0.05	2.75	1.48	-0.83
4/29/2025 16:53	0.04	0.17	0.73	0.04	0.93	1.44	-1.12
4/29/2025 16:53	0.04	0.17	0.48	0.04	0.20	1.40	-0.97
4/29/2025 16:53	0.03	0.17	0.63	0.06	-0.10	1.38	-0.98
4/29/2025 16:53	0.04	0.17	0.24	0.06	-0.31	1.37	-2.03
4/29/2025 16:54	0.03	0.16	-0.33	0.05	-0.38	1.36	-1.07
4/29/2025 16:54	0.04	0.16	0.07	0.06	-0.42	1.36	-1.22
4/29/2025 16:54	0.03	0.16	0.08	0.04	-0.42	1.36	-2.02
4/29/2025 16:54	0.02	0.17	-0.06	0.04	-0.41	1.36	-0.70
4/29/2025 16:54	0.03	0.16	-0.24	0.03	-0.36	1.37	-1 02
4/29/2025 16:54	0.04	0.18	0.05	0.05	-0.39	1.35	-1.64
4/29/2025 16:55	0.04	0.17	0.21	0.04	-0.41	1.35	-0.65
4/29/2025 16:55	0.04	0.18	-0.07	0.05	-0.38	1.34	-2.41
4/29/2025 16:55	0.03	0.17	-0.50	0.04	-0.42	1.34	-2.08
4/29/2025 16:55	0.03	0.17	0.21	0.03	-0.47	1.34	-1.70
4/29/2025 16:55	0.03	0.16	-0.05	0.05	-0.49	1.34	-0.66
4/29/2025 16:55	0.03	0.18	-0.02	0.05	-0.47	1.34	-1.56
4/29/2025 16:56	0.03	0.17	0.04	0.03	-0.47	1.34	-2.51
4/29/2025 16:56	0.04	0.16	0 06	0.05	-0.49	1.33	-1.83
4/29/2025 16:56	0.04	0.16	0.02	0.05	-0.52	1.34	-0.61
4/29/2025 16:56	0.03	0.17	-0.39	0.05	-0.57	1.33	-0.84
4/29/2025 16:56	0.03	0.17	0.42	0.05	-0.53	1.33	-0.62
4/29/2025 16:56	0.02	0.16	0.02	0.07	-0.42	1.32	-2.55
4/29/2025 16:57	0.05	0.19	-0.07	0.42	0.05	1.33	-2.39
4/29/2025 16:57	0.11	0.24	0.17	0.49	5.91	1.33	-3.91
4/29/2025 16:57	0.03	0.22	0.05	0.50	15.61	1.32	-1.37
4/29/2025 16:57	0.05	0.18	0.29	0.76	22.77	1.32	-2.86
4/29/2025 16:57	0.04	0.17	0.28	0.69	26.33	1.32	-0.97
4/29/2025 16:57	0.02	0.17	0.09	0.56	27.37	1.33	-0.72
4/29/2025 16:58	0.03	0.18	0.01	0.52	28.15	1.33	-3.44
4/29/2025 16:58	0.03	0.17	0.27	0.49	28.79	1.32	-0.84
4/29/2025 16:58	0.03	0.17	0.21	0.45	29.12	1.33	-2.55
4/29/2025 16:58	0.03	0.17	-0.11	0.46	29.35	1.33	-2.23
4/29/2025 16:58	0.03	0.17	-0.11	0.44	29.56	1.32	-1.74
4/29/2025 16:58	0.04	0.17	0.13	0.44	29.61	1.32	-2.59
4/29/2025 16.59	0.04	0.17	-0.22	0.42	29.66	1.32	-2.69
4/29/2025 16:59	0.03	0.18	-0.13	0.41	29.69	1.32	-2.58
4/29/2025 16:59	0.03	0.16	0.33	0.40	29.73	1.32	-2.17

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/29/2025 16:59	0.03	0.17	0.21	0.39	29.76	1.32	-1.13
4/29/2025 16:59	0.03	0.17	0.51	0.39	29.79	1.32	-2.61
4/29/2025 16:59	0.03	0.17	-0.04	0.37	29.76	1.32	-1.64
4/29/2025 17:00	0.04	0.18	0.04	0.35	29.74	1.31	-1.61
4/29/2025 17:00	0.04	0.17	-0.32	0.35	29.80	1.32	-3.71
4/29/2025 17:00	0.03	0.17	-0.41	0.34	29.96	1.32	-1.63
4/29/2025 17:00	14.39	0.21	0.53	0.50	29.18	1.33	-2.01
4/29/2025 17:00	20.54	0.23	0.53	0.10	21.68	1.27	-0.48
4/29/2025 17:00	20.71	0.21	0.27	0.11	11.33	1.22	-1.90
4/29/2025 17:01	20.70	0.23	-0.34	0.10	4.62	1.21	-3.54
4/29/2025 17:01	20.69	0.23	0.27	0.10	1.52	1.20	-1.63
4/29/2025 17:01	20.70	0.22	-0.28	0.12	0.32	1.20	-3.33
4/29/2025 17:01	20.68	0.23	0.08	0.11	-0.17	1.21	-2.06
4/29/2025 17:01	20.69	0.22	0.83	0.10	-0.40	1.20	-3.85
4/29/2025 17:01	20.68	0.23	1.04	0.10	-0.48	1.20	-2.51
4/29/2025 17:02	20.69	0.22	1.61	0.12	-0.43	1.20	-2.27
4/29/2025 17:02	20.68	0.23	1.24	0.13	-0.46	1.20	-1.60
4/29/2025 17:02	20.69	0.23	0.26	0.13	-0.50	1.21	-4.07
4/29/2025 17:02	20.68	0.24	0.00	0.12	-0.50	1.21	-2.03
4/29/2025 17:02	20.69	0.23	0.17	0.12	-0.51	1.21	-1.42
4/29/2025 17:02	20.67	0.22	0.29	0.14	-0.52	1.21	-3.97
4/29/2025 17:03	20.69	0.22	0.41	0.13	-0.47	1.21	-3.01
4/29/2025 17:03	20.69	0.22	0.31	0.14	-0.51	1.21	-3.53
4/29/2025 17:03	20.69	0.24	0.70	0.13	-0.58	1.21	-3.77
4/29/2025 17:03	20.69	0.24	0.92	0.12	-0.59	1.21	-4.08
4/29/2025 17:03	20.67	0.21	0.06	0.13	-0.61	1.20	-2.90
4/29/2025 17:03	20.68	0.22	0.02	0.13	-0.68	1.20	-4.00
4/29/2025 17:04	20.68	0.23	0.45	0.12	-0.73	1.21	-3.97
4/29/2025 17:04	20.67	0.23	0.16	0.13	-0.72	1.21	-3.86
4/29/2025 17:04	20.69	0.22	-0.15	0.12	-0.69	1.21	-3.35
4/29/2025 17:04	20.68	0.22	-0.13	0.12	-0.66	1.21	-3.48
4/29/2025 17:04	20.68	0.22	0.10	0.13	-0.58	1.21	-4.01
4/29/2025 17:04	20.69	0.24	0.49	0.12	-0.58	1.21	-3.91
4/29/2025 17:05	20.68	0.22	-0.41	0.12	-0.53	1.21	-3.90
4/29/2025 17:05	20.69	0.23	-0.09	0.12	-0.50	1.22	-4.13
4/29/2025 17:05	20.67	0.23	0.05	0.11	-0.56	1.22	-3.75
4/29/2025 17:05	20.68	0.23	0.06	0.11	-0.64	1.22	-3.93
4/29/2025 17:05	20.69	0.22	0.43	0.12	-0.62	1.77	-4.32
4/29/2025 17:05	20.68	0.22	0.01	0.12	-0.66	1.40	-3.89
4/29/2025 17:06	20.68	0.22	-0.28	0.13	-0.68	1.23	-3.69
4/29/2025 17:06	20.67	0.22	0.12	0.12	-0.72	1.22	-3.82
4/29/2025 17:06	20.67	0.23	0.02	0.12	-0.79	1.23	-3.91
4/29/2025 17:06	20.68	0.23	-0.01	0.12	-0.81	1.23	-3.89

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 7:30	20.76	0.18	0.22	0.01	-3.02	1.32	-6.55	
4/30/2025 7:31	20.76	0.18	-0.08	0.05	-2.99	1.23	-6.32	
4/30/2025 7:31	20.76	0.19	0.18	0.04	-2.97	1.23	-6.61	
4/30/2025 7:31	20.76	0.18	0.23	0.04	-2.98	1.23	-6.69	
4/30/2025 7:31	20.77	0.18	-0.19	0.02	-3.02	1.25	-6.73	
4/30/2025 7:31	20.76	0.18	-0.31	0.02	-3.05	1.23	-6.76	
4/30/2025 7:31	20.77	0.21	-0.01	0.05	-3.05	1.18	-6.91	
4/30/2025 7:32	21.58	3.84	0.23	0.12	-2.97	1.16	-6.28	
4/30/2025 7:32	21.98	18.25	0.18	0.06	-2.77	1.18	-6.90	
4/30/2025 7:32	22.01	21 89	-0.36	0.05	-2.75	1.20	-6.92	
4/30/2025 7:32	22.04	21.99	0.14	0.05	-2.80	7.28	-7.38	
4/30/2025 7:32	22.03	22.03	0.60	0.03	-2.84	18.99	-6.64	
4/30/2025 7:32	22.04	22.01	0.13	0.03	-2.85	9.19	-6.59	
4/30/2025 7:33	22.03	21.80	-0.09	0.02	-2.86	5.65	-6.86	
4/30/2025 7:33	20.94	21.10	0.08	0.06	-2.95	3.79	-6.88	
4/30/2025 7:33	3.01	8.28	0.36	0.02	-2.67	2.82	-6.57	
4/30/2025 7:33	7.37	2.47	0.24	0.03	-2.31	2.26	-7.01	
4/30/2025 7:33	9.87	7.79	0.51	0.01	-2.50	1.94	-6.77	
4/30/2025 7:33	9.97	9.54	0.23	0.02	-2.77	1.74	-6.42	
4/30/2025 7:34	9.95	9.53	-0.05	0.00	-2.90	1.61	-6.86	
4/30/2025 7:34	11.12	9.78	-0.34	0.01	-2.93	1.54	-6.53	
4/30/2025 7:34	20.75	14 96	0.00	0.00	-2.98	1.48	-6.02	
4/30/2025 7:34	21.99	21.19	-0.03	0.00	-3.03	1.42	-6.32	
4/30/2025 7:34	22.05	21.81	-0.02	0.02	-3.06	1.39	-6.72	
4/30/2025 7:34	22.04	21.83	0.02	0.00	-3.08	1.36	-7.10	
4/30/2025 7:35	22.03	21.84	0.04	0.02	-2.99	1.35	-7.09	
4/30/2025 7:35	22.04	21.83	0.09	0.01	-2.93	1.33	-6.84	O2 CO2 Span
4/30/2025 7:35	22.03	21.85	0.29	0.01	-2.95	1.31	-6.94	
4/30/2025 7:35	11.38	15.76	0.10	0.01	-2.99	1.30	-7.00	
4/30/2025 7:35	0.27	2.54	0.31	0.00	-2.71	1.29	-6.98	
4/30/2025 7:35	0.06	0.19	0.39	0.00	-2.59	1.28	-6.77	
4/30/2025 7:36	0.06	0.16	0.10	0.00	-2.81	1.27	-6.88	
4/30/2025 7:36	0.06	0.15	-0.36	0.00	-2.90	1.26	-6.58	
4/30/2025 7:36	0.05	0.15	0.12	0.00	-2.95	1.25	-7.06	
4/30/2025 7:36	0.05	0.14	0.42	-0 01	-2 98	1.24	-6.68	
4/30/2025 7:36	0.05	0.13	0.11	0.00	-2.96	1.24	-6.65	
4/30/2025 7:36	0.04	0.15	-0.03	0.00	-2.90	1.24	-7.05	
4/30/2025 7:37	0.04	0.13	0 03	0.01	-2.85	1.23	-6.45	
4/30/2025 7:37	0.04	0.11	0.00	0.00	-2.94	1.22	-6.65	
4/30/2025 7:37	0.76	0.22	0.09	0.00	-2.92	1.22	-7.00	
4/30/2025 7:37	8.66	2.81	0.10	0.01	-2.84	1.21	-6.80	
4/30/2025 7:37	9.94	8.78	-0.01	0.01	-2.89	1.21	-6.83	
4/30/2025 7:37	9.97	9.52	0.32	0.01	-2.92	1.21	-6.96	
4/30/2025 7:38	9.96	9.54	0 10	0.01	-3.03	1.20	-6.94	
4/30/2025 7:38	9.97	9.57	-0.34	0.00	-3.05	1 20	-6.93	
4/30/2025 7:38	9.99	9.60	-0.14	0.01	-3.05	1.19	-6.69	
4/30/2025 7:38	9.97	9.59	-0.10	0.00	-2.96	1.18	-6.97	
4/30/2025 7:38	9.98	9.57	-0.10	0.01	-2.89	1.19	-6.52	
4/30/2025 7:38	9 98	9.58	0.30	-0.01	-2.98	1.18	-6.81	O2 CO2 Mid
4/30/2025 7:39	9.95	9.56	0.65	0.00	-2.99	1.17	-6.78	
4/30/2025 7:39	3.03	5.43	-0.02	0.00	-2.84	1.17	-6.54	
4/30/2025 7:39	0.09	0.74	-0.24	0.01	-2.70	1.17	-6.98	
4/30/2025 7:39	0.05	0.15	0.07	0.01	-2.85	1.16	-6.56	
4/30/2025 7:39	0.04	0.14	0.18	-0.01	-2.95	1.16	-6.60	
4/30/2025 7:39	0.04	0.14	0.72	-0.01	-2.90	1.16	-7.04	
4/30/2025 7:40	0.04	0.13	0.58	0.01	-2.85	1.16	-6.76	
4/30/2025 7:40	0.03	0.12	0.16	0.00	-1.72	1.15	-6.88	
4/30/2025 7:40	0.04	0.13	-0.09	0.01	0.00	1.15	-7.01	
4/30/2025 7:40	0.04	0.12	0.16	0.00	0.06	1.15	-6.61	Zero Cal
4/30/2025 7:40	0.03	0.13	0.51	0.00	-0.04	1.15	-7.02	
4/30/2025 7:40	0.03	0.13	1.09	0.00	-0.12	1.15	-6.44	
4/30/2025 7:41	0.02	0.13	0.86	0.00	-0.10	1.14	-6.69	
4/30/2025 7:41	0.21	0.18	1.10	0.25	0.01	1.15	-6.79	
4/30/2025 7:41	0.91	0.59	0.76	16.72	0.60	1.14	-6.65	
4/30/2025 7:41	0.19	0.46	25.38	32.47	1.21	1.14	-6.70	
4/30/2025 7:41	0.06	0.13	48.20	32.05	1.15	1.14	-7.06	
4/30/2025 7:41	0.05	0.13	52.33	33.94	0.93	1.13	-7.06	
4/30/2025 7:42	0.04	0.13	53.90	35.15	0.84	1.13	-7.14	
4/30/2025 7:42	0.05	0.15	53.77	36.29	0.80	1.13	-6.75	
4/30/2025 7:42	0,04	0.13	54.03	37.56	0.78	1.12	-6.43	
4/30/2025 7:42	0.04	0.13	53.74	38.89	0.81	1.13	-6.54	
4/30/2025 7:42	0.05	0.13	52.53	40.14	0.80	1.13	-6.93	
4/30/2025 7:42	0.04	0.12	52.91	41.11	0.81	1.13	-6.79	
4/30/2025 7:43	0.04	0.12	52.92	41.60	0.88	1.13	-6.94	
4/30/2025 7:43	0.04	0.12	53.30	42.08	0.87	1.12	-7.25	
4/30/2025 7:43	0 03	0.12	53.20	42.98	0.77	1.12	-6.64	
4/30/2025 7:43	0.04	0.12	53.25	44.14	0.75	1.12	-7.15	
4/30/2025 7:43	0.02	0.13	53.24	45.38	0.83	1.12	-6.60	
4/30/2025 7:43	0.04	0.11	52.98	46.60	0.85	1.12	-6.82	
4/30/2025 7:44	0.04	0.12	52.66	47.61	0.74	1.12	-6.79	
4/30/2025 7:44	0.04	0.11	52.48	48.37	0.56	1.13	-6.62	
4/30/2025 7:44	0.04	0.13	52.41	48.92	0 51	1,12	-7.01	
4/30/2025 7:44	0.03	0.12	52.73	49.28	0.40	1.13	-6.57	
4/30/2025 7:44	0.04	0.12	52.95	49.50	0.29	1.12	-6.71	

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 7:44	0.04	0.12	53.07	49.65	0.26	1.13	-6.12	
4/30/2025 7:45	0.04	0.13	53.11	49.74	0.20	1.13	-6.62	
4/30/2025 7:45	0.04	0.13	53.14	49.79	0.13	1.13	-6.72	
4/30/2025 7:45	0.03	0.12	53.09	49.78	0.07	1.12	-6.56	
4/30/2025 7:45	0.03	0.13	53.37	49.77	0.09	1.12	-7.18	Nox Span
4/30/2025 7:45	0.03	0.14	52.95	37.12	0.06	1.12	-6.71	
4/30/2025 7:45	0.04	0.12	51.63	24.84	0.07	1.12	-6.92	
4/30/2025 7:46	0.03	0.11	41.33	24.78	0.05	1.12	-7.01	
4/30/2025 7:46	0.03	0.12	30.57	24.72	0.09	1.11	-6.81	
4/30/2025 7:46	0.04	0.12	27.66	24.73	0.09	1.12	-6.78	
4/30/2025 7:46	0.05	0.12	27.14	24.77	0.10	1.11	-6.69	
4/30/2025 7:46	0.04	0.11	26.96	24.78	0.12	1.11	-6.90	
4/30/2025 7:46	0.04	0.12	26.57	24.76	0.09	1.12	-6.95	
4/30/2025 7:47	0.03	0.11	26.65	24.75	0.06	1.12	-6.48	Nox Mid
4/30/2025 7:47	0.04	0.11	26.43	9.79	0.05	1.12	-7.04	
4/30/2025 7:47	0.04	0.13	26.69	1.82	0.06	1.12	-6.52	
4/30/2025 7:47	0.29	0.26	22.25	61.82	0.10	1.12	-6.75	
4/30/2025 7:47	0.05	0.27	45.53	74.34	0.24	1.12	-6.89	
4/30/2025 7:47	0.03	0.13	75.68	74.36	0.30	1.12	-6.92	
4/30/2025 7:48	0.03	0.13	80.92	74.20	0.22	1.13	-6.49	
4/30/2025 7:48	0.03	0.12	81.50	74.12	0.12	1.12	-6.91	
4/30/2025 7:48	0.03	0.11	81.35	74.11	0.11	1.12	-6.67	
4/30/2025 7:48	0.04	0.12	80.96	74.16	0.05	1.11	-6.84	
4/30/2025 7:48	0.04	0.13	81.27	74.09	0.03	1.11	-6.70	
4/30/2025 7:48	0.04	0.13	80.83	74.04	0.00	1.11	-6.96	
4/30/2025 7:49	0.03	0.13	80.54	74.10	0.02	1.10	-6.72	
4/30/2025 7:49	0.03	0.13	79.93	74.11	0.05	1.09	-6.61	
4/30/2025 7:49	0.03	0.13	79.56	74.10	0.04	1.10	-6.57	
4/30/2025 7:49	0.03	0.13	79.70	74.13	0.03	1.09	-6.55	
4/30/2025 7:49	0.03	0.12	80.20	74.10	-0.03	1.10	-6.78	
4/30/2025 7:49	0.03	0.12	80.32	74.08	0.01	1.10	-7.04	
4/30/2025 7:50	0.03	0.14	366.86	74.09	0.08	1.10	-6.57	
4/30/2025 7:50	0.03	0.12	721.78	74.10	0.10	1.10	-7.00	
4/30/2025 7:50	0.02	0.13	81.56	74.07	0.06	1.10	-6.21	
4/30/2025 7:50	0.03	0.11	124.16	74.14	0.10	1.09	-7.02	
4/30/2025 7:50	0.04	0.13	1750.29	74.12	0.11	1.10	-6.95	
4/30/2025 7:50	0.04	0.12	3463.15	74.08	0.14	1.10	-6.73	
4/30/2025 7:51	0.03	0.13	2448.78	74.09	0.11	1.10	-7.01	
4/30/2025 7:51	0.04	0.13	69.15	74.12	0.11	1.11	-6.55	
4/30/2025 7:51	0.04	0.13	69.18	74.03	0.20	1.11	-6.54	
4/30/2025 7:51	0.04	0.13	78.13	74.13	0.19	1.11	-6.75	
4/30/2025 7:51	0.04	0.12	80 20	74.08	0.15	1.11	-6.46	
4/30/2025 7:51	0.04	0.10	80.61	74.20	0 14	1.10	-6.85	
4/30/2025 7:52	0.04	0.11	80.59	74.27	0.18	1.10	-7.08	
4/30/2025 7:52	0.04	0.11	80 40	74 28	0.13	1.10	-6.81	CO Span
4/30/2025 7:52	0.03	0.12	79.88	58.80	0.09	1.10	-6.56	
4/30/2025 7:52	0.04	0.13	70.00	33.34	0.16	1.11	-6.26	
4/30/2025 7:52	0.02	0.12	55.85	36.75	0.21	1.12	-7.10	
4/30/2025 7:52	0.03	0.11	45.13	36.75	0.20	1.14	-6.80	
4/30/2025 7:53	0.03	0.13	40.87	36.82	0.14	1.14	-6.31	
4/30/2025 7:53	0.02	0.11	40.67	36.82	0.21	1.13	-6.59	
4/30/2025 7:53	0.03	0.11	40.41	36.84	0.24	1.12	-6.87	
4/30/2025 7:53	0.03	0.11	40.58	36.82	0.20	1.12	-6.97	
4/30/2025 7:53	0.02	0.11	40.63	36.81	0.23	1.13	-6.95	
4/30/2025 7:53	0.02	0.12	40.59	36.81	0.23	1.13	-6.73	CO Mid
4/30/2025 7:54	0.03	0.11	40.42	36.20	0.23	1.13	-6.82	
4/30/2025 7:54	0.03	0.12	36 39	6.41	0.28	1.15	-6.85	
4/30/2025 7:54	0.27	0.18	33.43	33.27	0.27	1.16	-6.94	
4/30/2025 7:54	0.39	0.34	25.09	3.51	0.62	1.16	-6.83	
4/30/2025 7:54	0.09	0.21	13.99	1.21	4.01	1.15	-6.56	
4/30/2025 7:54	0.04	0.13	4.95	0.93	10.97	1.13	-6.64	
4/30/2025 7:55	0.03	0.12	1.14	0.80	18.73	1.11	-6.76	
4/30/2025 7:55	0.03	0.12	0.47	0.75	24.80	1.10	-6.46	
4/30/2025 7:55	0.04	0.12	0.43	0.69	28.82	1.10	-7.04	
4/30/2025 7:55	0.03	0.11	0.39	0.66	31.25	1.09	-6.61	
4/30/2025 7:55	0.04	0.12	0.34	0.64	32.75	1.10	-6.68	
4/30/2025 7:55	0.04	0.12	0.23	0.61	33.74	1.10	-6.82	
4/30/2025 7:56	0.03	0.11	0.26	0.58	34.43	1.10	-6.64	
4/30/2025 7:56	0.04	0.11	0.21	0.57	35.00	1.10	-6.76	
4/30/2025 7:56	0.03	0.11	0.30	0.55	35.66	1.09	-6.67	
4/30/2025 7:56	0.02	0.11	0.22	0.56	36.41	1.08	-6.34	
4/30/2025 7:56	0.04	0.12	0 21	0.54	37.26	1.08	-6.65	
4/30/2025 7:56	0.03	0 11	0.21	0.54	38.12	1.08	-7.13	
4/30/2025 7:57	0.04	0.12	0.30	0.54	38.91	1.09	-6.99	
4/30/2025 7:57	0.03	0.11	0.25	0.54	39.58	1.11	-6.59	
4/30/2025 7:57	0.03	0.11	0.21	0.52	40.21	1.12	-6.59	
4/30/2025 7:57	0.03	0.12	0.25	0.52	40.83	1.12	-6.77	
4/30/2025 7:57	0.03	0.12	0.27	0.51	41.47	1.13	-6.61	
4/30/2025 7:57	0.03	0.11	0.27	0.52	42.08	1.12	-7.15	
4/30/2025 7:58	0.02	0.12	0.31	0.52	42.57	1.10	-6.93	
4/30/2025 7:58	0.02	0.12	0.22	0.53	43.07	1.10	-6.74	
4/30/2025 7:58	0.01	0.11	0 21	0.51	43.44	1.09	-6.41	
4/30/2025 7:58	0.03	0.12	0.27	0.51	43.77	1.08	-6.72	
4/30/2025 7:58	0.02	0.12	0.26	0.51	44.16	1.08	-6.33	

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	NOx	SO2	THC	THC	
4/30/2025 7:58	0.03	0.11	0.22	0.53	44.39	1.08	-6.98	
4/30/2025 7:59	0.03	0.13	0.22	0.53	44.51	1.08	-6.87	
4/30/2025 7:59	0.02	0.12	0.27	0.52	44.65	1.08	-6.88	
4/30/2025 7:59	0.03	0.11	0.21	0.52	44.84	1.08	-6.86	
4/30/2025 7:59	0.02	0.12	0.21	0.53	44.95	1.07	-6.65	
4/30/2025 7:59	0.02	0.11	0.22	0.52	45.05	1.07	-6.80	
4/30/2025 7:59	0.03	0.11	0.21	0.52	45.13	1.07	-6.71	
4/30/2025 8:00	0.02	0.13	0.25	0.53	45.15	1.07	-6.31	
4/30/2025 8:00	0.01	0.11	0.28	0.53	45.18	1.07	-6.64	
4/30/2025 8:00	0.03	0.10	0 22	0.53	45.10	1.07	-6.88	
4/30/2025 8:00	0.02	0.12	0.22	0.52	45.14	1.07	-7.23	
4/30/2025 8:00	0.02	0.12	0.22	0.55	45.22	1.08	-6.50	
4/30/2025 8:00	0.03	0.11	0.26	0.64	46.21	1.11	-6.51	
4/30/2025 8:01	0.02	0.11	0.22	0.64	49.33	1.12	-6.68	
4/30/2025 8:01	0.02	0.12	0.23	0.64	52.20	1.14	-6.74	
4/30/2025 8:01	0.02	0.12	0.26	0.64	53.92	1.17	-6.55	
4/30/2025 8:01	0.03	0.11	0.28	0.62	54.89	1.17	-6.69	
4/30/2025 8:01	0.02	0.11	0.25	0.61	55.64	1.20	-6.96	
4/30/2025 8:01	0.02	0.10	0.31	0.60	56.29	1.18	-7.04	
4/30/2025 8:02	0.03	0.11	0.26	0.57	56.95	1.14	-6.99	
4/30/2025 8:02	0.02	0.11	0.22	0.56	57.63	1.11	-6.42	
4/30/2025 8:02	0.03	0.12	0.23	0.53	58.13	1.11	-6.61	
4/30/2025 8:02	0.01	0.11	0.22	0.51	58.56	1.10	-7.09	
4/30/2025 8:02	0.01	0.11	0.25	0.50	59.02	1.09	-6.87	
4/30/2025 8:02	0.03	0.11	0.23	0.49	59.51	1.09	-6.77	
4/30/2025 8:03	0.03	0.12	0.21	0.47	59.94	1.08	-6.40	
4/30/2025 8:03	0.02	0.10	0.22	0.46	60.27	1.07	-6.18	
4/30/2025 8:03	0.01	0.11	0.21	0.45	60.68	1.07	-7.01	
4/30/2025 8:03	0.03	0.12	0.21	0.44	60.95	1.07	-6.81	
4/30/2025 8:03	0.02	0.11	0.25	0.44	61.14	1.09	-6.48	
4/30/2025 8:03	0.03	0.11	0.28	0.42	61.36	1.16	-6 82	
4/30/2025 8:04	0.02	0.10	0.29	0.41	61.56	1.18	-6.73	
4/30/2025 8:04	0.02	0.11	0.21	0.42	61.67	1.18	-6.46	
4/30/2025 8:04	0.03	0.11	0.26	0.40	60.74	1.17	-6.57	
4/30/2025 8:04	0.02	0.10	0.22	0.40	60.17	1.17	-6.73	
4/30/2025 8:04	0.03	0.12	0.21	0.40	60.30	1.16	-6.78	SO2 Span
4/30/2025 8:04	0.02	0.12	0.29	0.39	60.39	1.15	-6.23	
4/30/2025 8:05	0.03	0.12	0.34	0.32	60.42	1.22	-6.56	
4/30/2025 8:05	0.02	0.11	0.38	0.21	56.21	1.23	-7.06	
4/30/2025 8:05	0.03	0.12	0.21	0.22	45.61	1.22	-6.52	
4/30/2025 8:05	0.03	0.11	0.21	0.21	37.41	1.20	-6.19	
4/30/2025 8:05	0.03	0.13	0.22	0.22	33.26	1.21	-6.65	
4/30/2025 8:05	0.02	0.11	0.19	0.21	31.52	1.27	-6.48	
4/30/2025 8:06	0.03	0.11	0.25	0.21	30.84	1.27	-6.88	
4/30/2025 8:06	0.02	0.12	0.40	0.21	30.63	1.25	-6.71	
4/30/2025 8:06	0.03	0.12	0.26	0.22	30.53	1.24	-7.04	
4/30/2025 8:06	0.01	0.12	0.21	0.22	30.55	1.27	-6.44	SO2 Mid
4/30/2025 8:06	0.03	0.11	0.20	0.21	30.60	1.28	-6.86	
4/30/2025 8:06	10.08	0.13	0.30	0.25	30.26	1.25	-6.71	
4/30/2025 8:07	20.39	0.17	0.42	0.23	24.21	1.23	-7.09	
4/30/2025 8:07	20.44	0.21	0.84	0.59	13.57	2.11	-6.84	
4/30/2025 8:07	6.00	0.58	2.43	2.47	7.57	21.19	-6.52	
4/30/2025 8:07	1.05	0.70	3.41	2.22	8.24	21.87	-6.61	
4/30/2025 8:07	0.26	0.46	2.68	0.32	10.58	74.98	-6.24	
4/30/2025 8:07	0 12	0.14	1.51	0.25	8.01	80.08	-6.52	
4/30/2025 8:08	0.11	0.13	0.63	0.19	4.53	80.99	-6.28	
4/30/2025 8:08	0.10	0.11	0.42	0.17	2.44	81.21	-6.57	
4/30/2025 8:08	0.09	0.12	0.41	0.13	1.51	81.41	-6.71	
4/30/2025 8:08	0.10	0.13	-0.15	0.12	1.18	81.52	-6.82	
4/30/2025 8:08	0.10	0.12	0.42	0.11	1.04	81.59	-6.80	
4/30/2025 8:08	0.08	0.11	0.28	0.10	0.94	81.53	-6 62	
4/30/2025 8:09	0.08	0.12	0.42	0.08	0.87	76.34	-6.33	
4/30/2025 8:09	0.09	0.12	0.41	0.08	0.89	74.85	-6.74	
4/30/2025 8:09	0.09	0.12	0.42	0.07	0.91	74.53	-7.19	
4/30/2025 8:09	0.08	0.11	0.42	0.08	0.95	73.87	-6.68	
4/30/2025 8:09	0.08	0.12	0.41	0.07	0.91	73.09	-6.65	
4/30/2025 8:09	0.07	0.11	0.42	0.08	0.91	72.42	-6.69	
4/30/2025 8:10	0.08	0.11	0.42	0.05	0.90	72.09	-7.12	
4/30/2025 8:10	0.07	0.11	0.41	0.06	0.85	71.90	-6.56	
4/30/2025 8:10	0.06	0.11	0.41	0.05	0.82	73.72	-6.64	
4/30/2025 8:10	0.06	0.11	0.41	0.05	0.84	74.97	-6.70	
4/30/2025 8:10	0.06	0.11	0.41	0.05	0.81	74.92	-7.01	
4/30/2025 8:10	0.07	0.11	0.41	0.04	0.77	74.95	-6.59	
4/30/2025 8:11	0.07	0.11	0.41	0.04	0.79	74.94	-6.58	THC Span
4/30/2025 8:11	0.05	0.12	0.42	0.04	0.79	74.92	-6.38	
4/30/2025 8:11	0.06	0.12	0.41	0.03	0.78	46.80	-6.66	
4/30/2025 8:11	0.06	0.11	0.37	0.04	0.78	0.84	-6.74	
4/30/2025 8:11	0.06	0.11	0.34	0.04	0.82	0.13	-6.86	
4/30/2025 8:11	0.06	0 11	0.41	0.01	0.82	-0.02	-6.96	
4/30/2025 8:12	0.05	0.13	0.32	0.03	0.81	-0.10	-6.77	
4/30/2025 8:12	0.06	0.12	0.42	0.02	0.84	-0.14	-6.72	
4/30/2025 8:12	0.08	0.11	0.41	0.03	0.84	-0.17	-6.86	
4/30/2025 8:12	0.06	0.11	0.41	0.02	0.82	-0.18	-6.81	THC Zero
4/30/2025 8:12	0.06	0.11	0 29	0.03	0.86	-0.21	-6.90	

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 8:12	0.06	0.11	0.31	0.03	0.82	-0.21	-6.93	
4/30/2025 8:13	0.06	0.11	0.41	0.07	0.82	0.48	-6.68	
4/30/2025 8:13	0.07	0.11	0.47	0.07	1.81	19.47	-6.65	
4/30/2025 8:13	0.06	0.12	0.38	0.02	2.85	24.03	-6.81	
4/30/2025 8:13	0.06	0.11	0.41	0.03	2.45	24.28	-6.67	
4/30/2025 8:13	0.07	0.10	0.42	0.02	1.71	24.38	-6.56	
4/30/2025 8:13	0.05	0 10	0.31	0.02	1.27	24.42	-6.86	
4/30/2025 8:14	0.05	0.09	0.42	0.03	1.02	24.43	-6.40	THC Low
4/30/2025 8:14	0.06	0.13	0.41	0.04	0.97	24.44	-6.86	
4/30/2025 8:14	0.06	0.12	0.42	0.04	0.97	24.93	-6.83	
4/30/2025 8:14	0.07	0.10	0.42	0.02	0.94	43.08	-6.78	
4/30/2025 8:14	0.06	0.10	0.29	0.04	0.87	44.16	-6.40	
4/30/2025 8:14	0.06	0.10	0.36	0.04	0.86	44.27	-6.61	
4/30/2025 8:15	0.06	0.12	0.36	0.03	0.91	44.32	-6 79	
4/30/2025 8:15	0.06	0.12	0.42	0.02	0.89	44.34	-6.34	
4/30/2025 8:15	0.05	0.12	0.35	0.03	0.93	44.35	-6.60	
4/30/2025 8:15	0.05	0.13	0.40	0.01	0.94	44.38	-6.78	THC Mid
4/30/2025 8:15	0.05	0.10	0.41	0.01	0.92	44.38	-6.76	
4/30/2025 8:15	0.05	0.10	0.39	0.01	0.92	20.38	-6.83	
4/30/2025 8:16	0.06	0.11	0.32	0.01	0.93	0.30	-6.47	
4/30/2025 8:16	0.05	0.11	0.29	0.02	0.93	-0.03	-6.46	
4/30/2025 8:16	0.05	0.10	0.41	0.01	0.94	-0.12	-6.69	
4/30/2025 8:16	0.06	0.10	0.42	0.01	0.96	-0.16	-6.88	
4/30/2025 8:16	0.05	0.11	0.40	0.01	1.04	-0.18	-6.74	
4/30/2025 8:16	0.06	0.11	0.42	0.02	1.08	-0.20	-6.80	
4/30/2025 8:17	0.05	0.10	0.35	0.01	1.03	-0.21	-6.54	
4/30/2025 8:17	0.06	0.11	0.42	0.00	1.00	-0.22	-6.57	
4/30/2025 8:17	0.06	0.11	0.37	0.00	0.98	-0.24	-6.48	Zero Bias
4/30/2025 8:17	0.05	0.10	0.36	0.02	1.05	21.98	-2.73	
4/30/2025 8:17	0.07	0.12	0.41	0.03	1.10	43.54	-6.42	
4/30/2025 8:17	0.05	0.11	0.42	0.01	1.08	44.12	-6.71	
4/30/2025 8.18	0.05	0.11	0.40	0.01	1.07	44.26	-6.78	
4/30/2025 8:18	0.05	0.11	0.33	0.01	1.06	44.29	-6.44	
4/30/2025 8:18	0.04	0.11	0.42	0.00	1.05	44.33	-6.71	
4/30/2025 8:18	0.05	0.10	0.34	0.01	1.07	44.33	-6.61	
4/30/2025 8:18	0.05	0.10	0.42	0.03	1.08	44.33	-6.86	THC Bias
4/30/2025 8:18	0.81	0.12	0.43	0.24	1.03	44.29	-6.63	
4/30/2025 8:19	12.28	0.32	1.84	2.08	1.02	21.56	-6.65	
4/30/2025 8:19	9.40	2.24	2.62	0.48	1.08	42.16	-6.40	
4/30/2025 8:19	11.16	6.69	2.19	0.42	1.06	1.65	-6.65	
4/30/2025 8:19	11.20	7.85	1.33	0.40	1.04	0.96	-6.32	
4/30/2025 8:19	11.17	8.12	0.81	0.40	1.05	0.72	-6.29	
4/30/2025 8:19	11.18	8.27	0.66	0.42	1.10	0.55	-6.60	
4/30/2025 8:20	11.19	8.29	0.58	0.43	1.19	0.45	-6.47	
4/30/2025 8:20	11.19	8.27	0.48	0.42	1.16	0.46	-6.29	
4/30/2025 8:20	11.15	8.31	0.61	0.42	1.16	0.42	-6.60	
4/30/2025 8:20	10.34	8.66	0.41	0.14	1.13	0.20	-6.41	
4/30/2025 8:20	9.97	9.32	0.13	0.02	1.11	-0.01	-6.59	
4/30/2025 8:20	9.95	9.45	-0.14	0.02	1.11	-0.03	-6.79	
4/30/2025 8:21	9.96	9.46	-0.24	0.02	1.06	-0.05	-6.96	
4/30/2025 8:21	9.97	9.47	-0.25	0.02	1.09	-0.06	-6.65	
4/30/2025 8:21	9.95	9.47	-0.34	0.01	1.12	-0.07	-6.81	O2 CO2 Bias
4/30/2025 8:21	11.50	9.08	-0.21	0.74	1.26	0.06	-6.36	
4/30/2025 8:21	19.14	4.19	1.75	3.15	1.41	3.21	-6.73	
4/30/2025 8:21	13.03	1.46	4.15	1.86	1.46	6.10	-6.64	
4/30/2025 8:22	1.11	1.45	9.19	23.32	1.44	1.91	-6.27	
4/30/2025 8:22	0.15	0.42	21.01	26.24	1.41	-0.06	-6.56	
4/30/2025 8:22	0.08	0.18	32.40	33.68	1.34	-0.10	-7.00	
4/30/2025 8:22	0.07	0.16	39.11	35.59	1.38	-0 13	-6.87	
4/30/2025 8:22	0.08	0.15	40.70	36.55	1.45	-0.16	-6.59	
4/30/2025 8:22	0.08	0.14	40.96	36.83	1.44	-0 20	-6.54	
4/30/2025 8:23	0.07	0.14	41.11	36.92	1.35	-0.22	-6.56	
4/30/2025 8:23	0.07	0.14	41.06	36.94	1.29	-0.24	-6.60	CO Bias
4/30/2025 8:23	0.06	0.14	41.19	36.94	1.28	-0.25	-6.32	
4/30/2025 8:23	0.07	0.12	41.10	36.90	1.28	-0.26	-6.70	
4/30/2025 8:23	10.77	0.21	37.48	15.34	1.31	1.84	-6.69	
4/30/2025 8:23	7.47	0.39	29.64	21.59	1.33	1.68	-6.73	
4/30/2025 8:24	0.25	0.22	25.79	24.14	1.34	-0.18	-6.86	
4/30/2025 8:24	0.08	0.13	25.43	24.06	1.31	-0.26	-6.69	
4/30/2025 8:24	0.07	0.13	26.41	24.01	1.33	-0.28	-6.66	
4/30/2025 8:24	0.06	0.12	27.05	24.20	1.38	-0.29	-6 89	
4/30/2025 8:24	0.06	0 13	27.04	24.23	1.35	-0.29	-6.56	
4/30/2025 8:24	0 06	0.12	27,13	24.23	1.34	-0.29	-6.36	
4/30/2025 8:25	0.07	0.11	26.99	24.19	1.35	-0.30	-6.61	
4/30/2025 8:25	0.07	0.13	27.12	24.19	1.36	-0.31	-6.67	
4/30/2025 8:25	0.06	0.12	27.08	24.17	1.44	-0.31	-6.62	
4/30/2025 8:25	0.06	0.11	27.26	24.19	1.52	-0.31	-6.68	Nox Bias
4/30/2025 8:25	6.99	0.17	25.85	14.78	1.45	0.53	-6.54	
4/30/2025 8:25	19.04	0.49	19.64	4.49	1.35	2.77	-6.84	
4/30/2025 8:26	7.81	0.51	15.67	19.04	1.36	1.17	-6.51	
4/30/2025 8:26	0.48	0.31	15.60	10.00	1.49	-0.19	-6.75	
4/30/2025 8:26	0.14	0.31	11.45	0.83	3.44	-0.27	-6.74	
4/30/2025 8:26	0.09	0.16	5.99	0.60	9.47	-0.28	-6.65	
4/30/2025 8:26	0.08	0.12	1.87	0.53	15.41	-0.27	-6.94	

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 8:26	0.07	0.12	0.73	0.43	19.04	-0.27	-6.11	
4/30/2025 8:27	0.07	0.12	0.50	0.38	21.23	-0.29	-6.34	
4/30/2025 8:27	0.06	0.12	0.41	0.36	22.53	-0.30	-6.78	
4/30/2025 8:27	0.08	0.12	0.41	0.33	23.35	-0.31	-6.89	
4/30/2025 8:27	0.06	0.10	0.41	0.32	23.79	-0.32	-6.59	
4/30/2025 8:27	0.07	0.12	0.44	0.29	24.11	-0.32	-6.92	
4/30/2025 8:27	0.06	0.12	0.41	0.28	24.39	-0.32	-6.53	
4/30/2025 8:28	0.05	0.12	0.41	0.27	24.60	-0.32	-6 57	
4/30/2025 8:28	0.05	0.12	0.42	0.27	24.75	-0.33	-6.40	
4/30/2025 8:28	0.06	0.12	0.41	0.27	24.81	-0.33	-6.58	
4/30/2025 8:28	0.06	0.13	0.41	0.25	24.91	-0.33	-6.72	
4/30/2025 8:28	0.06	0.12	0.41	0.25	25.03	-0.33	-6.78	
4/30/2025 8:28	0.06	0.12	0.42	0.24	25.13	-0.34	-6.51	
4/30/2025 8:29	0.06	0.11	0.41	0.24	25.18	-0.34	-6.35	
4/30/2025 8:29	0.06	0.12	0.42	0.23	25.24	-0.33	-6.74	
4/30/2025 8:29	0.06	0,13	0.41	0.23	25.34	-0.34	-6.82	
4/30/2025 8:29	0.06	0.12	0.41	0.22	25.40	-0.34	-6.89	
4/30/2025 8:29	0.05	0.12	0.41	0.21	25.46	-0.34	-6.66	
4/30/2025 8:29	0.05	0.12	-1.45	0.21	25.61	-0.34	-6.65	
4/30/2025 8:30	0.05	0.12	-1.67	0.21	25.67	-0.34	-6.70	
4/30/2025 8:30	0.05	0.11	-1.73	0.21	25.66	-0.34	-6.23	
4/30/2025 8:30	0.05	0.10	0.15	0.21	25.73	-0.34	-6.33	
4/30/2025 8:30	0.05	0.11	0.30	0.21	25.74	-0.34	-6.69	
4/30/2025 8:30	0.05	0.11	0.41	0.20	25.72	-0.34	-6.46	
4/30/2025 8:30	2.12	0.13	0.49	0.72	25.76	-0.29	-6.49	
4/30/2025 8:31	17.51	0.36	2.62	3.30	24.89	3.27	-6.62	
4/30/2025 8:31	19.88	0.61	5.93	3.41	19.45	5.01	-6.43	
4/30/2025 8:31	20.06	0.63	7.69	3.32	12.34	3.89	-6.71	
4/30/2025 8:31	20.14	0.58	7.44	3.33	7.52	3.23	-6.38	
4/30/2025 8:31	20.04	0.57	6.92	3.50	4.99	3.31	-6.91	
4/30/2025 8:31	19.94	0.65	6.99	3.73	3.76	2.93	45.57	
4/30/2025 8:32	20.06	0.65	6.76	3.57	3.23	2.78	1110.27	
4/30/2025 8:32	20.10	0.59	6.66	3.33	2.97	3.08	1661.46	
4/30/2025 8:32	19.96	0.61	7.41	3.29	2.79	3.29	1677.60	
4/30/2025 8:32	19.99	0 67	8.24	3.33	2.74	3.59	1681.76	
4/30/2025 8:32	20.00	0.64	9.01	3.31	2.64	4.86	1683.42	
4/30/2025 8:32	20.07	0.62	8.73	3.27	2.68	3.97	1684.47	
4/30/2025 8:33	20.12	0.57	7.64	3.28	2.69	3.18	1688.14	
4/30/2025 8:33	20.06	0.56	6.84	3.44	2.63	3.00	1692.88	
4/30/2025 8:33	19.95	0.64	6.81	3.63	2.61	2.83	1693.77	
4/30/2025 8:33	20.04	0.64	6.83	3.54	2.53	2.80	1695.11	
4/30/2025 8:33	20.11	0.60	6.93	3 32	2.54	3.25	1695.62	
4/30/2025 8:33	19.97	0.61	7.57	3.31	2.52	3.39	1695.71	
4/30/2025 8:34	19.98	0.66	8.40	3.38	2.42	3.59	1696.07	THC Span
4/30/2025 8:34	20.00	0.64	9.22	3 39	2.44	4.75	1695.83	
4/30/2025 8:34	20.06	0.63	8.94	3.32	2.44	4.01	1687.14	
4/30/2025 8:34	20.13	0.59	7.71	3.30	2.44	3.25	426.65	
4/30/2025 8:34	20.06	0.58	6.85	3.44	2.62	3.18	12.37	
4/30/2025 8:34	19.94	0.64	6.74	3.71	2.56	2.88	0.67	
4/30/2025 8:35	20.04	0.64	6.58	3.57	2.51	2.77	-2.38	
4/30/2025 8:35	20.10	0.60	6.73	3.36	2.49	3.26	-3.62	
4/30/2025 8:35	19.95	0.62	7.58	3.32	2.41	3.43	-4.08	
4/30/2025 8:35	19.97	0.65	8.24	3.34	2.42	3.41	-4.93	
4/30/2025 8:35	20.00	0.66	9.04	3.35	2.42	4.69	-6.52	
4/30/2025 8:35	20.05	0 63	8.90	3.25	2.34	3.99	-6.66	
4/30/2025 8:36	20.12	0.59	7.72	3.25	2.36	3.21	-6.50	
4/30/2025 8:36	20.07	0.57	6.83	3.37	2.40	3.04	-6.62	
4/30/2025 8:36	19.95	0.63	6.81	3.62	2.44	3.01	-6,55	
4/30/2025 8:36	20.04	0.65	7.02	3.52	2.48	2.92	-6.73	
4/30/2025 8:36	20.12	0.59	6.95	3.29	2.53	3.17	-6.47	THC Zero
4/30/2025 8:36	19.97	0.61	7.44	3.25	2.56	3.36	-6.55	
4/30/2025 8:37	19.97	0.66	8.09	3.29	2.51	3.44	177.31	
4/30/2025 8:37	19.99	0.65	8.91	3.29	2.52	4.54	559.41	
4/30/2025 8:37	20.05	0.62	8.84	3.25	2.52	3.85	583.09	
4/30/2025 8:37	20.13	0.59	7.67	3.26	2.53	3.23	585.21	
4/30/2025 8:37	20.08	0.58	6.83	3.38	2.52	3.13	588.14	
4/30/2025 8:37	19.96	0.64	6.80	3.65	2.49	2.92	587.91	
4/30/2025 8:38	20.05	0.65	6.82	3.56	2.49	2.81	588.16	
4/30/2025 8:38	20.10	0.58	6.75	3.32	2.54	3.19	587.77	
4/30/2025 8:38	19.98	0.62	7.41	3.28	2.51	3.46	588.57	
4/30/2025 8:38	19.95	0.66	8.10	3.37	2.45	3.46	588.31	THC Low
4/30/2025 8:38	19.98	0.64	9.06	3.37	2.44	4.73	588.19	
4/30/2025 8:38	20.04	0 63	9 05	3.32	2.45	4.12	588.23	
4/30/2025 8:39	20.12	0.59	7.87	3.27	2.47	3.31	586.48	
4/30/2025 8:39	20.09	0.56	6.88	3.41	2.48	3.19	626.44	
4/30/2025 8:39	19.94	0.63	6.81	3.68	2.49	3.11	993.80	
4/30/2025 8:39	20.02	0.66	6.82	3.59	2.51	2.93	994.89	
4/30/2025 8:39	20.10	0.59	6.67	3.32	2.42	3.23	995.69	
4/30/2025 8:39	19.98	0.60	7.44	3.23	2.45	3.52	995.60	
4/30/2025 8:40	19.97	0.66	8.25	3.30	2.51	3.36	998.43	
4/30/2025 8:40	19.99	0.63	9.01	3.35	2.53	4.65	998.47	
4/30/2025 8:40	20.03	0.64	8.91	3.28	2.55	4.18	998.47	THC Mid
4/30/2025 8:40	20.11	0.58	7.98	3.26	2.55	3.41	998.44	
4/30/2025 8:40	20.08	0.58	6.90	3 40	2.49	3.23	998.16	

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 8:40	19.95	0.62	6.91	3.64	2.45	3.14	998.63	
4/30/2025 8:41	20.04	0.64	6.97	3.56	2.50	3.00	681.18	
4/30/2025 8:41	20.11	0.58	6.72	3.29	2.58	3.10	462.74	
4/30/2025 8:41	19.99	0.61	7.29	3.24	2.59	3.35	11.75	
4/30/2025 8:41	19.96	0.66	7.99	3.32	2.60	3.33	-2.54	
4/30/2025 8:41	19.99	0.63	9.30	3.32	2.71	4.81	-3.44	
4/30/2025 8:41	20.05	0.63	9.39	3.29	2.67	4.13	-6.13	
4/30/2025 8:42	20.12	0.58	8.18	3.25	2.65	3.17	-6.68	
4/30/2025 8:42	20.10	0.56	6.81	3.37	2.64	3.00	-6.78	
4/30/2025 8:42	19.94	0.62	6.83	3.65	2.58	2.97	-6.67	Zero Bias
4/30/2025 8:42	20.01	0.67	6.84	3.59	2.54	2.81	-6.14	
4/30/2025 8:42	20.10	0.60	6.82	3.30	2.57	3.07	-6.75	
4/30/2025 8:42	19.99	0.61	7.49	3.26	2.58	3.58	-6.46	
4/30/2025 8:43	19.93	0.66	8.23	3.30	2.56	3.32	-6.30	
4/30/2025 8:43	19.98	0.66	8.99	3.30	2.57	4.62	303.93	
4/30/2025 8:43	20.05	0.63	9.21	3.22	2.60	4.31	978.58	
4/30/2025 8:43	20.12	0.59	8.25	3.22	2.59	3.47	990.55	
4/30/2025 8:43	20.10	0.56	7.18	3.34	2.61	3.25	992.10	
4/30/2025 8:43	19.93	0.63	6.83	3.62	2.64	3.07	994.83	
4/30/2025 8:44	19.99	0.67	6.82	3.61	2.71	2.86	995.16	
4/30/2025 8:44	20.10	0.62	6.75	3.33	2.78	3.28	995.11	THC Bias
4/30/2025 8:44	19.98	0.61	7.28	3.25	2.77	3.79	995.13	
4/30/2025 8:44	19.95	0.66	8.09	3.26	2.79	3.24	995.48	
4/30/2025 8:44	20.00	0.64	8.90	3.27	2.78	4.26	996.28	
4/30/2025 8:44	20.03	0.63	8.81	3.25	2.75	3.98	550.85	
4/30/2025 8:45	20.12	0.60	7.70	3.18	2.73	3.14	10.64	
4/30/2025 8:45	17.57	0.56	6.44	2.57	2.75	7.32	-3.27	
4/30/2025 8:45	1.98	0.34	4.57	0.19	3.19	34.97	-3.76	
4/30/2025 8:45	0.16	0.13	2.65	0.09	3.70	0.29	-4.61	
4/30/2025 8:45	0.10	0.11	1.20	0.06	3.57	-0.01	-6.62	
4/30/2025 8:45	0.09	0.12	0.61	0.06	3.23	-0.09	-6.59	
4/30/2025 8:46	0.07	0.11	0.59	0.03	2.81	-0.13	-6.53	
4/30/2025 8:46	0.09	0.11	0.42	0.05	2.65	-0.15	-5.23	
4/30/2025 8:46	0.07	0.10	0.42	0.03	2.17	-0.15	-5.85	
4/30/2025 8:46	0.07	0.10	0.50	0.03	2.03	-0.16	-5.47	
4/30/2025 8:46	0.07	0.10	0.42	0.04	1.82	-0.16	-6.71	
4/30/2025 8:46	0.07	0.12	0.45	0.03	1.53	-0.16	-6.70	
4/30/2025 8:47	0.07	0.09	0.56	0.02	1.36	-0.16	-6.68	
4/30/2025 8:47	0.06	0.11	0.42	0.02	-0.01	-0.15	-6.75	
4/30/2025 8:47	0.07	0.11	0.46	0.03	-0.09	-0.16	-6.53	
4/30/2025 8:47	0.07	0.11	0.47	0.03	-0.14	-0.15	-6.35	
4/30/2025 8:47	0.06	0.11	0.42	0.02	-0.12	-0.16	-6.63	
4/30/2025 8:47	0.07	0.10	0.45	0.02	-0.12	-0.15	-6.23	
4/30/2025 8:48	0.36	0.10	0.44	0.07	-0.10	-0.15	-6.25	
4/30/2025 8:48	14.64	0.25	1.60	2.78	-0.04	1.85	-5.06	
4/30/2025 8:48	11.15	0.47	3.38	1.30	-0.02	29.50	-5.74	
4/30/2025 8:48	0.47	0.25	3.14	0.09	-0.01	104.92	-4.22	
4/30/2025 8:48	0.08	0.10	1.64	0.18	2.00	14.90	-3.68	
4/30/2025 8:48	0.07	0.11	0.87	0.27	8.70	2.74	-3.61	
4/30/2025 8:49	0.06	0.11	0.62	0.27	15.92	1.63	-3.83	
4/30/2025 8:49	0.06	0.10	0.42	0.23	20.85	1.13	-3.79	
4/30/2025 8:49	0.06	0.11	0.42	0.21	23.87	0.85	-4.70	
4/30/2025 8:49	0.07	0.11	0.52	0.22	25.58	0.66	-6.87	
4/30/2025 8:49	0.07	0.12	0.41	0.21	26.49	0.54	-3.65	
4/30/2025 8:49	0.05	0.11	0.43	0.20	27.07	0.44	-6.28	
4/30/2025 8:50	0.06	0.11	0.41	0.20	27.45	0.37	-6.35	
4/30/2025 8:50	0.06	0.10	0.43	0.20	27.73	0.30	-3.56	
4/30/2025 8:50	0.05	0.10	0.51	0.19	28.95	0.24	-6.08	
4/30/2025 8:50	0.05	0.10	0.41	0.18	29.12	0.20	-4.74	
4/30/2025 8:50	0.06	0.10	0.42	0.17	29.27	0.17	-6.25	
4/30/2025 8:50	0.05	0.10	0.41	0.18	29.39	0.13	-6.64	
4/30/2025 8:51	0.06	0.09	0.43	0.16	29.44	0.11	-6.65	
4/30/2025 8:51	0.06	0.10	0.45	0.17	29.61	0.09	-6.65	
4/30/2025 8:51	0.05	0.11	0.41	0.15	29.75	0.06	-6.75	
4/30/2025 8:51	0.05	0.11	0.41	0.17	29.80	0.05	-6.55	
4/30/2025 8:51	0.04	0.10	0.42	0.16	29.78	0.03	-6.55	
4/30/2025 8:51	0.05	0.10	0.41	0.15	29.78	0.02	-6.13	
4/30/2025 8:52	**0.05**	**0.11**	**0.41**	**0.16**	**29.91**	**0.00**	**-6.79**	
4/30/2025 8:52	**0.04**	**0.12**	**0.45**	**0.16**	**29.99**	**-0.01**	**-4.79**	SO2 Bias
4/30/2025 8:52	**6.94**	**0.16**	**0.89**	**1.61**	**30.05**	**0.89**	**-4.12**	
4/30/2025 8:52	**19.22**	**0.42**	**2.68**	**3.11**	**28.01**	**3.26**	**-4.51**	
4/30/2025 8:52	**20.00**	**0.56**	**4.41**	**3.22**	**19.82**	**3.01**	**-6.57**	
4/30/2025 8:52	**19.91**	**0.61**	**5.91**	**3.48**	**12.08**	**3.06**	**-6.82**	
4/30/2025 8:53	**19.93**	**0.67**	**6.54**	**3.57**	**6.99**	**2.81**	**-5.51**	
4/30/2025 8:53	**20.06**	**0.63**	**6.61**	**3.34**	**4.23**	**2.81**	**-4.12**	
4/30/2025 8:53	**20.01**	**0.58**	**7.09**	**3.22**	**2.76**	**3.44**	**-5.43**	
4/30/2025 8:53	**19.93**	**0.64**	**7.86**	**3.28**	**1.95**	**2.99**	**-5.52**	
4/30/2025 8:53	**19.97**	**0.64**	**8.75**	**3.32**	**1.51**	**4.04**	**-3.58**	
4/30/2025 8:53	**20.01**	**0.63**	**9.05**	**3.27**	**1.23**	**4.38**	**-2.91**	
4/30/2025 8:54	**20.09**	**0.60**	**8.30**	**3.20**	**1.05**	**3.55**	**-5.18**	
4/30/2025 8:54	**20.11**	**0.56**	**7.16**	**3.26**	**0.96**	**3.15**	**-3.89**	
4/30/2025 8:54	**19.97**	**0.60**	**6.83**	**3.49**	**0.89**	**3.09**	**-6.22**	
4/30/2025 8:54	**19.95**	**0.66**	**6.84**	**3.61**	**0.85**	**2.69**	**-6.82**	
4/30/2025 8:54	**20.09**	**0.62**	**6.68**	**3.36**	**0.84**	**2.71**	**-5.81**	

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 8:54	20.04	0.58	6.96	3.22	0.76	3.22	-3.75
4/30/2025 8:55	19.93	0.64	7.71	3.27	0.66	3.03	-3.91
4/30/2025 8:55	19.98	0.65	8.55	3.31	0.61	3.90	-6.01
4/30/2025 8:55	19.98	0.65	8.97	3.28	0.58	4.18	-6.61
4/30/2025 8:55	20.11	0.61	8.25	3.19	0.64	3.31	-4.75
4/30/2025 8:55	20.12	0.57	6.93	3.24	0.63	2.84	-6.48
4/30/2025 8:55	19.98	0.59	6.45	3.48	0.58	2.87	-6.69
4/30/2025 8:56	19.95	0.66	6.57	3.64	0 59	2.78	-6.69
4/30/2025 8:56	20.07	0.62	6.58	3.43	0.62	2.84	-6.09
4/30/2025 8:56	20 05	0.60	7.10	3.32	0.64	3.55	-5.43
4/30/2025 8:56	19.94	0.64	7.92	3.32	0.63	3.23	-6.75
4/30/2025 8:56	20.00	0.65	8.72	3.34	0.64	4.16	-6.54
4/30/2025 8:56	20.00	0.63	9.13	3.31	0.65	4.51	-5.48
4/30/2025 8:57	20.09	0.62	8.28	3.21	0.64	3.43	-4.78
4/30/2025 8:57	20.13	0.55	6.94	3.28	0.59	2.88	-6.40
4/30/2025 8:57	19.99	0.59	6.61	3.48	0.54	3.03	-6.31
4/30/2025 8:57	19.93	0.66	6.63	3.66	0.58	2.75	-6.68
4/30/2025 8:57	20.08	0.63	6.61	3.43	0.58	2.66	-5.96
4/30/2025 8:57	20.06	0.58	6.95	3.29	0.60	3.19	-5.40
4/30/2025 8:58	19.93	0.64	7.64	3.29	0.65	3.07	-6.11
4/30/2025 8:58	20.01	0.65	8.56	3.31	0.64	3.75	-6.73
4/30/2025 8:58	19.99	0.64	9.20	3.30	0.68	4.35	-6.06
4/30/2025 8:58	20.10	0.61	8.57	3.20	0.69	3.50	-7.00
4/30/2025 8:58	20 13	0.57	7.27	3.24	0.63	3.06	-6.73
4/30/2025 8:58	20.00	0.59	6.85	3.48	0.56	3.27	-6.68
4/30/2025 8:59	19.95	0.65	7.00	3.64	0.53	2.91	-5.78
4/30/2025 8:59	20.09	0.61	6.76	3.40	0.58	2.85	-6.81
4/30/2025 8:59	20.08	0.59	6.96	3.27	0.63	3.35	-6.58
4/30/2025 8:59	19.95	0.64	7.63	3.27	0.71	3.16	-6.54
4/30/2025 8:59	20.00	0.64	8.21	3.27	0.76	4.00	-6.91
4/30/2025 8:59	19.99	0.63	8.69	3.28	0.77	4.71	-5.78
4/30/2025 9:00	20.10	0.62	8.19	3.23	0.80	3.61	-5.12
4/30/2025 9:00	20.13	0.55	7.03	3.28	0.72	2.89	-4.67
4/30/2025 9:00	20.02	0.59	6.61	3 52	0.63	3.01	-6.87
4/30/2025 9:00	19,95	0.65	6.61	3.71	0.67	2.79	-4.72
4/30/2025 9:00	20.08	0.64	6.65	3.47	0.63	2.71	-5.66
4/30/2025 9:00	20.07	0.60	6.91	3.27	0.61	3.38	-5.55
4/30/2025 9:01	19.95	0.63	7.72	3.28	0.69	3.32	-4.76
4/30/2025 9:01	20.01	0.66	8.63	3.28	0.67	3.96	-3.79
4/30/2025 9:01	20.00	0.63	9.30	3.32	0.60	4.85	-3.36
4/30/2025 9:01	20.10	0.61	8.80	3.26	0.58	3.72	-4.33
4/30/2025 9:01	20 14	0.57	7.26	3.32	0.61	3.00	-6.37
4/30/2025 9:01	20.02	0.60	6.54	3.52	0.61	3.00	-6.58
4/30/2025 9:02	19.93	0.66	6.41	3.74	0.61	2.80	-5.72
4/30/2025 9:02	20 07	0 64	6.41	3.47	0,61	2.82	-6.69
4/30/2025 9:02	20.08	0.60	6.73	3.27	0.63	3.34	-5.35
4/30/2025 9:02	19.94	0.63	7.58	3.27	0.70	3.27	-3.78
4/30/2025 9:02	20.00	0.65	8.66	3.28	0.74	3 90	-6 38
4/30/2025 9:02	19.99	0.64	9.50	3.34	0.71	4.81	-6.37
4/30/2025 9.03	20.08	0.63	8.99	3.28	0.70	3.74	-6.83
4/30/2025 9:03	20.13	0.58	7.53	3.28	0.72	3.15	-6.51
4/30/2025 9:03	20.03	0.59	7.02	3.48	0.76	3.16	-5.74
4/30/2025 9:03	19.97	0.65	7.01	3.65	0.79	2.93	-6.29
4/30/2025 9:03	20.09	0.63	6.89	3.46	0.71	2.86	-6.59
4/30/2025 9:03	20.09	0.58	6.91	3.27	0.65	3.25	-6.67
4/30/2025 9:04	19.95	0.62	7.53	3.26	0.62	3.28	-6.25
4/30/2025 9:04	19.99	0.65	8.30	3.33	0.63	3.84	-6.77
4/30/2025 9:04	19.99	0.64	9.01	3.40	0 61	4 78	-6.87
4/30/2025 9:04	20.08	0.61	8.58	3.29	0.63	3.78	-6.89
4/30/2025 9:04	20.14	0.58	7.32	3.31	0.67	3.10	-6.97
4/30/2025 9:04	20.05	0.59	6.81	3.51	0.65	3.34	-6 50
4/30/2025 9:05	19.93	0.66	6.85	3.74	0.73	3.09	-6.77
4/30/2025 9:05	20.07	0.66	6.92	3.52	0.77	2.94	-6.55
4/30/2025 9:05	20.08	0.60	6.98	3.30	0.75	3.48	-6.15
4/30/2025 9:05	19.95	0.63	7.73	3.30	0.70	3.45	-6 58
4/30/2025 9:05	19.98	0.66	8.54	3.32	0.70	3.79	-6.50
4/30/2025 9:05	19.99	0.64	9.51	3.35	0.74	4.86	-6.57
4/30/2025 9:06	20.08	0.63	9.16	3.25	0.74	3.97	-6.49
4/30/2025 9:06	20.12	0.57	7.90	3.24	0.77	3.26	-6.53
4/30/2025 9:06	20.04	0.57	7.11	3.46	0,74	3.38	-6.26
4/30/2025 9:06	19.93	0.65	7.10	3.69	0.75	2.97	-6.77
4/30/2025 9:06	20.06	0.64	7.02	3.52	0.76	2.86	-6.53
4/30/2025 9:06	20.10	0.59	6.92	3.34	0.73	3.13	-5.69
4/30/2025 9:07	19.97	0.62	7.29	3.34	0.74	3.21	-6.58
4/30/2025 9:07	19.99	0.67	8.23	3.36	0.77	3.72	-6.85
4/30/2025 9:07	20.00	0.64	9.17	3.37	0.78	4.83	-6.39
4/30/2025 9:07	20.09	0.63	8.82	3.29	0.70	3.82	-6.65
4/30/2025 9:07	20.14	0.58	7.54	3.29	0.67	3.12	-6.27
4/30/2025 9:07	20.05	0.57	6.90	3.43	0.69	3.22	-6.47
4/30/2025 9:08	19.95	0.66	6.96	3.71	0.76	2.87	-6.34
4/30/2025 9:08	20.06	0.66	6.83	3.53	0.81	2.73	-6.53
4/30/2025 9:08	20.12	0.59	6.83	3.33	0.85	3.13	-6.00
4/30/2025 9:08	19.98	0.61	7.46	3.25	0.84	3.22	-5.79
4/30/2025 9:08	19.99	0.66	8.15	3.27	0.79	3.46	-7.13

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	NOx	SO2	THC	THC
4/30/2025 9:08	19.98	0.65	9.04	3.31	0.79	4.86	-6.44
4/30/2025 9:09	20.08	0.64	8.89	3.28	0.86	3.90	-6.62
4/30/2025 9:09	20.15	0.57	7.62	3.27	0.89	3.19	-6.27
4/30/2025 9:09	20.07	0.56	6.87	3.47	0.85	3.30	-6.54
4/30/2025 9:09	19.93	0.64	6.81	3.76	0.84	3.01	-6.70
4/30/2025 9:09	20.04	0.67	6.91	3.57	0.85	2.81	-6.46
4/30/2025 9:09	20.09	0.60	7.01	3.37	0.85	3.36	-6.43
4/30/2025 9:10	19.97	0.61	7.68	3.33	0.84	3.43	-6.57
4/30/2025 9:10	20.00	0.66	8.49	3.37	0.82	3.55	-6.46
4/30/2025 9:10	20.01	0.65	9.17	3.36	0.80	5.05	-6.31
4/30/2025 9:10	20.08	0.62	8.81	3.23	0.79	4.10	-7.00
4/30/2025 9:10	20.14	0.57	7.71	3 21	0.75	3.34	-6.48
4/30/2025 9:10	20 07	0.57	6.90	3.42	0.75	3.24	-6.80
4/30/2025 9:11	19.93	0.64	6.72	3.69	0.79	2.87	-6.93
4/30/2025 9:11	20.03	0.66	6.58	3.56	0.79	2.63	-6.46
4/30/2025 9:11	20.11	0.59	6.59	3.38	0.77	2.99	-6.67
4/30/2025 9:11	19.97	0.62	7.16	3.34	0.70	3.17	-6.65
4/30/2025 9:11	19.98	0.66	7.95	3.37	0.70	3.38	-7.43
4/30/2025 9:11	20.00	0.64	9.01	3.32	0.71	4.79	-7.08
4/30/2025 9:12	20.07	0.62	8 94	3.21	0.75	3.99	-6.24
4/30/2025 9:12	20.15	0.57	7.80	3.18	0.76	3.21	-6.64
4/30/2025 9:12	20.10	0.57	6.84	3.35	0.82	3.23	-7.00
4/30/2025 9:12	19.93	0.63	6.82	3.62	0.89	2.90	-6.72
4/30/2025 9:12	20.02	0.67	6.81	3.56	0.88	2.71	-6.22
4/30/2025 9:12	20.11	0.61	6.89	3.34	0.92	3.19	-6.40
4/30/2025 9:13	20.00	0.61	7.51	3.27	0.87	3.58	-6.37
4/30/2025 9:13	20.00	0.65	8.24	3.30	0.90	3.48	-6.55
4/30/2025 9:13	20.01	0.65	9.03	3.32	0.98	4.91	-6.78
4/30/2025 9:13	20.07	0.62	8.92	3.22	0.98	4.12	-6.50
4/30/2025 9:13	20.16	0.57	7.72	3.15	1.06	3.23	-6.55
4/30/2025 9:13	20.10	0.57	6.72	3.29	1.06	3.21	-6.49
4/30/2025 9:14	19.98	0.62	6.87	3.56	1.03	3.05	-6.85
4/30/2025 9:14	20.08	0.64	6.87	3.52	0.97	2.83	-7.01
4/30/2025 9:14	20.14	0.58	6.92	3.36	0.99	3.24	-6.46
4/30/2025 9:14	20.00	0.61	7.63	3.31	0.95	3.59	-7.16
4/30/2025 9:14	19.99	0.66	8.43	3.32	0.93	3.42	-6.63
4/30/2025 9:14	20.02	0.64	9.26	3.33	0.94	4.71	-6.62
4/30/2025 9:15	20.07	0.62	9.03	3.24	0.93	4.12	-6.48
4/30/2025 9:15	20.16	0.58	7.80	3.20	0.92	3.27	-6.38
4/30/2025 9:15	20.10	0.55	6.77	3.31	0.94	3.07	-6.45
4/30/2025 9:15	19.96	0.62	6.83	3.55	1.04	2.96	-6.42
4/30/2025 9:15	20.06	0.64	6.84	3.52	1.10	2.84	-6.57
4/30/2025 9:15	20 12	0.59	6.90	3.30	1.11	3.16	-6.64
4/30/2025 9:16	20.00	0.60	7.61	3.27	1.06	3.50	-6.65
4/30/2025 9:16	19.99	0.66	8.54	3.31	1.05	3.43	-6.65
4/30/2025 9:16	20.01	0.64	9.39	3.32	1.06	4.78	-6.36
4/30/2025 9:16	20.07	0.62	9.30	3.25	0.99	4.14	-6.81
4/30/2025 9:16	20.15	0.59	7.95	3.23	0.93	3.27	-6.54
4/30/2025 9:16	20.10	0.57	6.82	3.38	1.00	3.14	-6.78
4/30/2025 9.17	19.94	0.62	6.74	3 66	0.95	3 04	-6 76
4/30/2025 9:17	20.00	0.66	6.82	3.63	0.93	2.88	-6.51
4/30/2025 9:17	20.10	0.61	6.83	3.36	1.00	3.08	-6.93
4/30/2025 9:17	19.99	0.61	7.33	3.33	1.02	3.46	-6.70
4/30/2025 9:17	19.96	0.67	8.05	3.33	1.03	3.38	-6.36
4/30/2025 9:17	20.01	0.65	8.98	3.32	1.02	4.76	-6.64
4/30/2025 9:18	20.06	0.63	8.85	3.27	1.07	4.15	-6.36
4/30/2025 9:18	20.14	0.59	7.85	3.22	1.10	3.19	-6.33
4/30/2025 9:18	20.11	0.58	6.87	3.36	1.08	3.05	-6.43
4/30/2025 9:18	19.94	0.63	6.93	3.69	0.99	2.94	-6.20
4/30/2025 9:18	20.01	0.67	6.96	3.62	1.00	2.79	-6.54
4/30/2025 9:18	20.11	0 61	6 93	3.35	1 04	3.15	-6.39
4/30/2025 9:19	20.01	0.59	7.37	3.30	1.01	3.61	-6.38
4/30/2025 9:19	19.98	0.66	7.98	3.34	0.98	3.32	-6.58
4/30/2025 9:19	20.02	0.65	8.76	3.33	0.99	4.75	-6.94
4/30/2025 9:19	20.06	0 62	8.78	3.26	1.07	4.35	-6.65
4/30/2025 9:19	20.14	0.59	7.84	3.21	1.10	3.30	-6.52
4/30/2025 9:19	20.12	0.56	6.72	3.33	1.07	3.13	-6.77
4/30/2025 9:20	19.94	0.62	6.75	3.60	1.08	3.18	-5.89
4/30/2025 9:20	19.99	0.67	6.86	3.61	1.06	2.96	-6.56
4/30/2025 9:20	20.12	0.60	6.83	3.37	1.10	3.12	-7.10
4/30/2025 9:20	20.02	0.60	7.36	3 32	1.18	3.52	-7.01
4/30/2025 9:20	19.97	0.65	7.97	3.35	1.20	3.33	-6.71
4/30/2025 9:20	20.02	0.64	8.89	3.35	1.19	4.69	-6.43
4/30/2025 9:21	20.06	0.63	9.16	3.26	1.17	4.46	-7.03
4/30/2025 9:21	20.14	0.59	8.09	3.21	1.17	3.98	-6.68
4/30/2025 9:21	20.13	0.55	7.01	3.31	1.18	4.75	-6.55
4/30/2025 9:21	19.97	0.62	6.99	3.57	1.17	6.07	-6.64
4/30/2025 9:21	20.01	0.65	7.03	3.58	1.19	5.85	-6.61
4/30/2025 9:21	20.12	0.59	6.85	3.34	1.14	5.49	-6.81
4/30/2025 9:22	20.02	0.60	7.43	3.26	1.16	5.83	-6.92
4/30/2025 9:22	19.96	0.65	8.14	3.30	1.07	4.88	-6.82
4/30/2025 9:22	20.02	0.64	9.03	3.32	1.11	6.23	-6.66
4/30/2025 9:22	20.05	0.63	9.13	3.27	1.17	5.75	-6.39
4/30/2025 9:22	20.13	0.60	8.11	3.23	1.16	4.38	-6.41

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 9:22	20.12	0.55	6.97	3.32	1.15	3.88	-6.85
4/30/2025 9:23	19.97	0.59	6.76	3.62	1.14	3.70	-6.38
4/30/2025 9:23	20.01	0.64	6.62	3.64	1.11	3.31	-6.43
4/30/2025 9:23	20.13	0.60	6.55	3.36	1.12	3.39	-6.53
4/30/2025 9:23	20.04	0.59	7.10	3.28	1.16	3.85	-6.56
4/30/2025 9:23	19.96	0.64	7.90	3.29	1.13	3.61	-6.71
4/30/2025 9:23	20.02	0.65	9.03	3.31	1.04	4.95	-6.97
4/30/2025 9:24	20.04	0.63	9.49	3.26	1.01	4.73	-7.21
4/30/2025 9:24	20.14	0.58	8.44	3.21	1.02	3.80	-6.77
4/30/2025 9:24	20.12	0.55	7.22	3.32	1.10	3.56	-6.51
4/30/2025 9:24	19.95	0.63	7.07	3.63	1.21	3.53	-6.61
4/30/2025 9:24	19.97	0.67	7.23	3.67	1.18	3.21	-6.43
4/30/2025 9:24	20.12	0.62	7.09	3.39	1.15	3.18	-6.53
4/30/2025 9:25	20.04	0.59	7.28	3.25	1.13	3.55	-6.35
4/30/2025 9:25	19.98	0.65	7.79	3.23	1.09	3.26	-6.34
4/30/2025 9:25	20.03	0.64	8.61	3.26	1.05	4.74	-6.65
4/30/2025 9:25	20.05	0.63	8.94	3.27	1.10	4.80	-6.96
4/30/2025 9:25	20.13	0.60	8.23	3.21	1.14	3.67	-6.63
4/30/2025 9:25	20.12	0.55	7.04	3.29	1.13	3.34	-7.10
4/30/2025 9:26	19.98	0.60	6.88	3.58	1.11	3.39	-6.77
4/30/2025 9:26	19.96	0.67	7.02	3.66	1.13	3.03	-6.81
4/30/2025 9:26	20.11	0.63	6.90	3.36	1.07	3.09	-7.08
4/30/2025 9:26	20.04	0.59	7.16	3.25	1.09	3.62	-6.67
4/30/2025 9:26	19.97	0.64	7.82	3.27	1.15	3.37	-7.00
4/30/2025 9:26	20.02	0.65	8.72	3.25	1.16	4.47	-6.98
4/30/2025 9:27	20.04	0.63	8.99	3.21	1.15	4.44	-6.89
4/30/2025 9:27	20.15	0.59	8.14	3.13	1.16	3.57	-7.03
4/30/2025 9:27	20.14	0.56	6.85	3.23	1.16	3.28	-6.83
4/30/2025 9:27	19.99	0.59	6.73	3.47	1.21	3.23	-6.55
4/30/2025 9:27	19.99	0.65	7.00	3.57	1.28	2.98	-6.45
4/30/2025 9:27	20.12	0.60	6.94	3.38	1.21	3.06	-6.72
4/30/2025 9:28	20.05	0.58	7.33	3.29	1.14	3.71	-6.84
4/30/2025 9:28	19.97	0.63	7.95	3.32	1.20	3.30	-6.58
4/30/2025 9:28	20.04	0.64	8.70	3.34	1.25	4.31	-6.55
4/30/2025 9:28	20.04	0.64	8.98	3.28	1.25	4.51	-6.59
4/30/2025 9:28	20.14	0.60	8.37	3.18	1.23	3.65	-6.26
4/30/2025 9:28	20.14	0.56	7.01	3.23	1.22	3.25	-6.83
4/30/2025 9:29	19.99	0.60	6.80	3.48	1.21	3.21	-6.36
4/30/2025 9:29	19.98	0.66	6.68	3.62	1.23	2.97	-6.61
4/30/2025 9:29	20.13	0.61	6.65	3.41	1.21	2.99	-6.72
4/30/2025 9:29	20.07	0.58	6.95	3.27	1.25	3.72	-6.47
4/30/2025 9:29	19.96	0.64	7.79	3.27	1.28	3.47	-6.14
4/30/2025 9:29	20.01	0.66	8.96	3.31	1.29	4.52	-6.85
4/30/2025 9:30	20.02	0.63	9.52	3.28	1.30	4.67	-7.14
4/30/2025 9:30	20.14	0.61	8.61	3.23	1.32	3.57	-6.38
4/30/2025 9:30	20.14	0.56	7.25	3.32	1.33	3.15	-6.71
4/30/2025 9:30	19.99	0.60	6.91	3.58	1.31	3.28	-6.57
4/30/2025 9:30	20.00	0.66	6.98	3.69	1.31	3.01	-7.03
4/30/2025 9:30	20.11	0.62	6.81	3.41	1.27	3.03	-6.74
4/30/2025 9:31	20.06	0.59	7.29	3.27	1.25	3.59	-6.47
4/30/2025 9:31	19.95	0.64	8.09	3.29	1.28	3.30	-6.98
4/30/2025 9:31	20.01	0.66	9.07	3.32	1.34	4.22	-6.71
4/30/2025 9:31	20.02	0.64	9.71	3.31	1.32	4.55	-6.20
4/30/2025 9:31	20.12	0.60	8.82	3.24	1.25	3.62	-6.53
4/30/2025 9:31	20.14	0.56	7.32	3.31	1.25	3.17	-6.92
4/30/2025 9:32	20.00	0.60	6.64	3.52	1.17	3.22	-7.00
4/30/2025 9:32	19.96	0.66	6.62	3.69	1.19	2.89	-6.38
4/30/2025 9:32	20.10	0.63	6.62	3.44	1.20	2.94	-6.23
4/30/2025 9:32	20.05	0.60	7.11	3.30	1.17	3.77	-6.71
4/30/2025 9:32	19.95	0.64	7.93	3.34	1.19	3.32	-6.80
4/30/2025 9:32	20 02	0 64	8 66	3 36	1.30	4.02	-7.00
4/30/2025 9:33	20.01	0.64	9.09	3.34	1.34	4.36	-6.45
4/30/2025 9:33	20.11	0.61	8.34	3.24	1.34	3.47	-6.80
4/30/2025 9:33	20.15	0.56	7.08	3.34	1.37	3.05	-7.21
4/30/2025 9:33	20.00	0.58	6.85	3.57	1.31	3.24	-6.68
4/30/2025 9:33	19.96	0.66	7.08	3.71	1.26	2.89	-6.42
4/30/2025 9:33	20.11	0.63	6.95	3.45	1.27	2.79	-6.91
4/30/2025 9:34	20.08	0.59	7.15	3.30	1.23	3.50	-6.71
4/30/2025 9:34	19.96	0.64	7.63	3.31	1.19	3.25	-6.77
4/30/2025 9:34	20.02	0.65	8.42	3.33	1.22	4.10	-6.60
4/30/2025 9:34	20.01	0.63	9.02	3.31	1.28	4.94	-6.63
4/30/2025 9:34	20.11	0.61	8.51	3.22	1.33	3.78	-6.97
4/30/2025 9:34	20.14	0.56	7.25	3.28	1.40	3.11	-6.34
4/30/2025 9:35	20.00	0.58	6.83	3.54	1.40	3.27	-6.91
4/30/2025 9:35	19.91	0.67	6.90	3.77	1.40	2.97	-6.64
4/30/2025 9:35	20.06	0.66	6.99	3.45	1.41	3.00	-6.47
4/30/2025 9:35	20.06	0.60	7.43	3.23	1.36	3.75	-6.43
4/30/2025 9:35	19.94	0.63	8.12	3.28	1.31	3.46	-6.91
4/30/2025 9:35	20.01	0.65	8.94	3.32	1.31	4.29	-7.02
4/30/2025 9:36	20.01	0.63	9.21	3.29	1.29	5.03	-6.56
4/30/2025 9:36	20.10	0.61	8.52	3.19	1.34	3.72	-6.91
4/30/2025 9:36	20.14	0.56	7.11	3.25	1.39	3.10	-6.58
4/30/2025 9:36	20.03	0.58	6.58	3.47	1.39	3.25	-6.89
4/30/2025 9:36	19.95	0.65	6.64	3.69	1.33	2.96	-6.91

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 9:36	20.09	0.63	6.60	3.50	1.36	2.90	-6.86
4/30/2025 9:37	20.09	0.59	6.99	3.32	1.36	3.88	-6.64
4/30/2025 9:37	19.94	0.63	7.86	3.34	1.43	3.65	-6.53
4/30/2025 9:37	20.01	0.65	8.74	3.33	1.38	4.18	-6.64
4/30/2025 9:37	20.02	0.65	9.52	3.30	1.30	4.99	-6.94
4/30/2025 9:37	20.11	0.61	8.91	3.22	1.29	3.71	-6.33
4/30/2025 9:37	20.14	0.56	7.47	3.25	1.37	3.13	-6.93
4/30/2025 9:38	20.04	0.58	6.81	3.48	1.40	3.35	-6 80
4/30/2025 9:38	19.93	0.63	6.76	3.72	1.35	2.96	-6.76
4/30/2025 9:38	20.08	0.64	6.70	3.49	1.32	2.89	-6.46
4/30/2025 9:38	20.09	0.59	6.95	3.31	1.35	3.61	-6.67
4/30/2025 9:38	19.97	0.62	7.77	3.33	1.33	3.46	-6.95
4/30/2025 9:38	20.01	0.65	8.73	3.34	1.36	3.84	-6.46
4/30/2025 9:39	20.01	0.63	9.34	3.33	1.41	4.80	-6.79
4/30/2025 9:39	20.12	0.63	8.78	3.22	1.46	3.86	-6.53
4/30/2025 9:39	20.15	0.57	7.50	3.26	1.48	3.21	-6.36
4/30/2025 9:39	20.05	0.58	6.83	3.44	1.50	3.27	-6.89
4/30/2025 9:39	19.96	0.64	6.79	3.62	1.45	2.87	-6.76
4/30/2025 9:39	20.11	0.63	6.76	3.47	1.40	2.73	-6.72
4/30/2025 9:40	20.10	0.58	6.85	3.33	1.42	3.38	-6.41
4/30/2025 9:40	19.95	0.61	7.47	3.33	1.50	3.45	-7.02
4/30/2025 9:40	20.01	0.66	8.32	3.33	1.45	3.86	-6.60
4/30/2025 9:40	20.01	0.63	9.22	3.37	1.44	4.69	-6.81
4/30/2025 9:40	20.08	0.62	8.91	3.25	1.42	3.86	-6.84
4/30/2025 9:40	20.16	0.57	7.62	3.25	1.38	3.21	-6.51
4/30/2025 9:41	20.05	0.57	6.82	3.41	1.33	3.27	-6.77
4/30/2025 9:41	19.98	0.63	6.80	3.62	1.35	3.03	-6.79
4/30/2025 9:41	20.10	0.61	6.77	3.48	1.38	2.89	-6.98
4/30/2025 9:41	20.11	0.59	6.77	3.30	1.40	3.11	-6.60
4/30/2025 9:41	19.95	0.61	7.37	3.27	1.37	3.14	-6.36
4/30/2025 9:41	20.01	0.65	8.21	3.28	1.37	3.61	-6.45
4/30/2025 9:42	20.00	0.63	9.02	3.32	1.43	4.87	-6.34
4/30/2025 9:42	20.11	0.63	8.69	3.23	1.44	3.84	-6.78
4/30/2025 9:42	20.16	0.56	7.49	3.22	1.44	3.20	-6.69
4/30/2025 9:42	20.06	0.57	6.76	3.44	1.49	3.34	-6.57
4/30/2025 9:42	19.93	0.65	6.75	3.72	1.46	3.04	-6.42
4/30/2025 9:42	20.06	0.65	6.72	3.52	1.46	2.86	-6.80
4/30/2025 9:43	20.11	0.59	6.84	3.30	1.38	3.36	-6.56
4/30/2025 9:43	19.97	0.62	7.62	3.27	1.34	3.53	-6.85
4/30/2025 9:43	20.00	0.66	8.63	3.31	1.35	3.83	-6.37
4/30/2025 9:43	20.00	0.64	9.49	3.33	1.37	4.99	-6.83
4/30/2025 9:43	20.09	0.61	9.23	3.22	1.45	4.20	-6.71
4/30/2025 9:43	20.14	0.57	8.02	3.25	1.48	3.55	-6.81
4/30/2025 9:44	20.07	0.57	7.05	3.46	1.48	3.48	-6.61
4/30/2025 9:44	19.91	0.65	7.02	3.75	1.33	3.11	-6.51
4/30/2025 9:44	20.03	0.66	6.95	3.57	1.28	2.97	-6.43
4/30/2025 9:44	20.10	0.60	7.15	3.29	1.37	3.65	-7.09
4/30/2025 9:44	19 98	0.61	8.02	3.29	1.38	3.86	-6.87
4/30/2025 9:44	19.99	0.64	9.00	3.33	1.43	4.02	-5.92
4/30/2025 9:45	20.01	0.63	9.77	3.32	1.42	5.29	-6.94
4/30/2025 9:45	20.07	0.62	9.44	3.28	1.34	4.35	-6.48
4/30/2025 9:45	20.15	0.57	8.07	3.26	1.34	3.52	-6.55
4/30/2025 9:45	20.09	0.57	7.22	3.44	1.39	3.56	-6.85
4/30/2025 9:45	19.93	0.64	7.35	3.71	1.38	3.79	-6.14
4/30/2025 9:45	20.04	0.64	7.83	3.58	1.36	4.43	-6.57
4/30/2025 9:46	20.11	0.59	8.33	3.33	1.40	4.78	-6.60
4/30/2025 9:46	19.98	0.61	9.32	3.34	1.38	4.87	-6.62
4/30/2025 9:46	19.97	0.66	10.10	3.39	1.37	4.96	-6.45
4/30/2025 9:46	20.00	0.63	10.80	3.38	1.39	6.31	-6.61
4/30/2025 9:46	20.06	0.63	10.43	3.32	1.48	5.71	-6.94
4/30/2025 9:46	20.14	0.58	9.12	3.30	1.54	4.91	-6.49
4/30/2025 9:47	20.07	0.57	8.22	3.48	1.54	4.86	-6.66
4/30/2025 9:47	19.94	0.65	8.33	3.75	1.52	4.47	-6.51
4/30/2025 9:47	20.05	0.66	8.28	3.58	1.44	4.20	-6.06
4/30/2025 9:47	20.11	0.59	8.52	3.36	1.43	4.76	-6.50
4/30/2025 9:47	19.97	0.61	9.19	3.32	1.42	5.15	-6.58
4/30/2025 9:47	19.98	0.66	9.93	3.33	1.49	5.03	-6.50
4/30/2025 9:48	19.99	0.63	10.93	3.35	1.50	6.30	-6.61
4/30/2025 9:48	20.07	0.62	10.92	3.30	1.50	5.63	-6.47
4/30/2025 9:48	20.14	0.58	9.53	3.28	1.55	5.06	-6.61
4/30/2025 9:48	20.09	0.57	8.51	3.43	1.51	4.92	-6.55
4/30/2025 9:48	19.96	0.61	8.42	3.71	1.53	4.55	-7.22
4/30/2025 9:48	20.07	0.62	8.51	3.59	1,54	4.38	-6.64
4/30/2025 9:49	20.12	0.58	8.45	3.34	1.60	4.83	-6.19
4/30/2025 9:49	19,98	0.61	9.39	3.33	1.57	5.17	-6.62
4/30/2025 9:49	19.99	0.66	10.06	3.37	1.51	4.99	-6.67
4/30/2025 9:49	20.01	0.64	10.98	3.34	1.46	6.35	-6.43
4/30/2025 9:49	20.05	0.62	10.98	3.29	1.52	5.76	-6.47
4/30/2025 9:49	20.14	0.58	9.71	3.29	1.55	5.13	-6.87
4/30/2025 9:50	20.09	0.56	8.60	3.46	1.55	5.15	4.28
4/30/2025 9:50	19.94	0.63	8.73	3.73	1.55	4.97	19.10
4/30/2025 9:50	20.03	0.65	9.91	3.72	1.49	5.15	38.28
4/30/2025 9:50	20.09	0.60	12.01	3.48	1.46	5.89	39.90
4/30/2025 9:50	19.96	0.62	13.90	3.42	1.50	6.03	26.71

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 9:50	19.96	0.67	14.41	3.43	1.47	5.59	18.27
4/30/2025 9:51	19.97	0.67	14.65	3.46	1.49	6.90	19.14
4/30/2025 9:51	20.03	0.64	14.64	3.48	1.51	6.99	22.65
4/30/2025 9:51	20.12	0.60	13.76	3.56	1.50	6.67	85.02
4/30/2025 9:51	20.07	0.58	12.93	3.91	1.53	6.52	106.68
4/30/2025 9:51	19.93	0.63	14.04	4.39	1.56	6.88	121.06
4/30/2025 9:51	20.00	0.68	17.14	4.27	1.57	7.31	97.87
4/30/2025 9:52	20.07	0.62	20.47	3.91	1.55	7.59	72.68
4/30/2025 9:52	19.96	0.62	20.99	3.75	1.56	7.21	149.77
4/30/2025 9:52	19.94	0.67	19.55	3.70	1.52	6.64	132.43
4/30/2025 9:52	19.96	0.68	19.90	3.65	1.42	8.38	100.81
4/30/2025 9:52	19.99	0.65	21.29	3.50	1.43	8.14	91.84
4/30/2025 9:52	20.09	0.61	21.00	3.49	1.44	7.27	73.42
4/30/2025 9:53	20.07	0.59	19.25	3.59	1.52	6.98	66.88
4/30/2025 9:53	19.93	0.64	18.34	3.81	1.57	6.61	53.50
4/30/2025 9:53	20.01	0.65	18.42	3.81	1.56	6.46	145.87
4/30/2025 9:53	20.08	0.61	19.43	3.67	1.55	6.68	155.42
4/30/2025 9:53	19.97	0.62	20.31	3.75	1.60	7.00	105.90
4/30/2025 9:53	19.92	0.68	19.43	4.08	1.60	6.69	68.06
4/30/2025 9:54	19.97	0.68	21.53	4.17	1.57	8.36	48.42
4/30/2025 9:54	20.03	0.65	18.05	3.87	1.51	8.05	50.62
4/30/2025 9:54	20.11	0.60	16.81	3.68	1.46	7.10	39.55
4/30/2025 9:54	20.07	0.58	15.02	3.67	1.50	6.26	25.75
4/30/2025 9:54	19.94	0.64	14.04	3.85	1.58	5.60	20.47
4/30/2025 9:54	20.04	0.65	13.60	3.84	1.66	5.41	19.37
4/30/2025 9:55	20.11	0.59	15.67	3.66	1.68	5.68	30.49
4/30/2025 9:55	20.00	0.58	13.61	3.60	1.64	6.16	63.09
4/30/2025 9:55	19.95	0.64	13.77	3.59	1.56	6.05	54.22
4/30/2025 9:55	20.00	0.65	14.91	3.62	1.55	7.52	50 34
4/30/2025 9:55	20.02	0.64	16.47	3.66	1.63	7.57	98.77
4/30/2025 9:55	20.10	0.61	17.25	3.61	1.62	7 08	79.37
4/30/2025 9:56	20.09	0.58	16.80	3.62	1.61	6.73	67.23
4/30/2025 9:56	19.95	0.64	18.08	3.87	1.63	6.47	66.99
4/30/2025 9:56	20.00	0.65	18.55	4.01	1.63	6.75	43.66
4/30/2025 9:56	20.10	0.60	17.63	3.90	1.62	6.96	79.17
4/30/2025 9:56	20.00	0.61	17.14	3.82	1.67	6.79	79.61
4/30/2025 9:56	19.95	0.65	16.13	3.79	1.70	6.42	68.71
4/30/2025 9:57	19.99	0.65	16.39	3.82	1.65	7.80	44.32
4/30/2025 9:57	20.01	0.62	17.23	3.81	1.57	8.07	31.80
4/30/2025 9:57	20.12	0.60	16.62	3.69	1.50	7.25	26.29
4/30/2025 9:57	20.09	0.56	14.81	3.70	1.49	6.55	21.29
4/30/2025 9:57	19.97	0.62	13.80	3.84	1.50	6.00	17.30
4/30/2025 9:57	20.03	0.65	13.42	3.96	1.56	5 47	18.25
4/30/2025 9:58	20.12	0.59	13.39	3.81	1.60	5.66	65.01
4/30/2025 9:58	20.01	0.59	13.89	3 73	1.57	6.06	67.35
4/30/2025 9:58	19.94	0.65	14.41	3.71	1.58	5.94	61.87
4/30/2025 9:58	19.99	0.66	15.92	3.72	1.55	7.58	58.71
4/30/2025 9:58	20.00	0.65	17.57	3.69	1.56	7.68	78.76
4/30/2025 9:58	20.10	0.60	18.00	3.57	1.63	6.90	127.69
4/30/2025 9:59	20.08	0.58	17.70	3.64	1.66	6.75	127.42
4/30/2025 9:59	19.93	0.63	18.77	3.91	1.71	7.31	593.43
4/30/2025 9:59	19.95	0.68	23.60	4.05	1.70	8.71	418.53
4/30/2025 9:59	19.97	0.67	33.05	3.96	1.67	10.92	206.91
4/30/2025 9:59	19.91	0.68	38.35	3.92	1.73	10.09	181.18
4/30/2025 9:59	19.88	0.71	35.05	4.07	1.67	8.16	204.13
4/30/2025 10:00	19.95	0.70	29.13	4.12	1.68	9.09	184.54
4/30/2025 10:00	19.97	0.66	26.52	3.99	1.67	9.27	129.01
4/30/2025 10:00	20.08	0.62	25.33	3.75	1.70	8.42	105.30
4/30/2025 10:00	20.11	0.59	23.06	3.72	1.72	7.54	76.28
4/30/2025 10:00	19.98	0.62	21.12	3.94	1.68	7.13	73.97
4/30/2025 10:00	20.04	0.63	19.77	4.06	1.70	6.78	107.73
4/30/2025 10:01	20.13	0.58	20.24	3.99	1.70	7.07	120.32
4/30/2025 10:01	20.05	0.58	21.41	3.95	1.62	7.41	99.89
4/30/2025 10:01	19.96	0.65	21.09	3.95	1.63	7.09	95.48
4/30/2025 10:01	20.02	0.65	20.44	3.97	1.63	8.50	99.85
4/30/2025 10:01	20.02	0.62	20.68	3.95	1.62	8.68	87.41
4/30/2025 10:01	20.14	0.60	20.69	3.80	1.68	7.55	94.41
4/30/2025 10:02	20.12	0.57	19.63	3.77	1.62	6.90	88.35
4/30/2025 10:02	19.97	0.60	18.83	4.14	1.59	6.67	78.04
4/30/2025 10:02	20.03	0.63	19.15	4.43	1.68	6.74	75.63
4/30/2025 10:02	20.14	0.59	20.08	4.30	1.72	6.74	61.79
4/30/2025 10:02	20.07	0.56	20.72	4.17	1.74	7.09	44.34
4/30/2025 10:02	19.97	0.62	19.64	4 08	1.74	6.59	35.17
4/30/2025 10:03	20.03	0.63	18.22	3.94	1.73	7.52	63.92
4/30/2025 10:03	20.05	0.62	17.35	3.87	1.81	7.82	165.05
4/30/2025 10:03	20.12	0.59	17.81	3.70	1.74	7.60	146.24
4/30/2025 10:03	20.12	0.56	19.17	3.75	1.64	7.54	107.92
4/30/2025 10:03	19.99	0.60	21.19	4.01	1.63	7.32	80.84
4/30/2025 10:03	20.01	0.64	22.49	4.23	1.63	7.20	95.46
4/30/2025 10:04	20.13	0.60	23.18	4.11	1.64	7.26	111.74
4/30/2025 10:04	20.06	0.57	23.23	4.06	1.62	7.66	95.71
4/30/2025 10:04	19.96	0.63	22.01	4.05	1.63	7.06	84.99
4/30/2025 10:04	20.02	0.64	21.01	4.08	1.67	8.15	69.10
4/30/2025 10:04	20.01	0.63	20.88	4.03	1.73	8.53	54.16

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 10:04	20.13	0.59	20.01	3.82	1.70	7.38	66.01
4/30/2025 10:05	20.14	0.55	18.13	3.80	1.68	6.88	61.81
4/30/2025 10:05	20.00	0.59	16.98	4.04	1.67	6.86	90.37
4/30/2025 10:05	20.02	0.62	17.14	4.25	1.69	6.62	89.76
4/30/2025 10:05	20.12	0.60	19.32	4.17	1.68	6.84	135.89
4/30/2025 10:05	20.08	0.58	21.25	4.11	1.72	7.41	140.01
4/30/2025 10:05	19.94	0.63	21.45	4.13	1.73	7.35	103.16
4/30/2025 10:06	20.01	0.66	21.15	4.18	1.76	8.19	97.69
4/30/2025 10:06	20.00	0.64	21.61	4.11	1.69	8.81	115.67
4/30/2025 10:06	20.11	0.61	21.87	3.92	1.62	8.12	133.63
4/30/2025 10:06	20.12	0.57	21.61	3.88	1.64	7.75	97.00
4/30/2025 10:06	19.97	0.59	21.71	4.07	1.60	7.41	100.04
4/30/2025 10:06	20.01	0.63	21.99	4.32	1.62	7.36	76.87
4/30/2025 10:07	20.11	0.61	22.59	4.29	1.65	7.63	105.55
4/30/2025 10:07	20.08	0.57	22.52	4.14	1.69	7.74	186.11
4/30/2025 10:07	19.95	0.62	21.57	4.13	1.69	7.42	141.18
4/30/2025 10:07	20.00	0.66	22.21	4.10	1.62	8.57	116.45
4/30/2025 10:07	19.99	0.64	24.26	4.05	1.67	9.01	88.75
4/30/2025 10:07	20.09	0.61	24.80	3.92	1.64	8.22	112.13
4/30/2025 10:08	20.13	0.56	22.98	3.93	1.64	7.54	137.77
4/30/2025 10:08	20.00	0.58	21.65	4.14	1.68	7.33	137.29
4/30/2025 10:08	20.01	0.65	22.48	4.42	1.69	7.24	211.63
4/30/2025 10:08	20.09	0.60	25.76	4.47	1.70	7.63	178.36
4/30/2025 10:08	20.05	0.59	28.89	4.46	1.71	8.54	190.16
4/30/2025 10:08	19.94	0.65	28.23	4.44	1.71	7.88	150.10
4/30/2025 10:09	19.99	0.67	26.31	4.34	1.69	8.55	93.35
4/30/2025 10:09	19.98	0.65	25.50	4.25	1.68	8.83	71.98
4/30/2025 10:09	20.09	0.62	24.19	4.05	1.66	7.76	107.01
4/30/2025 10:09	20.14	0.57	21.55	4.24	1.66	7.10	99.28
4/30/2025 10:09	19.99	0.60	19.61	4.65	1.65	6.69	73.49
4/30/2025 10:09	19.98	0.65	19.97	4.85	1.66	6.30	50.95
4/30/2025 10:10	20.11	0.61	20.77	4.57	1.66	6.06	63.17
4/30/2025 10:10	20.10	0.56	20.75	4.40	1.66	6.30	78.81
4/30/2025 10:10	19.96	0.61	19.08	4.56	1.68	6.48	49.78
4/30/2025 10:10	20.04	0.64	17.39	4.65	1.67	7.64	104.78
4/30/2025 10:10	20.01	0.62	17.52	4.45	1.68	8.56	104.52
4/30/2025 10:10	20.09	0.60	19.03	4.25	1.72	7.90	66.56
4/30/2025 10:11	20.13	0.56	19.56	4.55	1.74	7.04	51.24
4/30/2025 10:11	19.98	0.61	18.78	4.56	1.74	6.51	59.55
4/30/2025 10:11	19.98	0.65	17.83	4.57	1.76	6.29	51.37
4/30/2025 10:11	20.13	0.59	17.73	4.38	1.74	6.50	44.31
4/30/2025 10:11	20.10	0.55	17.98	4.22	1.73	6.91	43.32
4/30/2025 10:11	19.98	0.60	17.47	4.17	1.77	6.65	49.82
4/30/2025 10:12	20.03	0.64	17.02	4.16	1.72	7.39	80.27
4/30/2025 10:12	20.00	0.62	17.66	4.20	1.63	8.58	60.99
4/30/2025 10:12	20.09	0.61	18.28	4.17	1.58	8.37	58.49
4/30/2025 10:12	20.13	0.57	17.55	4.10	1.56	7.74	94.52
4/30/2025 10:12	19.99	0.59	17.21	4.19	1.57	7.09	109.28
4/30/2025 10:12	19.96	0.65	18.77	4.47	1.59	7.01	148.28
4/30/2025 10:13	20.07	0.63	21.77	5.05	1.61	7.68	181.21
4/30/2025 10:13	20.05	0.60	24.97	5.11	1.61	8.41	207.82
4/30/2025 10:13	19.91	0.66	25.43	4.82	1.61	7.87	179.47
4/30/2025 10:13	19.96	0.69	24.80	4.58	1.61	7.95	132.20
4/30/2025 10:13	19.96	0.67	25.11	4.38	1.59	8.82	127.73
4/30/2025 10:13	20.08	0.62	24.76	4.09	1.64	8.31	114.78
4/30/2025 10:14	20.12	0.56	22.75	4.10	1.69	7.70	100.58
4/30/2025 10:14	20.01	0.58	20.75	4.23	1.71	7.22	157.95
4/30/2025 10:14	19.97	0.65	20.90	4.46	1.62	7.34	153.63
4/30/2025 10:14	20.08	0.62	24.19	4.40	1.59	7.92	137.69
4/30/2025 10:14	20.06	0.58	27.24	4.27	1.62	8.18	132.55
4/30/2025 10:14	19.94	0.64	26.57	4.21	1.66	7.45	109.16
4/30/2025 10:15	19.99	0.66	24.07	4.21	1.73	7.68	99.69
4/30/2025 10:15	20.01	0.64	22.79	4.23	1.78	8.63	479.00
4/30/2025 10:15	20.05	0.62	23.42	4.08	1.77	8.14	961.65
4/30/2025 10:15	19.95	0.64	27.79	4.08	1.65	9.43	677.18
4/30/2025 10:15	19.78	0.74	35.58	4.28	1.62	10.35	507.16
4/30/2025 10:15	19.80	0.79	43.60	4.57	1.62	10.23	437.85
4/30/2025 10:16	19.98	0.71	48.25	4.50	1.63	10.00	382.05
4/30/2025 10:16	20.01	0.64	49.15	4.36	1.65	9.89	295.76
4/30/2025 10:16	19.91	0.67	44.00	4.31	1.65	9.13	266.40
4/30/2025 10:16	19.98	0.67	36.72	4.30	1.65	9.28	234.66
4/30/2025 10:16	19.99	0.64	31.68	4.43	1.62	10.20	194.75
4/30/2025 10:16	20.11	0.61	29.50	4.38	1.62	9.26	200.16
4/30/2025 10:17	20.16	0.56	25.33	4.36	1.67	8.35	178.00
4/30/2025 10:17	20.05	0.56	23.03	4.52	1.64	8.04	159.35
4/30/2025 10:17	20.01	0.63	22.86	4.66	1.66	7.99	256.07
4/30/2025 10:17	20.13	0.60	25.51	4.40	1.69	8.28	210.82
4/30/2025 10:17	20.13	0.56	29.63	4.20	1.70	9.05	160.73
4/30/2025 10:17	19.99	0.60	30.87	4.23	1.74	8.67	147.23
4/30/2025 10:18	20.03	0.62	29.03	4.31	1.77	8.85	118.25
4/30/2025 10:18	20.03	0.61	27.24	4.51	1.75	10.17	88.45
4/30/2025 10:18	20.12	0.60	25.43	4.53	1.71	8.95	87.43
4/30/2025 10:18	20.19	0.55	22.80	4.48	1.64	7.95	99.81
4/30/2025 10:18	20.07	0.56	20.77	4.49	1.67	7.41	77.68

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 10:18	20.02	0.62	20.54	4.66	1.73	7.08	72.01
4/30/2025 10:19	20.16	0.58	21.10	4.47	1.72	6.95	76.46
4/30/2025 10:19	20.17	0.53	21.41	4.30	1.67	7.25	67.80
4/30/2025 10:19	20.03	0.58	20.82	4.45	1.72	7.37	63.83
4/30/2025 10:19	20.07	0.61	19.72	4.56	1.81	7.85	89.36
4/30/2025 10:19	20.07	0.59	19.88	4.60	1.83	9.24	86.81
4/30/2025 10:19	20.11	0.60	20.80	4.43	1.72	8.54	73.29
4/30/2025 10:20	20.17	0.56	20.75	4.34	1.69	7.64	71.98
4/30/2025 10:20	20.07	0.55	19.84	4.40	1.56	7.07	138.03
4/30/2025 10:20	19.99	0.62	20.15	4.69	1.54	6.94	179.50
4/30/2025 10:20	20.09	0.61	24.01	4.73	1.61	7.52	132.10
4/30/2025 10:20	20.13	0.56	28.32	4.57	1.66	8.12	99.10
4/30/2025 10:20	20.00	0.61	28.92	4.49	1.68	7.95	85.59
4/30/2025 10:21	20.05	0.63	25.78	4.41	1.69	7.75	118.45
4/30/2025 10:21	20.04	0.61	24.04	4.71	1.75	8.92	148.29
4/30/2025 10:21	20.07	0.60	24.70	5.38	1.82	8.29	156.74
4/30/2025 10:21	20.14	0.59	25.54	5.99	1.76	7.65	157.39
4/30/2025 10:21	20.05	0.57	25.59	6.36	1.71	7.16	160.24
4/30/2025 10:21	19.97	0.64	26.49	6.45	1.69	6.99	150.33
4/30/2025 10:22	20.08	0.64	28.52	6.04	1.69	7.05	130.69
4/30/2025 10:22	20.13	0.57	30.23	5.56	1.71	7.26	170.53
4/30/2025 10:22	19.98	0.58	29.16	5.33	1.72	7.37	211.48
4/30/2025 10:22	20.00	0.64	26.85	5.16	1.71	7.79	233.31
4/30/2025 10:22	19.99	0.63	27.53	4.98	1.69	9.66	169.29
4/30/2025 10:22	20.05	0.63	29.42	4.73	1.70	9.05	148.74
4/30/2025 10:23	20.14	0.57	28.82	4.57	1.73	7.82	167.79
4/30/2025 10:23	20.03	0.58	27.32	4.60	1.69	7.43	175.57
4/30/2025 10:23	19.95	0.64	27.33	4.87	1.66	7.58	163.29
4/30/2025 10:23	20.08	0.64	29.24	4.87	1.57	7.77	160.67
4/30/2025 10:23	20.11	0.56	31.33	4.67	1.62	7.92	165.79
4/30/2025 10:23	19.99	0.61	30.41	4.61	1.68	7.72	149.86
4/30/2025 10:24	20.00	0.64	27.30	4.61	1.73	7.84	134.76
4/30/2025 10:24	20.01	0.62	25.90	4.62	1.75	9.28	136.58
4/30/2025 10:24	20.05	0.62	25.78	4.47	1.82	8.79	120.58
4/30/2025 10:24	20.14	0.57	24.90	4.41	1.81	8.22	109.47
4/30/2025 10:24	20.07	0.56	23.00	4.49	1.78	7.83	103.29
4/30/2025 10:24	19.97	0.63	22.13	4.73	1.77	7.29	95.73
4/30/2025 10:25	20.09	0.63	22.30	4.69	1.75	6.95	97.01
4/30/2025 10:25	20.14	0.56	23.22	4.47	1.79	7.23	83.90
4/30/2025 10:25	20.01	0.59	23.01	4.44	1.79	7.39	68.04
4/30/2025 10:25	20.02	0.64	21.32	4.45	1.73	7.20	57.62
4/30/2025 10:25	20.03	0.61	20.09	4.42	1.71	8.51	62.10
4/30/2025 10:25	20.08	0.60	19.64	4.33	1.73	7.87	69.17
4/30/2025 10:26	20.15	0.56	19.09	4.31	1.67	7.28	102.61
4/30/2025 10:26	20.07	0.56	18.58	4.54	1.61	7.20	132.23
4/30/2025 10:26	19.94	0.62	19.96	5.04	1.67	7.35	133.30
4/30/2025 10:26	20.05	0.64	23.15	5.03	1.70	7.47	156.46
4/30/2025 10:26	20.10	0.68	27.21	4.80	1.70	7.85	167.80
4/30/2025 10:26	19.97	0.61	28.60	4.75	1.74	7.99	265.54
4/30/2025 10:27	19.97	0.66	27.30	4.66	1.67	9.23	255.08
4/30/2025 10:27	19.97	0.64	28.15	4.57	1.67	10.04	196.82
4/30/2025 10:27	20.02	0.65	29.95	4.45	1.71	9.75	168.18
4/30/2025 10:27	20.12	0.60	29.64	4.36	1.66	8.69	172.63
4/30/2025 10:27	20.05	0.59	27.23	4.44	1.61	8.03	134.42
4/30/2025 10:27	19.94	0.65	25.63	4.71	1.61	7.48	97.15
4/30/2025 10:28	20.05	0.65	25.17	4.76	1.66	7.20	77.41
4/30/2025 10:28	20.14	0.58	24.70	4.56	1.66	7.36	109.16
4/30/2025 10:28	20.00	0.59	23.22	4.52	1.68	7.45	209.36
4/30/2025 10:28	19.97	0.64	21.80	4.54	1.72	7.89	135.28
4/30/2025 10:28	19.99	0.65	23.33	4.54	1.71	9.54	125.40
4/30/2025 10:28	20.01	0.64	25.39	4.40	1.72	9.13	119.47
4/30/2025 10:29	20.10	0.60	25.16	4.33	1.71	8.46	126.47
4/30/2025 10:29	20.06	0.59	23.19	4.42	1.65	8.08	93.73
4/30/2025 10:29	19.94	0.64	22.10	4.78	1.65	7.74	259.70
4/30/2025 10:29	20.03	0.64	23.07	5.09	1.62	8.20	215.38
4/30/2025 10:29	20.09	0.60	26.22	5.46	1.61	10.74	145.46
4/30/2025 10:29	19.99	0.62	28.09	5.48	1.61	9.96	126.73
4/30/2025 10:30	19.96	0.68	26.27	5.36	1.69	8.36	111.61
4/30/2025 10:30	20.01	0.64	24.16	5.28	1.76	9.51	92.71
4/30/2025 10:30	20.04	0.62	22.87	5.18	1.71	9.20	140.37
4/30/2025 10:30	20.13	0.58	21.93	4.99	1.63	8.21	124.53
4/30/2025 10:30	20.08	0.56	21.04	4.89	1.60	7.58	100.54
4/30/2025 10:30	19.94	0.62	20.83	4.98	1.65	7.34	85.86
4/30/2025 10:31	20.05	0.62	21.14	5.01	1.70	7.39	75.59
4/30/2025 10:31	20.13	0.58	21.63	4.84	1.73	7.49	87.12
4/30/2025 10:31	20.02	0.57	21.31	4.80	1.70	7.60	79.25
4/30/2025 10:31	19.98	0.64	20.12	4.78	1.72	7.00	63.87
4/30/2025 10:31	20.02	0.62	19.53	4.79	1.73	8.30	67.40
4/30/2025 10:31	20.04	0.61	19.66	4.62	1.71	8.19	87.34
4/30/2025 10:32	20.13	0.59	19.25	4.49	1.77	7.80	81.99
4/30/2025 10:32	20.09	0.57	18.40	4.55	1.77	7.65	107.93
4/30/2025 10:32	19.94	0.62	18.38	4.80	1.71	7.58	90.87
4/30/2025 10:32	20.02	0.64	20.57	4.90	1.76	7.48	64.60
4/30/2025 10:32	20.12	0.58	22.23	4.76	1.73	7.38	54.00

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 10:32	20.01	0.58	22.39	4.73	1.73	7.21	55.52
4/30/2025 10:33	19.97	0.63	20.26	4.71	1.74	6.80	60.10
4/30/2025 10:33	20.02	0.63	18.60	4.68	1.76	8.48	69.01
4/30/2025 10:33	20.03	0.62	18.20	4.64	1.77	8.58	89.24
4/30/2025 10:33	20.12	0.60	18.21	4.57	1.71	7.90	71.82
4/30/2025 10:33	20.08	0.57	18.17	4.69	1.64	7.60	58.14
4/30/2025 10:33	19.95	0.62	18.45	4.90	1.66	7.29	44.69
4/30/2025 10:34	20.02	0.65	19.00	5.01	1.66	6.90	34.36
4/30/2025 10:34	20.13	0.58	19.30	4.82	1.66	6.42	29.62
4/30/2025 10:34	20.04	0.57	18.60	4.76	1.65	6.10	25.55
4/30/2025 10:34	19.98	0.63	16.87	4.78	1.63	5.76	27.71
4/30/2025 10:34	20.04	0.61	15.61	4.64	1.67	7.23	38.80
4/30/2025 10:34	20.03	0.62	15.25	4.57	1.68	7.23	34.43
4/30/2025 10:35	20.13	0.60	14.06	4.64	1.71	6.25	26.86
4/30/2025 10:35	20.12	0.55	12.62	4.72	1.72	5.88	35.89
4/30/2025 10:35	19.97	0.60	12.43	4.79	1.66	5.83	40.06
4/30/2025 10:35	20.01	0.63	13.37	4.85	1.69	5.90	35.91
4/30/2025 10:35	20.10	0.59	14.85	4.68	1.72	6.13	29.59
4/30/2025 10:35	20.03	0.58	15.74	4.55	1.71	6.24	27.45
4/30/2025 10:36	19.95	0.65	15.25	4.54	1.75	5.92	28.79
4/30/2025 10:36	19.99	0.65	14.98	4.51	1.75	7.45	39.16
4/30/2025 10:36	20.00	0.63	15.31	4.42	1.80	8.14	34.52
4/30/2025 10:36	20.10	0.59	15.19	4.33	1.86	7.29	29.44
4/30/2025 10:36	20.09	0.56	14.07	4.38	1.79	6.47	33.92
4/30/2025 10:36	19.94	0.61	13.62	4.59	1.68	6.19	39.79
4/30/2025 10:37	19.98	0.65	14.14	4.71	1.70	6.44	69.12
4/30/2025 10:37	20.10	0.61	15.45	4.56	1.73	6.77	69.74
4/30/2025 10:37	20.00	0.59	5.56	4.59	1.71	7.04	49.72
4/30/2025 10:37	19.91	0.66	16.83	4.70	1.72	6.28	57.73
4/30/2025 10:37	19.98	0.65	17.02	4.67	1.68	7.56	106.26
4/30/2025 10:37	19.98	0.65	17.33	4.65	1.69	8.39	285.61
4/30/2025 10:38	20.06	0.61	18.31	4.59	1.73	8.52	443.15
4/30/2025 10:38	20.01	0.62	22.45	4.66	1.79	9.37	316.21
4/30/2025 10:38	19.84	0.69	29.58	4.93	1.83	9.69	200.05
4/30/2025 10:38	19.90	0.74	34.85	5.07	1.83	9.14	126.36
4/30/2025 10:38	20.04	0.68	36.45	4.84	1.86	8.30	85.86
4/30/2025 10:38	19.99	0.63	32.53	4.73	1.79	7.57	60.88
4/30/2025 10:39	19.93	0.67	25.96	4.68	1.71	6.43	43.24
4/30/2025 10:39	20.00	0.66	20.55	4.53	1.68	7.17	46.54
4/30/2025 10:39	20.00	0.63	17.60	4.35	1.65	7.33	36.82
4/30/2025 10:39	20.11	0.61	15.94	4.21	1.62	6.78	33.73
4/30/2025 10:39	20.11	0.57	14.45	4.22	1.67	6.18	78.56
4/30/2025 10:39	19.96	0.60	14.24	4.43	1.68	6.18	100.14
4/30/2025 10:40	19.98	0.65	16.43	4.57	1.68	6.70	88.31
4/30/2025 10:40	20.09	0.61	19.84	4.49	1.72	7.27	65.87
4/30/2025 10:40	20.03	0.59	21.65	4.43	1.70	7.37	75.58
4/30/2025 10:40	19.93	0.64	20.43	4.47	1.61	6.75	106.79
4/30/2025 10:40	19.99	0.65	19.31	4.45	1.64	8.01	99.86
4/30/2025 10:40	19.98	0.65	20.15	4.39	1.65	8.66	84.08
4/30/2025 10:41	20.08	0.61	21.27	4.24	1.68	7.83	74.76
4/30/2025 10:41	20.11	0.57	20.19	4.29	1.74	7.00	92.53
4/30/2025 10:41	19.95	0.62	18.72	4.51	1.74	6.86	139.51
4/30/2025 10:41	19.98	0.64	19.59	4.72	1.64	7.46	90.02
4/30/2025 10:41	20.08	0.61	22.46	4.68	1.67	7.56	58.74
4/30/2025 10:41	20.03	0.59	24.38	4.61	1.72	7.41	47.48
4/30/2025 10:42	19.94	0.65	22.34	4.59	1.80	6.49	44.10
4/30/2025 10:42	19.99	0.65	19.49	4.49	1.75	7.49	40.79
4/30/2025 10:42	19.99	0.63	17.47	4.46	1.68	8.01	35.62
4/30/2025 10:42	20.09	0.61	16.70	4.33	1.67	7.45	47.16
4/30/2025 10:42	20.12	0.57	15.09	4.34	1.61	6.90	63.85
4/30/2025 10:42	19.95	0.59	14.70	4.49	1.63	6.59	45.36
4/30/2025 10:43	19.98	0.65	15.57	4.67	1.73	6.50	31.72
4/30/2025 10:43	20.10	0.60	16.79	4.50	1.79	6.45	26.60
4/30/2025 10:43	20.05	0.58	17.15	4.39	1.72	6.64	23.75
4/30/2025 10:43	19.94	0.63	16.25	4.42	1.68	6.18	25.95
4/30/2025 10:43	20.00	0.62	15.43	4.40	1.65	7.34	24.82
4/30/2025 10:43	19.98	0.63	15.10	4.38	1.67	7.89	24.98
4/30/2025 10:44	20.09	0.60	15.47	4.27	1.73	7.17	25.76
4/30/2025 10:44	20.11	0.56	14.75	4.32	1.64	6.79	64.89
4/30/2025 10:44	19.95	0.61	14.69	4.51	1.64	6.51	140.12
4/30/2025 10:44	19.96	0.67	17.11	4.70	1.69	6.69	141.96
4/30/2025 10:44	20.06	0.62	21.45	4.58	1.74	7.02	116.35
4/30/2025 10:44	20.04	0.60	24.46	4.50	1.71	7.13	161.76
4/30/2025 10:45	19.90	0.64	23.46	4.53	1.70	6.63	185.56
4/30/2025 10:45	19.95	0.67	22.43	4.55	1.70	7.81	149.55
4/30/2025 10:45	19.94	0.66	23.48	4.49	1.75	8.83	132.71
4/30/2025 10:45	20.05	0.63	24.62	4.37	1.80	8.23	120.95
4/30/2025 10:45	20.08	0.60	23.11	4.40	1.85	7.70	94.16
4/30/2025 10:45	19.93	0.62	21.75	4.53	1.78	7.24	131.77
4/30/2025 10:46	19.94	0.67	21.43	4.68	1.70	7.07	105.44
4/30/2025 10:46	20.07	0.61	22.84	4.63	1.69	7.46	128.04
4/30/2025 10:46	20.04	0.59	23.92	4.50	1.67	8.18	304.94
4/30/2025 10:46	19.89	0.65	22.72	4.73	1.66	8.06	196.67
4/30/2025 10:46	19.94	0.69	22.58	4.92	1.65	9.69	120.36

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 10:46	19.94	0.68	24.06	4.87	1.68	9.76	103.14
4/30/2025 10:47	20.07	0.62	23.10	4.66	1.70	8.47	179.90
4/30/2025 10:47	20.10	0.56	22.21	4.63	1.72	8.08	195.13
4/30/2025 10:47	19.95	0.61	21.86	4.78	1.73	8.20	240.39
4/30/2025 10:47	19.93	0.65	25.08	4.93	1.71	8.35	213.28
4/30/2025 10:47	20.06	0.63	29.89	4.87	1.75	8.48	176.27
4/30/2025 10:47	20.06	0.59	32.00	4.74	1.78	8.56	186.74
4/30/2025 10:48	19.93	0.64	28.56	4.77	1.78	7.52	206.53
4/30/2025 10:48	19.99	0.66	25.61	4.71	1.73	8.25	196.91
4/30/2025 10:48	19.96	0.66	25.13	4.64	1.73	9.52	248.63
4/30/2025 10:48	20.05	0.63	26.16	4.44	1.69	8.85	179.36
4/30/2025 10:48	20.09	0.59	25.95	4.54	1.74	8.21	113.78
4/30/2025 10:48	19.97	0.60	25.11	4.87	1.84	7.31	89.72
4/30/2025 10:49	19.98	0.64	23.88	5.04	1.84	6.83	76.02
4/30/2025 10:49	20.10	0.60	23.59	4.87	1.90	6.84	60.27
4/30/2025 10:49	20.11	0.57	22.84	4.73	1.80	7.08	51.06
4/30/2025 10:49	19.98	0.61	20.94	4.73	1.71	6.66	51.02
4/30/2025 10:49	20.04	0.62	18.88	4.74	1.75	6.96	50.58
4/30/2025 10:49	20.02	0.61	17.76	4.69	1.81	8.07	90.64
4/30/2025 10:50	20.11	0.59	17.87	4.53	1.78	7.71	97.02
4/30/2025 10:50	20.13	0.56	17.92	4.53	1.75	7.20	73.51
4/30/2025 10:50	19.99	0.59	18.03	4.75	1.79	6.73	53.50
4/30/2025 10:50	19.98	0.64	18.64	5.09	1.77	6.38	47.17
4/30/2025 10:50	20.11	0.60	19.27	4.99	1.70	6.36	53.68
4/30/2025 10:50	20.10	0.55	19.21	4.96	1.68	6.98	50.00
4/30/2025 10:51	19.96	0.59	18.73	5.21	1.67	6.73	49.00
4/30/2025 10:51	20.02	0.62	17.61	5.36	1.75	7.15	49.00
4/30/2025 10:51	20.00	0.61	17.73	5.43	1.80	8.01	57.12
4/30/2025 10:51	20.09	0.60	17.53	5.26	1.75	7.40	57.85
4/30/2025 10:51	20.15	0.58	16.45	5.13	1.68	7.10	83.15
4/30/2025 10:51	20.01	0.60	15.49	5.27	1.67	6.94	111.32
4/30/2025 10:52	19.97	0.66	15.12	5.68	1.65	7.75	148.20
4/30/2025 10:52	20.09	0.62	17.24	5.61	1.68	8.34	150.79
4/30/2025 10:52	20.07	0.58	20.85	5.50	1.71	8.80	155.93
4/30/2025 10:52	19.92	0.63	22.55	5.96	1.74	7.85	240.38
4/30/2025 10:52	19.97	0.65	22.67	5.77	1.69	8.09	181.78
4/30/2025 10:52	19.94	0.64	25.72	5.40	1.69	9.57	141.71
4/30/2025 10:53	20.05	0.64	27.43	5.08	1.69	8.74	106.11
4/30/2025 10:53	20.12	0.58	26.15	4.92	1.71	7.63	71.65
4/30/2025 10:53	20.00	0.59	23.11	4.96	1.67	7.17	58.21
4/30/2025 10:53	19.97	0.65	20.79	5.14	1.62	6.98	49.34
4/30/2025 10:53	20.10	0.60	19.88	5.01	1.65	6.92	41.48
4/30/2025 10:53	20.12	0.55	19.78	4.89	1.69	6.91	34.30
4/30/2025 10:54	19.98	0.59	18.83	4.92	1.75	6.49	32.60
4/30/2025 10:54	20.03	0.62	17.45	4.97	1.84	6.80	32.64
4/30/2025 10:54	20.02	0.60	16.41	4.91	1.82	7.85	91.89
4/30/2025 10:54	20.09	0.60	16.87	4.72	1.77	7.51	182.79
4/30/2025 10:54	20.13	0.57	18.05	4.70	1.70	7.53	128.02
4/30/2025 10:54	19.99	0.59	20.46	4.87	1.65	7.49	101.03
4/30/2025 10:55	19.94	0.66	22.61	5.21	1.68	7.17	75.19
4/30/2025 10:55	20.08	0.62	23.07	5.26	1.68	7.18	58.08
4/30/2025 10:55	20.11	0.56	21.87	5.13	1.70	7.25	47.31
4/30/2025 10:55	19.98	0.60	19.26	5.11	1.67	6.87	49.72
4/30/2025 10:55	20.04	0.64	17.70	5.09	1.68	7.27	158.17
4/30/2025 10:55	20.01	0.62	17.84	5.02	1.67	8.60	191.47
4/30/2025 10:56	20.06	0.61	20.38	4.84	1.68	8.41	181.44
4/30/2025 10:56	20.12	0.57	23.07	4.82	1.76	8.37	235.95
4/30/2025 10:56	19.99	0.60	25.61	4.86	1.75	8.26	155.05
4/30/2025 10:56	19.92	0.66	28.19	5.16	1.65	8.12	117.25
4/30/2025 10:56	20.07	0.64	29.86	5.09	1.63	7.93	103.50
4/30/2025 10:56	20.12	0.57	28.05	4.92	1.67	7.97	85.82
4/30/2025 10:57	19.98	0.61	26.65	4.92	1.74	7.61	66.75
4/30/2025 10:57	20.01	0.64	22.77	4.92	1.75	7.37	68.01
4/30/2025 10:57	20.02	0.62	20.82	4.91	1.75	8.53	55.40
4/30/2025 10:57	20.08	0.59	20.03	4.76	1.81	8.02	47.71
4/30/2025 10:57	20.15	0.57	18.30	4.69	1.80	7.41	71.36
4/30/2025 10:57	20.05	0.55	16.84	4.75	1.79	7.04	67.37
4/30/2025 10:58	19.97	0.62	17.09	5.00	1.76	6.95	45.53
4/30/2025 10:58	20.09	0.60	18.58	4.96	1.76	6.83	49.96
4/30/2025 10:58	20.14	0.54	19.58	4.78	1.80	6.99	69.78
4/30/2025 10:58	20.00	0.57	19.24	4.77	1.76	7.16	93.98
4/30/2025 10:58	20.00	0.63	18.44	4.79	1.71	7.59	80.21
4/30/2025 10:58	20.01	0.61	19.38	4.83	1.75	9.44	70.60
4/30/2025 10:59	20.07	0.60	20.33	4.72	1.76	8.70	105.05
4/30/2025 10:59	20.15	0.56	20.24	4.66	1.75	7.77	89.77
4/30/2025 10:59	20.05	0.57	19.82	4.85	1.67	7.43	146.71
4/30/2025 10:59	19.95	0.64	20.81	5.12	1.56	7.42	133.49
4/30/2025 10:59	20.06	0.63	23.89	5.15	1.63	7.72	109.74
4/30/2025 10:59	20.11	0.59	26.43	5.02	1.71	7.82	98.46
4/30/2025 11:00	19.97	0.60	26.46	5.18	1.72	7.47	170.26
4/30/2025 11:00	19.98	0.64	23.88	5.91	1.75	7.42	154.24
4/30/2025 11:00	19.98	0.64	23.90	6.80	1.74	9.15	97.90
4/30/2025 11:00	20.05	0.63	25.22	6.78	1.75	8.49	63.47
4/30/2025 11:00	20.13	0.57	24.07	6.39	1.71	7.24	48.32

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	NOx	SO2	THC	THC
4/30/2025 11:00	20.05	0.56	20.72	6.05	1.66	6.33	40.72
4/30/2025 11:01	19.97	0.62	17.77	5.94	1.69	5.93	71.81
4/30/2025 11:01	20.08	0.62	16.45	5.57	1.77	6.01	127.37
4/30/2025 11:01	20.13	0.56	18.13	5.42	1.80	7.07	89.72
4/30/2025 11:01	19.98	0.59	20.27	5.40	1.75	7.45	66.74
4/30/2025 11:01	19.99	0.65	20.29	5.30	1.66	7.11	53.95
4/30/2025 11:01	20.00	0.62	19.87	5.14	1.68	8.38	52.84
4/30/2025 11:02	20.06	0.59	19.27	4.92	1.76	7.89	168.41
4/30/2025 11:02	20.13	0.55	18.90	4.77	1.78	7.39	144.29
4/30/2025 11:02	20.04	0.56	20.16	4.85	1.80	7.45	85.96
4/30/2025 11:02	19.93	0.65	22.21	5.04	1.80	7.11	69.07
4/30/2025 11:02	20.06	0.63	22.86	5.03	1.81	6.77	66.45
4/30/2025 11:02	20.13	0.55	22.99	4.85	1.78	6.83	67.81
4/30/2025 11:03	20.00	0.57	21.24	4.89	1.75	7.04	70.17
4/30/2025 11:03	20.00	0.63	19.06	4.89	1.80	6.88	130.15
4/30/2025 11:03	20.02	0.62	19.21	4.96	1.76	8.46	74.92
4/30/2025 11:03	20.04	0.60	21.23	4.87	1.81	8.20	53.85
4/30/2025 11:03	20.13	0.57	21.46	4.72	1.80	7.22	78.34
4/30/2025 11:03	20.09	0.55	19.40	4.72	1.78	6.62	94.96
4/30/2025 11:04	19.98	0.60	17.69	5.02	1.77	6.70	103.43
4/30/2025 11:04	20.07	0.62	18.20	5.11	1.73	7.13	108.67
4/30/2025 11:04	20.12	0.57	20.54	5.01	1.67	7.39	71.37
4/30/2025 11:04	19.99	0.59	20.99	5.02	1.65	6.98	50.46
4/30/2025 11:04	19.97	0.65	19.98	5.04	1.67	6.47	53.97
4/30/2025 11:04	19.99	0.63	18.74	4.97	1.77	7.97	50.08
4/30/2025 11:05	20.04	0.63	17.86	4.80	1.88	7.44	38.05
4/30/2025 11:05	20.14	0.58	17.07	4.66	1.81	6.31	41.91
4/30/2025 11:05	20.09	0.54	15.57	4.69	1.72	5.92	59.30
4/30/2025 11:05	19.97	0.60	15.10	4.90	1.70	6.07	40.73
4/30/2025 11:05	20.05	0.63	15.99	4.96	1.76	6.25	33.68
4/30/2025 11:05	20.11	0.58	16.86	4.76	1.73	6.31	36.09
4/30/2025 11:06	19.99	0.59	16.76	4.71	1.71	6.30	36.84
4/30/2025 11:06	19.98	0.64	15.50	4.73	1.72	5.96	42.79
4/30/2025 11:06	20.00	0.61	14.80	4.71	1.74	7.64	31.01
4/30/2025 11:06	20.03	0.61	15.37	4.58	1.78	7.18	29.27
4/30/2025 11:06	20.14	0.58	14.87	4.43	1.77	6.39	62.40
4/30/2025 11:06	20.08	0.56	14.14	4.48	1.79	6.36	47.34
4/30/2025 11:07	19.94	0.61	14.69	4.73	1.82	6.42	31.84
4/30/2025 11:07	20.02	0.64	15.85	4.72	1.86	6.17	46.69
4/30/2025 11:07	20.10	0.59	16.61	4.58	1.87	6.08	44.21
4/30/2025 11:07	19.98	0.60	16.52	4.65	1.87	6.39	36.07
4/30/2025 11:07	19.94	0.65	15.77	4.76	1.86	5.87	59.82
4/30/2025 11:07	19.97	0.65	15.87	4.70	1.87	7.43	47.25
4/30/2025 11:08	20.01	0.63	17.04	4.55	1.83	7.45	33.80
4/30/2025 11:08	20.10	0.59	17.14	4.40	1.78	6.59	48.68
4/30/2025 11:08	20.09	0.56	15.93	4.46	1.74	6.26	57.57
4/30/2025 11:08	19.94	0.62	15.58	4.70	1.69	6.30	90.53
4/30/2025 11:08	20.01	0.64	16.64	4.77	1.69	6.43	69.43
4/30/2025 11:08	20.09	0.60	19.06	4.55	1.74	6.65	48.91
4/30/2025 11:09	19.99	0.60	19.99	4.54	1.78	6.48	55.39
4/30/2025 11:09	19.93	0.66	18.81	4.59	1.78	5.85	65.44
4/30/2025 11:09	19.98	0.65	17.63	4.59	1.72	7.48	40.49
4/30/2025 11:09	20.02	0.64	17.36	4.54	1.71	7.48	41.55
4/30/2025 11:09	20.10	0.59	16.52	4.43	1.74	6.60	60.73
4/30/2025 11:09	20.11	0.57	14.97	4.54	1.78	6.37	118.79
4/30/2025 11:10	19.94	0.62	15.53	4.81	1.74	6.67	73.07
4/30/2025 11:10	19.98	0.66	18.18	4.85	1.72	6.87	51.78
4/30/2025 11:10	20.08	0.60	20.52	4.62	1.73	6.66	59.46
4/30/2025 11:10	19.99	0.61	20.31	4.56	1.74	6.50	146.50
4/30/2025 11:10	19.91	0.66	18.30	4.67	1.77	6.07	154.79
4/30/2025 11:10	19.95	0.67	18.86	4.70	1.77	8.31	121.29
4/30/2025 11:11	19.96	0.66	21.78	4.55	1.75	8.64	123.88
4/30/2025 11:11	20.09	0.60	23.18	4.44	1.70	7.66	79.18
4/30/2025 11:11	20.07	0.58	21.79	4.53	1.71	6.98	56.14
4/30/2025 11:11	19.94	0.63	19.28	4.75	1.76	6.40	49.97
4/30/2025 11:11	20.01	0.65	17.36	4.77	1.77	6.11	36.93
4/30/2025 11:11	20.11	0.60	16.41	4.55	1.81	6.17	45.57
4/30/2025 11:12	20.01	0.59	15.86	4.46	1.80	6.33	101.49
4/30/2025 11:12	19.92	0.64	15.41	4.52	1.80	6.21	71.84
4/30/2025 11:12	19.98	0.65	16.60	4.54	1.77	7.72	49.69
4/30/2025 11:12	19.99	0.65	18.16	4.51	1.70	7.55	35.27
4/30/2025 11:12	20.09	0.61	17.83	4.38	1.64	6.50	33.05
4/30/2025 11:12	20.08	0.57	15.64	4.42	1.64	5.88	30.97
4/30/2025 11:13	19.96	0.61	13.96	4.66	1.60	5.65	44.56
4/30/2025 11:13	20.01	0.65	13.60	4.73	1.58	5.73	72.72
4/30/2025 11:13	20.10	0.60	15.24	4.56	1.61	6.11	94.17
4/30/2025 11:13	20.02	0.59	17.05	4.51	1.69	6.34	120.16
4/30/2025 11:13	19.92	0.66	17.49	4.56	1.73	5.99	104.78
4/30/2025 11:13	19.96	0.67	18.23	4.57	1.78	7.32	75.72
4/30/2025 11:14	19.97	0.65	19.32	4.53	1.81	7.35	58.35
4/30/2025 11:14	20.08	0.63	19.12	4.37	1.79	6.52	47.05
4/30/2025 11:14	20.09	0.57	16.91	4.39	1.77	6.04	46.03
4/30/2025 11:14	19.96	0.60	15.75	4.61	1.72	6.00	45.11
4/30/2025 11:14	19.99	0.65	15.26	4.66	1.71	5.95	56.29

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 11:14	20.08	0.59	15.97	4.46	1.74	6.18	82.21
4/30/2025 11:15	20.00	0.58	16.72	4.42	1.71	6.49	65.69
4/30/2025 11:15	19.90	0.65	16.71	4.45	1.69	5.95	68.33
4/30/2025 11:15	20.00	0.65	17.00	4.45	1.67	7.19	61.62
4/30/2025 11:15	19.98	0.64	17.58	4.53	1.68	7.37	52.88
4/30/2025 11:15	20.09	0.62	17.13	4.54	1.70	6.55	45.13
4/30/2025 11:15	20.09	0.59	15.20	4.57	1.65	6.07	49.98
4/30/2025 11:16	19.96	0.61	13.94	4.71	1.59	5.98	34.30
4/30/2025 11:16	19.99	0.65	14.03	4.76	1.65	5.61	33.62
4/30/2025 11:16	20.12	0.59	14.26	4.51	1.75	5.57	52.16
4/30/2025 11:16	20.04	0.59	14.53	4.43	1.82	6.00	61.38
4/30/2025 11:16	19.94	0.64	14.08	4.51	1.83	5.61	51.68
4/30/2025 11:16	19.99	0.65	14.09	4.53	1.82	6.86	38.29
4/30/2025 11:17	19.99	0.63	14.84	4.51	1.72	7.20	27.56
4/30/2025 11:17	20.09	0.60	14.72	4.35	1.68	6.11	27.29
4/30/2025 11:17	20.11	0.57	13.07	4.33	1.64	5.62	27.99
4/30/2025 11:17	19.98	0.59	12.25	4.51	1.64	5.56	24.32
4/30/2025 11:17	19.99	0.64	12.19	4.60	1.68	5.49	42.88
4/30/2025 11:17	20.10	0.60	13.02	4.37	1.68	5.63	139.66
4/30/2025 11:18	20.04	0.58	14.26	4.35	1.70	6.29	113.65
4/30/2025 11:18	19.89	0.65	15.19	4.51	1.74	6.00	105.98
4/30/2025 11:18	19.96	0.66	16.99	4.47	1.75	6.99	143.21
4/30/2025 11:18	19.96	0.65	19.10	4.34	1.71	7.45	169.31
4/30/2025 11:18	20.08	0.62	20.00	4.21	1.73	6.73	143.77
4/30/2025 11:18	20.11	0.58	18.76	4.37	1.71	6.01	117.55
4/30/2025 11:19	19.96	0.60	17.20	4.57	1.73	5.62	107.28
4/30/2025 11:19	19.99	0.64	16.42	4.66	1.66	5.64	209.20
4/30/2025 11:19	20.08	0.61	18.08	4.43	1.67	6.26	165.85
4/30/2025 11:19	20.03	0.59	21.32	4.36	1.73	7.05	117.92
4/30/2025 11:19	19.90	0.66	21.61	4.39	1.79	6.09	100.59
4/30/2025 11:19	19.98	0.66	20.36	4.37	1.70	6.86	82.66
4/30/2025 11:20	19.98	0.63	19.53	4.26	1.60	7.41	63.61
4/30/2025 11:20	20.09	0.62	18.42	4.09	1.60	6.39	55.46
4/30/2025 11:20	20.13	0.57	16.26	4.08	1.64	5.60	55.65
4/30/2025 11:20	19.98	0.58	14.71	4.29	1.64	5.53	47.16
4/30/2025 11:20	19.98	0.64	14.11	4.47	1.72	5.31	41.38
4/30/2025 11:20	20.09	0.61	14.21	4.27	1.79	5.26	31.53
4/30/2025 11:21	20.05	0.57	14.17	4.18	1.81	5.45	28.99
4/30/2025 11:21	19.95	0.63	13.70	4.13	1.76	5.12	29.51
4/30/2025 11:21	20.03	0.63	13.48	4.04	1.68	6.18	26.18
4/30/2025 11:21	20.01	0.62	13.93	4.04	1.71	6.91	25.59
4/30/2025 11:21	20.11	0.60	13.29	3.92	1.73	5.93	22.01
4/30/2025 11:21	20.14	0.55	12.27	3.92	1.73	5.30	19.48
4/30/2025 11:22	20.00	0.57	11.61	4.07	1.70	5.47	81.50
4/30/2025 11:22	19.98	0.64	12.38	4.19	1.74	5.52	132.37
4/30/2025 11:22	20.07	0.60	16.12	4.11	1.76	6.48	119.42
4/30/2025 11:22	20.03	0.59	20.04	4.03	1.76	7.03	97.98
4/30/2025 11:22	19.91	0.65	20.91	4.06	1.71	6.08	70.40
4/30/2025 11:22	19.97	0.67	19.64	3.99	1.67	6.76	61.40
4/30/2025 11:23	19.97	0.64	18.77	3.97	1.67	7.45	57.40
4/30/2025 11:23	20.07	0.61	18.07	3.91	1.67	6.49	51.40
4/30/2025 11:23	20.11	0.56	16.38	3.97	1.68	5.95	184.37
4/30/2025 11:23	19.98	0.58	16.02	4.16	1.68	6.26	567.72
4/30/2025 11:23	19.90	0.66	22.04	4.31	1.67	8.82	383.51
4/30/2025 11:23	19.95	0.66	33.18	4.21	1.62	10.57	293.74
4/30/2025 11:24	19.92	0.65	41.07	4.08	1.63	10.20	149.43
4/30/2025 11:24	19.85	0.71	38.11	4.13	1.67	7.81	112.17
4/30/2025 11:24	19.96	0.70	30.10	4.15	1.71	7.44	87.58
4/30/2025 11:24	19.98	0.64	24.02	4.08	1.75	7.69	115.69
4/30/2025 11:24	20.07	0.62	21.22	3.94	1.86	6.89	107.87
4/30/2025 11:24	20.11	0.57	19.83	3.93	1.85	6.59	88.67
4/30/2025 11:25	20.01	0.58	19.16	4.04	1.77	6.43	67.97
4/30/2025 11:25	19.99	0.63	18.79	4.24	1.65	6.14	49.73
4/30/2025 11:25	20.11	0.60	18.56	4.16	1.59	5.88	40.19
4/30/2025 11:25	20.12	0.55	17.44	4.04	1.59	5.86	40.61
4/30/2025 11:25	19.97	0.61	16.33	4.04	1.65	5.42	33.87
4/30/2025 11:25	20.01	0.63	15.21	4.05	1.72	6.15	35.25
4/30/2025 11:26	20.02	0.62	14.37	4.02	1.72	7.11	32.27
4/30/2025 11:26	20.11	0.59	15.50	3.87	1.68	6.20	32.63
4/30/2025 11:26	20.15	0.54	14.54	3.85	1.69	5.56	31.28
4/30/2025 11:26	20.03	0.56	13.81	3.91	1.75	5.54	37.38
4/30/2025 11:26	19.98	0.62	13.69	4.10	1.78	5.28	30.66
4/30/2025 11:26	20.12	0.60	14.32	4.04	1.80	5.36	28.36
4/30/2025 11:27	20.09	0.55	14.86	3.95	1.80	5.81	40.90
4/30/2025 11:27	19.94	0.60	14.84	4.00	1.76	5.56	61.56
4/30/2025 11:27	20.00	0.64	15.30	4.03	1.71	6.06	64.06
4/30/2025 11:27	19.98	0.61	17.30	4.03	1.68	6.94	53.36
4/30/2025 11:27	20.08	0.60	18.55	3.85	1.73	6.27	49.14
4/30/2025 11:27	20.13	0.56	17.56	3.81	1.78	6.15	270.06
4/30/2025 11:28	20.00	0.57	17.61	3.97	1.81	6.80	294.81
4/30/2025 11:28	19.92	0.66	23.15	4.19	1.81	7.92	188.57
4/30/2025 11:28	20.01	0.65	30.57	4.11	1.81	8.06	158.43
4/30/2025 11:28	20.05	0.60	33.79	4.05	1.75	7.84	134.84
4/30/2025 11:28	19.92	0.64	30.35	4.16	1.71	6.85	89.05

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 11:28	19.97	0.66	24.83	4.15	1.67	6.88	74.65
4/30/2025 11:29	19.99	0.63	21.62	4.10	1.66	7.78	51.32
4/30/2025 11:29	20.09	0.61	19.86	3.94	1.68	6.70	43.58
4/30/2025 11:29	20.13	0.54	17.58	3.92	1.74	5.90	32.52
4/30/2025 11:29	20.03	0.58	15.45	4.03	1.77	5.39	26.08
4/30/2025 11:29	19.99	0.62	14.33	4.21	1.72	5.04	25.23
4/30/2025 11:29	20.11	0.58	13.65	4.20	1.70	4.87	20.36
4/30/2025 11:30	20.09	0.54	13.23	4.16	1.66	5.22	20.11
4/30/2025 11:30	19.96	0.60	12.78	4.18	1.64	5.18	15.55
4/30/2025 11:30	20.02	0.62	12.49	4.20	1.61	5.66	15.99
4/30/2025 11:30	20.01	0.61	13.11	4.08	1.62	6.89	14.10
4/30/2025 11:30	20.10	0.59	13.28	3.89	1.66	5.97	14.29
4/30/2025 11:30	20.14	0.55	12.25	3.83	1.68	5.32	13.83
4/30/2025 11:31	20.04	0.55	11.43	3.93	1.67	5.38	16.35
4/30/2025 11:31	19.94	0.61	11.66	4.18	1.66	4.95	14.71
4/30/2025 11:31	20 06	0.61	11.98	4.10	1.69	4.97	13.42
4/30/2025 11:31	20.10	0.55	12.53	3.98	1.74	5.34	15.59
4/30/2025 11:31	19.98	0.59	13.05	3.99	1.77	5.27	25.85
4/30/2025 11:31	20.00	0.64	13.57	3.99	1.84	5.67	24.52
4/30/2025 11:32	20.00	0.61	14.82	3.96	1.84	7.04	20.76
4/30/2025 11:32	20.07	0.59	15.36	3.86	1.77	6.26	18.69
4/30/2025 11:32	20.13	0.55	14.20	3.83	1.75	5.43	18.88
4/30/2025 11:32	20.05	0.56	12.93	3.98	1.83	5.30	21.50
4/30/2025 11:32	19.95	0.62	12.57	4 21	1.83	5.11	29.88
4/30/2025 11:32	20.07	0.60	12.98	4.13	1.82	5.21	49.46
4/30/2025 11:33	20.08	0.56	14.16	4.02	1.81	5.88	43.28
4/30/2025 11:33	19.95	0.60	15.15	4.03	1.78	5.84	45.27
4/30/2025 11:33	19.98	0.65	15.19	4.04	1.82	5.84	49.44
4/30/2025 11:33	19.99	0.62	15.99	4.08	1.72	7.30	33.28
4/30/2025 11:33	20.06	0.62	16.39	3.99	1.62	6.65	31.53
4/30/2025 11:33	20.13	0.55	15.39	3.94	1.64	5.91	32.01
4/30/2025 11:34	20.04	0.55	14.15	4.12	1.75	6.07	26.57
4/30/2025 11:34	19.96	0.62	13.95	4.34	1.79	5.79	34.05
4/30/2025 11:34	20.08	0.62	14.29	4.30	1.74	5.48	29.75
4/30/2025 11:34	20.09	0.57	14.86	4.19	1.69	5.59	30.35
4/30/2025 11:34	19 95	0.60	14.73	4.18	1.77	5.27	37.07
4/30/2025 11:34	19.98	0.64	14.38	4.19	1.83	5.53	51.63
4/30/2025 11:35	19.99	0.62	14.76	4.17	1.83	7.36	38.05
4/30/2025 11:35	20.05	0.62	15.62	4.10	1.82	7.00	35.06
4/30/2025 11:35	20.13	0.56	14.62	4.08	1.77	6.25	23.54
4/30/2025 11:35	20.05	0.57	13.36	4.27	1.75	5.83	27.93
4/30/2025 11:35	19.95	0.61	12.95	4 51	1.71	5.50	58.31
4/30/2025 11:35	20.07	0.62	13.95	4.46	1.72	5.66	74.25
4/30/2025 11:36	20.07	0.58	16.53	4.38	1.76	6.29	66.12
4/30/2025 11:36	19.94	0.61	18.14	4.41	1.80	6.15	62.27
4/30/2025 11:36	19.96	0.65	17.72	4.45	1.78	6.06	64.77
4/30/2025 11:36	19.96	0.65	17.67	4.44	1.71	7.68	280.44
4/30/2025 11:36	20.03	0.63	18.60	4.30	1.69	7.66	351.16
4/30/2025 11:36	20.05	0.60	21.32	4.31	1.57	8.55	222.47
4/30/2025 11:37	19.96	0.61	25.11	4.49	1.65	8.86	214.99
4/30/2025 11:37	19.87	0.67	28.57	4.71	1.72	8.68	408.80
4/30/2025 11:37	19.98	0.66	32.81	4.74	1.73	9.01	406.72
4/30/2025 11:37	20.01	0.64	38.05	4.65	1.74	9.78	343.37
4/30/2025 11:37	19.86	0.67	38.53	4.67	1.78	8.88	271.77
4/30/2025 11:37	19.90	0.71	34.20	4.72	1.76	7.97	178.26
4/30/2025 11:38	19.96	0.66	29.65	4.73	1.69	8.64	141.83
4/30/2025 11:38	20.06	0.62	26.31	4.47	1.70	7.56	116.39
4/30/2025 11:38	20.14	0.57	23.06	4.33	1.79	6.61	97.45
4/30/2025 11:38	20.09	0.55	20.00	4.46	1.80	6.32	99.75
4/30/2025 11:38	20.00	0.61	18.62	4.81	1.77	6.08	74.78
4/30/2025 11:38	20.09	0.60	18.70	4.86	1.72	5.95	59.27
4/30/2025 11:39	20.14	0.56	19.05	4.68	1.71	6.14	57.11
4/30/2025 11:39	20.00	0.57	18.61	4.61	1.71	6.07	44.12
4/30/2025 11:39	20.01	0.63	17.14	4.61	1.77	5.92	45.14
4/30/2025 11:39	20.03	0.61	16.42	4.58	1.76	7.13	37.59
4/30/2025 11:39	20.09	0.58	15.98	4.39	1.71	6.72	28.16
4/30/2025 11:39	20.17	0.54	14.81	4.28	1.70	6.01	25.07
4/30/2025 11:40	20.10	0.53	13.48	4.29	1 67	5.83	24.46
4/30/2025 11:40	19.98	0.59	12.82	4.61	1.65	5.43	18.32
4/30/2025 11:40	20.09	0.60	12.70	4.63	1 65	4.99	14.88
4/30/2025 11:40	20.16	0.54	12.44	4,42	1.63	5.17	12.25
4/30/2025 11:40	20.02	0.56	12.62	4.36	1.59	5.44	11.13
4/30/2025 11:40	20.01	0.62	13 06	4.35	1.70	5.44	9.34
4/30/2025 11:41	20.05	0.60	13.51	4.35	1.79	6.88	8.20
4/30/2025 11:41	20.09	0.58	13.17	4.17	1.79	6.33	8.14
4/30/2025 11:41	20.18	0.55	11.98	4.05	1.71	5.43	8.02
4/30/2025 11:41	20.12	0.55	10.97	4.11	1.70	5.16	5.48
4/30/2025 11:41	19.99	0.58	10.66	4.37	1.67	4.80	4.87
4/30/2025 11:41	18.00	0.59	10.68	3.25	1.59	5.24	5.33
4/30/2025 11:42	2.47	0.35	8.75	0.43	2.05	42.49	4.99
4/30/2025 11:42	0.20	0.13	5.25	0.19	5.19	12.77	4.97
4/30/2025 11:42	0.10	0 10	2.34	0 36	10.55	0.90	4.86
4/30/2025 11:42	0.08	0.08	0.83	0.42	15.40	0.42	4.90
4/30/2025 11:42	0.06	0.10	0.55	0.39	18.76	0.17	2.11

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	NOx	SO2	THC	THC
4/30/2025 11:42	0.07	0.08	0.44	0.35	21.19	0.04	2.15
4/30/2025 11:43	0.06	0.09	0.47	0.32	23.15	-0.03	2.71
4/30/2025 11:43	0.06	0.10	0.45	0.30	24.77	-0.08	2.59
4/30/2025 11:43	0.06	0.09	0.43	0.29	25.96	-0.11	2.49
4/30/2025 11:43	0.06	0.08	0.42	0.27	26.85	-0.14	2.04
4/30/2025 11:43	0.05	0.09	0.43	0.26	27.46	-0.16	2.60
4/30/2025 11:43	0.06	0.09	0.54	0.25	27.93	-0.18	1.96
4/30/2025 11:44	0.06	0.08	0.28	0.25	28.38	-0.19	2.21
4/30/2025 11:44	0.06	0.08	0.25	0.26	28.75	-0.21	2.34
4/30/2025 11:44	0.06	0.09	0.42	0.23	29.03	-0.21	2.15
4/30/2025 11:44	0.05	0.09	0.56	0.23	29.20	-0.22	2.46
4/30/2025 11:44	0.05	0.07	0.41	0.21	29.37	-0.23	2.07
4/30/2025 11:44	0.04	0.09	0.42	0.21	29.53	-0.23	1.99
4/30/2025 11:45	0.04	0.07	0.43	0.21	29.64	-0.24	2.54
4/30/2025 11:45	0.04	0.08	0.46	0.21	29.75	-0.24	1.65
4/30/2025 11:45	0.04	0.08	0.41	0.19	29.79	-0.25	1.28
4/30/2025 11:45	0.04	0.09	0.42	0.19	29.87	-0.26	-0.70
4/30/2025 11:45	0.04	0.08	0.42	0.18	29.96	-0.26	-0.83
4/30/2025 11:45	0.04	0.09	0.42	0.19	30.04	-0.26	-0.59
4/30/2025 11:46	0.04	0.08	0.42	0.20	30.11	-0.27	-0.75
4/30/2025 11:46	0.05	0.09	0.43	0.18	30.19	-0.28	-0.70
4/30/2025 11:46	0.06	0.09	0.45	0.18	30.26	-0.28	-0.75
4/30/2025 11:46	0.05	0.08	0.42	0.17	30.36	-0.28	-0.75
4/30/2025 11:46	0.04	0.10	0.42	0.18	30.43	-0.28	-0.69
4/30/2025 11:46	0.05	0.08	0.44	0.18	30.40	-0.28	-0.74
4/30/2025 11:47	0.05	0.08	0.41	0.18	30.39	-0.29	-0.87
4/30/2025 11:47	0.04	0.08	0.41	0.17	30.42	-0.28	-0.95
4/30/2025 11:47	0.04	0.09	0.41	0.16	30.41	-0.29	-0.95
4/30/2025 11:47	0.05	0.09	0.42	0.17	30.45	-0.29	-0.78
4/30/2025 11:47	3.84	0.11	0.66	1.45	30.46	-0.02	-0.51
4/30/2025 11:47	12.25	0.53	2.07	1.79	30.28	28.28	-0.94
4/30/2025 11:48	9.56	3.69	2.18	0.06	29.28	23.78	-0.39
4/30/2025 11:48	9.92	7.94	1.08	0.02	25.52	0.92	-0.92
4/30/2025 11:48	9.90	8.80	0.32	0.02	18.05	0.40	-1.04
4/30/2025 11:48	9.91	9.27	-0.14	0.01	11.73	0.21	-1.13
4/30/2025 11:48	9.92	9.30	-0.26	0.03	7.87	0.11	-1.25
4/30/2025 11:48	9.91	9.32	-0.18	0.03	5.76	0.04	-0.85
4/30/2025 11:49	9.89	9.33	-0.18	0.02	4.60	0.00	-0.88
4/30/2025 11:49	12.67	7.52	0.48	1.50	3.94	1.66	-0.85
4/30/2025 11:49	2.50	3.07	1.18	0.10	3.96	1.17	-0.84
4/30/2025 11:49	0.34	0.96	1.16	0.14	5.35	-0.26	-0.96
4/30/2025 11:49	0.08	0.27	0.73	0.15	10.05	-0.30	-0.64
4/30/2025 11:49	0.06	0.13	0.53	0.18	16.95	-0.31	-0.70
4/30/2025 11:50	0.05	0.14	0.42	0.17	22.41	-0.32	-0.85
4/30/2025 11:50	0.06	0.12	0.41	0.17	25.85	-0.33	-1.12
4/30/2025 11:50	0.06	0.10	0.40	0.15	27.85	-0.33	-0.69
4/30/2025 11:50	0.06	0.10	0.41	0.15	28.90	-0.33	-0.87
4/30/2025 11:50	0.04	0.09	0.42	0.16	29.50	-0.34	-1.08
4/30/2025 11:50	0.05	0.09	0.41	0.16	29.86	-0.34	-0.65
4/30/2025 11:51	0.05	0.11	0.42	0.15	30.04	-0.35	-0.73
4/30/2025 11:51	0.04	0.09	0.41	0.15	30.21	-0.35	-0.70
4/30/2025 11:51	0.05	0.10	0.43	0.16	30.38	-0.35	-0.82
4/30/2025 11:51	0.04	0.10	0.48	0.16	30.47	-0.36	-0.64
4/30/2025 11:51	0.05	0.10	0.46	0.16	30.62	-0.36	-1.26
4/30/2025 11:51	0.05	0.09	0.31	0.15	30.73	-0.36	-1.14
4/30/2025 11:52	0.05	0.09	0.41	0.16	30.76	-0.36	-0.87
4/30/2025 11:52	0.05	0.09	0.42	0.16	30.81	-0.36	-0.69
4/30/2025 11:52	0.04	0.07	0.39	0.17	30.84	-0.36	-0.49
4/30/2025 11:52	0.05	0.09	0.41	0.15	30.86	-0.36	-0.84
4/30/2025 11:52	0.04	0.09	0.20	0.16	30.93	-0.36	-1.05
4/30/2025 11:52	0.05	0.08	0.50	0.16	30.98	-0.36	-1.00
4/30/2025 11:53	0.05	0.08	0.42	0.16	30.96	-0.36	-1.22
4/30/2025 11:53	0.04	0.10	0.45	0.15	31.01	-0.36	-0.73
4/30/2025 11:53	0.05	0.09	0.41	0.15	30.99	-0.36	-0.90
4/30/2025 11:53	0.06	0.08	0.42	0.15	31.01	-0.35	-1.18
4/30/2025 11:53	0.05	0.08	0.42	0.16	30.93	-0.36	-0.56
4/30/2025 11:53	0.04	0.09	0.42	0.16	30.95	-0.36	-0.90
4/30/2025 11:54	0.04	0.10	0.39	0.15	31.12	-0.36	-0.84
4/30/2025 11:54	0.04	0.09	0.42	0.15	31.18	-0.36	-0.60
4/30/2025 11:54	0.05	0.10	0.46	0.16	31.15	-0.36	-1.00
4/30/2025 11:54	0.04	0.09	0.42	0.15	31.17	-0.37	-0.69
4/30/2025 11:54	0.04	0.08	0.42	0.15	31.18	-0.36	-2.10
4/30/2025 11:54	0.04	0.09	0.42	0.14	31.17	-0.36	-3.77
4/30/2025 11:55	0.04	0.08	0.49	0.14	31.15	-0.36	-3.79
4/30/2025 11:55	7.86	0.14	0.93	2.30	31.15	0.70	-3.73
4/30/2025 11:55	15.17	0.59	3.08	2.18	29.41	3.34	-3.85
4/30/2025 11:55	9.51	3.40	3.16	0.07	25.94	0.74	-3.58
4/30/2025 11:55	9.90	8.51	1.90	0.02	22.22	-0.11	-3.39
4/30/2025 11:55	9.91	9.25	0.47	0.00	15.76	-0.13	-3.88
4/30/2025 11:56	9.88	9.31	-0.14	0.00	10.23	-0.15	-3.88
4/30/2025 11:56	9.90	9.32	-0.19	0.00	6.92	-0.17	-3.41
4/30/2025 11:56	9.91	9.34	-0.18	0.01	5.10	-0.17	-3.94
4/30/2025 11:56	9.90	9.33	-0.18	0.02	4.10	-0.18	-3.55
4/30/2025 11:56	9.91	9.32	-0.19	0.02	3.53	-0.18	-3.98

SO2 Bias

O2 CO2 Bias

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 11:56	9.91	9.33	-0.18	0.01	3.20	-0.18	-3.82	
4/30/2025 11:57	9.90	9.33	-0.18	0.01	2.97	-0.18	-3.61	
4/30/2025 11:57	9.90	9 33	-0.20	0.00	2.83	-0.19	-3.53	
4/30/2025 11:57	9.91	9.33	-0.18	0.05	2.64	-0.19	-4.22	
4/30/2025 11:57	16.08	6.66	1.52	2.38	2.55	2.99	-4.02	
4/30/2025 11:57	5.72	2.67	3.35	1.33	2.80	1.29	-3.41	
4/30/2025 11:57	0.51	1.11	7.31	14.85	3.80	-0.26	-3.61	
4/30/2025 11:58	0.12	0.33	14.87	14.60	4.16	-0.23	-4.16	
4/30/2025 11:58	0.08	0.16	21.82	18.75	3.69	-0.11	-3.66	
4/30/2025 11:58	0.06	0.13	25.81	20.68	3 17	-0,09	-3.82	
4/30/2025 11:58	0.05	0.12	26.82	21.87	2.80	-0.15	-3.96	
4/30/2025 11:58	0.05	0.11	26.94	22.81	2.49	-0.20	-3.95	
4/30/2025 11:58	0.05	0.10	27.14	23.48	2.29	-0.24	-3.58	
4/30/2025 11:59	0.05	0.09	26.70	23.92	2.18	-0.27	-3.65	
4/30/2025 11:59	0.06	0.10	27.03	24.23	2.15	-0.28	-3.80	
4/30/2025 11:59	0.05	0.11	27.12	24.45	2.10	-0.29	-3.67	
4/30/2025 11:59	0.05	0.10	27.20	24.58	2.12	-0.30	-3.54	
4/30/2025 11:59	0.05	0.10	27.16	24.63	2.08	-0.31	-3.75	
4/30/2025 11:59	0.04	0.09	27.07	24.68	2.04	-0.31	-3.36	
4/30/2025 12:00	0.05	0.09	27.21	24.67	2.02	-0.31	-3.63	Nox Bias
4/30/2025 12:00	0.05	0.10	27.08	24.66	2.00	-0.32	-4.03	
4/30/2025 12:00	0.05	0.10	27,14	24.61	2.03	-0.32	-4.02	
4/30/2025 12:00	0.04	0.08	27.14	24.58	1.96	-0.33	-3.73	
4/30/2025 12:00	0.05	0.10	27.21	24.52	1.90	-0.34	-3.60	
4/30/2025 12:00	1.94	0.09	26.87	20.64	1.91	-0.30	-3.40	
4/30/2025 12:01	16.76	0.29	22.27	8.58	1.91	3.10	-3.61	
4/30/2025 12:01	4.05	0.35	22.17	35.10	2.03	0.87	-3.96	
4/30/2025 12:01	0.14	0.15	28.68	36.89	2.13	-0.25	-3.97	
4/30/2025 12:01	0.07	0.09	36.08	36.87	2.08	-0.29	-3.82	
4/30/2025 12:01	0.06	0.09	40.18	36.84	2.05	-0.31	-3.62	
4/30/2025 12:01	0.04	0.10	41.15	36.78	1.93	-0.32	-3.56	
4/30/2025 12:02	0.04	0.08	41.19	36.75	1.89	-0.32	-3.42	
4/30/2025 12:02	0.04	0.10	41.24	36.77	1.91	-0.32	-3.59	
4/30/2025 12:02	0.05	0.09	41.24	36.76	1.92	-0.32	-3.88	
4/30/2025 12:02	0.05	0 09	41.21	36.74	1.92	-0.33	-3.59	CO Bias
4/30/2025 12:02	0.04	0.09	41.37	36.75	1.93	-0.33	-3.26	
4/30/2025 12:02	0.04	0.09	41.32	36.75	1.86	-0.34	-3.44	
4/30/2025 12:03	0.04	0.08	41.27	36.74	1.79	-0.34	-3.68	
4/30/2025 12:03	0.04	0.10	41.35	36.78	1.75	-0.34	-3.65	
4/30/2025 12:03	5.26	0.13	39.92	22.21	1.82	0.34	-4.14	
4/30/2025 12:03	18.56	0.40	31.18	5.74	1.92	4.46	-3.58	
4/30/2025 12:03	6.92	0.51	26.33	27.34	1.98	2.12	-4.14	
4/30/2025 12:03	0.93	0.66	20.61	1.52	2.05	17.17	-3.84	
4/30/2025 12:04	0.13	0.44	12.22	0.58	2.05	42.71	-3.60	
4/30/2025 12.04	0.06	0.10	4.87	0.44	2.01	44.35	-3.55	
4/30/2025 12:04	0.06	0.10	1.33	0.35	1.94	44.79	-3.84	
4/30/2025 12:04	0.05	0.10	0.70	0.30	1.94	44.94	-3.98	
4/30/2025 12:04	0.05	0.10	0.60	0.26	1.91	45.03	-3.62	
4/30/2025 12:04	0.05	0.10	0.57	0.23	1.76	45.09	-3.86	
4/30/2025 12:05	0.04	0.08	0.62	0.20	1.71	45.13	-3.83	
4/30/2025 12:05	0.04	0.09	0.56	0.20	1.68	45.14	-3.90	
4/30/2025 12:05	0.04	0.09	0.49	0.18	1.71	45.16	-3.66	
4/30/2025 12:05	0.05	0.08	0.47	0.17	1.78	45.17	-3.38	
4/30/2025 12:05	0.04	0.09	0.62	0.15	1.82	45.19	-3.55	
4/30/2025 12:05	0.05	0.09	0.08	0.14	1.86	45.19	-3.67	THC Bias
4/30/2025 12:06	0.05	0.09	0.36	0.13	1.89	45.18	-3.84	
4/30/2025 12:06	0.05	0.08	0.60	0.13	1.84	45.19	-3.97	
4/30/2025 12:06	0.05	0.08	0.44	0.12	1.78	45.19	-4.09	
4/30/2025 12:06	0.04	0.09	0.47	0.10	1.79	45.17	-4 27	
4/30/2025 12:06	0 04	0.09	0.42	0.10	1.76	45.15	-3.55	
4/30/2025 12:06	4.63	0.12	0.75	1.26	1.76	36.89	-3.46	
4/30/2025 12:07	1.80	0.17	1.29	0.19	1.82	10.10	-3.44	
4/30/2025 12:07	0.09	0.11	1.15	0.07	1.78	0.00	-3.83	
4/30/2025 12:07	0.05	0.10	0.84	0.07	1.75	-0.16	-3.56	
4/30/2025 12:07	0.04	0.08	0.53	0.08	1.71	-0.22	-3.24	
4/30/2025 12.07	0.05	0.09	0.42	0.06	1.71	-0.26	-3.59	
4/30/2025 12:07	0.03	0.09	0.41	0.05	1.74	-0.28	-3.76	
4/30/2025 12:08	0.04	0.08	0.42	0.06	1.71	-0.30	-3.77	Zero Bias
4/30/2025 12:08	0.05	0.08	0.42	0.05	1.73	-0.31	-3.86	
4/30/2025 12:08	0.04	0.09	0.41	0.04	1.75	-0.32	-3.57	
4/30/2025 12:08	0.04	0.08	0.39	0.04	1.69	-0.32	-3.54	
4/30/2025 12:08	0.04	0.09	0.10	0.05	1.61	-0.33	-3.31	
4/30/2025 12:08	0.04	0 09	0.31	0.05	1.65	-0.33	-3.69	
4/30/2025 12:09	0.05	0.07	0.56	0.06	1.70	-0.34	-3.52	
4/30/2025 12:09	0.09	0.07	0.32	0.10	1.72	-0.34	-3.77	
4/30/2025 12:09	13.01	0.23	1.79	3.48	1.69	2.27	-3.89	
4/30/2025 12:09	19.57	0.55	5.13	4.00	1.73	4.90	-3.51	
4/30/2025 12:09	19.88	0.62	8.79	4.02	1.82	6.37	3.14	
4/30/2025 12:09	20.00	0.60	9.47	3.89	1.97	5.31	47.84	
4/30/2025 12:10	20.07	0.54	9.06	3.86	2.09	4.57	794.08	
4/30/2025 12:10	20.00	0.54	8.63	4.01	2.08	4.71	980.63	
4/30/2025 12:10	19.88	0.61	8.76	4 38	2.11	4.26	987.04	
4/30/2025 12:10	20.01	0.63	8.81	4.34	2.12	4.02	989.87	
4/30/2025 12:10	20.07	0.56	8.97	4.13	2.17	4.55	989 67	

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 12:10	19.92	0.59	9.62	4.13	2.17	4.43	991.99	
4/30/2025 12:11	19.97	0.63	10.20	4.19	2.15	4.56	992.46	
4/30/2025 12:11	19.96	0.61	10 93	4.20	2.21	6.17	991.92	
4/30/2025 12:11	20.05	0.59	10.75	4.01	2.21	5.48	992.14	
4/30/2025 12:11	20.13	0.53	9.72	3.91	2.14	4.66	992.41	
4/30/2025 12:11	20.05	0.55	8.83	4.04	2.11	4.58	995.08	
4/30/2025 12:11	19.91	0.62	8.70	4.36	2.11	3.98	995.40	
4/30/2025 12:12	20.04	0.62	8.52	4.36	2.10	3.61	996.62	
4/30/2025 12:12	20.09	0.55	8.62	4.16	2.11	4.11	998.47	
4/30/2025 12:12	19.96	0.59	9.18	4.13	2.06	4.24	998.13	THC Bias
4/30/2025 12:12	19.98	0.62	9.82	4.14	2.03	4.25	998.29	
4/30/2025 12:12	19.98	0.61	10.74	4.17	2.02	5.58	998.55	
4/30/2025 12:12	20.05	0.61	10.59	3.99	2.02	4.88	998.11	
4/30/2025 12:13	20.13	0.54	9.35	3.89	2.03	4.21	998.27	
4/30/2025 12:13	20.06	0.53	8.39	4.00	2.05	4.21	998.55	
4/30/2025 12:13	19.93	0.61	8.21	4.36	2.14	3.76	998.48	
4/30/2025 12:13	20.04	0.61	8.40	4.34	2.15	3.64	998.48	
4/30/2025 12:13	20.11	0.55	8.52	4.18	2.08	4.05	611.07	
4/30/2025 12:13	19.97	0.58	9.11	4.17	2.02	4.32	22.48	
4/30/2025 12:14	19.99	0.63	9.81	4.13	2.01	4.59	1.80	
4/30/2025 12:14	19.98	0.61	11.10	4.15	1.95	6.31	-0.62	
4/30/2025 12:14	20.06	0.59	11.13	3.93	1.93	5.52	-2.86	
4/30/2025 12:14	20.14	0.55	9.79	3.87	1.95	4.69	-3.72	
4/30/2025 12:14	20.08	0.55	8.80	3.97	1.96	4,63	-4.02	
4/30/2025 12:14	19.94	0.60	8.74	4.26	2.01	3.99	-3.61	
4/30/2025 12:15	20.06	0.61	8.62	4.32	1.94	3.74	-3.76	Inlet Zero Bias
4/30/2025 12:15	20.11	0.56	8.81	4.11	1.93	4.47	-3.53	
4/30/2025 12:15	19.96	0.58	9.55	4 04	1.95	4.81	-3.57	
4/30/2025 12:15	19.99	0.62	10.38	4.06	1.98	4.63	-6.15	
4/30/2025 12:15	20.00	0.62	10.86	4.07	1.96	6.07	-6.21	
4/30/2025 12:15	20.05	0.60	10.91	3.91	1.96	5.42	-6.43	
4/30/2025 12:16	20.13	0.54	10.08	3.81	1.95	4.65	-6.40	
4/30/2025 12:16	20.06	0.55	8.54	3.93	1.92	4.72	-6.72	
4/30/2025 12:16	19.89	0.62	8.86	4.32	1.85	4.42	-4.33	
4/30/2025 12:16	19.98	0.66	8.99	4.30	1.88	4.08	-3.64	
4/30/2025 12:16	20.08	0.58	9.11	4.08	1.98	4.23	-3.91	
4/30/2025 12:16	19.97	0.58	9.47	4.03	2.00	4.44	-3.73	
4/30/2025 12:17	19.96	0.62	9.98	4.08	1.99	4.53	-3.80	
4/30/2025 12:17	19.99	0.62	10.96	4.06	2.02	6.26	-4.09	
4/30/2025 12:17	20.06	0.59	11.08	3.90	2 05	5.64	-3.80	
4/30/2025 12:17	20.14	0.55	9.94	3.74	2.02	4.54	-4.00	
4/30/2025 12:17	20.09	0.53	8.73	3.82	1.91	4.14	-3.67	
4/30/2025 12:17	19.93	0.60	8.34	4.14	1.88	3.65	-3.52	
4/30/2025 12:18	20.05	0.62	7.97	4.17	1.87	3.35	-3.69	
4/30/2025 12:18	20.11	0.57	8.18	3.98	1.94	3.81	-4 04	
4/30/2025 12:18	19.98	0.58	8.81	3.93	2.01	4.29	-3.75	
4/30/2025 12:18	19.97	0.62	9.66	3.92	1.99	4.21	-3.85	
4/30/2025 12:18	20.01	0.61	10.63	3.92	2.00	5.88	-4.00	
4/30/2025 12:18	20.04	0.59	10.32	3.78	1.99	5.30	-3.40	
4/30/2025 12:19	20.14	0.54	9.47	3.67	1.96	4.32	-3.34	
4/30/2025 12:19	20.09	0.52	8.38	3.76	1.98	4.27	-3.77	
4/30/2025 12:19	19.93	0.60	8.37	4.04	1.95	4.08	-3.33	
4/30/2025 12:19	20.02	0.63	8.43	4.14	1.90	3.69	-3.78	
4/30/2025 12:19	20.11	0.57	8.50	3.98	1.89	3.86	-3.72	
4/30/2025 12:19	19.99	0.56	9.05	3.94	1.86	4.31	-3.99	
4/30/2025 12:20	19.97	0.62	9.74	3.96	1.89	4.19	-4.25	
4/30/2025 12:20	20.00	0.61	10.68	3.96	1.95	5.89	-3.89	
4/30/2025 12:20	20.05	0.60	10.78	3.82	2.01	5.62	-3.56	
4/30/2025 12:20	20.13	0.56	9.76	3.67	1.95	4.79	-3.75	
4/30/2025 12:20	20.10	0.55	8.76	3.75	1.86	4.71	-3.79	
4/30/2025 12:20	19.92	0.60	8.61	4.06	1.79	4.45	-3.98	
4/30/2025 12:21	20.00	0.63	8.61	4.10	1.84	3.99	-3.77	
4/30/2025 12:21	20.09	0.58	8.64	3.88	1.82	4.10	-3.64	
4/30/2025 12:21	19.99	0.58	9.22	3.81	1.74	4.51	-3.58	
4/30/2025 12:21	19.96	0.63	10.05	3.89	1.77	4.41	-4.24	
4/30/2025 12:21	19.98	0.61	10.92	3.88	1.80	5.79	-3.32	
4/30/2025 12:21	20.04	0.61	10.98	3.71	1.81	5.35	-3.73	
4/30/2025 12:22	20.13	0.56	9.77	3.59	1.86	4.29	-3.79	
4/30/2025 12:22	20.10	0.54	8.50	3.65	1.88	4.12	-3.77	
4/30/2025 12:22	19.92	0.60	8.57	3.97	1.92	4.05	-3.59	
4/30/2025 12:22	19.95	0.66	8.72	4.07	1.91	3.67	-3.82	
4/30/2025 12:22	20.07	0.59	8.79	3.81	1.81	3,90	-3.50	
4/30/2025 12:22	20.00	0.58	9.26	3 71	1.82	4.62	-3.79	
4/30/2025 12:23	19.94	0.65	9.90	3.75	1.80	4.22	-3.75	
4/30/2025 12:23	19.99	0.63	10.72	3.72	1.87	5.63	-4.18	
4/30/2025 12:23	20.05	0.60	10.87	3.59	1.88	5.43	-3.62	
4/30/2025 12:23	20.13	0.56	9.86	3.48	1.85	4.71	-3.47	
4/30/2025 12:23	20.10	0.54	8.74	3.60	1.82	4.65	-3.67	
4/30/2025 12:23	19.93	0.59	8.61	3.88	1.80	4.53	-3.42	
4/30/2025 12:24	19.99	0.63	8.63	3.94	1.74	4.13	-3.71	
4/30/2025 12:24	20.10	0.58	8.68	3.68	1.77	4.20	-3.69	
4/30/2025 12:24	20.00	0.57	9.26	3.55	1.79	4.68	-3.55	
4/30/2025 12:24	19.95	0.64	9.97	3.59	1.81	4.31	-3.42	
4/30/2025 12:24	19.98	0.64	10.74	3.59	1.81	5.80	-3.81	

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 12:24	20.04	0.62	10.89	3.49	1.82	5.70	-3.60
4/30/2025 12:25	20.12	0.57	9.98	3.36	1.84	4.96	-3.55
4/30/2025 12:25	20.10	0.54	8.57	3.43	1.77	4.42	-3.78
4/30/2025 12:25	19.96	0.58	8.22	3.74	1.80	4.15	-4.00
4/30/2025 12:25	19.99	0.65	8.33	3.76	1.88	3.85	-4.00
4/30/2025 12:25	20.09	0.58	8.44	3.54	1.89	3.98	-3.76
4/30/2025 12:25	20.00	0.60	9.00	3.44	1.89	4.59	-3.81
4/30/2025 12:26	19.96	0.63	9.69	3.49	1.87	4.32	-3.60
4/30/2025 12:26	20.00	0.64	10.63	3.50	1.88	5.71	-3.64
4/30/2025 12:26	20.02	0.62	11.04	3.37	1.87	5.81	-3.71
4/30/2025 12:26	20.11	0.57	10.11	3.26	1.88	4.90	-3.48
4/30/2025 12:26	20.10	0.54	8.86	3.33	1.85	4.50	-3.36
4/30/2025 12:26	19.94	0.59	8.62	3.52	1.78	4.32	-3.35
4/30/2025 12:27	19.97	0.65	8.53	3.57	1.84	4.01	-3.96
4/30/2025 12:27	20.11	0.59	8.69	3.31	1.88	4.10	-3.89
4/30/2025 12:27	20.03	0.57	9.28	3.18	1.83	4.53	-3.21
4/30/2025 12:27	19.94	0.63	10.11	3.21	1.78	4.23	-3.33
4/30/2025 12:27	19.99	0.63	11.08	3.21	1.72	5.76	-3.40
4/30/2025 12:27	20.01	0.63	11.64	3.18	1.69	6.09	-3.39
4/30/2025 12:28	20.10	0.59	10.78	3.12	1.73	5.03	-3.65
4/30/2025 12:28	20.09	0.54	9.33	3.22	1.76	4.62	-3.59
4/30/2025 12:28	19.94	0.59	9.02	3.43	1.79	4.62	-4.16
4/30/2025 12:28	19.95	0.66	8.99	3.51	1.88	4.14	-3.43
4/30/2025 12:28	20.08	0.61	8.89	3.22	1.87	4.16	-3.91
4/30/2025 12:28	20.02	0.58	9.41	3.11	1.76	4.66	-3.88
4/30/2025 12:29	19.93	0.63	10.39	3.21	1.76	4.37	-4.03
4/30/2025 12:29	19.99	0.64	11.35	3.25	1.77	5.72	-3.65
4/30/2025 12:29	20.00	0.63	11.67	3.22	1.82	5.87	-4.00
4/30/2025 12:29	20.10	0.58	10.65	3.18	1.81	4.90	-3.38
4/30/2025 12:29	20.09	0.55	9.13	3.26	1.79	4.71	-4.00
4/30/2025 12:29	19.93	0.60	8.82	3.53	1.77	4.74	-3.91
4/30/2025 12:30	19.92	0.66	8.81	3.62	1.76	4.10	-3.88
4/30/2025 12:30	20.07	0.62	8.84	3.32	1.77	4.00	-3.99
4/30/2025 12:30	20.01	0.59	9.34	3.16	1.73	4.66	-3.90
4/30/2025 12:30	19.91	0.63	10.09	3.24	1.73	4.39	-3.92
4/30/2025 12:30	19.97	0.64	11.03	3.26	1.77	5.45	-3.81
4/30/2025 12:30	19.98	0.63	11.42	3.27	1.80	5.78	-4.26
4/30/2025 12:31	20.08	0.60	10.60	3.22	1.75	4.98	-3.78
4/30/2025 12:31	20.09	0.55	9.14	3.29	1.79	4.43	-3.14
4/30/2025 12:31	19.94	0.59	8.72	3.52	1.77	4.44	-3.60
4/30/2025 12:31	19.96	0.62	8.78	3.62	1.68	3.92	-3.83
4/30/2025 12:31	20.06	0.60	8.84	3.39	1.63	3.92	-3.64
4/30/2025 12:31	20.01	0.57	9.25	3.22	1.70	4.85	-3.40
4/30/2025 12:32	19.92	0.63	9.98	3.33	1.76	4.45	-3.60
4/30/2025 12:32	19.97	0.65	11.04	3.36	1.78	5.31	-3.69
4/30/2025 12:32	19.98	0.63	11.79	3.35	1.76	5.72	-4.01
4/30/2025 12:32	20.09	0.60	11.12	3.31	1.76	5.00	-3.77
4/30/2025 12:32	20.10	0.57	9.58	3.42	1.77	4.70	-3.60
4/30/2025 12:32	19.95	0.59	9.01	3.63	1.74	4.57	-3.69
4/30/2025 12:33	19.95	0.65	8.92	3.76	1.81	4.06	-3.95
4/30/2025 12:33	20.06	0.60	8.89	3.52	1.83	4.08	-3.63
4/30/2025 12:33	20.02	0.58	9.33	3.35	1.86	4.78	-3.77
4/30/2025 12:33	19.90	0.64	10.09	3.37	1.81	4.54	-3.79
4/30/2025 12:33	19.98	0.64	11.02	3.42	1.77	5.66	-3.66
4/30/2025 12:33	19.98	0.63	11.70	3.44	1.81	6.26	-3.28
4/30/2025 12:34	20.08	0.61	11.04	3.40	1.80	5.20	-3.52
4/30/2025 12:34	20.10	0.56	9.44	3.48	1.77	4.66	-3.62
4/30/2025 12:34	19.95	0.59	8.83	3.75	1.77	4.62	-3.68
4/30/2025 12:34	19.92	0.67	8.73	3.89	1.73	4.17	-3.85
4/30/2025 12:34	20.06	0.61	8.74	3.60	1.78	4.16	-4.13
4/30/2025 12:34	20.02	0.58	9.27	3.43	1.79	4.99	-3.76
4/30/2025 12:35	19.91	0.64	10.15	3.54	1.72	4.76	-3.74
4/30/2025 12:35	19.95	0.65	11.07	3.61	1.68	5.67	-3.74
4/30/2025 12:35	19.96	0.64	11.85	3.58	1.70	6.21	-3.64
4/30/2025 12:35	20.07	0.59	11.19	3.49	1.79	5.17	-3.82
4/30/2025 12:35	20.11	0.55	9.53	3.58	1.83	4.61	-3.75
4/30/2025 12:35	19.96	0.58	9.01	3.87	1.80	4.76	-4.08
4/30/2025 12:36	19.86	0.65	9.24	4.10	1.75	4.26	-3.79
4/30/2025 12:36	20.02	0.63	9.33	3.76	1.67	4.12	-3.39
4/30/2025 12:36	20.03	0.57	9.56	3.52	1.69	4.61	-4.05
4/30/2025 12:36	19.91	0.62	10.12	3.50	1.79	4.46	-3.89
4/30/2025 12:36	19.99	0.64	10.82	3.52	1.83	5.40	-3.19
4/30/2025 12:36	19.97	0.61	11.69	3.56	1.83	6.28	-3.94
4/30/2025 12:37	20.07	0.59	11.19	3.50	1.80	5.48	-3.75
4/30/2025 12:37	20.11	0.56	9.73	3.61	1.80	4.81	-3.58
4/30/2025 12:37	19.98	0.58	9.20	3.88	1.78	4.80	-3.87
4/30/2025 12:37	19.94	0.63	9.21	4.06	1.80	4.27	-4.08
4/30/2025 12:37	20.06	0.61	9.21	3.83	1.84	4.25	-3.82
4/30/2025 12:37	20.04	0.57	9.56	3.64	1.76	5.00	-3.50
4/30/2025 12:38	19.92	0.61	10.54	3.69	1.72	4.82	-4.30
4/30/2025 12:38	19.97	0.62	10.82	3.73	1.76	5.51	-3.67
4/30/2025 12:38	19.98	0.62	11.76	3.69	1.75	6.49	-3.53
4/30/2025 12:38	20.07	0.58	11.18	3.57	1.77	5.49	-3.80
4/30/2025 12:38	20.12	0.53	9.65	3.64	1.77	4.87	-3.58

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 12:38	19.99	0.55	9.22	3.89	1.74	5.01	-3.20
4/30/2025 12:39	19.92	0.63	9.30	4.11	1.74	4.53	-3.56
4/30/2025 12:39	20.06	0.60	9.41	3.89	1.69	4.45	-4.06
4/30/2025 12:39	20.05	0.57	9.67	3.73	1.66	5.24	-3.94
4/30/2025 12:39	19.93	0.61	10.44	3.74	1.69	5.04	-3.57
4/30/2025 12:39	19.98	0.62	11.38	3.74	1.74	5.80	-4.17
4/30/2025 12:39	19.99	0.61	12.30	3.71	1.74	7.00	-3.59
4/30/2025 12:40	20.07	0.58	11.84	3.53	1.78	5.85	-4.02
4/30/2025 12:40	20.12	0.54	10.20	3.54	1.79	5.06	-3.82
4/30/2025 12:40	20.01	0.55	9.43	3.78	1.81	5.11	-3.60
4/30/2025 12:40	19.95	0.63	9.24	4.01	1.78	4.55	-3.48
4/30/2025 12:40	20.09	0.60	9.14	3.87	1.78	4.42	-3.81
4/30/2025 12:40	20.07	0.54	9.48	3.68	1.82	5.24	-1.25
4/30/2025 12:41	19.95	0.59	10.48	3.68	1.84	5.43	14.15
4/30/2025 12:41	20.01	0.62	11.91	3.67	1.82	6.24	106.85
4/30/2025 12:41	19.99	0.59	14.19	3.67	1.79	7.89	142.13
4/30/2025 12:41	20.06	0.59	16.85	3.58	1.72	7.57	88.74
4/30/2025 12:41	20.10	0.56	18.15	3.68	1.65	6.95	65.71
4/30/2025 12:41	20.00	0.57	18.20	3.84	1.62	6.63	70.33
4/30/2025 12:42	19.94	0.63	18.02	4.17	1.63	6.47	52.49
4/30/2025 12:42	20.05	0.63	18.33	4.13	1.69	6.57	38.88
4/30/2025 12:42	20.07	0.57	18 69	3.94	1.77	7.16	42.79
4/30/2025 12:42	19.93	0.60	17.85	3.99	1.74	6.53	46.08
4/30/2025 12:42	19.96	0.63	16.69	4.19	1 66	6.60	50.71
4/30/2025 12:42	19.97	0.63	16.96	4.19	1.73	7.93	126.04
4/30/2025 12:43	20.05	0.61	17.63	4.07	1.77	7.33	253.50
4/30/2025 12:43	20.08	0.56	18.58	4.02	1.80	7.15	183.67
4/30/2025 12:43	19.99	0.59	20.93	4.22	1.80	7.09	131.60
4/30/2025 12:43	19.89	0.65	23.78	4.47	1.82	6.78	116.59
4/30/2025 12:43	20.03	0.61	25.15	4.46	1.83	6.67	93.64
4/30/2025 12:43	20.07	0.58	24.91	4.35	1.85	7.13	66.68
4/30/2025 12:44	19.93	0.59	22.63	4.34	1.86	6.70	97 83
4/30/2025 12:44	19.99	0.63	19.99	4.28	1.78	6.68	134.11
4/30/2025 12:44	19.98	0.60	19.97	4.23	1.73	7.91	86.84
4/30/2025 12:44	20.06	0 60	20.93	4.04	1.76	7.38	71.69
4/30/2025 12:44	20.11	0.54	20 29	3 94	1.74	6.88	100.29
4/30/2025 12:44	20.01	0.55	18.60	4.01	1.76	6.84	126.17
4/30/2025 12:45	19.96	0.61	17.64	4.23	1.71	6.38	117.74
4/30/2025 12:45	20.08	0.59	17.93	4.31	1.64	6.04	92.22
4/30/2025 12:45	20.09	0.56	18.48	4.28	1.72	6.33	80.33
4/30/2025 12:45	19.95	0.58	18.16	4.22	1.76	6.28	70.43
4/30/2025 12:45	20.00	0.62	17.07	4.18	1.79	6.63	65.74
4/30/2025 12:45	19.99	0.60	17.23	4.16	1.79	8.13	55.08
4/30/2025 12:46	20.07	0.58	17.32	4.02	1.76	7.14	42.12
4/30/2025 12:46	20.13	0.54	16.26	3.92	1.74	6.35	33 69
4/30/2025 12:46	20.04	0.55	14.74	3.97	1.68	5.88	27.75
4/30/2025 12:46	19.97	0.60	13.89	4.16	1.60	5.38	23.79
4/30/2025 12:46	20.09	0.59	13.54	4.14	1.60	5.19	17.88
4/30/2025 12:46	20,12	0.53	13.64	3.96	1.64	5.45	15.37
4/30/2025 12:47	19.98	0.57	13.81	3.94	1.74	5.42	12.63
4/30/2025 12:47	20.01	0.60	13.74	3.92	1.78	5.61	14.27
4/30/2025 12:47	20.00	0.59	14.35	3.92	1.82	7.05	16.76
4/30/2025 12:47	20.08	0.57	14.25	3.72	1.77	6.20	77.41
4/30/2025 12:47	20.14	0.53	13.52	3.70	1.77	5.89	267.74
4/30/2025 12:47	20.03	0.55	15.39	3.78	1.82	6.78	269.99
4/30/2025 12:48	19.88	0.62	22.42	4.08	1.83	7.59	201.14
4/30/2025 12:48	19.99	0.63	30.63	4.13	1.84	7.86	128.27
4/30/2025 12:48	20.05	0.60	34.52	4.15	1.81	7.82	79 69
4/30/2025 12:48	19.93	0.60	31.64	4.28	1.83	7.06	83.41
4/30/2025 12:48	19.98	0.64	25.59	4.32	1.79	6.84	105.24
4/30/2025 12:48	19.98	0.61	22.70	4.24	1.80	8.05	89.27
4/30/2025 12:49	20.05	0.60	22.17	3.99	1.81	7.51	154.84
4/30/2025 12:49	20.11	0.56	21.63	3.88	1.84	6.87	238.86
4/30/2025 12:49	20.03	0.54	22.20	4.00	1.88	7.21	209.37
4/30/2025 12:49	19.91	0.61	25.43	4.48	1.89	8.05	331.92
4/30/2025 12:49	20.00	0.63	29.82	4.75	1.86	8.71	383.82
4/30/2025 12:49	20.02	0.59	34.99	4.69	1.84	9.70	210.78
4/30/2025 12:50	19.89	0.64	36.08	4.63	1.77	8.99	127.82
4/30/2025 12:50	19.95	0.66	32.12	4.48	1.68	7.77	99.83
4/30/2025 12:50	20.01	0.60	27.40	4.35	1.68	8.72	106.80
4/30/2025 12:50	20.07	0.58	24.12	4.10	1.66	8.01	91.73
4/30/2025 12:50	20.15	0.54	21.75	4.05	1.71	7.02	63.08
4/30/2025 12:50	20.10	0.52	19.86	4 26	1.70	6.64	50.40
4/30/2025 12:51	19.99	0.57	18.64	4.63	1.73	6.21	38.43
4/30/2025 12:51	20.09	0.58	17.86	4.71	1.79	5.91	35.47
4/30/2025 12:51	20.16	0.53	17.29	4.50	1.81	5.97	39.24
4/30/2025 12:51	20.02	0.55	16.84	4.50	1.83	6.00	38.26
4/30/2025 12:51	20.00	0.60	16.30	4.49	1.79	6.07	31.29
4/30/2025 12:51	20.01	0.59	16.83	4.48	1.86	7.67	28.21
4/30/2025 12:52	20.10	0.58	17.11	4.22	1.86	6.96	21.68
4/30/2025 12:52	20.17	0.53	15.85	4.11	1.82	6.23	22.72
4/30/2025 12.52	20.08	0.52	14.39	4.16	1.86	6.21	34.71
4/30/2025 12:52	19.98	0.59	14.29	4.38	1.91	6.50	30.59
4/30/2025 12:52	20.08	0.58	15.10	4.44	1.86	6.37	23.55

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 12:52	20.14	0.54	16.37	4.29	1.82	6.46	18.32
4/30/2025 12:53	20.02	0.55	17.03	4.30	1.81	6.38	14.77
4/30/2025 12:53	19.99	0.61	16.42	4.31	1.82	5.88	11.89
4/30/2025 12:53	20.02	0.58	16.22	4.30	1.82	7.11	12.03
4/30/2025 12:53	20.08	0.57	15.83	4.14	1.84	6.63	18.08
4/30/2025 12:53	20.17	0.53	14.42	4.01	1.85	6.00	34.73
4/30/2025 12:53	20.12	0.52	13.10	4.05	1.86	5.96	103.04
4/30/2025 12:54	19.96	0.57	13.93	4.36	1.86	6.18	142.02
4/30/2025 12:54	20.03	0.61	17.26	4.59	1.89	7.34	71.34
4/30/2025 12:54	20.11	0.56	21.18	4.57	1.85	7.67	52.69
4/30/2025 12:54	20.01	0.57	22.48	4.56	1.76	7.17	47.63
4/30/2025 12:54	19.98	0.62	20.72	4.65	1.74	6.54	146.01
4/30/2025 12:54	20.00	0.61	20.04	4.68	1.74	8.24	102.38
4/30/2025 12:55	20.04	0.60	21.71	4.55	1.70	8.07	58.66
4/30/2025 12:55	20.12	0.55	22.27	4.35	1.71	6.95	46.82
4/30/2025 12:55	20.09	0.53	20.52	4.30	1.73	6.48	46.22
4/30/2025 12:55	19.98	0.58	18.68	4.49	1.77	6.15	40.58
4/30/2025 12:55	20.06	0.60	17.39	4.58	1.78	6.02	33.85
4/30/2025 12:55	20.13	0.53	17.20	4.46	1.80	6.27	31.60
4/30/2025 12:56	20.01	0.55	17.29	4.44	1.79	6.73	32.05
4/30/2025 12:56	19.99	0.62	16.74	4.44	1.75	6.46	34.06
4/30/2025 12:56	20.02	0.61	17.04	4.43	1.71	7.67	36.44
4/30/2025 12:56	20.04	0.59	17.60	4.27	1.70	7.33	37.55
4/30/2025 12:56	20.13	0.55	17.32	4.16	1.71	6.58	28.69
4/30/2025 12:56	20.09	0.53	16.12	4.19	1.71	5.98	21.16
4/30/2025 12:57	19.97	0.58	15.34	4.40	1.71	5.42	23.89
4/30/2025 12:57	20.06	0.60	14.83	4.51	1.79	5.18	36.76
4/30/2025 12:57	20.13	0.55	14.93	4.36	1.75	5.46	60.03
4/30/2025 12:57	20.00	0.56	15.50	4.30	1.78	6.12	47.33
4/30/2025 12:57	19.97	0.62	15.70	4.29	1.75	6.03	83.62
4/30/2025 12:57	20.00	0.61	16.88	4.29	1.74	7.75	69.12
4/30/2025 12:58	20.03	0.60	18.69	4.20	1.78	7.51	58.19
4/30/2025 12:58	20.12	0.55	19.16	4.04	1.78	6.71	51.94
4/30/2025 12:58	20.10	0.53	18.09	4.11	1.75	6.26	54.70
4/30/2025 12:58	19.96	0.59	17.32	4.47	1.73	5.97	97.89
4/30/2025 12:58	20.02	0.61	17.62	4.72	1.69	6.05	190.66
4/30/2025 12:58	20.08	0.57	20.91	4.61	1.74	6.88	176.59
4/30/2025 12:59	19.94	0.58	24.33	4.58	1.78	7.23	142.40
4/30/2025 12:59	19.90	0.66	24.67	4.63	1.73	6.51	91.97
4/30/2025 12:59	19.96	0.65	24.11	4.54	1.72	7.78	85.94
4/30/2025 12:59	20.00	0.61	23.60	4.31	1.75	7.52	90.21
4/30/2025 12:59	20.11	0.57	22.26	4.12	1.76	6.75	72.83
4/30/2025 12:59	20.11	0.54	19.89	4.15	1.74	6.34	60.58
4/30/2025 13:00	19.93	0.58	18.27	4.41	1.68	5.96	52.34
4/30/2025 13:00	19.99	0.63	17.47	4.69	1.64	5.70	59.17
4/30/2025 13:00	20.11	0.58	17.54	4.48	1.64	6.08	107.39
4/30/2025 13:00	20.00	0.55	17.82	4.45	1.71	6.81	91.17
4/30/2025 13:00	19.95	0.63	17.81	4.47	1.80	6.51	77.74
4/30/2025 13:00	19.99	0.63	18.84	4.51	1.75	8.16	96.93
4/30/2025 13:01	20.01	0.60	20.63	4.42	1.76	8.67	198.83
4/30/2025 13:01	20.09	0.57	22.24	4.23	1.73	8.34	161.61
4/30/2025 13:01	20.06	0.56	23.47	4.22	1.68	7.92	110.23
4/30/2025 13:01	19.94	0.60	24.91	4.47	1.68	7.11	93.40
4/30/2025 13:01	19.99	0.62	25.61	4.67	1.72	6.62	133.09
4/30/2025 13:01	20.11	0.56	26.65	4.57	1.77	6.78	144.22
4/30/2025 13:02	20.00	0.57	27.76	4.54	1.77	7.21	113.46
4/30/2025 13:02	19.91	0.62	26.11	4.59	1.72	6.67	83.00
4/30/2025 13:02	19.98	0.62	23.91	4.56	1.79	7.65	62.01
4/30/2025 13:02	20.00	0.61	22.57	4.48	1.84	7.57	49.32
4/30/2025 13:02	20.12	0.56	20.93	4.26	1.86	6.65	75.17
4/30/2025 13:02	20.10	0.53	18.54	4.26	1.86	6.05	74.60
4/30/2025 13:03	19.95	0.57	17.88	4.63	1.80	5.93	87.01
4/30/2025 13:03	20.01	0.61	19.10	4.97	1.80	6.00	239.37
4/30/2025 13:03	20.11	0.56	22.53	4.99	1.80	7.09	241.34
4/30/2025 13:03	19.98	0.58	26.11	5.06	1.81	8.44	146.76
4/30/2025 13:03	19.91	0.64	25.75	5.08	1.79	7.38	144.19
4/30/2025 13:03	19.98	0.65	24.20	4.86	1.70	7.95	164.54
4/30/2025 13:04	20.00	0.61	23.88	4.71	1.62	8.07	126.86
4/30/2025 13:04	20.08	0.60	23.79	4.54	1.62	7.43	144.04
4/30/2025 13:04	20.08	0.54	22.74	4.50	1.66	7.03	136.52
4/30/2025 13:04	19.95	0.58	22.65	4.68	1.72	6.84	97.97
4/30/2025 13:04	20.02	0.61	23.22	4.82	1.74	6.40	73.05
4/30/2025 13:04	20.13	0.57	23.59	4.66	1.82	6.31	52.56
4/30/2025 13:05	20.05	0.54	22.87	4.55	1.85	6.54	43.19
4/30/2025 13:05	19.95	0.61	20.26	4.55	1.88	5.98	41.14
4/30/2025 13:05	20.03	0.60	18.61	4.50	1.90	7.46	99.53
4/30/2025 13:05	20.03	0.57	18.75	4.46	1.87	8.07	90.78
4/30/2025 13:05	20.11	0.56	19.71	4.32	1.87	7.21	65.16
4/30/2025 13:05	20.12	0.53	19.69	4.32	1.85	6.58	62.15
4/30/2025 13:06	19.99	0.57	19.49	4.54	1.86	6.22	69.43
4/30/2025 13:06	20.01	0.61	19.42	4.78	1.80	5.93	63.11
4/30/2025 13:06	20.12	0.56	20.06	4.71	1.77	6.08	60.40
4/30/2025 13:06	20.05	0.55	20.65	4.58	1.79	6.75	60.13
4/30/2025 13:06	19.95	0.61	19.63	4.61	1.72	6.22	75.02

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 13:06	20.02	0.62	18.95	4.55	1.74	7.42	66.28
4/30/2025 13:07	20.00	0.59	19.66	4.48	1.79	8.36	46.47
4/30/2025 13:07	20.10	0.56	18.34	4.29	1.80	7.15	36.29
4/30/2025 13:07	20.13	0.54	17.64	4.28	1.77	6.23	69.81
4/30/2025 13:07	20.00	0.55	16.06	4.46	1.75	6.18	69.44
4/30/2025 13:07	19.99	0.61	17.58	4.71	1.74	6.12	56.66
4/30/2025 13:07	20.10	0.57	18.75	4.56	1.79	6.32	50.05
4/30/2025 13:08	20.05	0.54	20.43	4.47	1.80	6.76	54.19
4/30/2025 13:08	19.96	0.61	20.02	4.43	1.82	6.36	51.54
4/30/2025 13:08	20.02	0.61	18.92	4.47	1.82	7.20	39.34
4/30/2025 13:08	20.00	0.59	19.21	4.48	1.76	7.69	33.76
4/30/2025 13:08	20.11	0.56	18.81	4.26	1.72	6.78	324.63
4/30/2025 13:08	20.10	0.54	19.03	4.28	1.78	6.67	689.66
4/30/2025 13:09	19.88	0.62	26.17	4.53	1.83	8.18	625 60
4/30/2025 13:09	19.85	0.72	38.65	4.76	1.80	9.18	483.72
4/30/2025 13:09	19.99	0.67	48.34	4.67	1.86	9.00	351.62
4/30/2025 13:09	19.96	0.62	49.14	4.55	1.91	8.54	255.27
4/30/2025 13:09	19.91	0.64	40.90	4.61	1.90	7.15	192.63
4/30/2025 13:09	20.00	0.63	31.81	4.57	1.88	7.32	151.40
4/30/2025 13:10	20.01	0.60	26.57	4.47	1.82	7.28	120.95
4/30/2025 13:10	20.12	0.57	23.67	4.20	1.82	6.17	94.40
4/30/2025 13:10	20.17	0.53	20.69	4.18	1.82	5.70	74.26
4/30/2025 13:10	20.03	0.55	18.37	4.36	1.87	5.21	60.03
4/30/2025 13:10	20.02	0.59	17.08	4.58	1.86	4.68	49.00
4/30/2025 13:10	20.15	0.55	16.62	4.40	1.90	4.73	40.97
4/30/2025 13:11	20.11	0.53	16.62	4.25	1.89	5.48	35.35
4/30/2025 13.11	19.99	0.57	16.25	4.22	1.90	5.36	30.54
4/30/2025 13:11	20.06	0.58	15.92	4.19	1.87	6.24	27.46
4/30/2025 13:11	20.05	0.56	16.25	4.21	1.86	6.88	24.65
4/30/2025 13:11	20.15	0.54	15.38	4.06	1.86	5.72	21.98
4/30/2025 13:11	20.19	0.51	13.66	4.04	1.83	5.01	19.76
4/30/2025 13:12	20.04	0.54	12.61	4.24	1.79	4.82	18.33
4/30/2025 13:12	20.00	0.59	12.29	4.51	1.84	4.42	16.63
4/30/2025 13:12	20.13	0.57	12.36	4.35	1.89	4.45	13.85
4/30/2025 13:12	20.12	0.51	12.20	4.22	1.92	5.06	14.02
4/30/2025 13:12	19.99	0.56	12.90	4.23	1.92	5.17	86.72
4/30/2025 13:12	20.04	0.59	14.87	4.22	1.90	6.42	102.03
4/30/2025 13:13	20.01	0.60	18.29	4.28	1.83	7.79	74.53
4/30/2025 13:13	20.11	0.57	21.11	4.11	1.77	6.76	79.97
4/30/2025 13:13	20.15	0.53	20.93	4.08	1.76	6.01	89.37
4/30/2025 13:13	20.00	0.54	20.13	4.29	1.77	6.27	169.86
4/30/2025 13:13	19.95	0.62	21.41	4.60	1.76	6.48	230.13
4/30/2025 13:13	20.07	0.59	25.52	4.53	1.79	6.98	242.00
4/30/2025 13:14	20.03	0.56	29.93	4.38	1.76	7.77	168.98
4/30/2025 13:14	19.91	0.63	30 03	4.39	1.75	7.14	137.17
4/30/2025 13:14	19.99	0.64	27.41	4.38	1.82	7.57	154.13
4/30/2025 13:14	19.97	0.62	25.99	4.38	1.86	8.67	119.87
4/30/2025 13:14	20.07	0.59	25.73	4.29	1.82	7.68	81.90
4/30/2025 13:14	20.12	0.65	23.71	4.28	1.85	6.81	74 57
4/30/2025 13.15	20.01	0.56	21.54	4.42	1.85	6.59	82.25
4/30/2025 13:15	19.95	0.61	20.31	4.70	1.81	6.38	110.05
4/30/2025 13:15	20.09	0.59	20.78	4.64	1.77	6.49	75.58
4/30/2025 13:15	20.06	0.56	22.46	4.51	1.80	7.24	65.65
4/30/2025 13:15	19.95	0.61	22.19	4.48	1.79	6.76	70.29
4/30/2025 13:15	20.02	0.63	20.54	4.46	1.82	7.23	55.12
4/30/2025 13:16	19.99	0.61	19.98	4.55	1.81	8.07	46.98
4/30/2025 13:16	20.09	0.58	19.23	4.37	1.77	6.92	40.42
4/30/2025 13:16	20.13	0.54	17.53	4.32	1.80	5.88	34.27
4/30/2025 13:16	20.03	0.54	16.08	4.40	1.79	5.46	29.52
4/30/2025 13:16	19.97	0.61	15.34	4.64	1.79	4.91	25.86
4/30/2025 13:16	20.10	0.57	14.95	4.53	1 83	4.76	23.30
4/30/2025 13:17	20.09	0.54	14.87	4.35	1.76	5.46	34.52
4/30/2025 13:17	19.96	0.59	14.99	4.36	1.81	5.49	33.09
4/30/2025 13:17	20.01	0.61	15.03	4.38	1.83	6.34	83.25
4/30/2025 13:17	19.99	0.59	16.45	4.44	1.83	7.89	108.52
4/30/2025 13:17	20.07	0.59	17.46	4.27	1.82	7.15	151.16
4/30/2025 13:17	20.11	0.55	20.07	4.22	1.81	6.68	162.12
4/30/2025 13:18	20.00	0.57	21.77	4.35	1.78	6.80	116.73
4/30/2025 13:18	19.93	0.63	23.49	4.59	1.80	6.50	93.55
4/30/2025 13:18	20.08	0.60	24.45	4.52	1.95	6.36	96.95
4/30/2025 13:18	20.07	0.56	24.50	4.35	1.97	6.91	108.89
4/30/2025 13:18	19.94	0.59	22.94	4.47	1.86	6.66	79.26
4/30/2025 13:18	19.98	0.64	20.83	4.64	1.90	6.86	55.25
4/30/2025 13:19	19.96	0.63	19.95	4.66	1.92	7.88	41.24
4/30/2025 13:19	20.08	0.60	18.45	4.33	1.92	6.58	31.28
4/30/2025 13:19	20.13	0.56	16.55	4.21	1.90	5.42	25.27
4/30/2025 13:19	20.02	0.54	15.09	4.27	1.87	5.21	20.68
4/30/2025 13:19	19.95	0.59	14.13	4.53	1.87	4.75	16.68
4/30/2025 13:19	20.08	0.59	13.51	4.41	1.92	4.43	14.11
4/30/2025 13:20	20.09	0.55	13.26	4.26	1.89	5.01	11.32
4/30/2025 13:20	19.95	0.58	13.31	4.26	1.86	4.99	11.19
4/30/2025 13:20	20.00	0 61	13.58	4.29	1.78	5.37	9.31
4/30/2025 13:20	20.00	0.57	14.31	4.25	1.78	6.59	8.15
4/30/2025 13:20	20.09	0.58	14.06	3.99	1.76	5.43	8.36

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 13:20	20.14	0.53	12.46	3.94	1.78	4.51	6.88
4/30/2025 13:21	20.04	0.53	11.24	4.02	1.74	4.51	5.16
4/30/2025 13:21	19.95	0.60	11.01	4.31	1.73	4.23	4.99
4/30/2025 13:21	20.07	0.59	10.96	4.25	1.79	4.22	5.16
4/30/2025 13:21	20.10	0.55	11.23	4.10	1.73	4.64	5.13
4/30/2025 13:21	19.95	0.57	12.12	4.07	1.68	4.67	4.93
4/30/2025 13:21	19.98	0.62	12.85	4.12	1.68	5.04	2.54
4/30/2025 13:22	19.98	0.59	13.83	4.11	1.76	6.42	2.06
4/30/2025 13:22	20.06	0.59	13.78	3.92	1.81	5.47	2.13
4/30/2025 13:22	20.12	0.54	12.24	3.88	1.83	4.44	2.49
4/30/2025 13:22	20.04	0.55	10.81	4.06	1.84	4.40	2.12
4/30/2025 13:22	19.94	0.62	10.60	4.31	1.86	4.22	5.46
4/30/2025 13:22	20.06	0.60	10.77	4.27	1.88	4.45	11.04
4/30/2025 13:23	20.09	0.55	11.68	4.05	1.82	5.33	11.20
4/30/2025 13:23	19.92	0.58	13.08	4.08	1.80	5.66	41.76
4/30/2025 13:23	19.96	0.63	14.07	4.12	1.86	6.00	106.00
4/30/2025 13:23	19.95	0.62	16.32	4.16	1.84	7.71	85.93
4/30/2025 13:23	20.01	0.60	19.05	4.06	1.71	7.15	54.55
4/30/2025 13:23	20.09	0.57	19.81	4.10	1.72	6.45	42.13
4/30/2025 13:24	20.01	0.57	18.88	4.31	1.80	6.53	41.78
4/30/2025 13:24	19.91	0.62	17.67	4.57	1.79	6.41	37.18
4/30/2025 13:24	20.02	0.62	16.91	4.46	1.89	6.05	36.01
4/30/2025 13:24	20.05	0.56	16.90	4.22	1.93	6.30	94.64
4/30/2025 13:24	19.92	0.59	16.87	4.24	1.88	6.17	75.44
4/30/2025 13:24	19.92	0.65	16.76	4.31	1.83	6.18	51.09
4/30/2025 13:25	19.95	0.64	17.69	4.33	1.73	7.68	37.67
4/30/2025 13:25	20.01	0.61	18.13	4.18	1.72	6.88	35.42
4/30/2025 13:25	20.10	0.56	16.78	4.10	1.76	5.93	44.40
4/30/2025 13:25	20.04	0.54	15.03	4.28	1.84	6.09	34.80
4/30/2025 13:25	19.90	0.61	14.25	4.57	1.83	5.77	27.02
4/30/2025 13:25	20.02	0.61	13.96	4.49	1.72	5.33	23.16
4/30/2025 13:26	20.08	0.56	13.97	4.26	1.73	5.66	20.08
4/30/2025 13:26	19.94	0.56	14.24	4.22	1.79	5.71	25.49
4/30/2025 13:26	19.96	0.62	14.45	4.21	1.77	5.69	29.95
4/30/2025 13:26	19.98	0.61	15.66	4.17	1.76	7.50	35.48
4/30/2025 13:26	20.03	0.59	16.55	4.05	1.80	6.73	33.55
4/30/2025 13:26	20.10	0.54	15.88	4.03	1.83	5.77	26.18
4/30/2025 13:27	20.03	0.54	14.75	4.23	1.83	5.56	35.25
4/30/2025 13:27	19.92	0.60	14.47	4.51	1.82	5.44	130.38
4/30/2025 13:27	20.01	0.62	16.13	4.46	1.80	5.94	102.17
4/30/2025 13:27	20.06	0.56	19.96	4.26	1.81	6.91	63.83
4/30/2025 13:27	19.93	0.60	21.93	4.22	1.81	6.56	49.16
4/30/2025 13:27	19.93	0.63	20.58	4.20	1.81	5.99	115.67
4/30/2025 13:28	19.96	0.63	19.39	4.23	1.78	7.31	297.68
4/30/2025 13:28	19.99	0.62	21.03	4.21	1.81	7.94	197.05
4/30/2025 13:28	20.03	0.59	23.99	4.16	1.83	7.99	120.61
4/30/2025 13:28	20.01	0.59	25.23	4.21	1.84	7.20	76.73
4/30/2025 13:28	19.91	0.63	24.75	4.42	1.87	6.71	102.81
4/30/2025 13:28	20.02	0.61	24.02	4.46	1.89	6.83	214.16
4/30/2025 13:29	20.07	0.55	25.10	4.37	1.83	7.38	131.63
4/30/2025 13:29	19.92	0.60	25.78	4.35	1.72	7.31	98.93
4/30/2025 13:29	19.91	0.65	23.98	4.39	1.67	6.60	116.64
4/30/2025 13:29	19.95	0.62	22.67	4.39	1.74	8.42	267.32
4/30/2025 13:29	19.98	0.61	23.36	4.20	1.79	8.08	247.05
4/30/2025 13:29	20.05	0.58	24.99	4.13	1.72	7.32	169.10
4/30/2025 13:30	20.01	0.57	25.49	4.25	1.70	6.88	150.92
4/30/2025 13:30	19.92	0.62	25.57	4.52	1.71	6.48	117.87
4/30/2025 13:30	20.01	0.62	25.70	4.61	1.69	6.39	93.16
4/30/2025 13:30	20.09	0.55	25.63	4.51	1.75	6.52	74.28
4/30/2025 13:30	19.97	0.58	23.81	4.88	1.77	6.24	58.96
4/30/2025 13:30	19.96	0.61	20.51	4.99	1.77	5.58	49.28
4/30/2025 13:31	20.00	0.61	18.47	4.74	1.81	6.99	40.21
4/30/2025 13:31	20.05	0.60	17.38	4.39	1.86	6.28	33.49
4/30/2025 13:31	20.13	0.55	15.91	4.17	1.81	5.27	28.22
4/30/2025 13:31	20.11	0.52	14.34	4.13	1.77	4.91	24.24
4/30/2025 13:31	19.97	0.57	13.84	4.36	1.75	4.68	20.55
4/30/2025 13:31	20.05	0.60	13.61	4.44	1.84	4.41	17.60
4/30/2025 13:32	20.13	0.53	13.62	4.25	1.81	4.71	15.26
4/30/2025 13:32	20.01	0.54	13.88	4.21	1.81	5.36	13.66
4/30/2025 13:32	19.98	0.60	14.01	4.20	1.81	5.05	10.85
4/30/2025 13:32	20.01	0.58	14.45	4.17	1.81	6.39	11.09
4/30/2025 13:32	20.05	0.56	14.46	4.03	1.82	5.92	7.60
4/30/2025 13:32	20.14	0.53	13.25	3.91	1.85	4.94	8.05
4/30/2025 13:33	20.09	0.51	11.93	3.97	1.85	4.76	8.03
4/30/2025 13:33	19.97	0.58	11.69	4.21	1.77	4.49	5.52
4/30/2025 13:33	20.04	0.58	11.61	4.28	1.75	4.20	4.85
4/30/2025 13:33	20.12	0.53	11.65	4.19	1.74	4.42	4.55
4/30/2025 13:33	20.00	0.54	12.05	4.14	1.75	4.87	5.04
4/30/2025 13:33	19.95	0.60	12.61	4.15	1.77	4.64	4.93
4/30/2025 13:34	20.01	0.59	13.45	4.11	1.84	6.19	2.42
4/30/2025 13:34	20.04	0.57	13.77	4.01	1.92	5.85	2.05
4/30/2025 13:34	20.13	0.55	12.67	3.84	1.91	5.08	1.82
4/30/2025 13:34	20.10	0.52	11.23	3.88	1.82	4.65	2.69
4/30/2025 13:34	19.97	0.56	11.08	4.15	1.71	4.25	2.18

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 13:34	20.04	0.60	10.83	4.24	1.67	3.92	2.18
4/30/2025 13:35	20.11	0.54	10.82	4.09	1.67	4.14	1.89
4/30/2025 13:35	20.01	0.54	11.31	4.02	1.77	4.78	1.79
4/30/2025 13:35	19.95	0.60	12.08	4.14	1.80	4.49	2.49
4/30/2025 13:35	19.98	0.59	13.34	4.11	1.85	5.98	2.01
4/30/2025 13:35	20.02	0.59	13.95	3.92	1.81	5.93	11.71
4/30/2025 13:35	20.12	0 55	13.06	3.79	1.69	5.45	51.84
4/30/2025 13:36	20.08	0.52	12.47	3.89	1.67	5.58	70.36
4/30/2025 13:36	19.90	0.59	14.36	4.22	1.67	5.99	128.15
4/30/2025 13:36	19.95	0.62	18 18	4.41	1.73	6.40	117.39
4/30/2025 13:36	20.05	0.59	22.97	4.31	1.78	6.90	77.65
4/30/2025 13:36	19.95	0.58	25.42	4.29	1.78	6.95	55.62
4/30/2025 13:36	19.91	0.62	23.81	4.27	1.71	6.10	39.85
4/30/2025 13:37	19.96	0.63	21.22	4.24	1.72	7.28	33.24
4/30/2025 13:37	20.00	0.60	19.44	4.12	1.72	7.47	110.14
4/30/2025 13:37	20.09	0.57	18.43	4.00	1.74	7.03	225.56
4/30/2025 13:37	20.05	0.57	19.27	4.10	1.72	6.98	140.11
4/30/2025 13:37	19.90	0.60	22.67	4.34	1.65	6.94	88.84
4/30/2025 13:37	19.96	0.65	25.57	4.47	1.61	6.47	78.44
4/30/2025 13:38	20.08	0.58	26.17	4.36	1.62	6.35	57.84
4/30/2025 13:38	20.00	0.57	24.39	4.35	1.66	6.49	41.70
4/30/2025 13:38	19.92	0.62	21.03	4.40	1.73	6.03	45.71
4/30/2025 13:38	19.98	0.62	18.89	4.37	1.77	7.43	50.79
4/30/2025 13:38	19.98	0.60	18.61	4.30	1.76	7.55	61.17
4/30/2025 13:38	20.09	0.57	18.48	4.13	1.73	6.75	66.99
4/30/2025 13:39	20.09	0.53	17.89	4.15	1.76	6.46	61.37
4/30/2025 13:39	19.94	0.58	18.24	4.38	1.73	6.39	106.07
4/30/2025 13:39	19.97	0.63	19.14	4.51	1.72	6.23	227.50
4/30/2025 13:39	20.06	0.58	22.49	4.37	1.74	6.96	229.08
4/30/2025 13:39	19.95	0.58	26.26	4.28	1.72	7.75	188.72
4/30/2025 13:39	19.87	0.65	27.23	4.36	1.69	7.07	118.33
4/30/2025 13:40	19.94	0.65	25.05	4.48	1.67	7.92	89.75
4/30/2025 13:40	19.96	0.62	24.48	4.42	1.64	8.02	107.17
4/30/2025 13:40	20.09	0.57	22.42	4.18	1.62	7.16	114 06
4/30/2025 13:40	20 09	0.54	20,97	4.14	1.71	6.66	112.22
4/30/2025 13:40	19.95	0.57	19.62	4.38	1.75	6.41	152.62
4/30/2025 13:40	19.98	0.61	21.40	4.58	1.73	6.38	146.06
4/30/2025 13:41	20.07	0.57	23.89	4.46	1.83	6.60	161.27
4/30/2025 13:41	20.00	0.56	26.02	4.43	1.83	6.97	145.27
4/30/2025 13:41	19.92	0.61	24.58	4.48	1.79	6.08	112.40
4/30/2025 13:41	19.99	0.61	22.22	4.48	1.77	6.83	80.37
4/30/2025 13:41	20.01	0.59	20 96	4.30	1.79	6.80	67.21
4/30/2025 13:41	20.12	0.56	18.96	4.11	1.80	5.98	95.59
4/30/2025 13:42	20.11	0.52	17.58	4.11	1.80	5.81	137.19
4/30/2025 13:42	19.96	0.55	17.87	4.34	1.75	6.16	138.62
4/30/2025 13:42	19.96	0.62	22.39	4.60	1.74	6.36	129.15
4/30/2025 13:42	20.09	0.58	25.69	4.51	1.74	6.76	124.51
4/30/2025 13:42	20.02	0.56	27.00	4.42	1.79	7.04	153.01
4/30/2025 13:42	19.92	0.61	24.57	4.42	1.85	6.51	149.37
4/30/2025 13:43	19.98	0 61	21.88	4.36	1.84	7.70	110.27
4/30/2025 13:43	19.99	0 59	22.21	4,29	1.86	7.95	91.09
4/30/2025 13:43	20.09	0.57	24.49	4.17	1.77	7.12	71.22
4/30/2025 13:43	20.11	0 53	22.38	4.26	1.77	6.69	56.18
4/30/2025 13:43	19.98	0.56	19.67	4.50	1.82	6.36	50.46
4/30/2025 13:43	20.00	0.61	18.32	4.68	1.79	5.78	41.53
4/30/2025 13:44	20.11	0.56	17.21	4,53	1.75	5.63	35.72
4/30/2025 13:44	20 04	0.55	18.53	4.41	1.80	6.37	30.12
4/30/2025 13:44	19.94	0.59	16.26	4.37	1.80	5.70	25.64
4/30/2025 13:44	20.01	0.59	16.55	4.37	1.77	6.49	21.38
4/30/2025 13:44	20.01	0.59	16.97	4.25	1.74	6.73	18.68
4/30/2025 13:44	20.11	0.56	15.93	4.00	1.73	5.52	16.30
4/30/2025 13:45	20.14	0.50	13.21	3.99	1.70	4.99	16.96
4/30/2025 13:45	19.99	0.54	12.20	4.16	1.66	5 18	39.91
4/30/2025 13:45	19.96	0.61	12.56	4.43	1.58	5.24	108.57
4/30/2025 13:45	20.08	0.57	15.48	4.36	1.61	5.91	83.77
4/30/2025 13:45	20.02	0.53	17.42	4.33	1.61	6.75	61.50
4/30/2025 13:45	19.92	0.60	20.30	4.35	1.62	6.00	49.46
4/30/2025 13:46	19.99	0.60	19.23	4.34	1.65	7.04	57.98
4/30/2025 13:46	19.99	0.58	19.72	4.28	1.68	7.88	59.92
4/30/2025 13:46	20.09	0.57	17.97	4.10	1.74	7.31	50.38
4/30/2025 13:46	20.12	0,52	18.60	4.09	1.79	6.78	61.60
4/30/2025 13:46	19.98	0 55	18.11	4.28	1.80	6.57	52.66
4/30/2025 13:46	19.98	0.62	17.86	4,60	1.75	6.14	49.14
4/30/2025 13:47	20.10	0.56	11.93	4.56	1.71	6.08	63.50
4/30/2025 13:47	20.06	0.55	12.09	4.49	1.71	6.65	146.46
4/30/2025 13:47	19.92	0.61	19.22	4.49	1.65	6.38	149.02
4/30/2025 13:47	19.96	0.65	18.62	4.46	1.64	7.35	109.60
4/30/2025 13:47	19.95	0.62	23.37	4.41	1.67	7.98	75.19
4/30/2025 13:47	20.07	0.59	24.28	4.18	1.67	6.89	62.32
4/30/2025 13:48	20.11	0.55	21.75	4.14	1.63	6.16	64.26
4/30/2025 13:48	19.99	0.57	20.17	4.28	1.62	5.92	47.40
4/30/2025 13:48	19.99	0.62	19.31	4.56	1.71	5.43	42.59
4/30/2025 13:48	20.11	0.57	17.52	4.51	1.72	5.40	78.73
4/30/2025 13:48	20.06	0.53	17.65	4.43	1.62	5.99	54.78

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 13:48	19.92	0.62	16.01	4.42	1.55	5.78	35.39
4/30/2025 13:49	19.98	0.63	17.29	4.38	1.62	6.62	31.94
4/30/2025 13:49	20.00	0.60	18.12	4.36	1.72	7.39	88.87
4/30/2025 13:49	20.08	0.58	17.29	4.37	1.75	6.80	135.15
4/30/2025 13:49	20.12	0.54	17.14	4.52	1.72	6.37	94.56
4/30/2025 13:49	19.97	0.57	18.13	4.65	1.75	6.41	68.28
4/30/2025 13:49	19.94	0.63	14.97	4 95	1.78	5.92	56.27
4/30/2025 13:50	20.06	0.60	18.99	5.03	1.75	5.83	48.25
4/30/2025 13:50	20.07	0.56	19.22	4.91	1.70	6.38	75.40
4/30/2025 13.50	19.93	0.61	19.03	5.09	1.73	6.41	82.70
4/30/2025 13:50	19.97	0.63	19.05	5.32	1.75	7.11	82.24
4/30/2025 13:50	19.97	0.63	20.58	5.34	1.76	7.73	48.48
4/30/2025 13:50	20.05	0.61	21.19	5.07	1.72	6.64	37.07
4/30/2025 13:51	20.12	0.54	18.25	4.98	1.71	5.77	32.87
4/30/2025 13:51	20.02	0.56	14.53	5.05	1.70	5.01	25.57
4/30/2025 13:51	19.98	0.62	14.84	5.20	1.68	4.57	19.77
4/30/2025 13:51	20.10	0.58	14.54	5.02	1.68	4.60	15.94
4/30/2025 13:51	20.07	0.54	14.72	4.83	1.74	5.13	13.62
4/30/2025 13:51	19.93	0.60	14.47	4.76	1.74	4.98	11.11
4/30/2025 13:52	19.98	0.62	14.61	4.68	1.70	5.68	10.88
4/30/2025 13:52	19.98	0.61	15.07	4.58	1.71	6.62	10.66
4/30/2025 13:52	20.08	0.59	14.75	4.34	1.63	5.45	9.69
4/30/2025 13:52	20.14	0.53	13.01	4.28	1.62	4.70	11.08
4/30/2025 13:52	20.01	0.55	12.12	4 45	1.66	4.83	9.90
4/30/2025 13:52	19.95	0.61	12.12	4.76	1.70	4.50	8.13
4/30/2025 13:53	20.06	0.60	12.13	4.66	1.76	4.38	26.37
4/30/2025 13:53	20.06	0.55	12.71	4.50	1.65	5.37	95.33
4/30/2025 13:53	19.93	0.62	13.92	4.59	1.60	5.64	68.29
4/30/2025 13:53	19.96	0.64	16.09	4.61	1.70	6.62	60.37
4/30/2025 13:53	19.96	0.62	18.95	4.61	1.70	7.85	72.54
4/30/2025 13:53	20.06	0.59	20.09	4.40	1.67	6.96	49.71
4/30/2025 13:54	20.10	0.56	18.73	4.41	1.67	6.38	38.86
4/30/2025 13:54	19.98	0.57	16.95	4.55	1.64	6.18	108.98
4/30/2025 13:54	19.92	0.63	16.61	4.84	1.67	6.04	295.06
4/30/2025 13:54	20.02	0.62	21.43	4.77	1.63	7.26	202.26
4/30/2025 13:54	20.00	0.60	28.11	4.67	1.61	8.45	133.13
4/30/2025 13:54	19.88	0.65	30.00	4.63	1.63	7.29	108.18
4/30/2025 13:55	19.95	0.65	27.06	4.65	1.61	7.01	109.60
4/30/2025 13:55	19.96	0.63	24.42	4.71	1.55	8.02	100.91
4/30/2025 13:55	20.04	0.62	21.93	4.59	1.48	7.25	74.37
4/30/2025 13:55	20.10	0.57	21.32	4.57	1.51	6.13	50.99
4/30/2025 13.55	20.01	0.56	19.09	4.71	1.62	5.48	36.19
4/30/2025 13:55	19.96	0.62	17.24	4.89	1.70	4.79	25.08
4/30/2025 13:56	20.08	0.61	16.03	4.75	1.70	4.73	21.34
4/30/2025 13:56	20.09	0.55	15.49	4.54	1.71	4.97	16.89
4/30/2025 13:56	19.95	0.59	15.08	4.50	1.69	4.70	24.54
4/30/2025 13:56	20.00	0.63	14.88	4.51	1.71	5.24	81.72
4/30/2025 13:56	19.98	0.60	16.46	4.49	1.64	7.18	154.84
4/30/2025 13:56	20.05	0.60	19.12	4.31	1.55	7.08	197.25
4/30/2025 13:57	20.08	0.55	21.54	4.27	1.50	6.94	126.71
4/30/2025 13:57	19.97	0.58	23.39	4.45	1.51	6.62	75.36
4/30/2025 13:57	19.91	0.65	24.05	4.77	1.56	5.86	98.42
4/30/2025 13:57	20.04	0.62	23.57	4.69	1.63	5.77	349.98
4/30/2025 13:57	20.03	0.58	25.08	4.56	1.61	8.44	145.11
4/30/2025 13:57	19.87	0.62	26.80	4.55	1.62	8.81	97.01
4/30/2025 13:58	19.93	0.66	26.09	4.58	1.65	7.89	118.12
4/30/2025 13:58	19.97	0.63	24.88	4.57	1.64	8.94	78.66
4/30/2025 13:58	20.03	0.62	23.96	4.42	1.62	7.78	58.18
4/30/2025 13:58	20.12	0.57	22.04	4.33	1.56	6.71	56.68
4/30/2025 13:58	20.05	0.56	19.81	4.42	1.53	6.18	38.51
4/30/2025 13:58	19.95	0.60	18.29	4.71	1.55	5.46	31.52
4/30/2025 13:59	20.08	0.61	17.43	4.73	1.53	5.15	30.32
4/30/2025 13:59	20.11	0.55	17.26	4.54	1.59	5.76	58.73
4/30/2025 13:59	19.96	0.57	17.15	4.57	1.60	6.42	111.43
4/30/2025 13:59	19.97	0.63	17.78	4.61	1.66	6.68	92.42
4/30/2025 13:59	19.97	0.62	20.16	4.66	1.68	7.96	67.07
4/30/2025 13:59	20.05	0.60	21.82	4.47	1.60	7.04	48.88
4/30/2025 14:00	20.11	0.57	20.67	4.36	1.59	5.85	36.09
4/30/2025 14:00	20.04	0.55	18.29	4.43	1 64	5.15	28.90
4/30/2025 14:00	19.96	0.61	16.25	4.70	1.66	4.50	23.07
4/30/2025 14:00	20.07	0.62	15.06	4.65	1.61	4.28	19.10
4/30/2025 14:00	20.11	0.55	14.64	4 43	1.68	4.64	16.27
4/30/2025 14:00	19.97	0 57	14 56	4.40	1.70	4.85	13.53
4/30/2025 14:01	19.97	0.62	11.59	4.36	1.62	4.90	11.08
4/30/2025 14:01	19.98	0.60	13.91	4.30	1.56	6.35	10.11
4/30/2025 14:01	20.06	0.59	14.43	4.10	1.60	5.34	7.99
4/30/2025 14:01	20.14	0.53	13.03	4.04	1.61	4.46	8.21
4/30/2025 14:01	20.07	0.54	11.59	4.08	1.57	4.28	7.05
4/30/2025 14:01	19.95	0.59	11.34	4.37	1.58	3.94	4.82
4/30/2025 14:02	20.06	0.60	11.27	4.42	1.67	3.92	16.47
4/30/2025 14:02	20.09	0.54	11.70	4.30	1.67	4.80	76.80
4/30/2025 14:02	19.94	0.60	12.76	4 32	1,57	5.35	122.60
4/30/2025 14:02	19.95	0.64	15.04	4.38	1.58	5.90	123.55
4/30/2025 14.02	19.94	0.63	19.55	4.38	1.59	7.65	80.00

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 14:02	20.00	0.61	23.19	4.25	1.63	7.10	75.19
4/30/2025 14:03	20.09	0.57	23.47	4.20	1.65	6.24	159.25
4/30/2025 14:03	20.02	0.57	22.91	4.49	1.70	6.23	166.73
4/30/2025 14:03	19.86	0.62	25.20	5.12	1.71	6.49	138.60
4/30/2025 14:03	19.98	0.64	28.53	5.40	1.74	6.43	114.84
4/30/2025 14:03	20.06	0.59	29.89	5.19	1.71	6.16	108.60
4/30/2025 14:03	19.94	0.60	27.57	5.08	1.67	5.77	93.14
4/30/2025 14:04	19.93	0.64	23.25	4.92	1.64	5.63	75.61
4/30/2025 14:04	19.96	0.63	20.98	4.77	1.63	7.30	72.60
4/30/2025 14:04	20.02	0.60	20.18	4.50	1.73	7.01	97.16
4/30/2025 14:04	20.10	0.56	19.63	4.38	1.71	6.64	88.25
4/30/2025 14:04	20.04	0.56	19.03	4.48	1.65	6.42	63.25
4/30/2025 14:04	19.93	0.60	19.43	4.76	1.63	5.89	45.79
4/30/2025 14:05	20.02	0.63	19.58	4.77	1.58	5.48	39.30
4/30/2025 14:05	20.09	0.57	19.36	4.54	1.58	5.71	51.36
4/30/2025 14:05	19.96	0.58	18.56	4.52	1.63	5.89	71.61
4/30/2025 14:05	19.94	0.63	17.62	4.59	1.74	5.80	90.55
4/30/2025 14:05	19.96	0.62	18.71	4.60	1.67	7.45	84.67
4/30/2025 14:05	20.01	0.61	20.67	4.42	1.54	7.09	95.91
4/30/2025 14:06	20.10	0.58	21.23	4.28	1.54	6.47	176.72
4/30/2025 14:06	20.03	0.55	21.13	4.37	1.63	6.59	145.33
4/30/2025 14:06	19.90	0.62	23.31	4.72	1.65	6.81	153.17
4/30/2025 14:06	19.98	0.65	26.56	4.78	1.60	6.85	231.94
4/30/2025 14:06	20.05	0.59	30.46	4.68	1.61	7.48	157.84
4/30/2025 14:06	19.91	0.61	31.71	4.70	1.64	7.36	107.17
4/30/2025 14:07	19.92	0.65	28.53	4.68	1.66	6.51	86.75
4/30/2025 14:07	19.96	0.64	24.99	4.63	1.65	7.52	122.08
4/30/2025 14:07	20.00	0.62	23.02	4.54	1.61	6.95	121.58
4/30/2025 14:07	20.10	0.58	21.82	4.44	1.51	6.10	108.52
4/30/2025 14:07	20.05	0.55	20.33	4.43	1.48	5.80	86.04
4/30/2025 14:07	19.94	0.61	19.37	4.63	1.53	5.92	100.66
4/30/2025 14:08	20.02	0.63	19.37	4.75	1.58	6.25	152.27
4/30/2025 14:08	20.08	0.56	21.37	4.72	1.53	7.02	97.60
4/30/2025 14:08	19.94	0.61	23.09	4.95	1.54	7.07	70.28
4/30/2025 14:08	19.93	0.67	21.93	4.87	1.64	6.27	56.95
4/30/2025 14:08	19.98	0.65	20.44	4.67	1.65	7.32	44.03
4/30/2025 14:08	20.01	0.62	19.29	4.46	1.61	6.48	34.74
4/30/2025 14:09	20.10	0.56	17.57	4.26	1.57	5.31	35.58
4/30/2025 14:09	20.08	0.53	15.50	4.30	1.58	5.20	42.03
4/30/2025 14:09	19.94	0.59	14.68	4.60	1.60	5.34	37.86
4/30/2025 14:09	20.02	0.62	15.03	4.65	1.63	5.31	47.51
4/30/2025 14:09	20.10	0.56	16.09	4.47	1.60	5.59	51.02
4/30/2025 14:09	19.99	0.56	17.34	4.43	1.54	6.12	49.34
4/30/2025 14:10	19.94	0.63	17.56	4.44	1.56	5.83	72.88
4/30/2025 14:10	19.97	0.61	18.21	4.49	1.65	7.39	68.64
4/30/2025 14:10	20.02	0.61	19.33	4.42	1.63	7.24	57.79
4/30/2025 14:10	20.10	0.58	19.43	4.29	1.61	6.43	44.57
4/30/2025 14:10	20.09	0.53	18.07	4.30	1.66	5.94	39.92
4/30/2025 14:10	19.95	0.57	17.11	4.52	1.66	5.68	32.19
4/30/2025 14:11	20.01	0.61	16.93	4.65	1.59	5.40	27.62
4/30/2025 14:11	20.10	0.57	17.08	4.50	1.64	5.49	20.74
4/30/2025 14:11	19.97	0.57	17.18	4.45	1.69	6.18	20.20
4/30/2025 14:11	19.94	0.63	16.59	4.53	1.62	5.86	22.68
4/30/2025 14:11	19.98	0.61	16.29	4.54	1.55	7.08	19.58
4/30/2025 14:11	19.99	0.60	16.28	4.48	1.64	6.69	16.93
4/30/2025 14:12	20.09	0.58	15.24	4.35	1.67	5.54	26.56
4/30/2025 14:12	20.07	0.53	13.79	4.38	1.71	5.31	419.64
4/30/2025 14:12	19.92	0.61	16.81	4.65	1.75	5.93	459.27
4/30/2025 14:12	19.91	0.66	28.61	4.81	1.72	7.05	335.89
4/30/2025 14:12	19.99	0.64	42.41	4.69	1.72	7.78	316.15
4/30/2025 14:12	19.89	0.64	47.65	4.65	1.70	8.22	244.15
4/30/2025 14:13	19.84	0.69	42.33	4.71	1.66	8.09	167.68
4/30/2025 14:13	19.91	0.69	35.60	4.67	1.75	9.26	148.14
4/30/2025 14:13	19.96	0.65	31.93	4.50	1.73	8.92	163.80
4/30/2025 14:13	20.06	0.59	29.77	4.38	1.64	7.98	250.09
4/30/2025 14:13	20.03	0.57	29.03	4.50	1.59	7.70	264.28
4/30/2025 14:13	19.88	0.62	31.13	4.85	1.65	7.77	322.84
4/30/2025 14:14	19.94	0.66	35.99	5.06	1.78	8.15	263.36
4/30/2025 14:14	20.04	0.62	39.89	4.93	1.78	8.20	189.93
4/30/2025 14:14	19.97	0.59	39.06	4.83	1.76	8.04	142.32
4/30/2025 14:14	19.93	0.64	32.69	4.78	1.77	7.17	120.65
4/30/2025 14:14	19.97	0.63	26.89	4.72	1.75	8.05	132.79
4/30/2025 14:14	20.00	0.61	24.15	4.67	1.76	7.88	125.91
4/30/2025 14:15	20.09	0.57	22.92	4.51	1.77	7.06	90.73
4/30/2025 14:15	20.11	0.54	21.57	4.55	1.77	6.60	95.99
4/30/2025 14:15	19.95	0.57	20.93	4.75	1.77	6.51	86.00
4/30/2025 14:15	20.00	0.60	21.11	4.89	1.74	6.39	70.29
4/30/2025 14:15	20.10	0.56	22.00	4.64	1.72	6.12	59.56
4/30/2025 14:15	20.02	0.55	21.88	4.59	1.73	5.98	49.44
4/30/2025 14:16	19.94	0.62	19.95	4.61	1.65	5.43	43.80
4/30/2025 14:16	20.01	0.60	18.48	4.60	1.63	6.68	39.67
4/30/2025 14:16	20.00	0.59	18.36	4.54	1.70	7.06	48.01
4/30/2025 14:16	20.11	0.56	17.96	4.35	1.75	6.26	61.54
4/30/2025 14:16	20.11	0.54	17.12	4.37	1.87	5.97	63.85

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 14:16	19.96	0.58	17.47	4.60	1.92	6.12	66.79
4/30/2025 14:17	19.98	0.62	18.64	4.79	1.86	6.12	62.16
4/30/2025 14:17	20.09	0.58	20.35	4.66	1.75	6.40	47.24
4/30/2025 14:17	20.02	0.54	21.13	4.63	1.68	6.71	95.33
4/30/2025 14:17	19.92	0.62	20.23	4.68	1.66	6.27	154.22
4/30/2025 14:17	19.98	0.64	20.86	4.78	1.62	7.75	87.45
4/30/2025 14:17	19.96	0.63	23.16	4.86	1.63	8.19	74.99
4/30/2025 14:18	20.06	0.59	23.76	4.66	1.62	7.16	63.18
4/30/2025 14:18	20.08	0.55	21.75	4.54	1.53	6.45	48.58
4/30/2025 14:18	19.96	0.59	19.57	4.67	1.52	6.02	38.47
4/30/2025 14:18	19.98	0.63	18.42	4.83	1.56	5.58	46.14
4/30/2025 14:18	20.08	0.58	18.26	4.64	1.66	5.58	101.35
4/30/2025 14:18	20.02	0.56	19.01	4.59	1.67	6.51	67.05
4/30/2025 14:19	19.90	0.63	19.07	4.70	1.62	6.39	59.73
4/30/2025 14:19	19.97	0.64	19.30	4.63	1.62	7.44	57.40
4/30/2025 14:19	19.97	0.61	19.89	4.56	1.61	7.46	47.25
4/30/2025 14:19	20.07	0.58	19.53	4.43	1.61	6.21	42.43
4/30/2025 14:19	20.10	0.55	17.77	4.41	1.66	5.54	40.79
4/30/2025 14:19	19.96	0.57	16.46	4.60	1.62	5.38	37.92
4/30/2025 14:20	19.97	0.63	16.10	4.78	1.57	5.26	101.52
4/30/2025 14:20	20.07	0.58	17.28	4.67	1.62	5.77	123.74
4/30/2025 14:20	20.00	0.55	20.13	4.62	1.62	7.14	84.15
4/30/2025 14:20	19.88	0.63	21.27	4.68	1.56	6.57	67.02
4/30/2025 14:20	19.97	0.64	21.28	4.65	1.61	7.05	51.57
4/30/2025 14:20	19.97	0.61	20.97	4.56	1.59	7.45	49.24
4/30/2025 14:21	20.07	0.58	19.94	4.32	1.57	6.58	52.24
4/30/2025 14:21	20.09	0.53	18.03	4.34	1.55	6.03	51.22
4/30/2025 14:21	19.95	0.57	16.83	4.58	1.50	5.87	196.44
4/30/2025 14:21	19.94	0.63	18.05	4.79	1.55	6.24	376.66
4/30/2025 14:21	20.00	0.60	24.20	4.75	1.56	9.41	221.93
4/30/2025 14:21	19.93	0.61	31.33	4.71	1.57	10.74	201.67
4/30/2025 14:22	19.84	0.66	32.26	4.70	1.58	8.39	173.16
4/30/2025 14:22	19.91	0.68	29.53	4.70	1.51	8.55	243.95
4/30/2025 14:22	19.92	0.64	27.54	4.82	1.46	9.56	169.99
4/30/2025 14:22	20.04	0.62	26.02	4.85	1.56	8.82	102.84
4/30/2025 14:22	20.08	0.58	23.15	4.70	1.61	7.10	69.20
4/30/2025 14:22	19.95	0.60	20.47	4.67	1.55	6.05	51.05
4/30/2025 14:23	19.96	0.62	18.75	4.79	1.47	5.36	54.14
4/30/2025 14:23	20.08	0.57	18.23	4.63	1.51	5.39	53.83
4/30/2025 14:23	20.04	0.55	18.39	4.53	1.58	6.06	40.87
4/30/2025 14:23	19.92	0.61	17.67	4.59	1.52	5.49	35.14
4/30/2025 14:23	19.98	0.62	16.87	4.56	1.51	6.33	32.03
4/30/2025 14:23	19.98	0.60	16.80	4.48	1.58	7.28	23.90
4/30/2025 14:24	20.08	0.58	16.52	4.28	1.56	6.41	43.10
4/30/2025 14:24	20.10	0.55	15.19	4.28	1.51	5.77	60.18
4/30/2025 14:24	19.95	0.57	15.20	4.47	1.50	5.81	46.08
4/30/2025 14:24	19.95	0.62	16.62	4.74	1.49	5.66	36.96
4/30/2025 14:24	20.08	0.58	18.16	4.67	1.51	5.50	41.74
4/30/2025 14:24	20.05	0.55	18.99	4.56	1.52	6.18	54.04
4/30/2025 14:25	19.92	0.61	18.33	4.67	1.53	5.76	54.64
4/30/2025 14:25	19.98	0.64	17.58	4.52	1.49	6.30	74.71
4/30/2025 14:25	19.96	0.62	18.18	4.48	1.51	7.52	77.41
4/30/2025 14:25	20.05	0.60	18.87	4.33	1.50	6.68	66.35
4/30/2025 14:25	20.09	0.54	18.59	4.30	1.54	5.90	46.52
4/30/2025 14:25	19.98	0.57	17.96	4.46	1.52	5.56	46.84
4/30/2025 14:26	19.95	0.62	17.20	4.71	1.52	5.44	49.83
4/30/2025 14:26	20.05	0.59	16.94	4.68	1.47	5.67	79.87
4/30/2025 14:26	20.03	0.56	17.39	4.63	1.49	6.32	71.02
4/30/2025 14:26	19.89	0.62	17.46	4.66	1.53	5.89	52.51
4/30/2025 14:26	19.95	0.64	17.28	4.63	1.54	6.40	42.29
4/30/2025 14:26	19.94	0.63	17.79	4.56	1.53	7.01	37.49
4/30/2025 14:27	20.05	0.60	17.39	4.36	1.47	5.94	32.80
4/30/2025 14:27	20.10	0.54	15.89	4.32	1.50	5.25	28.11
4/30/2025 14:27	19.98	0.56	14.72	4.44	1.56	5.00	32.84
4/30/2025 14:27	19.93	0.63	14.61	4.65	1.61	4.94	249.28
4/30/2025 14:27	20.02	0.60	17.49	4.57	1.59	6.01	293.68
4/30/2025 14:27	19.97	0.59	24.87	4.49	1.59	8.10	204.53
4/30/2025 14:28	19.83	0.67	29.12	4.53	1.58	7.75	142.06
4/30/2025 14:28	19.91	0.69	28.85	4.55	1.50	7.64	106.01
4/30/2025 14:28	19.89	0.64	27.15	4.52	1.47	8.38	75.89
4/30/2025 14:28	20.03	0.61	24.95	4.34	1.50	6.73	55.72
4/30/2025 14:28	20.08	0.56	21.90	4.26	1.51	5.35	42.43
4/30/2025 14:28	19.98	0.56	18.68	4.39	1.50	4.94	44.81
4/30/2025 14:29	19.93	0.61	17.03	4.78	1.50	4.99	104.65
4/30/2025 14:29	20.04	0.62	17.67	4.90	1.53	5.75	112.60
4/30/2025 14:29	20.04	0.58	14.47	4.78	1.49	6.70	141.49
4/30/2025 14:29	19.88	0.62	11.93	4.73	1.47	6.28	138.98
4/30/2025 14:29	19.93	0.66	20.36	4.63	1.53	6.70	10.99
4/30/2025 14:29	19.93	0.64	20.93	4.61	1.57	7.96	3.31
4/30/2025 14:30	20.03	0.63	21.17	4.41	1.59	7.05	2.18
4/30/2025 14:30	17.82	0.55	20.02	3.22	1.53	6.34	0.26
4/30/2025 14:30	2.43	0.34	15.08	0.40	2.01	4.66	-0.97
4/30/2025 14:30	0.17	0.12	8.21	0.34	5.66	0.62	11.08
4/30/2025 14:30	0.10	0.10	3.24	0.32	11.83	0.45	32.94

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 14:30	0.08	0.10	0.96	0.32	17.38	0.36	30.10	
4/30/2025 14:31	0.07	0.10	0.43	0.31	21.16	0.30	24.46	
4/30/2025 14:31	0.07	0.10	0.42	0.29	23.49	0.25	19.09	
4/30/2025 14:31	0.07	0.09	0.36	0.30	25.04	0.21	15.10	
4/30/2025 14:31	0.06	0.09	0.41	0.28	26.01	0.18	12.05	
4/30/2025 14:31	0.05	0.09	0.33	0.27	26.66	0.15	10.74	
4/30/2025 14:31	0.06	0.09	0.40	0.26	27.17	0.12	8.18	
4/30/2025 14:32	0.06	0.10	0.40	0.26	27.58	0.10	7.79	
4/30/2025 14:32	0.07	0.09	0.33	0.25	27.85	0.09	5.99	
4/30/2025 14:32	0.05	0.08	0.40	0.24	28.07	0.07	4.84	
4/30/2025 14:32	0.06	0.10	0.39	0.23	28.33	0.05	4.95	
4/30/2025 14:32	0.06	0.10	0.31	0.21	28.61	0.04	5.08	
4/30/2025 14:32	0.06	0.10	0.42	0.21	28.88	0.03	4.99	
4/30/2025 14:33	0.05	0.10	0.35	0.22	29.06	0.01	4.94	
4/30/2025 14:33	0.06	0.09	0.37	0.21	29.15	0.00	2.23	
4/30/2025 14:33	0.06	0.09	0.36	0.20	29.28	-0.01	1.64	
4/30/2025 14:33	0.06	0.10	0.42	0.21	29.47	-0.02	2.38	
4/30/2025 14:33	0.06	0.10	0.42	0.18	29.55	-0.04	1.93	
4/30/2025 14:33	0.06	0.10	0.40	0.20	29.59	-0.04	2.09	
4/30/2025 14:34	0.04	0.08	0.41	0.19	29.68	-0.05	1.94	
4/30/2025 14:34	0.05	0.09	0.38	0.18	29.75	-0.06	1.95	
4/30/2025 14:34	0.05	0.09	0.27	0.19	29.80	-0.07	2.03	
4/30/2025 14:34	0.04	0.09	0.33	0.17	29.83	-0.08	2.07	
4/30/2025 14:34	0.05	0.08	0.34	0.19	29.87	-0.08	2.50	
4/30/2025 14:34	0.06	0.09	0.41	0.18	29.97	-0.09	2.20	
4/30/2025 14:35	0.05	0.09	0.41	0.20	30.03	-0.09	2.27	
4/30/2025 14:35	0.05	0.08	0.34	0.18	29.97	-0.10	2.19	SO2 Bias
4/30/2025 14:35	0.05	0.08	0.41	0.17	29.97	-0.10	2.30	
4/30/2025 14:35	0.04	0.09	0.28	0.17	30.11	-0.12	2.10	
4/30/2025 14:35	0.05	0.09	0.42	0.18	30.13	-0.13	1.95	
4/30/2025 14:35	0.05	0.08	0.22	0.19	30.13	-0.13	-0.52	
4/30/2025 14:36	0.05	0.08	0.38	0.16	30.20	-0.14	-0.90	
4/30/2025 14:36	0.04	0.07	0.37	0.16	30.24	-0.14	-0.58	
4/30/2025 14:36	7.53	0.20	1.26	1.78	30.19	4.30	-1.00	
4/30/2025 14:36	8.77	2.36	1.63	0.15	30.41	55.35	-0.65	
4/30/2025 14:36	9.82	7.39	1.03	0.06	27.85	1.65	-0.86	
4/30/2025 14:36	9.85	8.78	0.24	0.04	20.38	0.72	-1.10	
4/30/2025 14:37	9.87	9.21	-0.26	0.02	13.59	0.40	-0.89	
4/30/2025 14:37	9.87	9.30	-0.38	0.02	9.17	0.25	-1.18	
4/30/2025 14:37	9.89	9.32	-0.39	0.02	6.58	0.15	-1.17	
4/30/2025 14:37	9.88	9.31	-0.29	0.02	5.08	0.09	-0.89	
4/30/2025 14:37	9.88	9.33	-0.35	0.03	4.26	0.05	-0.90	
4/30/2025 14:37	9.87	9.35	-0.29	0.01	3.76	0.02	-0.84	
4/30/2025 14:38	9.88	9.37	-0.34	0.02	3.40	-0.01	-0.53	
4/30/2025 14:38	9.86	9.35	-0.38	0.02	3.07	-0.03	-0.78	O2 CO2 Bias
4/30/2025 14:38	9.87	9.36	-0.33	0.03	2.80	-0.05	-0.56	
4/30/2025 14:38	9.86	9.36	-0.39	0.02	2.55	-0.06	-0.84	
4/30/2025 14:38	9.86	9.37	-0.38	0.01	2.41	-0.07	-0.76	
4/30/2025 14:38	9.87	9.34	-0.34	0.03	2.29	-0.08	-0.98	
4/30/2025 14:39	9.88	9.34	-0.30	0.02	2.16	-0.09	-0.68	
4/30/2025 14:39	11.71	7.63	0.29	1.18	2.10	2.10	-1.09	
4/30/2025 14:39	1.79	2.95	4.74	19.03	2.66	1.21	-1.00	
4/30/2025 14:39	0.18	0.60	17.42	26.12	3.50	-0.10	-0.55	
4/30/2025 14:39	0.09	0.19	29.53	34.56	3.45	0.04	-0.59	
4/30/2025 14:39	0.07	0.16	37.12	35.96	2.99	-0.02	-0.81	
4/30/2025 14:40	0.07	0.14	39.89	36.59	2.59	-0.12	-1.07	
4/30/2025 14:40	0.06	0.13	40.59	36.90	2.28	-0.16	-0.75	
4/30/2025 14:40	0.06	0.12	40.59	37.07	2.09	-0.20	-1.12	
4/30/2025 14:40	0.06	0.12	40.75	37.17	1.97	-0.23	-1.06	
4/30/2025 14:40	0.06	0.12	40.81	37.18	1.85	-0.24	-1.18	CO Bias
4/30/2025 14:40	0.05	0.12	40.56	37.17	1.76	-0.26	-0.73	
4/30/2025 14:41	0.06	0.10	40.79	37.10	1.66	-0.26	-0.92	
4/30/2025 14:41	0.06	0.11	40.72	37.05	1.61	-0.27	-1.12	
4/30/2025 14:41	0.05	0.11	40.77	36.97	1.59	-0.27	-0.62	
4/30/2025 14:41	0.06	0.10	40.84	36.94	1.55	-0.29	-0.90	
4/30/2025 14:41	0.14	0.11	40.75	36.59	1.47	-0.29	-1.10	
4/30/2025 14:41	13.21	0.25	36.87	11.16	1.45	3.31	-0.96	
4/30/2025 14:42	5.56	0.38	30.33	22.80	1.62	1.89	-0.54	
4/30/2025 14:42	0.20	0.19	26.43	24.12	1.79	-0.18	-1.01	
4/30/2025 14:42	0.07	0.10	25.77	24.11	1.79	-0.25	-1.27	
4/30/2025 14:42	0.04	0.09	26.46	24.11	1.69	-0.28	-3.65	
4/30/2025 14:42	0.06	0.11	26.66	24.15	1.58	-0.28	-3.94	
4/30/2025 14:42	0.06	0.09	26.85	24.15	1.48	-0.29	-3.84	
4/30/2025 14:43	0.05	0.11	26.95	24.14	1.37	-0.30	-3.89	Nox Bias
4/30/2025 14:43	0.06	0.11	26.81	24.10	1.37	-0.30	-3.91	
4/30/2025 14:43	0.05	0.10	26.92	24.08	1.38	-0.30	-3.39	
4/30/2025 14:43	0.04	0.11	26.82	24.06	1.31	-0.31	-4.04	
4/30/2025 14:43	0.05	0.09	26.85	24.03	1.26	-0.30	-3.53	
4/30/2025 14:43	0.05	0.10	26.85	24.03	1.27	-0.31	-3.78	
4/30/2025 14:44	8.27	0.20	25.69	17.74	1.28	1.16	-3.50	
4/30/2025 14:44	2.20	0.46	25.46	18.48	1.30	0.51	-3.55	
4/30/2025 14:44	0.47	0.67	18.14	0.78	1.27	32.49	-3.91	
4/30/2025 14:44	0.09	0.27	9.55	0.45	1.22	44.29	-3.80	
4/30/2025 14:44	0.06	0.11	3.05	0.34	1.22	45.00	-3.52	

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 14:44	0.06	0.10	0.84	0.29	1.27	45.20	-3.82	
4/30/2025 14:45	0.05	0.11	0.54	0.26	1.28	45.29	-3.75	
4/30/2025 14:45	0 06	0.10	0.41	0.23	1.25	45.32	-4.27	
4/30/2025 14:45	0.05	0.09	0.42	0.20	1.20	45.32	-3.88	THC Bias
4/30/2025 14:45	0.05	0.10	0.41	0.18	1.14	45.28	-4.00	
4/30/2025 14:45	0.04	0.09	0.42	0.17	1.17	45.24	-3.98	
4/30/2025 14:45	0.68	0.10	0.45	0.42	1.22	45.20	-3.77	
4/30/2025 14:46	15.21	0.27	2.58	3.53	1.25	15.84	-4.08	
4/30/2025 14:46	18.94	0.57	6.17	3.91	1.25	6.44	-3.78	
4/30/2025 14:46	19.80	0.62	9.76	3.98	1.27	5.93	-1.92	
4/30/2025 14:46	19.89	0.61	11.55	3.89	1.39	5.46	372.31	
4/30/2025 14:46	19.98	0.57	10.98	3.83	1.45	4.38	971.86	
4/30/2025 14:46	19.97	0.55	9.73	3.93	1.43	4.04	996.36	
4/30/2025 14:47	19.79	0.61	9.42	4.24	1.46	4.09	998.37	
4/30/2025 14:47	19.85	0.65	9.41	4.27	1.51	3.74	1000.13	
4/30/2025 14:47	19.98	0.59	9.47	4.02	1.58	3.84	1001.16	
4/30/2025 14:47	19.89	0.58	10.16	3.90	1.60	4.33	1001.56	
4/30/2025 14:47	19.85	0.63	10.88	3.89	1.51	4.01	1001.74	
4/30/2025 14:47	19.90	0.64	11.78	3.91	1.46	5.54	1000.30	THC Bias
4/30/2025 14:48	19.93	0.61	12.14	3.83	1.51	5.31	998.80	
4/30/2025 14:48	20.02	0.56	11.23	3.75	1.55	4.29	999.11	
4/30/2025 14:48	20.00	0.54	9.79	3.91	1.48	4.11	998.35	
4/30/2025 14:48	19.86	0.60	9.54	4.18	1.39	4.13	998.32	
4/30/2025 14:48	19.91	0.64	9.44	4.19	1.31	3.65	998.24	
4/30/2025 14:48	20.02	0.59	9.49	3.93	1.25	3.84	999.97	
4/30/2025 14:49	19.92	0.56	10.17	3.82	1.22	4.41	1000.23	
4/30/2025 14:49	19.86	0.64	10.94	3.81	1.26	4.09	1001.01	
4/30/2025 14:49	19.91	0.64	11.89	3.84	1.26	5.34	999.10	
4/30/2025 14:49	19.92	0.62	0.03	3.78	1.27	5.06	944.30	
4/30/2025 14:49	20.04	0.56	11.09	3.66	1.34	4.04	121.67	
4/30/2025 14:49	20.01	0.55	9.63	3.81	1.35	3.78	4.68	
4/30/2025 14:50	19.85	0.60	9.23	4.13	1.33	3.80	-0.02	
4/30/2025 14:50	19.88	0 66	9.21	4.19	1.34	3.47	-0.64	
4/30/2025 14:50	20.02	0.57	9.27	3.93	1.30	3.59	-3.89	
4/30/2025 14:50	19.92	0.57	10.02	3.86	1.23	4.42	-3.92	
4/30/2025 14:50	19.87	0.63	10 88	3.86	1.20	3.92	-3.91	
4/30/2025 14:50	19.93	0.62	11.70	3.86	1.24	5.17	-3.94	Zero Bias
4/30/2025 14:51	19.93	0.60	12.05	3.78	1.28	5.19	-3.76	
4/30/2025 14:51	20.04	0.57	11.15	3.66	1.26	4.19	-3.89	
4/30/2025 14:51	20.03	0.55	9.71	3.79	1.24	3.91	-3.81	
4/30/2025 14:51	19.87	0.60	9.44	4.07	1.20	4.08	-3.73	
4/30/2025 14:51	19.88	0.63	9.50	4.15	1.20	3.69	-3.87	
4/30/2025 14:51	8.89	0.50	8.36	1.30	1.24	13.90	-6.18	
4/30/2025 14:52	0.39	0.19	5.20	0.14	1.33	0.46	-6.57	
4/30/2025 14:52	0.11	0.09	2.37	0.12	1.31	0.06	-3.81	
4/30/2025 14:52	0.09	0.10	0.92	0.11	1.20	0.01	-3 39	
4/30/2025 14:52	0.07	0.09	0.39	0.10	1.12	-0.01	-3.62	
4/30/2025 14:52	0.08	0.09	0.36	0.09	1.16	-0.04	-3.94	
4/30/2025 14:52	0.07	0.08	0.42	0.09	1.15	-0.05	-4.20	
4/30/2025 14:53	0.07	0.08	0.36	0.07	1.05	-0.08	-4.11	Zero Bias
4/30/2025 14:53	0.06	0.08	0.31	0.08	0.98	-0.07	-3.72	
4/30/2025 14:53	0.05	0.08	0.31	0.08	0.90	-0.09	-3.93	
4/30/2025 14:53	0.05	0.08	0.33	0.06	0.90	-0.09	-4.02	
4/30/2025 14:53	0.04	0.09	0.38	0.06	0.89	-0.10	-3.88	
4/30/2025 14:53	0.05	0.08	0.38	0.06	0.90	-0.11	-3.66	
4/30/2025 14:54	4.07	0.12	0.61	1.08	0.96	0.40	-3.72	
4/30/2025 14:54	3.01	0.20	1.49	0.37	0.99	72.37	-3.99	
4/30/2025 14:54	0.16	0.14	1.33	0.08	1.01	81.15	-3.65	
4/30/2025 14:54	0.06	0.10	0.92	0.06	0 97	47.96	-3 94	
4/30/2025 14:54	0.06	0.09	0.43	0.06	0.89	46.71	-3.92	
4/30/2025 14:54	0.05	0.08	0.41	0.05	0.91	46.31	-3.60	
4/30/2025 14:55	0.05	0.08	0.38	0.07	0.97	46.09	-3.59	
4/30/2025 14:55	0.05	0.09	0.38	0.05	0.95	45.97	-3.54	
4/30/2025 14:55	0.06	0.09	0.29	0.04	0.95	45.85	-3.63	
4/30/2025 14.55	0.06	0.09	0.29	0.06	0 96	45 78	-3,66	
4/30/2025 14:55	0.06	0.09	0.33	0.05	0.93	45.70	-4.09	
4/30/2025 14:55	0.06	0.09	0.42	0.05	0.94	45.59	-3.97	
4/30/2025 14:56	0.05	0.09	0.35	0.04	0.91	45.48	-3.87	
4/30/2025 14:56	0.06	0.09	0.42	0.05	0.90	45.38	-3.33	
4/30/2025 14:56	0.05	0.09	0.38	0.05	0.89	45.25	-4.08	
4/30/2025 14:56	0.04	0 08	0.32	0.04	0.85	45.12	-3.40	
4/30/2025 14:56	0.05	0.09	0.33	0.04	0.85	45.00	-3.94	
4/30/2025 14:66	0.05	0.09	0.36	0,03	0.79	44.95	-3.70	
4/30/2025 14:57	0.04	0 09	0.35	0.03	0.84	44.87	-3.84	
4/30/2025 14:57	0.03	0.09	0.30	0.03	0.91	44.83	-3.68	
4/30/2025 14:57	0.04	0.10	0.41	0.02	0.92	44.82	-3.87	THC Bias Outlet
4/30/2025 14:57	0.05	0.10	0.41	0.03	0.92	44.81	-3.90	
4/30/2025 14:57	0.04	0.10	0.41	0.04	0.89	44.80	-3.88	
4/30/2025 14:57	0.04	0.10	0.42	0.03	0.80	44.79	-3.90	
4/30/2025 14:58	0.04	0.08	0.38	0.03	0.76	44.78	-3.76	
4/30/2025 14:58	0.04	0.08	0.42	0.03	0.81	44.76	-3.56	
4/30/2025 14:58	0.05	0.10	0.30	0 03	0.81	44.74	-3.83	
4/30/2025 14:58	0.04	0.09	0.36	0.04	0.86	44.73	-3.51	
4/30/2025 14:58	7.04	0.15	0.78	1.72	0.89	35.19	-3.71	

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 14:58	19.08	0.38	3.06	3.50	0.86	5.17	-3.93
4/30/2025 14:59	19.80	0.57	6.48	3.78	0.82	4.53	-3.84
4/30/2025 14:59	19.84	0.63	8.61	3.96	0.84	3.80	-3.91
4/30/2025 14:59	19.99	0.58	9.20	3.77	0.89	3.61	-3.38
4/30/2025 14:59	19.93	0.56	9.50	3.67	0.89	4.57	-3.80
4/30/2025 14:59	19.83	0.62	10.37	3.66	0.86	4.19	-4.04
4/30/2025 14:59	19.90	0.62	11.35	3.66	0.87	4.84	-3.73
4/30/2025 15:00	19.91	0.61	12.09	3.71	0.90	5.42	-4.13
4/30/2025 15:00	20.01	0.59	11.49	3.59	0.88	4.49	-3.72
4/30/2025 15:00	20.03	0.54	9.92	3.62	0.83	3.97	-3.58
4/30/2025 15:00	19.91	0.57	9.42	3.86	0.81	4.10	-4.01
4/30/2025 15:00	19.89	0.62	9.39	4.03	0.82	3.54	-4.08
4/30/2025 15:00	20.01	0.58	9.16	3.86	0.85	3.48	-3.75
4/30/2025 15:01	19.97	0.56	9.51	3.72	0.88	4.27	-3.65
4/30/2025 15:01	19.84	0.61	10.56	3.76	0.87	4.14	-3.57
4/30/2025 15:01	19.88	0.62	11.69	3.81	0.85	4.83	-3.94
4/30/2025 15:01	19.90	0.63	12.26	3.77	0.85	5.50	-3.72
4/30/2025 15:01	20.00	0.60	11.57	3.62	0.87	4.27	-3.76
4/30/2025 15:01	20.04	0.55	9.77	3.68	0.89	3.71	-3.30
4/30/2025 15:02	19.91	0.57	9.07	3.96	0.92	4.04	-4.06
4/30/2025 15:02	19.87	0.65	9.07	4.11	0.92	3.47	-3.53
4/30/2025 15:02	20.01	0.61	9.01	3.95	0.89	3.33	-3.96
4/30/2025 15:02	19.97	0.56	9.30	3.72	0.86	4.16	-4.04
4/30/2025 15:02	19.85	0.60	10.16	3.70	0.81	3.97	-3.67
4/30/2025 15:02	19.91	0.63	11.28	3.72	0.76	4.59	-3.61
4/30/2025 15:03	19.90	0.61	12.07	3.71	0.74	5.51	-3.78
4/30/2025 15:03	20.01	0.59	11.58	3.60	0.75	4.55	-3.61
4/30/2025 15:03	20.05	0.55	9.94	3.63	0.86	4.02	-3.85
4/30/2025 15:03	19.92	0.57	9.23	3.88	0.98	4.32	-3.49
4/30/2025 15:03	19.86	0.66	9.15	4.11	0.96	3.81	-3.51
4/30/2025 15:03	19.99	0.61	9.08	3.93	0.95	3.58	-3.63
4/30/2025 15:04	19.99	0.57	9.36	3.78	0.90	4.51	-3.71
4/30/2025 15:04	19.86	0.61	10.31	3.77	0.81	4.29	-3.81
4/30/2025 15:04	19.91	0.64	11.27	3.77	0.83	4.89	-3.65
4/30/2025 15:04	19.90	0.62	12.29	3.77	0.82	6.16	-4.00
4/30/2025 15:04	19.99	0.58	11.72	3.62	0.86	4.91	-3.82
4/30/2025 15:04	20.07	0.55	10.01	3.64	0.86	4.11	-3.77
4/30/2025 15:05	19.94	0.57	9.03	3.84	0.83	4.24	-3.84
4/30/2025 15:05	19.86	0.62	8.98	4.07	0.85	4.01	-4.33
4/30/2025 15:05	19.99	0.61	8.96	3.96	0.87	3.79	-3.72
4/30/2025 15:05	20.00	0.57	9.23	3.80	0.88	4.56	-3.56
4/30/2025 15:05	19.87	0.61	9.98	3.78	0.88	4.43	-3.81
4/30/2025 15:05	19.92	0.63	10.92	3.79	0.82	4.81	-4.02
4/30/2025 15:06	19.91	0.62	11.93	3.79	0.79	5.89	-3.86
4/30/2025 15:06	20.02	0.60	11.51	3.63	0.86	4.81	-3.97
4/30/2025 15:06	20.06	0.56	9.90	3.63	0.92	4.12	-3.90
4/30/2025 15:06	19.96	0.56	9.09	3.83	0.88	4.41	-3.78
4/30/2025 15:06	19.86	0.63	8.93	4.12	0.81	3.88	-3.57
4/30/2025 15:06	19.99	0.62	8.93	3.95	0.87	3.68	-4.15
4/30/2025 15:07	19.99	0.57	9.21	3.83	0.91	4.40	-3.61
4/30/2025 15:07	19.85	0.61	10.07	3.79	0.87	4.26	-4.35
4/30/2025 15:07	19.91	0.63	10.97	3.76	0.93	4.65	-3.21
4/30/2025 15:07	19.91	0.63	11.93	3.75	0.91	5.73	-3.77
4/30/2025 15:07	20.01	0.60	11.69	3.60	0.83	4.72	-4.13
4/30/2025 15:07	20.05	0.56	10.05	3.61	0.82	4.10	-3.46
4/30/2025 15:08	19.94	0.56	9.05	3.83	0.86	4.19	-4.04
4/30/2025 15:08	19.84	0.65	8.75	4.10	0.94	3.78	-3.55
4/30/2025 15:08	19.98	0.64	8.68	3.99	0.97	3.60	-3.37
4/30/2025 15:08	20.00	0.57	8.83	3.81	0.91	4.23	-3.58
4/30/2025 15:08	19.88	0.59	9.74	3.80	0.82	4.35	-3.92
4/30/2025 15:08	19.91	0.63	10.85	3.81	0.82	4.75	-3.78
4/30/2025 15:09	19.91	0.62	11.93	3.78	0.88	5.89	-3.99
4/30/2025 15:09	20.02	0.60	11.69	3.63	0.88	4.69	-3.95
4/30/2025 15:09	20.07	0.55	10.07	3.61	0.87	4.00	-3.49
4/30/2025 15:09	19.97	0.54	8.93	3.76	0.84	4.14	-4.05
4/30/2025 15:09	19.85	0.62	8.82	4.07	0.85	3.79	-3.44
4/30/2025 15:09	19.98	0.63	8.81	3.96	0.80	3.52	-4.02
4/30/2025 15:10	20.02	0.56	8.96	3.79	0.74	4.05	-4.30
4/30/2025 15:10	19.89	0.60	9.74	3.77	0.70	4.19	-3.81
4/30/2025 15:10	19.90	0.64	10.54	3.78	0.62	4.55	-3.77
4/30/2025 15:10	19.92	0.63	11.85	3.76	0.59	5.89	-3.81
4/30/2025 15:10	20.00	0.60	11.70	3.62	0.70	4.77	-3.99
4/30/2026 15:10	20.07	0.54	10.09	3.59	0.74	3.99	-3.98
4/30/2025 15:11	19.99	0.55	8.92	3.73	0.76	4.11	-3.44
4/30/2025 15:11	19.85	0.63	8.91	4.01	0.75	3.87	-3.73
4/30/2025 15:11	19.98	0.62	8.85	3.96	0.74	3.55	-3.92
4/30/2025 15:11	20.02	0.56	9.12	3.80	0.77	4.14	-3.70
4/30/2025 15:11	19.89	0.59	9.74	3.74	0.83	4.31	-3.94
4/30/2025 15:11	19.92	0.64	10.49	3.76	0.87	4.30	-3.95
4/30/2025 15:12	19.93	0.61	11.49	3.76	0.85	5.70	-3.47
4/30/2025 15:12	20.00	0.59	11.44	3.60	0.81	4.82	-3.79
4/30/2025 15:12	20.06	0.54	9.99	3.55	0.73	3.92	-3.82
4/30/2025 15:12	19.98	0.54	8.77	3.69	0.74	3.93	-3.61
4/30/2025 15:12	19.87	0.61	8.55	3.99	0.81	3.66	-3.98

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 15:12	19.97	0.62	8.45	3.95	0.80	3.46	-3.79
4/30/2025 15:13	20.03	0.57	8.75	3.77	0.84	4.25	-3.75
4/30/2025 15:13	19.88	0.61	9.89	3.75	0.85	4.58	-3.97
4/30/2025 15:13	19.90	0.63	10.97	3.78	0.80	4.51	-3.77
4/30/2025 15:13	19.93	0.62	12.07	3.75	0.79	6.09	-4.07
4/30/2025 15:13	19.99	0.60	11.79	3.59	0.79	5.46	-3.30
4/30/2025 15:13	20.06	0.55	10.16	3.56	0.82	4.95	-3.58
4/30/2025 15:14	20.00	0.53	8.92	3.70	0.81	5.17	-3.55
4/30/2025 15:14	19.83	0.60	8.99	4.05	0.84	4.92	-3.76
4/30/2025 15:14	19.93	0.64	9.15	4.01	0.81	4.52	-3.56
4/30/2025 15:14	20.02	0.59	9.34	3.79	0.79	4.84	-3.45
4/30/2025 15:14	19.89	0.58	9.78	3.77	0.80	5.05	-3.79
4/30/2025 15:14	19.92	0.62	10.79	3.83	0.84	5.06	-3.64
4/30/2025 15:15	19.93	0.61	11.78	3.78	0.86	6.35	-4.12
4/30/2025 15:15	19.98	0.61	11.65	3.61	0.83	5.57	-3.84
4/30/2025 15:15	20.07	0.55	10.05	3.56	0.81	4.71	-3.84
4/30/2025 15:15	20.01	0.54	9.01	3.68	0.80	4.84	-3.77
4/30/2025 15:15	19.83	0.60	9.01	4.03	0.79	4.49	-3.98
4/30/2025 15:15	19.92	0.64	9.03	4.02	0.77	4.09	-3.49
4/30/2025 15:16	20.02	0.59	9.08	3.80	0.79	4.63	-3.65
4/30/2025 15:16	19.91	0.58	9.84	3.78	0.75	4.83	-3.46
4/30/2025 15:16	19.91	0.62	10.49	3.79	0 80	4.68	-3.81
4/30/2025 15:16	19.94	0.61	11.46	3.80	0.83	6.22	-3.96
4/30/2025 15:16	19.99	0.59	11.37	3.63	0.82	5.45	-3.78
4/30/2025 15:16	20.08	0.55	10.16	3.54	0.82	4.56	-4.00
4/30/2025 15:17	20.02	0.54	8.94	3.61	0.77	4.44	-3.37
4/30/2025 15:17	19.88	0.59	8.82	3.92	0.75	4.24	-3.71
4/30/2025 15:17	19.98	0.62	8.80	3.95	0.75	4.01	-4.05
4/30/2025 15:17	20.05	0.56	8.77	3.75	0.73	4.32	-4.07
4/30/2025 15:17	19.92	0.57	9.65	3.70	0.78	4.81	-3.86
4/30/2025 15:17	19.90	0.63	10.79	3.73	0.76	4.65	-4.01
4/30/2025 15:18	19.92	0.61	12.04	3.73	0.69	6.13	-3.46
4/30/2025 15:18	19.99	0.60	12.08	3.56	0.68	5.39	-3.72
4/30/2025 15:18	20.07	0.55	10.50	3.49	0.72	4.50	-3.76
4/30/2025 15:18	20.04	0.53	9.01	3.58	0.77	4.45	-3.52
4/30/2025 15:18	19.87	0.60	8.82	3.89	0.75	4.32	-3.73
4/30/2025 15:18	19.95	0.63	8.78	3.93	0.70	3.93	-3.86
4/30/2025 15:19	20.04	0.56	8.86	3.75	0.72	4.32	-3.56
4/30/2025 15:19	19.93	0.57	9.64	3.69	0.76	4.82	-4.03
4/30/2025 15:19	19.90	0.63	10.66	3.71	0.71	4.52	-3.85
4/30/2025 15:19	19.93	0.62	12.04	3.70	0.73	6.20	-3.74
4/30/2025 15:19	19.97	0.59	12.19	3.57	0.79	5.47	-3.82
4/30/2025 15:19	20.06	0.56	10.68	3.50	0.77	4.42	-4.02
4/30/2025 15:20	20.04	0.54	9.16	3.65	0.78	4.29	-4.06
4/30/2025 15:20	19 86	0.60	8.92	3.94	0.69	4.13	-3.93
4/30/2025 15:20	19.96	0.64	8.80	3.96	0.58	3.76	-3.76
4/30/2025 15:20	20.06	0.57	8.71	3.74	0.56	4.10	-3.82
4/30/2025 15:20	19.92	0.57	9.48	3.65	0.64	4.80	-3.70
4/30/2025 15:20	19.89	0.63	10.44	3.67	0.73	4.42	-3.54
4/30/2025 15:21	19.91	0.63	11.71	3.68	0.76	5.76	-3.82
4/30/2025 15:21	19.97	0.61	11.97	3.59	0.78	5.19	-3.63
4/30/2025 15:21	20.06	0.55	10.57	3.53	0.82	4.35	-3.74
4/30/2025 15:21	20.03	0.55	9.04	3.65	0.78	4.33	-3.65
4/30/2025 15:21	19.84	0.60	8.97	3.96	0.72	4.23	-3.75
4/30/2025 15:21	19.89	0.65	8.83	3.99	0.70	3.77	-3.73
4/30/2025 15:22	20.03	0.60	8.80	3.74	0.71	3.92	-3.72
4/30/2025 15:22	19.93	0.57	9.44	3.67	0.74	4.48	-3.64
4/30/2025 15:22	19.87	0.62	10.39	3.67	0.78	4.25	-3.96
4/30/2025 15:22	19.91	0.62	11.72	3.68	0.75	6.00	-3.85
4/30/2025 15:22	19.96	0.61	12.04	3.55	0.71	5.45	-3.47
4/30/2025 15:22	20.06	0.57	10.72	3.49	0.65	4.39	-3.75
4/30/2025 15:23	20.03	0.53	9.11	3.60	0.61	4.34	-3.45
4/30/2025 15:23	19.85	0.60	8.86	3.98	0.59	4.67	-3.70
4/30/2025 15:23	19.90	0.64	9.10	4.02	0.62	4.27	-3.97
4/30/2025 15:23	20.02	0.59	9.07	3.76	0.60	4.13	-4.07
4/30/2025 15:23	19.95	0.58	9.80	3.69	0.60	4.75	-3.61
4/30/2025 15:23	19.88	0.61	10.58	3.74	0.68	4.39	-4.25
4/30/2025 15:24	19.92	0.61	11.70	3.74	0.75	5.90	-4.12
4/30/2025 15:24	19.96	0.60	11.95	3.60	0.76	5.65	-4.26
4/30/2025 15:24	20.06	0.55	10.73	3.50	0.74	4.49	-3.26
4/30/2025 15:24	20.03	0.54	9.35	3.66	0.75	4.32	-3.76
4/30/2025 15:24	19.88	0.59	9.41	3.84	0.76	4.38	-3.96
4/30/2025 15:24	19.95	0.62	9.40	3.95	0.73	3.91	-3.51
4/30/2025 15:25	20.04	0.57	9.21	3.74	0.69	3.92	-3.70
4/30/2025 15:25	19.96	0.56	9.63	3.69	0.68	4.47	-3.77
4/30/2025 15:25	19.88	0.62	10.32	3.69	0.67	4.09	-3.79
4/30/2025 15:25	19.93	0.61	11.48	3.69	0.72	5.57	-3.75
4/30/2025 15:25	19.94	0.60	11.95	3.62	0.81	5.51	-4.03
4/30/2025 15:25	20.05	0.57	10.93	3.49	0.79	4.46	-3.89
4/30/2025 15:26	20.04	0.54	9.37	3.56	0.79	4.13	-3.78
4/30/2025 15:26	19.86	0.58	8.99	3.90	0.77	4.15	-3.92
4/30/2025 15:26	19.87	0.65	9.01	4.02	0.76	3.76	-3.74
4/30/2025 15:26	20.02	0.61	8.90	3.77	0.76	3.77	-3.77
4/30/2025 15:26	19.95	0.57	9.51	3.69	0.70	4.48	-4.00

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 15:26	19.86	0.63	10.45	3.71	0.67	4.15	-3.97
4/30/2025 15:27	19.93	0.62	11.56	3.72	0.70	5.50	-3.68
4/30/2025 15:27	19.95	0.61	12.02	3.62	0.66	5.35	-4.09
4/30/2025 15:27	20.04	0.57	10.87	3.48	0.64	4.28	-3.92
4/30/2025 15:27	20.06	0.55	9.28	3.53	0.62	3.91	-3.60
4/30/2025 15:27	19.89	0.57	8.84	3.82	0.65	3.88	-3.78
4/30/2025 15:27	19.92	0.63	8.82	3.95	0.71	3.50	-3.89
4/30/2025 15:28	20.05	0.58	8.67	3.74	0.72	3.65	-4.05
4/30/2025 15:28	19.96	0.57	4.99	3.66	0.70	4.54	-3.78
4/30/2025 15:28	19.86	0.61	-0.16	3.72	0.77	4.11	-3.74
4/30/2025 15:28	19.92	0.63	5.43	3.67	0.80	5.49	-3.81
4/30/2025 15:28	19.94	0.62	11.43	3.61	0.73	5.52	-3.75
4/30/2025 15:28	20.04	0.57	10.69	3.48	0.72	4.48	-3.78
4/30/2025 15:29	20.05	0.55	9.38	3.56	0.75	4.19	6.78
4/30/2025 15:29	19.88	0.59	9.20	3.93	0.74	4.58	10.89
4/30/2025 15:29	19.83	0.66	9.64	4.17	0.76	4.49	12.75
4/30/2025 15:29	19.99	0.63	10.50	3.98	0.76	4.70	24.40
4/30/2025 15:29	19.95	0.58	11.99	3.89	0.68	5.40	37.44
4/30/2025 15:29	19.84	0.63	13.23	3.92	0.58	5.43	31.32
4/30/2025 15:30	19.90	0.65	14.71	3.91	0.57	7.06	47.38
4/30/2025 15:30	19.91	0.62	16.60	3.86	0.55	7.66	86.00
4/30/2025 15:30	20.01	0.59	17.87	3.72	0.64	7.21	88.75
4/30/2025 15:30	20.01	0.56	18.42	3.71	0.73	6.83	103.57
4/30/2025 15:30	19.87	0.61	19.49	3.96	0.73	6.48	71.56
4/30/2025 15:30	19.88	0.67	21.41	4.19	0.73	6.24	71.00
4/30/2025 15:31	20.01	0.61	22.86	4.06	0.77	6.45	113.86
4/30/2025 15:31	19.94	0.59	23.01	3.98	0.76	6.62	118.17
4/30/2025 15:31	19.83	0.65	21.43	4.09	0.77	6.22	79.92
4/30/2025 15:31	19.91	0.66	20.25	4.11	0.74	7.66	116.18
4/30/2025 15:31	19.90	0.63	20.99	4.05	0.74	8.32	85.38
4/30/2025 15:31	20.02	0.61	20.87	3.87	0.74	7.43	68.69
4/30/2025 15:32	20.03	0.55	20.72	3.86	0.76	6.48	70.37
4/30/2025 15:32	19.89	0.58	19.67	4.04	0.77	6.37	63.18
4/30/2025 15:32	19.89	0.64	19.65	4.22	0.77	6.39	85.44
4/30/2025 15:32	20.02	0.59	20.61	4.15	0.77	6.38	145.04
4/30/2025 15:32	19.96	0.58	21.82	4.06	0.81	7.00	141.83
4/30/2025 15:32	19.84	0.64	21.61	4.10	0.79	6.65	93.44
4/30/2025 15:33	19.89	0.65	21.35	4.14	0.77	7.77	67.53
4/30/2025 15:33	19.89	0.63	21.66	4.10	0.76	8.49	80.72
4/30/2025 15:33	20.01	0.60	21.24	3.93	0.76	7.53	79.98
4/30/2025 15:33	20.05	0.57	19.56	3.96	0.78	6.77	65.78
4/30/2025 15:33	19.91	0.59	18.61	4.27	0.77	6.53	56.21
4/30/2025 15:33	19.90	0.63	18.75	4.51	0.72	6.15	124.68
4/30/2025 15:34	20.02	0.59	20.16	4.44	0.73	6.51	223.79
4/30/2025 15:34	19.94	0.58	23.14	4.35	0.71	8.07	246.35
4/30/2025 15:34	19.80	0.66	24.27	4.35	0.70	7.60	162.98
4/30/2025 15:34	19.85	0.68	24.52	4.34	0.71	8.06	130.93
4/30/2025 15:34	19.87	0.66	24.99	4.27	0.78	8.19	119.07
4/30/2025 15:34	20.00	0.62	24.65	4.03	0.74	7.39	104.64
4/30/2025 15:35	20.03	0.58	22.92	3.99	0.70	6.96	80.53
4/30/2025 15:35	19.90	0.60	21.56	4.17	0.67	6.80	56.58
4/30/2025 15:35	19.90	0.65	21.03	4.43	0.67	6.30	44.69
4/30/2025 15:35	20.02	0.60	20.89	4.32	0.67	6.07	48.40
4/30/2025 15:35	20.01	0.56	20.38	4.29	0.64	6.42	68.50
4/30/2025 15:35	19.87	0.60	19.00	4.33	0.61	6.11	61.17
4/30/2025 15:36	19.94	0.63	18.42	4.25	0.61	6.95	55.52
4/30/2025 15:36	19.92	0.62	18.91	4.26	0.69	7.90	51.58
4/30/2025 15:36	20.03	0.58	18.77	4.12	0.73	7.27	50.31
4/30/2025 15:36	20.06	0.53	17.11	4.10	0.77	6.59	77.86
4/30/2025 15:36	19.91	0.57	16.74	4.21	0.70	6.18	165.74
4/30/2025 15:36	19.88	0.63	21.60	4.56	0.65	6.39	204.08
4/30/2025 15:37	19.97	0.62	30.60	4.60	0.61	7.36	205.28
4/30/2025 15:37	19.94	0.60	36.65	4.54	0.65	8.02	172.56
4/30/2025 15:37	19.83	0.64	34.58	4.52	0.77	7.41	151.61
4/30/2025 15:37	19.91	0.66	28.92	4.49	0.81	7.83	156.48
4/30/2025 15:37	19.90	0.64	25.29	4.48	0.78	8.93	145.64
4/30/2025 15:37	20.00	0.59	24.15	4.36	0.75	8.12	148.64
4/30/2025 15:38	20.03	0.56	23.16	4.31	0.65	7.62	300.39
4/30/2025 15:38	19.91	0.58	24.37	4.46	0.65	7.76	228.18
4/30/2025 15:38	19.85	0.64	29.35	4.70	0.70	7.87	158.16
4/30/2025 15:38	19.99	0.62	34.10	4.51	0.79	7.51	156.15
4/30/2025 15:38	19.99	0.58	35.03	4.35	0.80	7.70	290.77
4/30/2025 16:38	19.86	0.62	31.08	4.48	0.76	7.58	459.22
4/30/2025 15:39	19.89	0.66	28.55	4.88	0.75	9.90	431.34
4/30/2025 15:39	19.83	0.66	31.04	4.79	0.77	11.72	306.13
4/30/2025 15:39	19.94	0.65	34.23	4.50	0.74	10.38	254.53
4/30/2025 15:39	20.00	0.60	33.71	4.45	0.73	8.79	187.87
4/30/2025 15:39	19.92	0.59	31.46	4.61	0.67	7.98	140.70
4/30/2025 15:39	19.91	0.64	29.36	4.86	0.68	7.20	106.22
4/30/2025 15:40	20.06	0.59	28.09	4.65	0.66	6.98	168.16
4/30/2025 15:40	20.04	0.54	27.67	4.44	0.66	7.82	141.34
4/30/2025 15:40	19.90	0.59	26.57	4.34	0.72	8.03	109.59
4/30/2025 15:40	19.96	0.62	25.38	4.34	0.73	8.10	83.94
4/30/2025 15:40	19.95	0.58	24.70	4.35	0.70	8.35	60.43

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 15:40	20.05	0.57	23.38	4.18	0.69	7.29	51.50
4/30/2025 15:41	20.11	0.52	20.67	4.15	0.69	6.63	45.56
4/30/2025 15:41	20.00	0.55	18.15	4.36	0.71	6.35	39.45
4/30/2025 15:41	19.95	0.59	16.94	4.55	0.76	6.28	66.23
4/30/2025 15:41	20.07	0.56	17.33	4.37	0.77	6.11	148.21
4/30/2025 15:41	20.06	0.52	19.78	4.25	0.82	6.91	99.41
4/30/2025 15:41	19.90	0.57	22.02	4.31	0.87	7.12	88.33
4/30/2025 15:42	19.96	0.62	22.84	4.28	0.78	7.84	128 22
4/30/2025 15:42	19.95	0.59	23.70	4.34	0.77	9.17	120.05
4/30/2025 15:42	20.01	0.58	24.39	4.29	0.79	8.32	81.87
4/30/2025 15:42	20.09	0.55	23.79	4.35	0.78	7.24	65.47
4/30/2025 15:42	20.00	0.55	21.73	4.48	0.71	6.50	67.41
4/30/2025 15:42	19.93	0.60	20.21	4.70	0.71	6.25	85.25
4/30/2025 15:43	20.05	0.58	20.27	4.56	0.71	6.40	69.00
4/30/2025 15:43	20.04	0.55	21.39	4.44	0.78	7.20	54.06
4/30/2025 15:43	19.91	0.58	21.65	4.37	0.82	7.14	100.14
4/30/2025 15:43	19.96	0.62	20.72	4.36	0.74	7.42	408.30
4/30/2025 15:43	19.93	0.59	22.37	4.37	0.67	9.86	288.25
4/30/2025 15:43	19.93	0.62	27.60	4.31	0.65	10.96	295.55
4/30/2025 15:44	20.01	0.59	31.69	4.29	0.62	10.16	288.02
4/30/2025 15:44	19.93	0.60	33.96	4.40	0.60	9.60	203.15
4/30/2025 15:44	19.86	0.66	35.40	4.66	0.59	8.71	155.15
4/30/2025 15:44	19.99	0.62	36.18	4.55	0.54	8.01	97.76
4/30/2025 15:44	20.03	0.57	35.03	4.41	0.53	7.90	77.15
4/30/2025 15:44	19.91	0.59	30.58	4.36	0.59	7.47	64.87
4/30/2025 15:45	19.97	0.62	25.47	4.33	0.68	7.72	70.71
4/30/2025 15:45	19.96	0.59	22.83	4.39	0.78	8.66	96.27
4/30/2025 15:45	20.01	0.58	22.14	4.49	0.76	7.67	82.58
4/30/2025 15:45	20.08	0.55	21.29	4.58	0.68	6.79	79.70
4/30/2025 15:45	20.01	0.54	20.44	4.59	0.67	6.72	98.29
4/30/2025 15:45	19.89	0.61	20.96	4.78	0.64	6.72	204.56
4/30/2025 15:46	20.01	0.60	24.21	4.62	0.61	7.08	157.62
4/30/2025 15:46	20.01	0.57	29.23	4.50	0.61	7.87	99.39
4/30/2025 15:46	19.89	0.60	30.69	4.48	0.61	7.50	93.34
4/30/2025 15:46	19.93	0.63	27.95	4.51	0.61	7.54	114.89
4/30/2025 15:46	19.95	0.60	25.47	4.56	0.57	8.71	83.25
4/30/2025 15:46	20.00	0.59	24.43	4.44	0.58	7.79	55.24
4/30/2025 15:47	20.08	0.54	22.56	4.39	0.64	6.93	41.33
4/30/2025 15:47	20.00	0.55	19.63	4.41	0.71	6.51	62.59
4/30/2025 15:47	19.92	0.62	17.55	4.62	0.70	6.20	139.29
4/30/2025 15:47	20.02	0.60	18.47	4.55	0.67	6.62	286.98
4/30/2025 15:47	20.04	0.55	22.54	4.61	0.66	8.83	199.58
4/30/2025 15:47	19.88	0.60	25.82	4.94	0.70	9.83	110 21
4/30/2025 15:48	19.91	0.66	25.60	4.85	0.73	9.07	85.67
4/30/2025 15:48	19.93	0.64	24.19	4 79	0 73	9.91	66.15
4/30/2025 15:48	20.01	0.61	22.36	4.52	0.69	8.59	74.18
4/30/2025 15:48	20.09	0.55	19.86	4.35	0.62	7.28	110.82
4/30/2025 15:48	20.01	0.54	18.35	4.42	0.61	7.01	101.85
4/30/2025 15:48	19.88	0.61	19.09	4.79	0.60	7.01	77.82
4/30/2025 15:49	20.00	0.62	20.89	4.72	0.61	6.96	84.05
4/30/2025 15:49	20.05	0.56	22.30	4.52	0.65	7.12	272.28
4/30/2025 15:49	19.90	0.58	22.45	4.62	0.66	7.18	241.67
4/30/2025 15:49	19.86	0.64	23.31	4.72	0.66	7.84	141.55
4/30/2025 15:49	19.87	0.66	26.35	4.71	0.62	9.62	152.09
4/30/2025 15:49	19.95	0.62	28.84	4.59	0.59	8.79	216.44
4/30/2025 15:50	20.02	0.58	28.59	4.60	0.66	8.08	169.73
4/30/2025 15:50	19.98	0.56	27.80	4.70	0.64	7.71	117.60
4/30/2025 15:50	19.88	0.62	27.35	4.96	0.63	7.10	84.84
4/30/2025 15:50	19.99	0.62	27.15	4.85	0.70	6 67	77.94
4/30/2025 15:50	20.07	0.55	26.03	4.61	0.74	6.78	144.05
4/30/2025 15:50	19.91	0.58	24.19	4.61	0.67	6.82	97.50
4/30/2025 15:51	19.90	0.64	22.13	4.67	0.67	7.01	157.05
4/30/2025 15:51	19.92	0.61	22.07	4.66	0.64	8.49	162.26
4/30/2025 15:51	19.96	0.61	24.17	4.47	0.68	8.32	145.42
4/30/2025 15:51	20.04	0.59	25.69	4.40	0.72	7.65	92.17
4/30/2025 15:51	19.96	0.58	25.43	4.49	0.64	7.10	123.77
4/30/2025 15:51	19.87	0 62	24.37	4.73	0.59	7.23	302.75
4/30/2025 15:52	19.97	0.63	26.23	4.70	0.65	8.19	268.11
4/30/2025 15:52	19.99	0.59	32.33	4.55	0.63	9.61	172.93
4/30/2025 15:52	19.86	0.62	36.04	4.52	0.54	9.14	117.03
4/30/2025 15:52	19.86	0.67	33.42	4.51	0.62	7.99	89.71
4/30/2025 15:52	19.91	0.64	29.40	4.52	0.62	9.01	154.14
4/30/2025 15:52	19 97	0 60	26.77	4.40	0.64	8.35	155.18
4/30/2025 15:53	20.04	0.57	25.43	4.31	0.72	7.85	98.97
4/30/2025 15:53	19.98	0.57	24.21	4.37	0.77	7.36	74.63
4/30/2025 15:53	19.88	0.60	23.06	4.67	0.74	6.89	56.74
4/30/2025 15:53	20.00	0.61	21.99	4.65	0.75	6.58	105.34
4/30/2025 15:53	20.07	0.54	21.50	4.42	0.71	6.82	113.49
4/30/2025 15:53	19.92	0.57	21.68	4.42	0.70	7.09	90.24
4/30/2025 15:54	19.90	0.63	21.27	4.47	0.68	6.93	74.84
4/30/2025 15:54	19.93	0.63	21.86	4.51	0.64	8.25	100.14
4/30/2025 15:54	19.97	0 61	22.36	4.41	0.62	8.13	191.18
4/30/2025 15:54	20.06	0.56	22.79	4.33	0.57	8.02	215.44
4/30/2025 15:54	19.99	0.57	24.18	4.44	0.62	8.15	423.36

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 15:54	19.83	0.63	29.74	4.73	0.69	9.08	353.20
4/30/2025 15:55	19.88	0.67	38.83	4.83	0.73	10.07	268.17
4/30/2025 15:55	19.98	0.62	44.99	4.83	0.67	9.91	240.80
4/30/2025 15:55	19.87	0.62	43.75	4.85	0.67	9.33	175.61
4/30/2025 15:55	19.85	0.66	36.53	4.79	0.66	8.20	136.68
4/30/2025 15:55	19.91	0.64	30.82	4.71	0.57	8.96	126.61
4/30/2025 15:55	19.95	0.61	28.05	4.65	0.53	8.46	100.27
4/30/2025 15:56	20.06	0.56	26.00	4.58	0.52	7.58	89.50
4/30/2025 15:56	20.04	0.54	23.37	4.60	0.60	7.00	74.12
4/30/2025 15:56	19.91	0 58	21.65	4.88	0,56	6.78	95.04
4/30/2025 15:56	20.00	0.60	21.34	4.86	0.45	6.71	151.08
4/30/2025 15:56	20.08	0.55	23.57	4.67	0.43	7.43	442.22
4/30/2025 15:56	19.92	0.58	26.35	4.75	0.49	8.03	430.49
4/30/2025 15:57	19.82	0.68	28.43	4.93	0.54	8.25	356.24
4/30/2025 15:57	19.86	0.68	31.83	4.94	0.53	9.94	283.26
4/30/2025 15:57	19.90	0.66	34.91	4.89	0.42	9.69	198.14
4/30/2025 15:57	20.02	0.60	34.51	4.92	0.38	8.88	224.20
4/30/2025 15:57	20.00	0.57	31.21	5.17	0.50	8.27	240.10
4/30/2025 15:57	19.86	0.61	29.99	5.62	0.60	8.33	175.86
4/30/2025 15:58	19.95	0.62	31.84	5.60	0.60	8.28	237.64
4/30/2025 15:58	20.04	0.58	34.80	5.30	0.55	8.85	319.47
4/30/2025 15:58	19.90	0.58	36.61	5.37	0.49	9.75	324.58
4/30/2025 15:58	19.83	0.66	35.33	5.45	0.57	9.11	251.90
4/30/2025 15:58	19 90	0.66	34.61	5.44	0.63	10.43	211.15
4/30/2025 15:58	19.94	0.63	34.04	5.52	0.61	9.93	268.86
4/30/2025 15:59	20.04	0.59	32.73	5.47	0.56	8.98	220.05
4/30/2025 15:59	20.02	0.57	31.25	5.50	0.56	8.39	162.15
4/30/2025 15:59	19.89	0.62	30.50	5.59	0.47	7.81	138.44
4/30/2025 15:59	19.97	0.62	30.56	5.48	0.54	7.48	176.48
4/30/2025 15:59	20.09	0.55	31.21	5.21	0.62	7.51	154.17
4/30/2025 15:59	19.96	0.57	31.73	5.30	0.65	8.07	107.03
4/30/2025 16:00	19.92	0.63	29.57	5.50	0.66	7.60	78.08
4/30/2025 16:00	19.98	0.61	26.75	5.45	0.60	8.75	80.66
4/30/2025 16:00	20.00	0.58	24.61	5.25	0.61	8.45	78.89
4/30/2025 16:00	20.09	0.54	22.71	5.21	0.58	7.43	61.33
4/30/2025 16:00	20.06	0.52	20.77	5.82	0.55	6.74	52.35
4/30/2025 16:00	19.93	0.57	19.53	6.17	0.54	6.34	59.95
4/30/2025 16:01	20.01	0.61	19.43	6.01	0.47	6.12	160.66
4/30/2025 16:01	20.08	0.54	22.70	5.63	0.47	6.76	205.06
4/30/2025 16:01	19.96	0.57	27.91	5.48	0.56	7.76	207.93
4/30/2025 16:01	19.88	0.64	29.64	5.35	0.60	7.62	177.08
4/30/2025 16:01	19.95	0.62	29.94	5.36	0.61	8.64	202.50
4/30/2025 16:01	19.96	0.60	30.12	5.45	0.63	9.04	303.07
4/30/2025 16:02	20.03	0.58	30.44	5.39	0.62	8.97	201.22
4/30/2025 16:02	20.02	0.57	30.55	5.37	0.55	8.78	237.80
4/30/2025 16:02	19.89	0.60	31.39	5.49	0.58	8.40	184.57
4/30/2025 16:02	19.95	0.64	33.23	5.51	0.60	8.27	138.36
4/30/2025 16:02	20.06	0.58	34.49	5.23	0.57	8.24	103.26
4/30/2025 16:02	19.99	0.56	32.94	5.22	0.53	8.36	146.20
4/30/2025 16:03	19.90	0.62	28.78	5.30	0.48	7.80	178.25
4/30/2025 16:03	19.95	0.62	26.53	5.39	0.45	8.89	145.12
4/30/2025 16:03	19.94	0.60	27.29	5.44	0.44	9.32	182.28
4/30/2025 16:03	20.05	0.59	28.00	5.28	0.44	8.65	175.77
4/30/2025 16:03	20.03	0.54	27.69	5.26	0.44	8.43	171.46
4/30/2025 16:03	19.89	0.59	28.29	5.38	0.47	8.17	229.24
4/30/2025 16:04	19.93	0.63	31.15	5.44	0.53	7.97	191.80
4/30/2025 16:04	20.04	0.58	35.61	5.21	0.54	8.45	138.63
4/30/2025 16:04	19.97	0.57	37.17	5.07	0.50	8.84	112.14
4/30/2025 16:04	19.89	0.62	33.65	5.00	0.54	7.96	107.28
4/30/2025 16:04	19.97	0.61	29.37	4.95	0.48	8.68	115.28
4/30/2025 16:04	19.97	0.59	27.28	4.92	0.43	8.80	183.93
4/30/2025 16:05	20.05	0.57	26.45	4.82	0.44	8.07	263.15
4/30/2025 16:05	20.06	0.53	27.05	4.97	0.39	8.33	270.18
4/30/2025 16:05	19.90	0.59	30.01	5.25	0.31	8.60	221.21
4/30/2025 16:05	19.90	0.63	34.83	5.32	0.37	8.69	160.07
4/30/2025 16:05	20.03	0.59	38.51	5.03	0.40	8.60	102.54
4/30/2025 16:05	20.00	0.57	37.87	4.93	0.40	8.67	112.91
4/30/2025 16:06	19.90	0.61	32.57	4.91	0.47	7.65	138.16
4/30/2025 16:06	19.96	0.62	27.68	4.97	0.56	8.72	152.12
4/30/2025 16:06	19.95	0.59	26.65	5.08	0.58	9.67	233.64
4/30/2025 16:06	20.04	0.56	12.53	5.08	0.57	8.93	182.62
4/30/2025 16:06	20.05	0.55	28.02	5.21	0.58	8.40	200.75
4/30/2025 16:06	19.92	0.59	29.40	5.52	0.56	8.34	160.22
4/30/2025 16:07	19.92	0.64	31.53	5.64	0.50	8.39	250.64
4/30/2025 16:07	20.05	0.58	33.51	5.35	0.44	8.84	258.97
4/30/2025 16:07	19.97	0.56	34.41	5.49	0.41	10.65	159.43
4/30/2025 16:07	19.85	0.63	31.78	5.54	0.35	9.09	135.12
4/30/2025 16:07	19.93	0.64	29.00	5.38	0.36	9.05	117.36
4/30/2025 16:07	19.95	0.62	27.74	5.25	0.36	9.22	95.66
4/30/2025 16:08	20.05	0.57	26.45	5.06	0.34	8.17	135.52
4/30/2025 16:08	20.06	0.53	24.66	5.05	0.33	7.50	218.90
4/30/2025 16:08	19.91	0.56	24.64	5.22	0.31	7.96	282.87
4/30/2025 16:08	19.91	0.62	28.10	5.40	0.36	8.90	266.92
4/30/2025 16:08	20.03	0.58	34.13	5.26	0.41	9.64	186.81

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 16:08	19.97	0.57	38.15	5.23	0.42	9.67	131.86
4/30/2025 16:09	19.87	0.64	35.75	5.22	0.45	8.20	118.70
4/30/2025 16:09	19.95	0.62	30.53	5.14	0.52	8.67	210.96
4/30/2025 16:09	19.94	0.60	28.19	5.05	0.49	9.52	173.65
4/30/2025 16:09	20.02	0.58	28.29	4.92	0.48	8.81	114.36
4/30/2025 16:09	20.05	0.54	27.87	4.98	0.48	7.81	85.23
4/30/2025 16:09	19.93	0.58	26.03	5.17	0.49	7.33	79.57
4/30/2025 16:10	19.97	0.61	24.17	5.34	0.46	7.02	99.98
4/30/2025 16:10	20.08	0.55	24.00	5.07	0.40	6.99	76.07
4/30/2025 16:10	20.04	0.53	24.72	5.06	0.43	7.40	59.20
4/30/2025 16:10	19.91	0.59	23.78	5.15	0.47	7.00	88.99
4/30/2025 16:10	19.97	0.60	22.28	5.09	0.45	8.01	145.01
4/30/2025 16:10	19.93	0.59	22.85	4.99	0.44	9.01	127.85
4/30/2025 16:11	20.03	0.58	24.56	4.81	0.41	8.35	92.27
4/30/2025 16:11	20.08	0.55	24.67	4.89	0.32	7.43	65.60
4/30/2025 16:11	19.96	0.56	23.10	5.10	0.29	6.93	85.02
4/30/2025 16:11	19.95	0.61	21.38	5.27	0.35	6.78	109.02
4/30/2025 16:11	20.06	0.57	21.86	4.97	0.40	7.55	106.82
4/30/2025 16:11	20.00	0.55	23.87	4.90	0.40	8.60	88.64
4/30/2025 16:12	19.87	0.61	24.13	4.97	0.44	7.88	67.57
4/30/2025 16:12	19.94	0.64	22.92	5.02	0.42	8.52	49.73
4/30/2025 16:12	19.94	0.61	22.18	5.02	0.43	9.21	37.24
4/30/2025 16:12	20.04	0.58	20.87	4.76	0.41	7.70	45.32
4/30/2025 16:12	20.08	0.53	18.62	4.74	0.43	6.69	42.72
4/30/2025 16:12	19.97	0.55	16.77	4.97	0.44	6.52	37.12
4/30/2025 16:13	19.93	0.60	16.54	5.26	0.40	6.40	85.41
4/30/2025 16:13	20.05	0.57	17.77	5.06	0.43	6.37	99.38
4/30/2025 16:13	20.01	0.55	20.83	4.97	0.42	7.25	68.98
4/30/2025 16:13	19.87	0.60	21.99	5.31	0.41	6.87	52.00
4/30/2025 16:13	19.94	0.63	21.19	5.39	0.35	7.70	87.47
4/30/2025 16:13	19.93	0.62	21.43	5.34	0.42	8.87	99.10
4/30/2025 16:14	20.01	0.59	21.68	5.20	0.41	7.92	79.05
4/30/2025 16:14	20.05	0.56	21.66	5.21	0.39	7.13	77.93
4/30/2025 16:14	19.92	0.58	21.43	5.24	0.36	6.81	97.80
4/30/2025 16:14	19.90	0.64	21.97	5.34	0.31	6.83	90.54
4/30/2025 16:14	20.01	0.60	23.40	5.25	0.29	7.27	77.61
4/30/2025 16:14	20.01	0.55	24.54	5.07	0.31	7.74	102.22
4/30/2025 16:15	19.87	0.61	23.58	5.06	0.37	7.07	121.88
4/30/2025 16:15	19.89	0.63	22.76	5.00	0.31	7.60	104.01
4/30/2025 16:15	19.90	0.63	24.32	4.96	0.31	8.70	89.84
4/30/2025 16:15	20.00	0.61	25.62	4.78	0.37	7.93	95.36
4/30/2025 16:15	20.05	0.57	24.71	4.73	0.40	7.60	159.77
4/30/2025 16:15	19.94	0.58	23.69	4.81	0.41	7.67	109.47
4/30/2025 16:16	19.86	0.63	24.95	5.02	0.35	7.52	128.75
4/30/2025 16:16	20.00	0.62	27.06	5.03	0.31	7.56	131.69
4/30/2025 16:16	19.98	0.57	29.08	5.03	0.33	8.40	154.81
4/30/2025 16:16	19.85	0.62	28.11	5.17	0.27	7.69	140.78
4/30/2025 16:16	19.91	0.67	25.84	5.44	0.27	7.69	98.97
4/30/2025 16:16	19.88	0.63	25.57	5.40	0.27	8.55	149.88
4/30/2025 16:17	19.98	0.63	25.69	4.91	0.29	7.78	233.91
4/30/2025 16:17	20.02	0.58	26.08	4.81	0.28	7.48	116.11
4/30/2025 16:17	19.91	0.60	27.04	4.93	0.26	7.44	81.33
4/30/2025 16:17	19.88	0.64	27.54	5.11	0.27	6.87	62.45
4/30/2025 16:17	20.02	0.60	26.80	5.15	0.28	6.29	43.76
4/30/2025 16:17	20.02	0.56	24.99	5.25	0.33	6.49	35.77
4/30/2025 16:18	19.88	0.60	21.95	5.22	0.36	6.00	54.96
4/30/2025 16:18	19.94	0.63	19.15	4.99	0.30	6.47	59.04
4/30/2025 16:18	19.91	0.61	18.79	4.93	0.20	8.27	66.30
4/30/2025 16:18	20.01	0.60	19.08	4.75	0.14	7.57	45.93
4/30/2025 16:18	20.05	0.56	18.41	4.65	0.16	6.60	37.24
4/30/2025 16:18	19.97	0.57	17.07	4.68	0.22	6.19	40.10
4/30/2025 16:19	19.89	0.61	16.34	4.85	0.27	6.06	59.56
4/30/2025 16:19	20.02	0.59	16.84	4.80	0.24	6.10	77.30
4/30/2025 16:19	20.01	0.57	18.54	4.77	0.28	6.94	82.43
4/30/2025 16:19	19.87	0.59	19.54	4.91	0.26	6.73	67.29
4/30/2025 16:19	19.90	0.65	19.27	5.00	0.29	7.23	75.47
4/30/2025 16:19	19.91	0.63	20.01	4.97	0.27	9.05	98.90
4/30/2025 16:20	19.98	0.61	20.71	4.77	0.28	8.09	83.01
4/30/2025 16:20	20.04	0.56	20.57	4.74	0.33	6.96	57.59
4/30/2025 16:20	19.94	0.56	19.88	4.90	0.32	6.52	41.44
4/30/2025 16:20	19.88	0.62	19.15	5.10	0.25	6.16	54.25
4/30/2025 16:20	20.01	0.61	18.49	4.96	0.20	6.15	64.55
4/30/2025 16:20	20.03	0.55	18.91	4.85	0.15	7.05	67.80
4/30/2025 16:21	19.87	0.61	19.22	5.01	0.15	6.76	53.34
4/30/2025 16:21	19.92	0.65	19.07	5.05	0.16	6.71	59.98
4/30/2025 16:21	19.92	0.63	19.56	5.01	0.21	7.84	59.67
4/30/2025 16:21	19.98	0.60	20.39	4.80	0.23	7.30	95.00
4/30/2025 16:21	20.04	0.56	20.03	4.73	0.26	6.84	125.94
4/30/2025 16:21	19.92	0.57	19.95	4.96	0.31	6.87	96.27
4/30/2025 16:22	19.86	0.65	21.55	5.30	0.26	6.65	77.33
4/30/2025 16:22	19.98	0.64	23.46	5.18	0.24	6.54	72.53
4/30/2025 16:22	20.01	0.57	24.22	4.93	0.22	7.02	78.91
4/30/2025 16:22	19.87	0.61	22.80	4.83	0.26	6.82	221.86
4/30/2025 16:22	19.89	0.66	21.67	4.77	0.28	7.15	230.75

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 16:22	19.85	0.66	24.96	4.81	0.25	9.09	177.61
4/30/2025 16:23	19.92	0.66	29.25	4.74	0.13	8.46	272.11
4/30/2025 16:23	20.00	0.60	30.51	4.66	0.17	7.49	446.80
4/30/2025 16:23	19.88	0.60	31.99	4.84	0.18	8.34	268.73
4/30/2025 16:23	19.77	0.69	35.40	5.07	0.16	8.89	176.81
4/30/2025 16:23	19.92	0.68	38.97	5.01	0.07	8.31	119.66
4/30/2025 16:23	20.01	0.59	38.45	4.82	0.06	8.05	97.49
4/30/2025 16:24	19.87	0.60	33.42	4.86	0.12	7.26	101.51
4/30/2025 16:24	19.90	0.63	27.32	4.93	0.19	6.78	108.17
4/30/2025 16:24	19.91	0.62	24.93	4.98	0.18	8.07	89.08
4/30/2025 16:24	19.98	0.61	24.62	4.92	0.13	7.79	104.14
4/30/2025 16:24	20.06	0.55	23.55	4.97	0.09	7.29	144.30
4/30/2025 16:24	19.96	0.56	21.96	5.68	0.12	7.19	144.01
4/30/2025 16:25	19.86	0.65	22.94	7.12	0.15	7.43	194.32
4/30/2025 16:25	19.99	0.62	26.61	7.69	0.19	7.49	165.32
4/30/2025 16:25	20.02	0.57	30.49	7.40	0.15	7.83	156.84
4/30/2025 16:25	19.88	0.61	31.02	7.20	0.16	7.59	115.60
4/30/2025 16:25	19.91	0.64	28.17	6.98	0.18	7.34	102.91
4/30/2025 16:25	19.93	0.62	25.90	6.72	0.15	8.77	145.22
4/30/2025 16:26	19.98	0.61	25.30	6.33	0.18	8.16	227.18
4/30/2025 16:26	20.05	0.56	25.90	6.00	0.18	7.65	229.64
4/30/2025 16:26	19.98	0.57	27.36	5.83	0.18	7.67	184.19
4/30/2025 16:26	19.88	0.63	29.83	5.85	0.17	7.67	251.02
4/30/2025 16:26	19.98	0.63	32.28	5.70	0.15	7.91	355.41
4/30/2025 16:26	20.01	0.57	35.85	5.99	0.15	9.03	271.66
4/30/2025 16:27	19.84	0.63	37.03	7.01	0.06	9.08	165.80
4/30/2025 16:27	19.87	0.68	33.70	7.33	0.03	8.04	122.49
4/30/2025 16:27	19.93	0.63	29.97	6.90	0.06	8.64	107.39
4/30/2025 16:27	20.00	0.61	26.84	6.25	0.12	7.67	78.23
4/30/2025 16:27	20.10	0.54	23.76	5.93	0.18	6.49	60.63
4/30/2025 16:27	20.06	0.54	20.67	5.78	0.19	5.86	64.60
4/30/2025 16:28	19.93	0.57	18.89	5.94	0.17	5.69	202.06
4/30/2025 16:28	20.01	0.59	20.11	5.86	0.16	6.37	213.49
4/30/2025 16:28	20.06	0.55	25.94	5.88	0.21	8.03	169.55
4/30/2025 16:28	19.92	0.58	30 33	6.14	0.22	8.49	266,73
4/30/2025 16:28	19.90	0.63	30.71	6.30	0.17	8.12	194.28
4/30/2025 16:28	19.93	0.63	31.16	6.27	0.16	9.44	131.19
4/30/2025 16:29	19.98	0.61	31.30	6.02	0.14	8.43	104.73
4/30/2025 16:29	20.09	0.56	29.05	5.74	0.10	7.38	105.88
4/30/2025 16:29	20.02	0.54	25.22	5.70	0.10	6.91	87.02
4/30/2025 16:29	19.91	0.59	22.94	5.80	0.17	6.79	125.25
4/30/2025 16:29	20.03	0.61	23.00	5.57	0.12	6.68	151.58
4/30/2025 16:29	20.08	0.53	25.61	5.35	0.06	7.35	165.19
4/30/2025 16:30	19.92	0.56	27.68	5.39	0.07	7.98	201.41
4/30/2025 16:30	19.92	0.62	28.02	5.50	0.08	8.34	211.18
4/30/2025 16:30	19.93	0.63	29.31	5.48	0.10	10.00	161.24
4/30/2025 16:30	19.98	0.60	30.70	5.36	0.00	9.40	116.83
4/30/2025 16:30	20.07	0.55	29.72	5.28	-0.02	8.05	95.40
4/30/2025 16:30	20.04	0.53	26.53	5.38	0.05	7.23	73.51
4/30/2025 16:31	19.93	0.58	23.91	5.62	0.07	6.70	57.77
4/30/2025 16:31	20.03	0.58	22.53	5.50	0.03	6.33	66.32
4/30/2025 16:31	20.10	0.52	22.47	5.23	-0.03	6.54	74.68
4/30/2025 16:31	19.98	0.53	22.30	5.22	-0.03	6.95	68.02
4/30/2025 16:31	19.94	0.61	21.44	5.26	-0.01	7.10	74.33
4/30/2025 16:31	19.98	0.60	21.75	5.28	-0.06	9.10	120.77
4/30/2025 16:32	19.99	0.60	23.12	5.29	-0.09	8.51	90.69
4/30/2025 16:32	20.06	0.55	23.70	5.24	-0.04	7.43	67.40
4/30/2025 16:32	20.05	0.53	22.66	5.29	-0.06	6.92	52.71
4/30/2025 16:32	19.91	0.58	21.38	5.56	-0.02	6.59	71.81
4/30/2025 16:32	20.02	0.60	20.54	5.49	0.03	6.25	90.02
4/30/2025 16:32	20.09	0.55	21.56	5.22	0.02	6.69	85.79
4/30/2025 16:33	19.94	0.54	22.80	5.23	0.00	7.01	72.51
4/30/2025 16:33	19.89	0.62	22.58	5.35	0.02	6.49	61.77
4/30/2025 16:33	19.94	0.61	22.45	5.37	0.02	8.39	124.00
4/30/2025 16:33	19.98	0.60	22.91	5.17	-0.04	8.44	118.02
4/30/2025 16:33	20.05	0.56	23.60	5.02	0.00	7.59	85.12
4/30/2025 16:33	20.03	0.53	23.39	5.10	0.00	6.97	99.47
4/30/2025 16:34	19.89	0.60	23.14	5.45	-0.07	6.69	132.24
4/30/2025 16:34	19.98	0.61	23.89	5.57	-0.09	7.11	202.54
4/30/2025 16:34	20.05	0.57	26.95	5.36	-0.12	8.01	158.55
4/30/2025 16:34	19.92	0.57	29.70	5.31	-0.10	8.59	251.55
4/30/2025 16:34	19.84	0.65	29.46	5.42	-0.05	8.34	351.73
4/30/2025 16:34	19.89	0.65	31.07	5.46	-0.04	12.98	404.33
4/30/2025 16:35	19.89	0.68	35.33	5.45	-0.04	15.43	331.71
4/30/2025 16:35	19.98	0.64	38.07	5.41	-0.06	14.62	238.38
4/30/2025 16:35	20.00	0.63	36.41	5.45	-0.01	12.12	179.81
4/30/2025 16:35	19.87	0.64	33.39	5.62	-0.05	10.50	139.75
4/30/2025 16:35	19.95	0.66	31.12	5.57	-0.04	9.50	150.79
4/30/2025 16:35	20.05	0.58	30.52	5.30	-0.03	9.36	144.53
4/30/2025 16:36	19.97	0.56	30.27	5.21	-0.06	9.57	115.80
4/30/2025 16:36	19.91	0.63	27.76	5.24	-0.12	8.22	89.93
4/30/2025 16:36	19.97	0.62	25.81	5.24	-0.17	8.91	75.00
4/30/2025 16:36	19.98	0.59	24.80	5.23	-0.13	8.72	71.64
4/30/2025 16:36	20.08	0.57	23.14	5.20	-0.06	7.45	70.04

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 16:36	20.05	0.55	20.40	5.26	-0.04	6.63	66.29
4/30/2025 16:37	19.90	0.58	18.68	5.47	-0.01	6.49	60.71
4/30/2025 16:37	19.98	0.61	18.52	5.46	-0.07	6.57	99.05
4/30/2025 16:37	20.09	0.55	20.00	5.18	-0.10	7.09	122.42
4/30/2025 16:37	19.98	0.54	22.25	5.12	-0.17	7.78	131.60
4/30/2025 16:37	19.90	0.61	22.60	5.14	-0.22	7.17	103.31
4/30/2025 16:37	19.95	0.61	23.33	5.18	-0.20	8.54	116.01
4/30/2025 16:38	19.96	0.61	24.58	5.22	-0.24	8.98	111.11
4/30/2025 16:38	20.06	0.58	25.13	5.06	-0.24	8.18	76.10
4/30/2025 16:38	20.06	0.54	23.99	5.03	-0.18	7.32	56.17
4/30/2025 16:38	19.93	0.58	22.55	5.14	-0.13	6.78	59.18
4/30/2025 16:38	19.98	0.60	21.28	5.16	-0.06	6.57	58.77
4/30/2025 16:38	20.07	0.56	21.21	5.02	-0.02	6.85	61.37
4/30/2025 16:39	19.97	0.54	21.42	5.05	-0.03	7.29	70.47
4/30/2025 16:39	19.89	0.62	20.37	5.13	-0.01	6.63	62.74
4/30/2025 16:39	19.95	0.64	20.10	5.19	0.04	8.12	75.91
4/30/2025 16:39	19.95	0.60	20.79	5.08	-0.02	8.63	199.89
4/30/2025 16:39	20.02	0.56	22.59	4.99	-0.16	8.27	217.14
4/30/2025 16:39	20.00	0.56	25.41	4.96	-0.29	8.32	181.32
4/30/2025 16:40	19.86	0.61	28.85	5.11	-0.29	8.02	145.65
4/30/2025 16:40	19.91	0.64	31.47	5.29	-0.23	7.48	142.55
4/30/2025 16:40	20.03	0.58	32.69	5.19	-0.17	7.44	114.90
4/30/2025 16:40	19.96	0.57	31.78	5.14	-0.15	7.65	100.77
4/30/2025 16:40	19.87	0.63	27.81	5.13	-0.18	7.00	165.97
4/30/2025 16:40	19.93	0.64	24.55	5.17	-0.20	8.25	133.76
4/30/2025 16:41	19.94	0.62	24.64	5.20	-0.11	8.69	103.31
4/30/2025 16:41	20.04	0.60	25.30	5.01	-0.09	7.58	85.88
4/30/2025 16:41	20.06	0.53	23.78	5.01	-0.13	6.93	99.03
4/30/2025 16:41	19.94	0.58	22.36	5.17	-0.09	6.73	98.66
4/30/2025 16:41	19.94	0.61	22.72	5.30	-0.09	6.64	87.90
4/30/2025 16:41	20.05	0.58	24.50	5.13	-0.10	7.04	80.29
4/30/2025 16:42	19.98	0.57	25.57	5.16	-0.17	7.88	75.83
4/30/2025 16:42	19.87	0.62	23.87	5.53	-0.27	7.16	79.36
4/30/2025 16:42	19.94	0.63	22.17	5.71	-0.25	7.86	81.05
4/30/2025 16:42	19.93	0.61	22.08	6.04	-0.20	8.25	101.70
4/30/2025 16:42	20.04	0.58	22.19	6.46	-0.16	7.49	122.81
4/30/2025 16:42	20.05	0.56	21.57	6.79	-0.21	7.24	132.61
4/30/2025 16:43	19.90	0.59	21.78	6.81	-0.23	7.64	120.88
4/30/2025 16:43	19.92	0.63	23.34	6.74	-0.31	7.81	114.33
4/30/2025 16:43	20.03	0.58	25.71	6.40	-0.31	7.92	94.25
4/30/2025 16:43	19.98	0.56	26.99	6.26	-0.31	8.29	130.14
4/30/2025 16:43	19.86	0.63	25.17	6.28	-0.33	7.13	115.88
4/30/2025 16:43	19.92	0.64	23.71	6.37	-0.34	7.90	98.63
4/30/2025 16:44	19.93	0.63	24.09	6.45	-0.39	8.32	107.71
4/30/2025 16:44	20.02	0.61	24.09	6.36	-0.36	7.46	119.06
4/30/2025 16:44	20.04	0.55	22.64	6.34	-0.28	7.20	93.30
4/30/2025 16:44	19.90	0.59	21.59	6.54	-0.28	7.34	119.39
4/30/2025 16:44	19.93	0.64	22.18	6.60	-0.29	7.00	122.36
4/30/2025 16:44	20.04	0.59	24.75	6.29	-0.27	7.03	90.02
4/30/2025 16:45	19.99	0.56	27.02	6.17	-0.26	7.25	71.87
4/30/2025 16:45	19.86	0.63	25.28	6.20	-0.28	6.42	89.25
4/30/2025 16:45	19.93	0.63	22.71	6.04	-0.35	7.43	143.19
4/30/2025 16:45	19.92	0.62	22.69	5.90	-0.36	8.35	133.36
4/30/2025 16:45	20.02	0.60	24.11	5.70	-0.31	7.61	86.73
4/30/2025 16:45	20.04	0.55	23.77	5.71	-0.27	6.83	64.95
4/30/2025 16:46	19.91	0.58	22.32	5.89	-0.31	6.39	56.20
4/30/2025 16:46	19.93	0.62	20.71	5.94	-0.36	6.20	67.30
4/30/2025 16:46	20.06	0.57	20.53	5.61	-0.31	6.41	81.00
4/30/2025 16:46	19.99	0.54	21.61	5.42	-0.24	7.32	78.89
4/30/2025 16:46	19.87	0.60	21.17	5.51	-0.22	6.80	78.34
4/30/2025 16:46	19.95	0.62	20.85	5.51	-0.22	7.74	74.88
4/30/2025 16:47	19.93	0.60	21.43	5.47	-0.27	8.43	80.58
4/30/2025 16:47	20.03	0.59	21.67	5.30	-0.31	7.32	80.27
4/30/2025 16:47	20.06	0.55	20.70	5.25	-0.34	6.61	73.61
4/30/2025 16:47	19.94	0.57	20.06	5.46	-0.34	6.49	68.39
4/30/2025 16:47	19.94	0.62	20.57	5.64	-0.35	6.21	79.81
4/30/2025 16:47	20.04	0.58	21.68	5.55	-0.32	6.34	82.12
4/30/2025 16:48	19.99	0.55	22.86	5.47	-0.35	7.23	100.22
4/30/2025 16:48	19.87	0.61	22.20	5.47	-0.36	6.63	101.53
4/30/2025 16:48	19.92	0.64	21.63	5.45	-0.38	7.51	115.22
4/30/2025 16:48	19.90	0.61	22.88	5.41	-0.42	8.80	219.71
4/30/2025 16:48	20.00	0.60	24.86	5.31	-0.45	8.13	199.82
4/30/2025 16:48	20.02	0.57	25.91	5.34	-0.40	7.60	135.64
4/30/2025 16:49	19.90	0.61	26.40	5.49	-0.39	7.24	196.72
4/30/2025 16:49	19.87	0.65	26.87	5.56	-0.36	6.93	236.61
4/30/2025 16:49	20.00	0.62	29.81	5.50	-0.38	7.96	194.17
4/30/2025 16:49	19.95	0.58	32.91	5.45	-0.44	8.91	150.61
4/30/2025 16:49	19.84	0.63	31.61	5.53	-0.48	7.89	120.12
4/30/2025 16:49	19.91	0.64	28.30	5.55	-0.47	8.23	101.14
4/30/2025 16:50	19.92	0.62	26.30	5.47	-0.44	8.70	92.58
4/30/2025 16:50	20.02	0.60	24.86	5.24	-0.40	7.53	84.55
4/30/2025 16:50	20.07	0.55	22.81	5.17	-0.39	6.75	75.18
4/30/2025 16:50	19.96	0.56	21.05	5.27	-0.46	6.66	68.21
4/30/2025 16:50	19.89	0.62	20.33	5.53	-0.45	6.29	70.06

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 16:50	20.04	0.59	20.65	5.42	-0.41	6.37	173.89
4/30/2025 16:51	20.02	0.56	21.72	5.35	-0.43	7.03	183.51
4/30/2025 16:51	19.86	0.61	22.36	5.47	-0.48	6.89	206.98
4/30/2025 16:51	19.91	0.65	23.64	5.45	-0.46	7.75	142.38
4/30/2025 16:51	19.89	0.64	26.50	5.42	-0.42	8.93	98.03
4/30/2025 16:51	20.01	0.62	27.40	5.20	-0.44	7.25	73.88
4/30/2025 16:51	20.09	0.55	24.90	5.13	-0.46	5.88	57.03
4/30/2025 16:52	19.97	0.55	21.39	5.22	-0.47	5.43	161.19
4/30/2025 16:52	19.92	0.60	20.39	5.40	-0.52	5.50	243.93
4/30/2025 16:52	20.02	0.61	24.57	5.35	-0.52	6.71	172.01
4/30/2025 16:52	19.99	0.57	30.43	5.18	-0.49	7.89	134.37
4/30/2025 16:52	19.86	0.62	30.80	5.12	-0.52	7.07	120.20
4/30/2025 16:52	19.94	0.64	26.94	5.03	-0.52	6.98	170.83
4/30/2025 16:53	19.94	0.60	24.16	4.99	-0.52	8.02	209.16
4/30/2025 16:53	20.03	0.60	23.63	4.92	-0.55	7.46	142.22
4/30/2025 16:53	20.06	0.55	23.30	4.93	-0.58	6.83	205.37
4/30/2025 16:53	19.95	0.57	23.45	5.03	-0.57	6.64	263.62
4/30/2025 16:53	19.86	0.63	27.11	5.35	-0.54	7.09	216.57
4/30/2025 16:53	19.98	0.63	32.53	5.25	-0.56	7.49	231.40
4/30/2025 16:54	20.02	0.59	36.12	5.15	-0.56	8.08	204.14
4/30/2025 16:54	19.87	0.60	33.76	5.21	-0.57	7.53	165.21
4/30/2025 16:54	19.91	0.65	28.80	5.25	-0.53	7.54	192.35
4/30/2025 16:54	19.93	0.63	26.00	5.26	-0.52	8.75	133.62
4/30/2025 16:54	20.03	0.60	25.16	5.06	-0.48	7.81	101.51
4/30/2025 16:54	20.09	0.55	23.38	4.97	-0.47	6.57	180.75
4/30/2025 16:55	20.00	0.54	21.46	5.04	-0.49	6.49	243.72
4/30/2025 16:55	19.90	0.61	22.79	5.35	-0.53	7.81	126.34
4/30/2025 16:55	20.02	0.62	26.33	5.24	-0.58	8.37	103.49
4/30/2025 16:55	20.03	0.56	28.21	5.02	-0.56	8.20	94.77
4/30/2025 16:55	19.92	0.58	26.16	5.02	-0.51	7.09	134.87
4/30/2025 16:55	19.95	0.61	22.46	5.09	-0.56	7.68	151.37
4/30/2025 16:56	19.95	0.61	21.04	5.23	-0.63	10.20	82.58
4/30/2025 16:56	20.03	0.60	20.56	5.08	-0.63	8.94	77.57
4/30/2025 16:56	20.10	0.55	18.65	4.98	-0.62	6.92	71.05
4/30/2025 16:56	20.01	0.55	16.61	5.01	-0.60	6.32	78.03
4/30/2025 16:56	19.93	0.60	15.93	5.20	-0.59	6.27	93.26
4/30/2025 16:56	20.07	0.59	16.49	5.10	-0.55	6.55	74.19
4/30/2025 16:57	20.08	0.54	17.70	4.95	-0.57	7.46	65.42
4/30/2025 16:57	19.94	0.57	18.08	4.93	-0.58	6.65	47.50
4/30/2025 16:57	19.97	0.61	17.31	4.95	-0.61	6.30	39.58
4/30/2025 16:57	19.98	0.58	17.07	4.89	-0.57	7.44	33.75
4/30/2025 16:57	20.06	0.58	16.31	4.66	-0.54	6.09	26.42
4/30/2025 16:57	20.12	0.53	14.63	4.61	-0.59	5.06	22.24
4/30/2025 16:58	20.03	0.52	13.38	4.70	-0.65	5.12	27.51
4/30/2025 16:58	19.94	0.58	13.22	4.95	-0.69	4.80	23.83
4/30/2025 16:58	20.06	0.58	13.22	4.84	-0.68	4.62	23.54
4/30/2025 16:58	20.08	0.53	13.52	4.67	-0.70	5.08	59.18
4/30/2025 16:58	19.92	0.55	14.18	4.71	-0.69	5.07	74.25
4/30/2025 16:58	19.94	0.61	15.20	4.74	-0.74	5.25	79.25
4/30/2025 16:59	19.94	0.60	17.36	4.74	-0.76	6.94	66.76
4/30/2025 16:59	20.02	0.59	18.58	4.60	-0.78	5.96	55.01
4/30/2025 16:59	20.10	0.55	17.67	4.50	-0.76	5.06	61.19
4/30/2025 16:59	20.02	0.55	16.14	4.53	-0.74	5.36	52.99
4/30/2025 16:59	19.89	0.60	15.67	4.80	-0.73	5.28	40.68
4/30/2025 16:59	20.01	0.61	15.54	4.79	-0.68	5.10	39.53
4/30/2025 17:00	20.07	0.54	15.69	4.68	-0.75	5.39	32.10
4/30/2025 17:00	19.92	0.58	15.74	4.66	-0.79	5.24	28.30
4/30/2025 17:00	19.94	0.62	15.58	4.64	-0.79	5.24	26.86
4/30/2025 17:00	19.95	0.61	16.17	4.65	-0.79	6.97	25.54
4/30/2025 17:00	20.02	0.59	16.04	4.44	-0.75	5.83	19.62
4/30/2025 17:00	20.10	0.55	14.26	4.39	-0.79	4.89	18.05
4/30/2025 17:01	20.01	0.53	12.80	4.40	-0.87	5.10	27.29
4/30/2025 17:01	19.90	0.60	12.61	4.65	-0.95	4.79	21.95
4/30/2025 17:01	20.00	0.62	12.61	4.69	-0.91	4.56	27.58
4/30/2025 17:01	20.05	0.55	12.81	4.57	-0.86	5.04	34.28
4/30/2025 17:01	19.92	0.59	13.28	4.53	-0.82	5.10	24.22
4/30/2025 17:01	19.91	0.63	13.33	4.55	-0.81	5.12	27.08
4/30/2025 17:02	19.92	0.60	13.97	4.50	-0.77	6.93	24.60
4/30/2025 17:02	20.00	0.60	14.27	4.38	-0.83	6.17	25.49
4/30/2025 17:02	20.08	0.56	13.34	4.30	-0.89	5.10	22.32
4/30/2025 17:02	19.99	0.55	12.40	4.36	-0.84	5.11	21.88
4/30/2025 17:02	19.85	0.62	12.41	4.62	-0.83	4.78	32.71
4/30/2025 17:02	19.96	0.63	12.76	4.62	-0.88	4.62	66.22
4/30/2025 17:03	20.05	0.58	13.81	4.47	-0.88	5.22	62.16
4/30/2025 17:03	19.90	0.58	15.43	4.50	-0.89	5.45	36.24
4/30/2025 17:03	19.90	0.64	16.13	4.52	-0.85	5.23	29.28
4/30/2025 17:03	19.91	0.63	17.21	4.46	-0.80	6.95	45.00
4/30/2025 17:03	20.00	0.60	17.43	4.33	-0.83	6.08	92.09
4/30/2025 17:03	20.07	0.56	16.44	4.30	-0.85	5.53	58.42
4/30/2025 17:04	19.99	0.55	15.45	4.46	-0.90	5.78	58.55
4/30/2025 17:04	19.89	0.62	15.47	4.67	-0.91	5.89	38.21
4/30/2025 17:04	19.98	0.63	15.61	4.67	-0.92	5.70	35.64
4/30/2025 17:04	20.04	0.55	15.54	4.52	-0.92	5.68	74.09
4/30/2025 17:04	19.90	0.59	15.36	4.46	-0.97	5.43	50.78

Calibration Log

	OUTLET						INLET
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 17:04	19.89	0.64	14.69	4.54	-1.03	5.16	43.08
4/30/2025 17:05	19.92	0.63	15.23	4.54	-1.00	6.88	40.81
4/30/2025 17:05	19.98	0.61	15.82	4.39	-0.98	6.28	55.31
4/30/2025 17:05	20.04	0.57	15.03	4.32	-1.02	5.42	47.62
4/30/2025 17:05	19.97	0.56	13.96	4.48	-1.08	5.76	36.05
4/30/2025 17:05	19.83	0.63	13.81	4.75	-0.99	5.67	41.22
4/30/2025 17:05	19.91	0.64	14.00	4.71	-0.92	5.30	44 78
4/30/2025 17:06	20.01	0.59	14.77	4.52	-0.90	5.61	35.91
4/30/2025 17:06	19.90	0.60	15.39	4.52	-0.96	5.64	28.30
4/30/2025 17:06	19.90	0.63	15.01	4.55	-1.08	4.84	50.82
4/30/2025 17:06	19.92	0.61	15.09	4.47	-1.01	6.57	43.53
4/30/2025 17:06	19.95	0.61	15.41	4.39	-0.88	6.36	34.82
4/30/2025 17:06	20.05	0.58	14.76	4.32	-0.89	5.27	30.61
4/30/2025 17:07	20.00	0.57	13.44	4.40	-0.87	4.97	29.78
4/30/2025 17:07	19.87	0.60	13.21	4.60	-0.92	4.86	42.80
4/30/2025 17:07	19.95	0.64	13.28	4.65	-0.97	4.82	29.02
4/30/2025 17:07	20.03	0.57	13.95	4.42	-1.01	5.33	46.29
4/30/2025 17:07	19.92	0.59	14.30	4.36	-0.99	5.33	90.46
4/30/2025 17:07	19.87	0.64	14.59	4.47	-1.01	5.05	65.05
4/30/2025 17:08	19.90	0.65	16.94	4.51	-0.99	7.13	56.09
4/30/2025 17:08	19.95	0.62	18.87	4.45	-0.92	6.56	62.65
4/30/2025 17:08	20.04	0 58	18.65	4.36	-0.89	5.43	51.34
4/30/2025 17:08	20.00	0.55	17.23	4.41	-0.90	4.98	40.00
4/30/2025 17:08	19.85	0.61	16.37	4.65	-0.96	4.61	37.88
4/30/2025 17:08	19.92	0.64	15.88	4.73	-1.09	4.34	45.37
4/30/2025 17:09	20.03	0.58	15.51	4.62	-1.19	4.60	47.06
4/30/2025 17:09	19.90	0.59	15.14	4.65	-1.23	5.00	40.41
4/30/2025 17:09	19.87	0.64	14.23	4.68	-1.15	4.59	44.85
4/30/2025 17:09	19.92	0.64	14.80	4.62	-1.04	6.40	32.29
4/30/2025 17:09	19.96	0.62	15.76	4.47	-1.04	6.06	36.03
4/30/2025 17:09	20.06	0.58	15.11	4.30	-1.05	4.91	50.60
4/30/2025 17:10	20.03	0.56	13.70	4.32	-1.14	4.76	43.96
4/30/2025 17:10	19.85	0.61	13.75	4.56	-1.23	4.86	44.22
4/30/2025 17:10	19.91	0.65	14.41	4.62	-1.28	4.70	47.35
4/30/2025 17:10	20.02	0.59	15.41	4.44	-1.25	4.94	44.93
4/30/2025 17:10	19.91	0 58	16.11	4.39	-1.20	5.37	66.93
4/30/2025 17:10	19.87	0.65	15.61	4.43	-1.17	4.87	111.79
4/30/2025 17:11	19.91	0.64	16.52	4.43	-1.18	6.74	88.88
4/30/2025 17:11	19.94	0.63	18.61	4.37	-1.13	6.84	59.19
4/30/2025 17:11	20.05	0.59	19.15	4.30	-1.18	5.64	74.15
4/30/2025 17:11	20.03	0.56	17.82	4.28	-1.17	5.22	96.75
4/30/2025 17:11	19.87	0.59	17.27	4.45	-1.16	5.40	75.56
4/30/2025 17:11	19.93	0.64	18.15	4.65	-1.13	5.89	63.82
4/30/2025 17:12	20 05	0.60	19.11	4.53	-1.10	6.32	50.55
4/30/2025 17:12	19.94	0.58	18.84	4.46	-1.12	6.52	36.84
4/30/2025 17:12	19.88	0.63	17.11	4.44	-1.20	5.13	65.10
4/30/2025 17:12	19.93	0.63	16.35	4.39	-1.21	6.41	56.51
4/30/2025 17:12	19.97	0.62	17.01	4.31	-1.24	6.38	96.75
4/30/2025 17:12	20.07	0.56	17.08	4.19	-1.25	5.56	100.68
4/30/2025 17:13	20.04	0.56	16.36	4.27	-1.19	5.77	82.11
4/30/2025 17:13	19.85	0.61	16.46	4.55	-1.19	6.08	66.35
4/30/2025 17:13	19.87	0.66	16.68	4.74	-1.22	5.64	73.63
4/30/2025 17:13	20.02	0.62	17.05	4.54	-1.20	5.66	67.06
4/30/2025 17:13	19.94	0.57	17.12	4.49	-1.15	6.11	51.34
4/30/2025 17:13	19.89	0.63	16.10	4 49	-1.26	5.23	38.87
4/30/2025 17:14	19.95	0.62	15.72	4.46	-1.31	6.78	26.67
4/30/2025 17:14	19.96	0.60	15.61	4.36	-1.24	6.55	33.07
4/30/2025 17:14	20 07	0.56	14.49	4.15	-1.23	5.17	38.51
4/30/2025 17:14	20.06	0.53	12.71	4.22	-1.22	4.84	27.59
4/30/2025 17:14	19 91	0.58	12.54	4.47	-1.23	4.83	28.80
4/30/2025 17:14	19.95	0.63	12.64	4.62	-1.17	4.44	49.64
4/30/2025 17:15	20.06	0.57	12.83	4.48	-1.19	4.83	41.20
4/30/2025 17:15	19.97	0.56	13.52	4.45	-1.31	5.57	30.32
4/30/2025 17:15	19.89	0.62	13.51	4.48	-1.36	4.78	31.23
4/30/2025 17:15	19.94	0.62	13.97	4.44	-1.33	6.21	32.64
4/30/2025 17:15	19.97	0.62	14.77	4.33	-1.30	6.29	27.79
4/30/2025 17:15	20.07	0.57	14.56	4.15	-1.28	5.22	19.90
4/30/2025 17:16	20.06	0.53	13.18	4.13	-1.32	4.79	17.98
4/30/2025 17:16	19.90	0.58	12.78	4.27	-1.33	4.78	37.91
4/30/2025 17:16	19.93	0.62	12.61	4.45	-1.36	4.50	32.42
4/30/2025 17:16	20.06	0.59	13.36	4.37	-1.37	4.76	38.75
4/30/2025 17:16	19.98	0.56	14.52	4.32	-1.42	5.43	29.27
4/30/2025 17:16	19.88	0.63	14.97	4.40	-1.43	4.85	21.13
4/30/2025 17:17	19.94	0.62	15.48	4.35	-1.49	6.07	15.37
4/30/2025 17:17	19.96	0.61	15.86	4.24	-1.47	6.15	12.89
4/30/2025 17:17	20.07	0.58	14.77	4.02	-1.47	4.89	20.54
4/30/2025 17:17	20.09	0.54	12.73	4.06	-1.45	4.42	31.12
4/30/2025 17:17	19.91	0.57	12.32	4.24	-1.43	4.71	58.82
4/30/2025 17:17	19.93	0.61	13.35	4.43	-1.40	4.83	48.61
4/30/2025 17:18	20.04	0.59	15.23	4.34	-1.40	5.22	51.98
4/30/2025 17:18	19.96	0.55	16.62	4.25	-1.38	6.04	51.17
4/30/2025 17:18	19.86	0.63	16.48	4.30	-1.31	5.22	43.29
4/30/2025 17:18	19.92	0.63	16.19	4.31	-1.37	6.47	54.87
4/30/2025 17:18	19.94	0.62	16.57	4.25	-1.41	6.52	63.85

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 17:18	20.05	0.56	16.32	4.12	-1.41	5.36	48.17	
4/30/2025 17:19	20.06	0.53	15.25	4.14	-1.35	4.95	41.22	
4/30/2025 17:19	19.89	0.57	14.72	4.31	-1.33	4.95	33.23	
4/30/2025 17:19	19.91	0.62	14.69	4.49	-1.42	4.50	25.84	
4/30/2025 17:19	20.04	0.59	14.63	4.38	-1.42	4.48	21.18	
4/30/2025 17:19	19.97	0.57	14.92	4.30	-1.36	5.18	16.88	
4/30/2025 17:19	19.87	0.61	14.74	4.34	-1.39	4.50	13.14	
4/30/2025 17:20	19.92	0.62	14.52	4.34	-1.39	5.74	10.88	
4/30/2025 17:20	10.66	0.52	14.15	1.52	-1.40	36.31	8.17	
4/30/2025 17:20	0.48	0.21	9.62	0.25	-1.42	31.46	8.01	
4/30/2025 17:20	0.14	0.09	4.86	0.22	-0.41	1.59	5.88	
4/30/2025 17:20	0.09	0.10	1.61	0.37	3.82	0.66	5.44	
4/30/2025 17:20	0.08	0.10	0.42	0.34	9.66	0.30	4.87	
4/30/2025 17:21	0.07	0.09	-1.12	0.32	14.67	0.12	4.70	
4/30/2025 17:21	0.08	0.08	-0.88	0.29	18.19	0.03	2.91	
4/30/2025 17:21	0.07	0.08	0.38	0.29	20.53	-0.03	2.22	
4/30/2025 17:21	0.07	0.08	0.39	0.30	22.10	-0.07	1.78	
4/30/2025 17:21	0.06	0.09	0.15	0.28	23.04	-0.10	2.14	
4/30/2025 17:21	0.07	0.10	0.27	0.28	23.68	-0.12	2.07	
4/30/2025 17:22	0.06	0.09	0.30	0.28	24.75	-0.15	2.09	
4/30/2025 17:22	0.05	0.09	-1.37	0.28	25.13	-0.16	1.58	
4/30/2025 17:22	0.07	0.10	-0.63	0.27	25.40	-0.17	2.06	
4/30/2025 17:22	0.05	0.10	-0.04	0.27	25.67	-0.18	1.93	
4/30/2025 17:22	0.05	0.10	0.20	0.26	25.83	-0.18	2.35	
4/30/2025 17:22	0.05	0.10	0.22	0.26	25.94	-0.19	2.36	
4/30/2025 17:23	0.05	0.09	0.22	0.24	26.10	-0.19	2.09	
4/30/2025 17:23	0.05	0.10	0.21	0.24	26.26	-0.20	2.16	
4/30/2025 17:23	0.06	0.10	0.21	0.24	26.47	-0.20	1.26	
4/30/2025 17:23	0.06	0.08	0.22	0.23	27.02	-0.21	-0.99	
4/30/2025 17:23	0.06	0.09	0.13	0.23	27.33	-0.21	-0.61	
4/30/2025 17:23	0.06	0.09	0.16	0.21	27.41	-0.21	-0.85	
4/30/2025 17:24	0.06	0.08	0.08	0.20	27.44	-0.21	-0.63	
4/30/2025 17:24	0.05	0.09	0.17	0.22	27.53	-0.21	-0.83	
4/30/2025 17:24	0.06	0.09	0.22	0.20	27.59	-0.22	-0.85	
4/30/2025 17:24	0.05	0.09	0.22	0.19	27.72	-0.22	-1.11	
4/30/2025 17:24	0.05	0.11	0.22	0.20	27.84	-0.23	-0.45	
4/30/2025 17:24	0.05	0.10	0.16	0.18	28.03	-0.23	-0.63	
4/30/2025 17:25	0.05	0.11	0.21	0.19	28.17	-0.23	-0.68	
4/30/2025 17:25	0.06	0.10	0.21	0.19	28.19	-0.24	-1.11	
4/30/2025 17:25	0.06	0.09	0.22	0.17	28.16	-0.24	-1.34	
4/30/2025 17:25	0.05	0.10	0.21	0.18	28.19	-0.23	-0.74	
4/30/2025 17:25	0.05	0.10	0.22	0.18	28.31	-0.24	-0.97	
4/30/2025 17:25	0.05	0.10	0.22	0.17	28.42	-0.24	-0.49	
4/30/2025 17:26	0.06	0.10	0.24	0.19	28.49	-0.24	-0.42	
4/30/2025 17:26	0.06	0.09	0.22	0.17	28.54	-0.25	-0.75	
4/30/2025 17:26	0.05	0.10	0.15	0.17	28.55	-0.25	-0.78	
4/30/2025 17:26	0.05	0.09	0.21	0.18	28.67	-0.25	-0.56	
4/30/2025 17:26	0.04	0.09	0.21	0.19	28.64	-0.25	-0.92	SO2 Bias
4/30/2025 17:26	0.05	0.08	0.21	0.17	28.63	-0.25	-0.70	
4/30/2025 17:27	0.06	0.09	0.22	0.16	28.59	-0.25	-1.03	
4/30/2025 17:27	0.07	0.10	0.21	0.18	28.60	-0.25	-1.18	
4/30/2025 17:27	0.05	0.10	0.21	0.17	28.69	-0.25	-0.84	
4/30/2025 17:27	0.06	0.08	0.21	0.17	28.74	-0.25	-0.60	
4/30/2025 17:27	0.06	0.08	0.21	0.17	28.73	-0.26	-0.96	
4/30/2025 17:27	0.06	0.08	0.21	0.10	28.45	-0.28	-0.71	
4/30/2025 17:28	0.06	0.09	0.21	0.04	24.51	-0.31	-0.79	
4/30/2025 17:28	0.05	0.08	0.21	0.05	16.95	-0.32	-0.94	
4/30/2025 17:28	0.04	0.10	0.21	0.03	10.66	-0.32	-0.41	
4/30/2025 17:28	0.05	0.10	0.21	0.04	6.71	-0.31	-0.51	
4/30/2025 17:28	0.06	0.09	0.22	0.03	4.45	-0.32	-0.94	
4/30/2025 17:28	0.05	0.09	0.21	0.02	3.18	-0.31	-0.90	
4/30/2025 17:29	0.05	0.07	0.16	0.03	2.45	-0.31	-1.09	
4/30/2025 17:29	0.06	0.09	0.22	0.03	2.00	-0.31	-0.59	
4/30/2025 17:29	0.05	0.07	0.21	0.03	1.65	-0.31	-1.10	
4/30/2025 17:29	0.05	0.09	0.21	0.03	1.40	-0.31	-0.96	
4/30/2025 17:29	0.05	0.07	0.22	0.03	1.22	-0.31	-1.38	
4/30/2025 17:29	0.06	0.09	0.22	0.04	1.10	-0.31	-0.69	
4/30/2025 17:30	0.05	0.09	0.22	0.05	0.91	-0.31	-0.96	
4/30/2025 17:30	0.05	0.08	0.22	0.03	0.76	-0.31	-0.78	
4/30/2025 17:30	1.40	0.10	0.32	0.51	0.67	-0.29	-0.83	
4/30/2025 17:30	9.43	0.57	1.60	1.34	0.93	31.89	-0.56	
4/30/2025 17:30	9.49	4.11	1.23	0.06	3.78	4.95	-0.96	
4/30/2025 17:30	9.84	8.33	0.67	0.03	5.44	0.52	-0.87	
4/30/2025 17:31	9.84	8.99	-0.13	0.04	4.41	0.25	-0.85	
4/30/2025 17:31	9.86	9.27	-0.45	0.03	2.92	0.14	-0.72	
4/30/2025 17:31	9.88	9.29	-0.53	0.03	1.96	0.08	-0.84	
4/30/2025 17:31	9.86	9.31	-0.47	0.02	1.31	0.04	-0.83	
4/30/2025 17:31	9.86	9.33	-0.42	0.04	0.86	0.02	-0.26	
4/30/2025 17:31	9.87	9.37	-0.38	0.03	0.69	0.00	-1.02	
4/30/2025 17:32	9.88	9.36	-0.45	0.04	0.54	-0.03	-0.97	
4/30/2025 17:32	9.87	9.36	-0.40	0.05	0.43	-0.04	-0.86	
4/30/2025 17:32	9.87	9.36	-0.38	0.04	0.31	-0.05	-0.86	
4/30/2025 17:32	9.88	9.35	-0.44	0.03	0.23	-0.07	-1.81	O2 CO2 Bias
4/30/2025 17:32	9.87	9.37	-0.38	0.04	0.19	-0.07	-4.07	

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 17:32	9.87	9.36	-0.54	0.04	0.08	-0.08	-3.73	
4/30/2025 17:33	9.89	9.36	-0.41	0.04	0.03	-0.09	-3.64	
4/30/2025 17:33	9.88	9.35	-0.39	0.05	0.00	-0.09	-4.14	
4/30/2025 17:33	9.87	9.36	-0.38	0.04	0.03	-0.10	-4.08	
4/30/2025 17:33	9.89	9.37	-0.43	0.03	0.02	-0.10	-4.09	
4/30/2025 17:33	12.46	7.87	0.57	1.28	-0.05	2.03	-3.46	
4/30/2025 17:33	2.56	3.31	2.07	4.45	0.31	1.22	-3.59	
4/30/2025 17:34	0.26	0.81	8.15	17.72	1.14	-0.21	-4.08	
4/30/2025 17:34	0.10	0.24	16.11	15.73	1.33	-0.12	-3.50	
4/30/2025 17:34	0.07	0.16	22.36	22.41	1.04	-0.03	-3.54	
4/30/2025 17:34	0.06	0.16	25.52	23.68	0.65	-0.05	-4.00	
4/30/2025 17:34	0.07	0.13	26.14	23.89	0.41	-0.12	-3.82	
4/30/2025 17:34	0.06	0.13	26.28	23.97	0.24	-0.17	-3.71	
4/30/2025 17:35	0.06	0.10	26.42	24.01	0.13	-0.20	-3.65	
4/30/2025 17:35	0.06	0.11	26.29	24.06	0.05	-0.23	-3.82	
4/30/2025 17:35	0.07	0.12	26.44	24.09	-0.06	-0.25	-3.92	
4/30/2025 17:35	0.06	0.11	26.35	24.17	-0.14	-0.25	-3.79	
4/30/2025 17:35	0.06	0.11	26.42	24.23	-0.16	-0.26	-3.38	
4/30/2025 17:35	0.06	0.11	26.49	24.26	-0.15	-0.27	-3.90	
4/30/2025 17:36	0.05	0.12	26.53	24.29	-0.15	-0.27	-3.60	
4/30/2025 17:36	0.04	0.10	26.41	24.29	-0.21	-0.27	-3.93	Nox Bias
4/30/2025 17:36	0.05	0.10	26.46	24.28	-0.32	-0.28	-3.05	
4/30/2025 17:36	0.06	0.11	26.42	24.24	-0.36	-0.28	-0.25	
4/30/2025 17:36	0.06	0.09	26.36	24.22	-0.28	-0.29	-0.91	
4/30/2025 17:36	0.06	0.09	26.49	24.18	-0.26	-0.29	-0.67	
4/30/2025 17:37	0.07	0.09	26.43	24.17	-0.37	-0.30	-0.97	
4/30/2025 17:37	6.59	0.18	24.90	16.45	-0.50	-0.20	-0.85	
4/30/2025 17:37	5.65	0.39	22.86	32.30	-0.45	0.22	-1.19	
4/30/2025 17:37	0.18	0.22	28.70	38.31	-0.28	-0.21	-0.64	
4/30/2025 17:37	0.08	0.10	35.81	38.35	-0.24	-0.25	-1.22	
4/30/2025 17:37	0.06	0.09	40.73	38.34	-0.26	-0.27	-0.98	
4/30/2025 17:38	0.06	0.09	42.06	38.32	-0.29	-0.27	-0.67	
4/30/2025 17:38	0.07	0.10	42.21	38.29	-0.32	-0.28	-0.94	
4/30/2025 17:38	0.05	0.09	42.33	38.26	-0.34	-0.28	-0.63	
4/30/2025 17:38	0.05	0.09	42.39	38.22	-0.30	-0.28	-0.59	
4/30/2025 17:38	0.05	0.09	42.32	38.19	-0.33	-0.28	-1.03	
4/30/2025 17:38	0.05	0.09	42.34	38.19	-0.37	-0.29	-1.14	
4/30/2025 17:39	0.05	0.10	42.29	38.22	-0.35	-0.28	-0.91	CO Bias
4/30/2025 17:39	0.05	0.10	42.34	38.24	-0.35	-0.28	-0.80	
4/30/2025 17:39	0.05	0.11	42.40	38.27	-0.40	-0.28	0.49	
4/30/2025 17:39	1.70	0.10	42.02	34.58	-0.44	-0.28	1.84	
4/30/2025 17:39	6.45	0.18	37.49	30.80	-0.49	0.01	2.05	
4/30/2025 17:39	0.28	0.17	37.19	38.23	-0.55	-0.23	1.67	
4/30/2025 17:40	0.06	0.09	38.63	38.30	-0.51	-0.27	2.03	
4/30/2025 17:40	6.33	0.12	38.93	24.05	-0.53	-0.21	1.83	
4/30/2025 17:40	15.16	0.34	28.83	18.58	-0.45	0.28	2.45	
4/30/2025 17:40	1.87	0.51	23.51	15.24	-0.29	1.26	2.01	
4/30/2025 17:40	0.37	0.62	14.83	0.71	-0.20	36.86	1.78	
4/30/2025 17:40	0.08	0.22	7.72	0.44	-0.27	44.02	1.88	
4/30/2025 17:41	0.06	0.11	2.45	0.37	-0.36	44.75	1.84	
4/30/2025 17:41	0.06	0.10	0.64	0.29	-0.35	44.98	2.39	
4/30/2025 17:41	0.05	0.10	0.42	0.26	-0.33	45.07	2.35	
4/30/2025 17:41	0.04	0.11	0.24	0.24	-0.35	45.12	1.92	
4/30/2025 17:41	0.05	0.08	0.31	0.21	-0.36	45.17	2.08	
4/30/2025 17:41	0.05	0.09	0.21	0.19	-0.34	45.20	2.08	
4/30/2025 17:42	0.06	0.10	0.31	0.17	-0.39	45.20	2.12	THC Bias
4/30/2025 17:42	0.05	0.10	0.21	0.16	-0.51	45.20	1.88	
4/30/2025 17:42	0.05	0.10	0.21	0.14	-0.54	45.22	2.63	
4/30/2025 17:42	0.05	0.09	0.21	0.14	-0.53	45.22	2.03	
4/30/2025 17:42	0.06	0.10	0.25	0.12	-0.50	45.23	2.02	
4/30/2025 17:42	0.06	0.09	0.22	0.12	-0.50	45.26	2.35	
4/30/2025 17:43	0.05	0.08	0.27	0.13	-0.53	45.27	2.38	
4/30/2025 17:43	0.06	0.09	0.21	0.12	-0.52	45.27	2.10	
4/30/2025 17:43	0.36	0.10	0.23	0.21	-0.49	45.26	2.07	
4/30/2025 17:43	14.94	0.21	0.21	3.97	-0.57	15.09	2.48	
4/30/2025 17:43	19.89	0.41	0.22	4.41	-0.61	0.89	2.02	
4/30/2025 17:43	20.15	0.44	0.21	4.31	-0.49	0.71	2.22	
4/30/2025 17:44	20.16	0.45	0.21	4.29	-0.35	0.64	9.80	
4/30/2025 17:44	20.17	0.42	0.21	4.45	-0.31	0.61	-0.43	
4/30/2025 17:44	20.15	0.44	0.21	4.72	-0.27	0.58	-4.02	
4/30/2025 17:44	20.13	0.45	0.22	4.92	-0.19	0.57	-3.96	
4/30/2025 17:44	20.14	0.47	0.22	4.94	-0.19	0.56	-3.95	
4/30/2025 17:44	20.14	0.47	0.23	4.84	-0.17	0.54	-3.71	
4/30/2025 17:45	20.16	0.46	0.22	4.71	-0.13	0.54	-3.81	
4/30/2025 17:45	20.17	0.46	0.21	4.59	-0.17	0.53	-3.38	Inlet Zero
4/30/2025 17:45	20.17	0.44	0.22	4.46	-0.29	0.53	-3.78	
4/30/2025 17:45	20.19	0.45	0.21	4.41	-0.29	0.53	-3.89	
4/30/2025 17:45	20.18	0.44	0.22	4.56	-0.29	0.52	-4.03	
4/30/2025 17:45	20.17	0.45	0.22	4.88	-0.35	0.53	-4.36	
4/30/2025 17:46	20.14	0.45	0.22	5.11	-0.33	0.52	-3.47	
4/30/2025 17:46	20.13	0.48	0.22	5.18	-0.39	0.51	-3.90	
4/30/2025 17:46	20.13	0.48	0.21	5.07	-0.40	0.50	-3.56	
4/30/2025 17:46	20.16	0.48	0.21	4.99	-0.32	0.50	-3.32	
4/30/2025 17:46	20.15	0.46	0.21	4.84	-0.34	0.49	153.73	

Calibration Log

	OUTLET						INLET	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/30/2025 17:46	20.16	0.45	0.20	4.71	-0.31	0.48	931.40	
4/30/2025 17:47	20.17	0.45	0.22	4.66	-0.35	0.47	1004.40	
4/30/2025 17:47	20.18	0.45	0.22	4.78	-0.37	0.45	1008.72	
4/30/2025 17:47	20.15	0.46	0.22	5.11	-0.33	0.45	1010.07	
4/30/2025 17:47	20.14	0.46	0.22	5.34	-0.23	0.45	1010.54	
4/30/2025 17:47	20.13	0.48	0.22	5.40	-0.27	0.45	1010.16	
4/30/2025 17:47	20.14	0.47	0.21	5.30	-0.38	0.44	1009.83	
4/30/2025 17:48	20.15	0.48	0.22	5.17	-0.44	0.44	1005.87	
4/30/2025 17:48	20.15	0.46	0.22	5.07	-0.44	0.47	1004.01	
4/30/2025 17:48	20.18	0.46	0.21	4.97	-0.42	0.53	1003.80	
4/30/2025 17:48	20.18	0.46	0.22	4.99	-0.41	0.62	1004.02	THC Bias
4/30/2025 17:48	20.17	0.46	0.11	5.14	-0.37	0.64	1004.52	
4/30/2025 17:48	20.15	0.47	0.22	5.45	-0.42	0.64	1003.88	
4/30/2025 17:49	20.14	0.47	0.22	5.67	-0.48	0.61	1003.60	
4/30/2025 17:49	20.13	0.47	0.22	5.74	-0.42	0.59	1004.72	
4/30/2025 17:49	20.13	0.47	0.21	5.61	-0.37	0.56	1005.42	
4/30/2025 17:49	20.14	0.48	0.21	5.44	-0.37	0.54	1004.22	
4/30/2025 17:49	15.23	0.44	0.26	3.15	-0.42	10.21	1004.27	
4/30/2025 17:49	1.06	0.24	0.34	0.17	-0.40	8.60	1004.14	
4/30/2025 17:50	0.13	0.10	0.24	0.09	-0.33	0.30	423.71	
4/30/2025 17:50	0.09	0.10	0.22	0.09	-0.43	0.17	15.63	
4/30/2025 17:50	0.08	0.10	0.21	0.07	-0.58	0.10	5.00	
4/30/2025 17:50	0.08	0.10	0.22	0.06	-0.65	0.04	3.03	
4/30/2025 17:50	0.07	0.10	0.21	0.07	-0.62	-0.01	2.15	Zero Bias
4/30/2025 17:50	0.07	0.10	0.21	0.06	-0.60	-0.02	2.03	
4/30/2025 17:51	0.07	0.08	0.20	0.06	-0.62	-0.05	2.22	
4/30/2025 17:51	0.08	0.10	0.24	0.06	-0.63	-0.06	2.06	
4/30/2025 17:51	0.06	0.09	0.21	0.08	-0.63	-0.08	2.02	
4/30/2025 17:51	0.06	0.10	0.21	0.04	-0.64	-0.10	2.08	
4/30/2025 17:51	0.06	0.10	0.22	0.04	-0.60	-0.11	2.39	
4/30/2025 17:51	0.06	0.07	0.22	0.05	-0.62	-0.12	2.12	
4/30/2025 17:52	0.06	0.09	0.23	0.04	-0.67	-0.13	1.86	
4/30/2025 17:52	0.06	0.08	0.21	0.04	-0.64	-0.14	2.03	
4/30/2025 17:52	0.48	0.10	0.22	0.29	-0.57	-0.14	1.85	

Data Logs

Data Log

	Outlet						Inlet	
Time	O2	CO2	CO	Nox	SO2	THC	THC	
4/29/2025 13:43	20.67	0.19	26.73	0.04	570.80	-4.26	-12.49	
4/29/2025 13:44	20.66	0.19	26.66	0.04	571.12	-4.27	-12.55	
4/29/2025 13:45	20.66	0.19	25.34	0.03	570.65	-4.27	-12.55	
4/29/2025 13:46	20.66	0.2	25.41	0.04	571.78	-4.26	-12.42	
4/29/2025 13:47	20.64	0.19	23.92	0.04	571.17	-4.25	-12.47	
4/29/2025 13:48	20.64	0.19	23.22	0.03	571.35	-4.25	-12.48	
4/29/2025 13:49	20.64	0.19	23.02	0.04	571.71	-4.23	-12.52	
4/29/2025 13:50	20.64	0.19	22.35	0.04	570.73	-4.22	-12.71	
4/29/2025 13:51	20.64	0.19	21.98	0.03	570.61	-4.20	-12.47	
4/29/2025 13:52	20.64	0.19	21.57	0.03	571.04	-4.19	-12.52	
4/29/2025 13:53	20.65	0.19	20.24	0.04	570.83	-4.18	-12.33	
4/29/2025 13:54	20.65	0.19	19.86	0.02	571.61	-4.18	-12.41	
4/29/2025 13:55	20.64	0.19	20.3	0.03	570.26	-4.18	-12.4	
4/29/2025 13:56	20.65	0.19	20.52	0.03	571.24	-4.18	-12.68	
4/29/2025 13:57	20.64	0.19	18.37	0.02	570.20	-4.17	-12.49	
4/29/2025 13:58	20.66	0.19	17.76	0.02	570.38	-4.18	-12.59	
4/29/2025 13:59	20.66	0.19	16.25	0.02	568.93	-4.18	-12.56	
4/29/2025 14:00	20.66	0.19	15.68	0.02	570.50	-4.18	-12.5	
4/29/2025 14:01	20.65	0.19	14.2	0.02	569.75	-4.18	-12.57	
4/29/2025 14:02	20.66	0.19	13	0.02	568.99	-4.19	-12.47	
4/29/2025 14:03	20.65	0.2	12.76	0.02	568.93	-4.20	-12.59	
4/29/2025 14:04	20.65	0.2	11.59	0.01	569.93	-4.21	-12.52	
4/29/2025 14:05	20.65	0.2	10.77	0.02	569.82	-4.23	-12.53	
4/29/2025 14:06	20.65	0.2	10.09	0	568.73	2.02	-12.53	
4/29/2025 14:07	20.65	0.2	10.29	0.01	568.49	7.54	-12.3	
4/29/2025 14:08	20.65	0.2	7.76	0.02	566.89	4.42	-12.52	
4/29/2025 14:09	20.65	0.21	7.23	0.01	567.30	3.90	-12.47	
4/29/2025 14:10	20.64	0.21	6.4	0.01	566.47	3.78	-12.23	
4/29/2025 14:11	20.65	0.22	7.32	0.01	566.24	3.74	3.63	
4/29/2025 14:12	20.65	0.22	6.55	0.01	565.43	3.57	-3.71	
4/29/2025 14:13	20.65	0.23	4.36	0.01	328.54	3.26	-3.72	
4/29/2025 14:14	20.65	0.22	4.65	0.02	281.23	2.73	-4.63	
4/29/2025 14:15	17.41	0.22	2.94	0.04	276.72	2.37	-6.64	
4/29/2025 14:16	0.32	0.17	25.25	32.5	270.19	2.23	-6.68	
4/29/2025 14:17	0.02	0.14	56.63	50.5	264.98	2.16	-6.6	
4/29/2025 14:18	0.02	0.15	56.28	51.23	308.29	2.10	-6.64	
4/29/2025 14:19	0.01	0.14	55.65	50.07	227.97	2.07	-6.75	
4/29/2025 14:20	0.52	0.15	56.35	45.74	-36.83	2.04	-6.73	
4/29/2025 14:21	20.64	0.16	13.19	27.85	-37.00	2.03	-6.63	
4/29/2025 14:22	20.92	0.14	1.09	37.94	-37.23	2.02	-6.69	
4/29/2025 14:23	20.93	0.15	3.2	40.24	-37.20	2.02	-6.56	
4/29/2025 14:24	20.92	0.15	1.12	37.18	-37.09	2.01	-4.94	
4/29/2025 14:25	20.72	0.23	0.05	0.45	-36.52	1.92	-6.74	
4/29/2025 14:26	20.67	0.23	-0.08	0.2	-36.46	1.91	-6.81	
4/29/2025 14:27	20.67	0.24	-0.06	0.12	-36.25	1.91	-6.82	
4/29/2025 14:28	20.66	0.24	0.75	0.1	-36.05	1.99	-6.75	
4/29/2025 14:29	20.66	0.24	0.2	0.09	-35.88	1.99	-6.51	
4/29/2025 14:30	20.66	0.23	0.31	0.07	-35.73	2.01	-6.54	
4/29/2025 14:31	20.67	0.24	0.13	0.05	-35.44	2.08	-6.84	
4/29/2025 14:32	20.68	0.23	0.22	0.06	-35.43	4.60	-4.88	
4/29/2025 14:33	20.69	0.23	2.04	0.05	-35.50	14.19	0.55	
4/29/2025 14:34	20.68	0.23	0.8	0.05	-36.33	25.06	13.12	
4/29/2025 14:35	20.68	0.23	1.59	0.04	-35.96	19.32	11.39	
4/29/2025 14:36	20.19	0.53	10.68	6.1	-35.34	14.83	107.98	
4/29/2025 14:37	19.96	0.73	26.34	8.41	-34.66	12.99	130.61	
4/29/2025 14:38	19.95	0.72	26.88	8.17	-34.54	12.55	131.56	Prelim data for client
4/29/2025 14:39	19.98	0.7	27.98	7.51	-34.32	12.02	140.34	
4/29/2025 14:40	19.96	0.71	28.2	7.39	-34.02	11.15	137.57	
4/29/2025 14:41	19.93	0.73	28.43	7.7	-34.01	12.60	166.64	
4/29/2025 14:42	19.94	0.72	30.26	7.65	-33.86	12.74	237.82	
4/29/2025 14:43	19.95	0.72	34.83	7.69	6.61	11.70	156.26	
4/29/2025 14:44	19.95	0.71	28.7	7.78	33.30	13.69	432.28	
4/29/2025 14:45	19.91	0.78	34.42	8.07	35.95	19.35	283.17	
4/29/2025 14:46	20	0.69	31.59	7.55	33.66	11.38	169.54	
4/29/2025 14:47	19.95	0.7	32.27	7.12	32.74	12.27	297.93	
4/29/2025 14:48	19.98	0.7	40.47	6.89	32.45	12.04	213.68	
4/29/2025 14:49	19.99	0.69	33.34	7.07	32.18	10.64	199.51	
4/29/2025 14:50	19.97	0.7	34.44	6.94	31.92	11.75	189.24	
4/29/2025 14:51	20.01	0.68	32.95	6.65	31.77	11.37	157.94	
4/29/2025 14:52	19.96	0.71	30.9	6.88	31.56	11.29	249.52	
4/29/2025 14:53	19.97	0.71	38.94	6.64	31.44	11.68	183.31	
4/29/2025 14:54	20.02	0.68	35.37	6.65	31.16	10.88	109.59	
4/29/2025 14:55	19.99	0.7	26.81	6.77	30.95	10.17	121.25	
4/29/2025 14:56	19.99	0.68	28.63	6.75	30.79	10.14	74.21	
4/29/2025 14:57	19.99	0.68	22.39	6.61	30.60	10.17	98.16	
4/29/2025 14:58	19.97	0.7	24.01	6.6	30.35	9.61	108.85	
4/29/2025 14:59	19.96	0.71	26.12	6.86	30.16	10.67	93.79	
4/29/2025 15:00	19.98	0.69	26.07	6.64	30.01	9.53	66.34	

Data Log

	Outlet						Inlet
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/29/2025 15:01	19.93	0.73	24.47	6.90	29.85	10.36	169.5
4/29/2025 15:02	19.94	0.72	30.69	6.78	29.77	10.27	158.93
4/29/2025 15:03	19.95	0.73	31.12	6.67	29.59	11.06	176.01
4/29/2025 15:04	19.94	0.73	30.47	6.63	29.48	10.63	197.23
4/29/2025 15:05	19.93	0.73	34.85	6.67	29.28	11.42	284.11
4/29/2025 15:06	19.99	0.71	39.64	6.54	29.28	11.14	194.46
4/29/2025 15:07	19.97	0.73	31.48	6.50	29.28	10.16	200.83
4/29/2025 15:08	20.11	0.64	33.22	6.39	29.47	9.60	134.19
4/29/2025 15:09	20.13	0.62	26.26	6.72	29.70	10.40	133.22
4/29/2025 15:10	20.06	0.65	25.15	7.76	29.00	9.64	183.4
4/29/2025 15:11	20.01	0.69	29.16	14.55	28.93	10.70	151.83
4/29/2025 15:12	20.04	0.68	26.30	11.02	28.78	9.89	131.34
4/29/2025 15:13	19.99	0.70	22.88	9.60	28.43	19.37	93.83
4/29/2025 15:14	19.96	0.72	24.14	9.74	28.36	8.92	91.49
4/29/2025 15:15	19.97	0.72	22.48	9.30	28.30	8.66	126.99
4/29/2025 15:16	19.89	0.76	27.29	9.53	28.16	9.49	214.26
4/29/2025 15:17	19.96	0.72	29.52	9.27	28.06	9.08	162.79
4/29/2025 15:18	19.98	0.72	26.99	8.87	28.14	8.85	155.43
4/29/2025 15:19	19.94	0.73	23.43	8.94	28.13	8.32	122.96
4/29/2025 15:20	19.97	0.73	20.49	8.10	28.09	9.39	131.27
4/29/2025 15:21	19.99	0.71	21.51	7.78	28.16	9.32	99.54
4/29/2025 15:22	19.94	0.73	18.91	7.77	28.11	9.38	137.36
4/29/2025 15:23	19.93	0.73	20.43	7.85	28.08	9.48	223.48
4/29/2025 15:24	19.93	0.76	28.65	7.82	27.64	10.12	325
4/29/2025 15:25	19.92	0.75	29.29	7.39	27.59	8.78	220.03
4/29/2025 15:26	19.85	0.78	28.92	7.16	27.55	11.12	752.37
4/29/2025 15:27	19.95	0.77	41.15	7.44	27.44	10.60	285.6
4/29/2025 15:28	20.05	0.67	25.04	7.42	27.46	8.25	168.7
4/29/2025 15:29	20.05	0.67	25.91	8.48	27.44	8.64	168.03
4/29/2025 15:30	20.02	0.70	28.64	8.45	27.40	8.93	220.11
4/29/2025 15:31	19.98	0.72	26.11	8.10	27.43	8.31	147.78
4/29/2025 15:32	20.02	0.68	24.18	8.34	27.41	8.51	132.15
4/29/2025 15:33	20.02	0.69	23.80	8.12	27.44	8.74	159.66
4/29/2025 15:34	19.94	0.74	24.93	8.70	27.39	8.86	200.6
4/29/2025 15:35	20.01	0.69	28.77	7.84	27.44	9.02	160.03
4/29/2025 15:36	20.01	0.70	26.65	8.84	27.38	9.16	207.01
4/29/2025 15:37	19.97	0.72	26.37	9.88	27.40	8.32	155.25
4/29/2025 15:38	20.02	0.69	25.85	8.55	27.40	8.64	132.52
4/29/2025 15:39	19.99	0.70	22.84	9.29	27.44	9.05	210.56
4/29/2025 15:40	19.79	0.82	26.21	9.06	27.45	9.16	135.52
4/29/2025 15:41	19.88	0.76	21.21	10.01	27.58	8.45	84.17
4/29/2025 15:42	19.90	0.78	16.37	11.58	27.52	7.62	73.47
4/29/2025 15:43	19.82	0.80	14.14	9.64	27.54	7.56	136.2
4/29/2025 15:44	19.77	0.81	20.26	12.99	27.56	9.01	280.61
4/29/2025 15:45	19.79	0.83	26.71	12.63	27.51	7.85	151.63
4/29/2025 15:46	19.74	0.84	18.36	12.43	27.49	7.08	103.02
4/29/2025 15:47	19.82	0.79	16.85	11.66	27.46	7.29	149.92
4/29/2025 15:48	19.84	0.80	16.98	10.13	27.60	6.75	98.53
4/29/2025 15:49	19.78	0.81	13.56	9.62	27.44	6.70	76.2
4/29/2025 15:50	19.88	0.75	14.55	8.88	27.46	6.31	23.8
4/29/2025 15:51	19.88	0.77	11.20	8.03	27.57	5.96	12.35
4/29/2025 15:52	19.83	0.77	9.40	7.71	27.50	5.54	7.98
4/29/2025 15:53	19.90	0.73	8.90	7.44	27.54	5.69	5.05
4/29/2025 15:54	19.89	0.75	8.51	7.29	27.51	5.78	4.99
4/29/2025 15:55	19.85	0.77	8.13	7.26	27.45	5.50	2.31
4/29/2025 15:56	19.92	0.73	8.36	7.05	27.54	5.55	1.94
4/29/2025 15:57	19.90	0.75	7.75	6.92	27.56	5.50	2.05
4/29/2025 15:58	19.86	0.76	8.09	6.88	27.46	5.33	2.13
4/29/2025 15:59	19.93	0.72	9.25	6.67	27.52	5.44	1.34
4/29/2025 16:00	13.43	0.61	7.80	4.28	27.52	3.72	-0.89
4/29/2025 16:01	0.11	0.18	2.76	0.12	27.44	0.07	-0.79
4/29/2025 16:02	0.09	0.17	0.29	0.09	27.49	0.00	-0.84
4/29/2025 16:03	3.85	0.18	0.92	6.52	4.53	0.27	-0.96
4/29/2025 16:04	0.11	0.16	48.47	37.07	0.15	0.39	-0.93
4/29/2025 16:05	0.08	0.17	51.85	49.32	-0.04	0.10	-0.94
4/29/2025 16:06	9.90	0.19	36.45	25.00	-0.23	0.60	-0.78
4/29/2025 16:07	20.66	0.23	0.21	0.77	-0.25	1.30	-0.83
4/29/2025 16:08	20.67	0.23	0.67	0.51	-0.23	1.26	-0.87
4/29/2025 16:09	20.68	0.23	0.01	0.36	-0.29	1.24	2555.38
4/29/2025 16:10	20.68	0.23	0.02	0.27	-0.34	1.24	5021.26
4/29/2025 16:11	20.68	0.23	0.03	0.22	-0.32	1.23	2874.83
4/29/2025 16:12	20.69	0.23	0.15	0.18	-0.41	1.23	16.85
4/29/2025 16:13	15.43	0.23	0.17	1.76	-0.38	13.59	82.47
4/29/2025 16:14	3.72	0.17	2.06	3.63	-0.32	43.56	276.27
4/29/2025 16:15	20.90	0.18	0.09	34.96	-0.05	3.33	4.25
4/29/2025 16:16	20.94	0.17	0.05	40.38	0.11	1.95	3.02
4/29/2025 16:17	20.95	0.17	0.04	42.90	0.10	1.53	2.17
4/29/2025 16:18	15.79	0.17	0.18	29.29	0.09	1.59	2

Data Log

Time	Outlet O2	CO2	CO	Nox	SO2	THC	Inlet THC
4/29/2025 16:19	0.05	0.18	0.00	0.20	-0.71	1.47	2.19
4/29/2025 16:20	0.05	0.18	0.00	0.48	-0.78	1.40	2.06
4/29/2025 16:21	10.49	7.03	0.33	0.47	-0.88	1.38	2.03
4/29/2025 16:22	20.51	21.60	0.99	0.16	-0.89	1.38	2.08
4/29/2025 16:23	9.99	10.14	0.05	0.07	-0.89	1.37	2.05
4/29/2025 16:24	17.45	17.01	-0.05	0.06	-0.99	1.70	1.71
4/29/2025 16:25	11.00	11.49	0.10	0.05	-0.96	1.55	1.08
4/29/2025 16:26	6.45	6.87	0.07	0.06	-1.01	1.42	0.73
4/29/2025 16:27	3.58	3.06	-0.03	0.11	-1.07	1.48	0.39
4/29/2025 16:28	10.36	9.96	0.00	0.05	-1.15	1.46	0.37
4/29/2025 16:29	17.36	17.36	0.58	0.04	-1.20	1.38	0.08
4/29/2025 16:30	10.97	11.31	1.04	0.04	-1.22	1.37	0.6
4/29/2025 16:31	7.78	8.21	-0.04	0.05	-1.23	1.36	-0.05
4/29/2025 16:32	4.45	4.42	0.03	0.04	-1.33	1.36	-0.58
4/29/2025 16:33	2.59	2.75	-0.02	0.06	-1.39	1.36	-0.25
4/29/2025 16:34	9.84	9.09	0.06	0.04	-1.54	1.35	-0.57
4/29/2025 16:35	15.81	15.26	0.04	0.05	-1.60	1.34	-0.65
4/29/2025 16:36	15.20	15.92	0.38	0.04	-1.48	1.34	-0.95
4/29/2025 16:37	9.29	9.72	0.98	0.05	-1.57	1.34	-0.36
4/29/2025 16:38	3.91	4.09	0.22	0.05	-1.61	1.34	-0.46
4/29/2025 16:39	3.80	3.08	0.04	0.06	-1.68	1.34	-0.47
4/29/2025 16:40	9.92	9.90	-0.01	0.06	-1.69	1.34	-0.32
4/29/2025 16:41	3.30	3.93	0.10	0.13	-1.68	1.34	-0.09
4/29/2025 16:42	0.04	0.19	0.18	0.05	-0.12	1.33	-0.69
4/29/2025 16:43	0.03	0.18	-0.05	0.04	-0.03	1.32	-0.8
4/29/2025 16:44	0.07	0.20	0.12	0.15	0.03	1.32	-0.75
4/29/2025 16:45	0.54	0.46	-0.09	2.88	9.96	1.33	-0.98
4/29/2025 16:46	0.04	0.18	0.10	1.51	49.51	1.33	-0.96
4/29/2025 16:47	0.03	0.18	0.14	0.74	55.20	1.32	-0.84
4/29/2025 16:48	0.03	0.18	0.38	0.61	55.77	1.33	-0.86
4/29/2025 16:49	0.04	0.18	0.48	0.57	55.88	1.32	-0.75
4/29/2025 16:50	0.04	0.18	-0.01	0.73	56.81	1.32	-0.79
4/29/2025 16:51	0.03	0.17	0.08	1.04	59.09	1.85	-0.99
4/29/2025 16:52	0.03	0.16	0.52	0.05	20.32	1.84	-1.31
4/29/2025 16:53	0.04	0.17	0.19	0.05	-0.24	1.37	-1.38
4/29/2025 16:54	0.03	0.17	-0.10	0.04	-0.39	1.35	-1.42
4/29/2025 16:55	0.03	0.17	0.04	0.04	-0.49	1.34	-1.48
4/29/2025 16:56	0.05	0.19	0.03	0.26	3.34	1.32	-1.95
4/29/2025 16:57	0.03	0.17	0.19	0.58	27.09	1.33	-1.9
4/29/2025 16:58	0.03	0.17	-0.02	0.43	29.60	1.32	-2.33
4/29/2025 16:59	0.03	0.17	0.00	0.37	29.80	1.32	-2.06
4/29/2025 17:00	19.62	0.22	0.16	0.17	11.44	1.24	-2.15
4/29/2025 17:01	20.68	0.23	0.84	0.12	-0.41	1.20	-2.73
4/29/2025 17:02	20.69	0.23	0.31	0.13	-0.52	1.21	-2.95
4/29/2025 17:03	20.68	0.23	0.24	0.13	-0.67	1.21	-3.69
4/29/2025 17:04	20.68	0.23	0.00	0.12	-0.57	1.21	-3.87
4/29/2025 17:05	20.68	0.22	0.06	0.12	-0.68	1.35	-3.93

Data Log

Time	Outlet O2	CO2	CO	Nox	SO2	THC	Inlet THC
4/30/2025 7:30	20.76	0.18	0.01	0.03	-3.00	1.25	-6.61
4/30/2025 7:31	21.73	14.7	0.13	0.06	-2.86	5.17	-6.84
4/30/2025 7:32	14.21	13.91	0.21	0.03	-2.69	4.27	-6.78
4/30/2025 7:33	15.97	14.47	-0.04	0.01	-2.95	1.53	-6.48
4/30/2025 7:34	16.63	17.61	0.14	0.01	-2.94	1.32	-6.99
4/30/2025 7:35	0.06	0.15	0.13	0	-2.87	1.26	-6.77
4/30/2025 7:36	3.25	2.03	0.03	0.01	-2.89	1.22	-6.8
4/30/2025 7:37	9.98	9.57	-0.04	0	-2.98	1.20	-6.84
4/30/2025 7:38	3.86	4.26	0.15	0	-2.88	1.17	-6.71
4/30/2025 7:39	0.04	0.13	0.34	0	-1.25	1.15	-6.89
4/30/2025 7:40	0.24	0.27	12.9	13.58	0.46	1.14	-6.72
4/30/2025 7:41	0.04	0.13	53.38	36.99	0.83	1.13	-6.81
4/30/2025 7:42	0.03	0.12	53.14	42.88	0.82	1.13	-6.9
4/30/2025 7:43	0.04	0.12	52.7	48.38	0.56	1.12	-6.75
4/30/2025 7:44	0.04	0.13	53.12	47.64	0.13	1.13	-6.65
4/30/2025 7:45	0.04	0.12	34.22	24.77	0.09	1.11	-6.85
4/30/2025 7:46	0.08	0.17	29.02	32.88	0.10	1.12	-6.77
4/30/2025 7:47	0.03	0.12	80.28	74.17	0.14	1.12	-6.75
4/30/2025 7:48	0.03	0.13	80.13	74.09	0.02	1.10	-6.7
4/30/2025 7:49	0.03	0.13	520.83	74.1	0.08	1.10	-6.8
4/30/2025 7:50	0.04	0.13	1034.76	74.09	0.15	1.11	-6.67
4/30/2025 7:51	0.03	0.12	74.56	58.61	0.15	1.10	-6.78
4/30/2025 7:52	0.03	0.11	41.38	36.81	0.20	1.13	-6.75
4/30/2025 7:53	0.14	0.18	31.65	19.57	0.94	1.15	-6.79
4/30/2025 7:54	0.04	0.12	1.28	0.75	24.55	1.10	-6.7
4/30/2025 7:55	0.03	0.11	0.24	0.57	35.42	1.09	-6.64
4/30/2025 7:56	0.03	0.12	0.25	0.53	39.85	1.11	-6.78
4/30/2025 7:57	0.02	0.12	0.26	0.52	43.18	1.10	-6.72
4/30/2025 7:58	0.02	0.12	0.23	0.53	44.73	1.08	-6.84
4/30/2025 7:59	0.02	0.12	0.23	0.53	45.15	1.07	-6.71
4/30/2025 8:00	0.02	0.11	0.25	0.63	52.03	1.15	-6.69
4/30/2025 8:01	0.02	0.11	0.25	0.55	57.77	1.12	-6.84
4/30/2025 8:02	0.02	0.11	0.22	0.46	60.41	1.08	-6.61
4/30/2025 8:03	0.03	0.11	0.24	0.41	60.97	1.17	-6.68
4/30/2025 8:04	0.03	0.12	0.28	0.26	48.88	1.21	-6.54
4/30/2025 8:05	0.02	0.11	0.25	0.21	30.78	1.26	-6.73
4/30/2025 8:06	9.7	0.38	1.68	1.01	15.74	20.44	-6.67
4/30/2025 8:07	0.1	0.12	0.54	0.16	3.12	81.13	-6.62
4/30/2025 8:08	0.08	0.12	0.39	0.08	0.91	75.70	-6.7
4/30/2025 8:09	0.07	0.11	0.41	0.06	0.85	73.34	-6.79
4/30/2025 8:10	0.06	0.11	0.39	0.04	0.79	45.43	-6.63
4/30/2025 8:11	0.06	0.11	0.38	0.02	0.83	-0.14	-6.84
4/30/2025 8:12	0.06	0.11	0.4	0.04	1.74	15.40	-6.72
4/30/2025 8:13	0.06	0.11	0.38	0.03	1.01	30.91	-6.69
4/30/2025 8:14	0.06	0.12	0.38	0.02	0.91	44.34	-6.65
4/30/2025 8:15	0.05	0.1	0.37	0.01	0.95	3.37	-6.68
4/30/2025 8:16	0.06	0.11	0.39	0.01	1.04	10.77	-5.92
4/30/2025 8:17	0.05	0.11	0.39	0.01	1.07	44.28	-6.68
4/30/2025 8:18	9.34	4.22	1.54	0.67	1.05	18.55	-6.49
4/30/2025 8:19	10.84	8.52	0.48	0.31	1.14	0.34	-6.49
4/30/2025 8:20	11.74	8.52	0.09	0.66	1.17	0.51	-6.72
4/30/2025 8:21	2.42	0.64	24.43	26.21	1.41	1.26	-6.66
4/30/2025 8:22	1.85	0.15	40.48	33.31	1.32	0.11	-6.57
4/30/2025 8:23	1.33	0.19	26.89	23.71	1.34	0.06	-6.73
4/30/2025 8:24	1.22	0.13	26.91	22.63	1.41	-0.16	-6.58
4/30/2025 8:25	4.6	0.32	11.7	5.92	5.42	0.49	-6.74
4/30/2025 8:26	0.07	0.12	0.49	0.35	22.34	-0.30	-6.6
4/30/2025 8:27	0.06	0.12	0.41	0.27	24.75	-0.33	-6.6
4/30/2025 8:28	0.06	0.12	0.41	0.23	25.29	-0.34	-6.66
4/30/2025 8:29	0.05	0.11	-0.66	0.21	25.69	-0.34	-6.51
4/30/2025 8:30	16.63	0.48	5.18	2.93	15.83	3.07	-6.59
4/30/2025 8:31	20.01	0.64	7.51	3.43	3.02	3.42	1310.01
4/30/2025 8:32	20.06	0.61	7.29	3.41	2.61	3.17	1691.67
4/30/2025 8:33	20.03	0.62	8.11	3.35	2.46	3.70	1202.29
4/30/2025 8:34	20	0.63	7.48	3.44	2.47	3.41	-3.48
4/30/2025 8:35	20.06	0.61	7.37	3.38	2.43	3.22	-6.59

Data Log

Time	Outlet O2	CO2	CO	Nox	SO2	THC	Inlet THC
4/30/2025 8:36	20.03	0.62	7.96	3.29	2.53	3.59	414.44
4/30/2025 8:37	20	0.63	7.49	3.42	2.49	3.43	588.15
4/30/2025 8:38	20.05	0.61	7.35	3.43	2.47	3.31	797.59
4/30/2025 8:39	20.03	0.62	8.08	3.3	2.51	3.73	997.92
4/30/2025 8:40	20.01	0.62	7.53	3.39	2.57	3.45	358.05
4/30/2025 8:41	20.05	0.61	7.48	3.41	2.61	3.19	-6.52
4/30/2025 8:42	20.03	0.62	8.23	3.27	2.58	3.76	542.07
4/30/2025 8:43	19.99	0.64	7.44	3.39	2.75	3.42	995.33
4/30/2025 8:44	10	0.39	5.23	1.55	3.11	8.28	90.54
4/30/2025 8:45	0.08	0.11	0.49	0.04	2.91	-0.14	-6.06
4/30/2025 8:46	0.07	0.11	0.46	0.02	0.63	-0.16	-6.61
4/30/2025 8:47	4.46	0.21	1.81	0.74	0.29	25.14	-5.2
4/30/2025 8:48	0.06	0.11	0.54	0.23	20.23	1.26	-4.41
4/30/2025 8:49	0.05	0.10	0.44	0.19	28.77	0.29	-5.54
4/30/2025 8:50	0.05	0.10	0.42	0.17	29.63	0.08	-6.63
4/30/2025 8:51	7.72	0.25	1.54	1.40	27.09	1.19	-5.49
4/30/2025 8:52	19.97	0.63	7.13	3.37	4.92	3.19	-5.16
4/30/2025 8:53	20.03	0.61	7.48	3.37	0.97	3.26	-5.14
4/30/2025 8:54	20.03	0.62	7.90	3.25	0.65	3.41	-5.25
4/30/2025 8:55	20.00	0.63	7.22	3.42	0.62	3.24	-6.37
4/30/2025 8:56	20.04	0.61	7.37	3.39	0.60	3.21	-5.93
4/30/2025 8:57	20.03	0.61	8.03	3.27	0.65	3.48	-6.34
4/30/2025 8:58	20.01	0.62	7.23	3.39	0.63	3.26	-6.55
4/30/2025 8:59	20.04	0.61	7.30	3.42	0.70	3.29	-5.47
4/30/2025 9:00	20.04	0.62	8.10	3.29	0.63	3.70	-4.69
4/30/2025 9:01	20.01	0.63	7.06	3.43	0.65	3.19	-5.75
4/30/2025 9:02	20.05	0.62	7.83	3.42	0.73	3.44	-6.39
4/30/2025 9:03	20.04	0.61	7.94	3.31	0.63	3.67	-6.74
4/30/2025 9:04	20.01	0.63	7.31	3.45	0.71	3.35	-6.51
4/30/2025 9:05	20.04	0.62	7.97	3.42	0.75	3.55	-6.52
4/30/2025 9:06	20.05	0.62	8.00	3.33	0.73	3.64	-6.41
4/30/2025 9:07	20.03	0.62	7.19	3.42	0.79	3.10	-6.38
4/30/2025 9:08	20.04	0.62	7.69	3.44	0.85	3.51	-6.5
4/30/2025 9:09	20.05	0.62	8.15	3.31	0.81	3.80	-6.54
4/30/2025 9:10	20.02	0.62	6.98	3.46	0.75	3.05	-6.82
4/30/2025 9:11	20.05	0.62	7.70	3.37	0.80	3.47	-6.65
4/30/2025 9:12	20.06	0.62	8.05	3.27	0.95	3.75	-6.52
4/30/2025 9:13	20.05	0.61	7.24	3.39	0.99	3.22	-6.77
4/30/2025 9:14	20.06	0.61	7.76	3.36	0.98	3.49	-6.49
4/30/2025 9:15	20.05	0.62	8.28	3.28	1.03	3.71	-6.61
4/30/2025 9:16	20.02	0.62	7.10	3.45	0.99	3.16	-6.67
4/30/2025 9:17	20.05	0.62	7.74	3.41	1.04	3.48	-6.42
4/30/2025 9:18	20.05	0.62	7.94	3.30	1.03	3.74	-6.57
4/30/2025 9:19	20.03	0.62	7.08	3.43	1.11	3.21	-6.67
4/30/2025 9:20	20.05	0.61	7.86	3.38	1.18	4.97	-6.66
4/30/2025 9:21	20.05	0.62	8.12	3.29	1.13	5.43	-6.67
4/30/2025 9:22	20.04	0.60	6.98	3.42	1.13	3.62	-6.58
4/30/2025 9:23	20.04	0.62	8.08	3.40	1.09	3.96	-6.75
4/30/2025 9:24	20.06	0.62	7.99	3.27	1.11	3.87	-6.58
4/30/2025 9:25	20.03	0.61	7.14	3.40	1.11	3.31	-6.9
4/30/2025 9:26	20.05	0.61	7.74	3.31	1.19	3.66	-6.79
4/30/2025 9:27	20.06	0.61	8.05	3.30	1.21	3.76	-6.59
4/30/2025 9:28	20.05	0.61	6.98	3.38	1.23	3.27	-6.52
4/30/2025 9:29	20.05	0.62	8.04	3.40	1.31	3.70	-6.78
4/30/2025 9:30	20.05	0.62	8.30	3.31	1.29	3.72	-6.61
4/30/2025 9:31	20.03	0.61	7.04	3.43	1.19	3.22	-6.67
4/30/2025 9:32	20.04	0.62	7.85	3.43	1.32	3.51	-6.76
4/30/2025 9:33	20.05	0.62	7.95	3.32	1.25	3.73	-6.76
4/30/2025 9:34	20.02	0.62	7.25	3.43	1.38	3.26	-6.62
4/30/2025 9:35	20.04	0.61	7.83	3.37	1.34	3.72	-6.81
4/30/2025 9:36	20.04	0.62	8.10	3.33	1.35	3.89	-6.66
4/30/2025 9:37	20.04	0.60	7.08	3.43	1.35	3.24	-6.76
4/30/2025 9:38	20.05	0.62	8.00	3.37	1.44	3.64	-6.63
4/30/2025 9:39	20.04	0.62	7.92	3.34	1.44	3.66	-6.73
4/30/2025 9:40	20.06	0.60	7.03	3.39	1.37	3.11	-6.67
4/30/2025 9:41	20.04	0.61	7.82	3.37	1.44	3.65	-6.54

Data Log

Time	Outlet O2	CO2	CO	Nox	SO2	THC	Inlet THC
4/30/2025 9:42	20.04	0.63	8.09	3.33	1.39	3.79	-6.69
4/30/2025 9:43	20.04	0.61	7.37	3.43	1.39	3.43	-6.72
4/30/2025 9:44	20.04	0.61	8.47	3.39	1.38	4.09	-6.48
4/30/2025 9:45	20.03	0.63	9.47	3.39	1.40	5.18	-6.63
4/30/2025 9:46	20.05	0.61	8.61	3.47	1.48	4.73	-6.46
4/30/2025 9:47	20.04	0.61	9.71	3.40	1.51	5.25	-6.66
4/30/2025 9:48	20.03	0.62	9.73	3.38	1.53	5.25	-6.5
4/30/2025 9:49	20.04	0.61	10.48	3.52	1.52	5.39	20.23
4/30/2025 9:50	20.01	0.63	14.07	3.70	1.51	6.59	62.14
4/30/2025 9:51	19.99	0.65	19.89	3.80	1.51	7.55	107.57
4/30/2025 9:52	20.02	0.62	19.46	3.69	1.54	6.83	100.17
4/30/2025 9:53	20.01	0.64	17.48	3.88	1.54	7.01	42.15
4/30/2025 9:54	20.02	0.62	14.67	3.66	1.62	6.40	52.71
4/30/2025 9:55	20.04	0.61	17.57	3.81	1.63	6.80	69.34
4/30/2025 9:56	20.02	0.62	15.83	3.78	1.57	7.01	34.95
4/30/2025 9:57	20.01	0.63	14.77	3.77	1.57	6.40	58.33
4/30/2025 9:58	19.99	0.64	24.91	3.84	1.68	8.45	275.86
4/30/2025 9:59	19.99	0.65	26.70	3.93	1.69	8.27	128.7
4/30/2025 10:00	20.04	0.62	20.61	3.98	1.65	7.59	101.78
4/30/2025 10:01	20.08	0.59	19.85	4.10	1.67	6.95	73.76
4/30/2025 10:02	20.05	0.60	18.90	3.89	1.71	7.40	99.86
4/30/2025 10:03	20.03	0.62	22.13	4.09	1.65	7.64	85.19
4/30/2025 10:04	20.08	0.59	18.81	4.03	1.69	7.00	97.31
4/30/2025 10:05	20.03	0.62	21.57	4.05	1.67	7.94	107.87
4/30/2025 10:06	20.02	0.62	22.52	4.17	1.66	7.95	119.15
4/30/2025 10:07	20.06	0.60	24.43	4.22	1.68	7.75	161.22
4/30/2025 10:08	20.02	0.63	24.23	4.33	1.67	7.80	99.2
4/30/2025 10:09	20.03	0.62	19.25	4.58	1.67	6.89	75.34
4/30/2025 10:10	20.07	0.60	18.48	4.42	1.74	6.86	52.72
4/30/2025 10:11	20.04	0.60	17.53	4.16	1.64	7.64	75.56
4/30/2025 10:12	19.99	0.65	23.47	4.74	1.61	7.96	162.79
4/30/2025 10:13	20.05	0.60	23.43	4.26	1.64	7.78	132.86
4/30/2025 10:14	19.95	0.65	26.70	4.18	1.70	8.61	472.31
4/30/2025 10:15	19.95	0.69	42.23	4.41	1.64	9.79	301.9
4/30/2025 10:16	20.10	0.59	25.81	4.42	1.66	8.50	194.19
4/30/2025 10:17	20.07	0.59	26.02	4.42	1.72	8.67	103.14
4/30/2025 10:18	20.09	0.59	20.58	4.51	1.74	7.62	76.04
4/30/2025 10:19	20.09	0.58	22.31	4.53	1.63	7.64	115.67
4/30/2025 10:20	20.06	0.60	25.76	5.22	1.74	7.95	137.78
4/30/2025 10:21	20.03	0.62	28.13	5.59	1.70	7.69	177.61
4/30/2025 10:22	20.06	0.60	28.91	4.72	1.66	7.93	163.64
4/30/2025 10:23	20.04	0.60	26.21	4.54	1.76	8.28	125.76
4/30/2025 10:24	20.04	0.61	22.01	4.53	1.76	7.43	77.4
4/30/2025 10:25	20.07	0.59	21.27	4.67	1.68	7.50	126.93
4/30/2025 10:26	20.02	0.63	28.49	4.54	1.68	8.79	198.78
4/30/2025 10:27	20.02	0.63	23.98	4.61	1.67	7.82	125.63
4/30/2025 10:28	20.04	0.62	24.19	4.75	1.66	8.72	160.03
4/30/2025 10:29	20.03	0.61	24.06	5.20	1.67	8.80	116.08
4/30/2025 10:30	20.02	0.61	20.76	4.87	1.71	7.52	76.52
4/30/2025 10:31	20.06	0.60	19.75	4.69	1.74	7.68	81.12
4/30/2025 10:32	20.04	0.61	19.31	4.67	1.73	7.76	67.3
4/30/2025 10:33	20.03	0.61	17.97	4.82	1.65	6.62	33.45
4/30/2025 10:34	20.06	0.60	13.76	4.71	1.69	6.20	33.79
4/30/2025 10:35	20.03	0.61	15.09	4.45	1.78	6.92	32.21
4/30/2025 10:36	19.99	0.63	13.77	4.64	1.70	6.71	65.4
4/30/2025 10:37	19.97	0.67	26.50	4.79	1.79	8.90	242.87
4/30/2025 10:38	20.02	0.63	21.17	4.46	1.69	6.91	49.96
4/30/2025 10:39	20.00	0.62	18.65	4.47	1.67	7.05	89.42
4/30/2025 10:40	20.03	0.62	20.40	4.47	1.69	7.56	89.94
4/30/2025 10:41	20.03	0.62	19.25	4.47	1.71	7.29	46.5
4/30/2025 10:42	20.00	0.61	15.98	4.48	1.70	6.62	29.7
4/30/2025 10:43	20.03	0.62	16.43	4.46	1.68	7.01	85.68
4/30/2025 10:44	19.99	0.63	23.59	4.47	1.75	7.72	140.78
4/30/2025 10:45	19.97	0.64	22.54	4.66	1.69	7.95	164.54
4/30/2025 10:46	20.01	0.63	24.37	4.79	1.72	8.56	184.68
4/30/2025 10:47	20.01	0.63	27.23	4.64	1.74	8.49	188.66

Data Log

	Outlet						Inlet
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 10:48	20.03	0.61	22.54	4.83	1.81	6.95	63.11
4/30/2025 10:49	20.06	0.60	18.25	4.76	1.77	7.07	69.25
4/30/2025 10:50	20.05	0.59	17.88	5.23	1.72	7.23	57.69
4/30/2025 10:51	20.00	0.62	18.99	5.63	1.69	7.96	164.73
4/30/2025 10:52	20.03	0.62	23.85	5.09	1.67	7.83	78.08
4/30/2025 10:53	20.06	0.59	17.90	4.85	1.76	7.18	83.71
4/30/2025 10:54	20.02	0.61	20.83	5.11	1.68	7.21	81.58
4/30/2025 10:55	20.03	0.62	24.16	4.97	1.69	8.28	164.11
4/30/2025 10:56	20.06	0.60	22.94	4.85	1.75	7.82	65.84
4/30/2025 10:57	20.04	0.59	18.29	4.84	1.76	7.09	67.81
4/30/2025 10:58	20.05	0.60	20.75	4.89	1.69	8.08	109.23
4/30/2025 10:59	20.04	0.61	24.99	6.01	1.73	7.93	105.44
4/30/2025 11:00	20.03	0.60	18.94	5.61	1.72	6.65	75.05
4/30/2025 11:01	20.04	0.60	20.55	4.96	1.77	7.50	97.84
4/30/2025 11:02	20.05	0.59	20.87	4.86	1.78	7.44	79.21
4/30/2025 11:03	20.04	0.60	19.47	4.99	1.71	6.88	80.48
4/30/2025 11:04	20.05	0.60	16.72	4.83	1.77	6.66	43.96
4/30/2025 11:05	20.04	0.60	15.69	4.65	1.74	6.63	39.73
4/30/2025 11:06	20.01	0.61	15.60	4.65	1.85	6.22	44.33
4/30/2025 11:07	20.02	0.62	16.37	4.60	1.77	6.74	57.88
4/30/2025 11:08	20.02	0.62	18.23	4.54	1.75	6.76	52.08
4/30/2025 11:09	20.00	0.62	17.97	4.67	1.75	6.53	100.73
4/30/2025 11:10	20.00	0.63	20.37	4.62	1.74	7.35	77.9
4/30/2025 11:11	20.02	0.62	16.71	4.49	1.75	6.75	56.15
4/30/2025 11:12	20.01	0.61	15.50	4.58	1.64	5.95	77.89
4/30/2025 11:13	20.01	0.63	17.43	4.52	1.76	6.53	54.76
4/30/2025 11:14	20.01	0.62	16.85	4.47	1.70	6.62	62.64
4/30/2025 11:15	20.02	0.61	14.34	4.58	1.72	5.81	47.19
4/30/2025 11:16	20.03	0.61	13.53	4.47	1.70	6.14	31.39
4/30/2025 11:17	20.00	0.63	16.43	4.38	1.72	6.52	135.93
4/30/2025 11:18	20.01	0.61	18.90	4.46	1.72	6.11	136.4
4/30/2025 11:19	20.02	0.62	17.23	4.26	1.65	6.18	57.65
4/30/2025 11:20	20.04	0.61	13.80	4.10	1.75	5.81	27.3
4/30/2025 11:21	20.02	0.60	15.56	4.06	1.73	5.98	86.86
4/30/2025 11:22	20.00	0.62	18.49	4.05	1.67	6.95	217.63
4/30/2025 11:23	19.96	0.66	31.28	4.10	1.71	8.44	144.41
4/30/2025 11:24	20.05	0.59	18.35	4.08	1.68	6.05	53.49
4/30/2025 11:25	20.05	0.59	14.52	3.96	1.72	5.97	33.24
4/30/2025 11:26	20.04	0.60	15.86	3.99	1.75	6.00	49.56
4/30/2025 11:27	20.00	0.61	25.50	4.05	1.77	7.27	189.3
4/30/2025 11:28	20.03	0.61	18.95	4.06	1.71	6.28	42.23
4/30/2025 11:29	20.05	0.59	13.09	4.12	1.65	5.63	16.73
4/30/2025 11:30	20.04	0.58	12.15	4.00	1.70	5.20	16.63
4/30/2025 11:31	20.03	0.60	13.91	3.97	1.81	5.80	22.37
4/30/2025 11:32	20.02	0.61	14.98	4.05	1.76	6.12	42.04
4/30/2025 11:33	20.04	0.59	14.56	4.18	1.73	5.68	31.63
4/30/2025 11:34	20.02	0.60	14.28	4.22	1.78	6.24	39.09
4/30/2025 11:35	20.00	0.62	17.10	4.41	1.73	6.58	149.84
4/30/2025 11:36	19.95	0.64	30.73	4.59	1.70	8.96	311.35
4/30/2025 11:37	20.02	0.62	25.31	4.59	1.75	7.20	118.08
4/30/2025 11:38	20.06	0.59	17.65	4.62	1.73	6.32	45.23
4/30/2025 11:39	20.09	0.56	13.15	4.43	1.65	5.48	17.68
4/30/2025 11:40	20.07	0.58	12.23	4.22	1.73	5.67	7.34
4/30/2025 11:41	3.48	0.22	4.73	0.84	8.92	10.33	4.53
4/30/2025 11:42	0.06	0.09	0.44	0.30	24.90	-0.08	2.43
4/30/2025 11:43	0.05	0.09	0.41	0.24	28.78	-0.21	2.2
4/30/2025 11:44	0.04	0.08	0.43	0.20	29.76	-0.25	0.99
4/30/2025 11:45	0.05	0.09	0.43	0.18	30.23	-0.27	-0.71
4/30/2025 11:46	0.68	0.09	0.46	0.38	30.64	-0.24	-0.8
4/30/2025 11:47	10.24	6.59	0.87	0.32	20.46	8.95	-0.94
4/30/2025 11:48	5.90	5.08	0.53	0.32	5.61	0.39	-0.84
4/30/2025 11:49	0.06	0.11	0.43	0.16	25.25	-0.33	-0.88
4/30/2025 11:50	0.05	0.10	0.44	0.16	30.27	-0.35	-0.8
4/30/2025 11:51	0.05	0.09	0.36	0.16	30.82	-0.36	-0.85
4/30/2025 11:52	0.05	0.08	0.44	0.15	30.98	-0.36	-0.93
4/30/2025 11:53	0.04	0.09	0.42	0.15	31.13	-0.36	-1.02

Data Log

	Outlet						Inlet
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 11:54	7.09	2.14	1.66	0.81	28.50	0.66	-3.68
4/30/2025 11:55	9.90	9.31	-0.07	0.01	7.61	-0.16	-3.77
4/30/2025 11:56	10.24	7.78	0.69	0.63	2.83	0.59	-3.77
4/30/2025 11:57	0.15	0.33	20.60	18.93	3.35	-0.18	-3.86
4/30/2025 11:58	0.05	0.10	27.06	24.22	2.15	-0.28	-3.67
4/30/2025 11:59	0.05	0.09	27.14	24.62	1.99	-0.32	-3.73
4/30/2025 12:00	3.84	0.18	29.38	29.15	2.02	0.47	-3.73
4/30/2025 12:01	0.04	0.09	41.23	36.76	1.92	-0.33	-3.55
4/30/2025 12:02	5.14	0.22	36.90	27.59	1.85	0.98	-3.77
4/30/2025 12:03	0.21	0.25	6.72	0.58	1.98	39.83	-3.74
4/30/2025 12:04	0.05	0.09	0.56	0.19	1.74	45.15	-3.7
4/30/2025 12:05	0.05	0.09	0.39	0.12	1.82	45.18	-3.9
4/30/2025 12:06	1.11	0.11	0.83	0.29	1.75	7.72	-3.52
4/30/2025 12:07	0.04	0.09	0.36	0.05	1.71	-0.31	-3.64
4/30/2025 12:08	8.77	0.27	2.82	1.95	1.72	2.09	-2.54
4/30/2025 12:09	20.00	0.58	8.95	4.10	2.09	4.57	798.19
4/30/2025 12:10	20.01	0.58	10.01	4.08	2.17	4.98	992.67
4/30/2025 12:11	19.99	0.60	9.26	4.22	2.07	4.30	997.58
4/30/2025 12:12	20.05	0.57	8.91	4.13	2.08	4.12	933.83
4/30/2025 12:13	20.04	0.58	9.95	4.04	1.97	5.01	2.18
4/30/2025 12:14	20.01	0.60	9.49	4.14	1.96	4.62	-4.47
4/30/2025 12:15	20.03	0.59	9.41	4.06	1.92	4.59	-5.24
4/30/2025 12:16	20.04	0.58	10.02	3.94	2.00	4.92	-3.85
4/30/2025 12:17	20.01	0.60	8.93	4.01	1.95	4.20	-3.81
4/30/2025 12:18	20.05	0.58	8.91	3.90	1.95	4.25	-3.56
4/30/2025 12:19	20.04	0.58	9.80	3.85	1.92	4.92	-3.87
4/30/2025 12:20	19.99	0.61	9.34	3.94	1.79	4.54	-3.76
4/30/2025 12:21	20.03	0.59	9.22	3.80	1.87	4.23	-3.7
4/30/2025 12:22	20.03	0.59	9.89	3.64	1.84	4.88	-3.75
4/30/2025 12:23	19.99	0.61	9.32	3.71	1.79	4.61	-3.6
4/30/2025 12:24	20.05	0.59	9.07	3.55	1.83	4.51	-3.78
4/30/2025 12:25	20.03	0.60	9.89	3.40	1.87	4.97	-3.6
4/30/2025 12:26	20.00	0.61	9.39	3.33	1.80	4.49	-3.52
4/30/2025 12:27	20.03	0.60	9.78	3.28	1.79	4.78	-3.69
4/30/2025 12:28	20.02	0.60	10.43	3.20	1.79	5.04	-3.82
4/30/2025 12:29	19.97	0.62	9.49	3.35	1.76	4.56	-3.9
4/30/2025 12:30	20.02	0.60	9.59	3.38	1.74	4.58	-3.71
4/30/2025 12:31	20.01	0.61	10.46	3.33	1.76	5.00	-3.68
4/30/2025 12:32	19.98	0.62	9.54	3.51	1.81	4.61	-3.75
4/30/2025 12:33	20.01	0.61	9.75	3.59	1.78	4.84	-3.68
4/30/2025 12:34	20.00	0.61	10.51	3.54	1.75	5.24	-3.74
4/30/2025 12:35	19.96	0.62	9.68	3.71	1.75	4.60	-3.73
4/30/2025 12:36	20.02	0.60	10.04	3.74	1.81	4.98	-3.84
4/30/2025 12:37	20.02	0.59	10.58	3.66	1.75	5.36	-3.73
4/30/2025 12:38	19.99	0.60	9.90	3.85	1.71	5.01	-3.75
4/30/2025 12:39	20.04	0.58	10.36	3.74	1.78	5.33	-3.72
4/30/2025 12:40	20.03	0.58	13.51	3.66	1.77	6.55	69.39
4/30/2025 12:41	19.99	0.60	17.96	4.04	1.69	6.66	50.21
4/30/2025 12:42	20.00	0.61	20.51	4.24	1.79	7.16	150.84
4/30/2025 12:43	20.02	0.59	21.46	4.20	1.79	7.11	92.91
4/30/2025 12:44	20.01	0.59	17.98	4.20	1.73	6.41	92.1
4/30/2025 12:45	20.05	0.58	15.50	4.06	1.70	6.34	33.39
4/30/2025 12:46	20.05	0.57	13.88	3.86	1.75	5.94	67.36
4/30/2025 12:47	19.98	0.61	26.70	4.12	1.82	7.32	144.62
4/30/2025 12:48	20.01	0.59	23.99	4.22	1.85	7.73	234.68
4/30/2025 12:49	20.02	0.60	29.41	4.38	1.72	8.37	116.67
4/30/2025 12:50	20.06	0.56	17.80	4.52	1.78	6.13	38.85
4/30/2025 12:51	20.07	0.56	15.59	4.30	1.86	6.66	26.91
4/30/2025 12:52	20.07	0.56	16.05	4.22	1.83	6.41	18.3
4/30/2025 12:53	20.03	0.58	18.11	4.46	1.83	6.81	93.79
4/30/2025 12:54	20.05	0.58	20.10	4.49	1.74	6.99	54.75
4/30/2025 12:55	20.05	0.57	17.20	4.37	1.74	6.84	33.4
4/30/2025 12:56	20.04	0.57	15.40	4.34	1.75	5.70	45.46
4/30/2025 12:57	20.04	0.58	17.96	4.30	1.75	6.71	87.08
4/30/2025 12:58	20.00	0.61	23.31	4.47	1.75	7.11	109.99
4/30/2025 12:59	20.02	0.58	18.13	4.42	1.70	6.23	74.73

Data Log

Time	Outlet O2	CO2	CO	Nox	SO2	THC	Inlet THC
4/30/2025 13:00	20.01	0.60	22.62	4.42	1.72	7.80	132.35
4/30/2025 13:01	20.02	0.59	24 65	4.50	1.79	7.09	87.86
4/30/2025 13:02	20.01	0.58	21.65	4.84	1.81	6.81	155.55
4/30/2025 13:03	20.02	0.60	23.41	4.69	1.68	7.29	123.83
4/30/2025 13:04	20.05	0.57	20.63	4.51	1.87	6.93	65.39
4/30/2025 13:05	20.04	0.57	19.82	4.59	1.80	6.30	65.04
4/30/2025 13:06	20.04	0.58	18.04	4.46	1.76	6.91	57.49
4/30/2025 13:07	20.04	0.58	19.36	4.44	1.79	6.85	92.26
4/30/2025 13:08	19.95	0.64	37.04	4.57	1.85	8.12	433.08
4/30/2025 13:09	20.06	0.58	23.03	4.39	1.85	6.06	91.67
4/30/2025 13:10	20.08	0.56	16.17	4.22	1.88	5.74	30.16
4/30/2025 13:11	20.08	0.55	12.67	4.27	1.86	4.82	28.22
4/30/2025 13:12	20.04	0.58	19.46	4.26	1.80	6.62	124.32
4/30/2025 13:13	20.01	0.61	27.44	4.39	1.80	7.63	150.68
4/30/2025 13:14	20.03	0.58	21.83	4.50	1.81	6.71	79.73
4/30/2025 13:15	20.04	0.58	18.12	4.45	1.80	6.41	38.7
4/30/2025 13:16	20.04	0.58	15.63	4.39	1.82	6.19	72.31
4/30/2025 13:17	20.02	0.58	22.87	4.42	1.86	6.65	109.58
4/30/2025 13:18	20.02	0.59	17.50	4.44	1.90	6.12	31.73
4/30/2025 13:19	20.04	0.58	13.67	4.24	1.83	5.30	10.41
4/30/2025 13:20	20.04	0.56	11.50	4.12	1.74	4.46	5.38
4/30/2025 13:21	20.02	0.58	12.35	4.06	1.79	5.00	2.8
4/30/2025 13:22	20.00	0.60	14.16	4.12	1.82	6.05	51.75
4/30/2025 13:23	20.00	0.59	17.84	4.32	1.83	6.32	54.53
4/30/2025 13:24	19.99	0.60	16.44	4.29	1.79	6.42	38.4
4/30/2025 13:25	20.00	0.59	14.80	4.23	1.76	6.10	27.95
4/30/2025 13:26	20.01	0.58	17.19	4.28	1.82	6.03	67.83
4/30/2025 13:27	19.97	0.61	22.49	4.24	1.82	7.19	151.76
4/30/2025 13:28	19.98	0.61	24.15	4.36	1.77	7.44	179.29
4/30/2025 13:29	20.01	0.59	25.20	4.48	1.72	6.64	110.72
4/30/2025 13:30	20.04	0.58	16.74	4.46	1.79	5.62	32.67
4/30/2025 13:31	20.04	0.57	14.01	4.22	1.82	5.31	12.68
4/30/2025 13:32	20.06	0.55	12.03	4.12	1.78	4.61	6.01
4/30/2025 13:33	20.03	0.57	12.47	4.02	1.83	5.11	2.68
4/30/2025 13:34	20.02	0.58	12.06	4.09	1.76	4.87	3.68
4/30/2025 13:35	20.01	0.58	17.74	4.15	1.72	6.21	83.5
4/30/2025 13:36	19.99	0.60	20.81	4.18	1.71	6.97	106.29
4/30/2025 13:37	19.99	0.60	22.44	4.38	1.69	6.72	55.94
4/30/2025 13:38	20.02	0.58	20.42	4.30	1.73	6.76	146.62
4/30/2025 13:39	19.98	0.60	23.30	4.33	1.68	7.21	115.69
4/30/2025 13:40	20.00	0.59	23.18	4.45	1.79	6.61	118.76
4/30/2025 13:41	20.04	0.57	21.58	4.35	1.77	6.35	129.68
4/30/2025 13:42	20.01	0.58	22.54	4.33	1.82	7.06	88.1
4/30/2025 13:43	20.02	0.58	17.31	4.43	1.77	6.12	28.84
4/30/2025 13:44	20.05	0.55	14.47	4.21	1.65	5.60	54.5
4/30/2025 13:45	20.01	0.57	18.99	4.24	1.71	6.93	55.33
4/30/2025 13:46	19.99	0.60	17.18	4.50	1.69	6.76	98.82
4/30/2025 13:47	20.05	0.57	20.11	4.35	1.66	5.97	58.35
4/30/2025 13:48	20.01	0.59	17.33	4.45	1.68	6.56	72.37
4/30/2025 13:49	19.99	0.61	18.64	5.11	1.74	6.56	62.23
4/30/2025 13:50	20.06	0.58	16.34	5.02	1.70	5.29	24.14
4/30/2025 13:51	20.02	0.58	14.01	4.52	1.68	5.38	10.56
4/30/2025 13:52	19.98	0.61	14.32	4.62	1.69	5.73	55.17
4/30/2025 13:53	20.01	0.60	20.32	4.61	1.65	6.88	138
4/30/2025 13:54	19.99	0.61	23.97	4.64	1.57	6.86	80.04
4/30/2025 13:55	20.01	0.60	15.87	4.61	1.69	5.27	54.07
4/30/2025 13:56	20.01	0.60	22.79	4.51	1.56	6.78	165.47
4/30/2025 13:57	19.99	0.61	23.93	4.48	1.60	7.72	74.53
4/30/2025 13:58	20.01	0.60	18.01	4.64	1.60	6.24	65.25
4/30/2025 13:59	20.06	0.58	17.79	4.51	1.63	5.25	28.72
4/30/2025 14:00	20.03	0.57	13.18	4.21	1.61	5.03	9.66
4/30/2025 14:01	19.99	0.60	13.61	4.36	1.61	5.26	70.71
4/30/2025 14:02	20.00	0.60	25.53	4.78	1.69	6.44	127.2
4/30/2025 14:03	20.00	0.60	21.77	4.69	1.67	6.46	81.67
4/30/2025 14:04	19.98	0.61	18.88	4.63	1.64	6.04	63.88
4/30/2025 14:05	20.01	0.60	23.89	4.54	1.60	6.88	160.15

Data Log

Time	Outlet O2	CO2	CO	Nox	SO2	THC	Inlet THC
4/30/2025 14:06	19.99	0.61	25.07	4.57	1.59	6.71	105.36
4/30/2025 14:07	19.98	0.62	20.93	4.77	1.58	6.64	86.96
4/30/2025 14:08	20.04	0.58	16.36	4.46	1.60	5.54	41.46
4/30/2025 14:09	20.02	0.59	18.32	4.39	1.61	6.49	55.53
4/30/2025 14:10	19.99	0.59	16.86	4.53	1.62	5.95	23.84
4/30/2025 14:11	20.00	0.61	22.19	4.56	1.70	6.38	262.41
4/30/2025 14:12	19.95	0.64	36.05	4.57	1.68	8.36	206.36
4/30/2025 14:13	19.96	0.63	34.27	4.86	1.75	7.90	195.31
4/30/2025 14:14	20.04	0.57	22.11	4.67	1.75	6.76	88.08
4/30/2025 14:15	20.03	0.58	18.96	4.51	1.72	6.23	51.05
4/30/2025 14:16	19.99	0.60	19.78	4.69	1.75	6.56	85.53
4/30/2025 14:17	20.02	0.60	20.82	4.70	1.59	6.50	62.12
4/30/2025 14:18	20.00	0.60	19.09	4.55	1.63	6.59	52.44
4/30/2025 14:19	19.97	0.60	18.75	4.67	1.60	6.19	77.65
4/30/2025 14:20	20.00	0.59	19.67	4.56	1.55	6.93	157.96
4/30/2025 14:21	19.95	0.63	28.31	4.75	1.55	8.86	160.14
4/30/2025 14:22	19.99	0.59	18.40	4.63	1.52	5.78	44.51
4/30/2025 14:23	20.02	0.58	16.42	4.49	1.52	6.07	41.99
4/30/2025 14:24	20.01	0.59	18.42	4.46	1.52	6.39	62.28
4/30/2025 14:25	19.98	0.60	17.37	4.63	1.51	5.88	57.06
4/30/2025 14:26	20.00	0.59	16.32	4.48	1.54	5.69	112.37
4/30/2025 14:27	19.95	0.63	26.14	4.45	1.53	7.33	104.44
4/30/2025 14:28	19.97	0.61	16.69	4.70	1.50	5.89	92.25
4/30/2025 14:29	10.08	0.39	14.77	2.22	4.03	4.51	8.13
4/30/2025 14:30	0.07	0.10	0.48	0.29	23.29	0.24	18.59
4/30/2025 14:31	0.06	0.09	0.37	0.24	27.94	0.08	6.14
4/30/2025 14:32	0.06	0.10	0.39	0.21	29.23	-0.01	3.02
4/30/2025 14:33	0.05	0.09	0.36	0.19	29.75	-0.06	2.1
4/30/2025 14:34	0.05	0.09	0.38	0.18	30.03	-0.11	2.17
4/30/2025 14:35	4.37	1.70	0.82	0.42	29.84	10.15	-0.75
4/30/2025 14:36	9.87	9.21	-0.24	0.03	9.84	0.28	-1.02
4/30/2025 14:37	9.87	9.36	-0.35	0.02	3.00	-0.03	-0.72
4/30/2025 14:38	5.59	5.01	8.56	13.49	2.69	0.51	-0.82
4/30/2025 14:39	0.06	0.13	39.96	36.81	2.29	-0.16	-1
4/30/2025 14:40	0.07	0.11	40.74	36.97	1.61	-0.27	-0.9
4/30/2025 14:41	3.19	0.19	28.75	21.74	1.65	0.70	-1.89
4/30/2025 14:42	0.05	0.10	26.87	24.09	1.36	-0.30	-3.77
4/30/2025 14:43	1.86	0.30	18.12	10.30	1.26	20.52	-3.68
4/30/2025 14:44	0.05	0.10	0.51	0.22	1.22	45.27	-3.95
4/30/2025 14:45	15.75	0.46	6.92	3.26	1.31	13.88	221.77
4/30/2025 14:46	19.89	0.60	9.85	4.04	1.52	4.01	999.89
4/30/2025 14:47	19.94	0.60	10.65	3.96	1.45	4.50	998.85
4/30/2025 14:48	19.95	0.60	8.93	3.81	1.27	4.46	844.38
4/30/2025 14:49	19.92	0.60	9.71	3.96	1.29	3.83	-1.28
4/30/2025 14:50	19.94	0.59	10.59	3.89	1.23	4.37	-3.83
4/30/2025 14:51	1.60	0.18	2.93	0.31	1.23	2.40	-4.58
4/30/2025 14:52	0.06	0.08	0.35	0.07	0.98	-0.08	-3.98
4/30/2025 14:53	1.23	0.12	0.86	0.28	0.95	41.41	-3.82
4/30/2025 14:54	0.05	0.09	0.35	0.05	0.94	45.95	-3.68
4/30/2025 14:55	0.05	0.09	0.37	0.05	0.89	45.30	-3.76
4/30/2025 14:56	0.04	0.09	0.37	0.03	0.88	44.85	-3.81
4/30/2025 14:57	1.21	0.10	0.45	0.31	0.82	43.17	-3.71
4/30/2025 14:58	19.74	0.56	7.87	3.73	0.86	4.31	-3.82
4/30/2025 14:59	19.94	0.59	10.61	3.75	0.85	4.39	-3.88
4/30/2025 15:00	19.93	0.60	10.79	3.76	0.86	4.42	-3.73
4/30/2025 15:01	19.94	0.59	9.40	3.85	0.88	3.78	-3.76
4/30/2025 15:02	19.94	0.60	10.64	3.78	0.84	4.47	-3.64
4/30/2025 15:03	19.94	0.60	10.67	3.77	0.86	4.72	-3.77
4/30/2025 15:04	19.96	0.59	9.37	3.85	0.86	4.19	-3.84
4/30/2025 15:05	19.95	0.60	10.38	3.80	0.84	4.65	-3.85
4/30/2025 15:06	19.94	0.61	10.46	3.78	0.89	4.57	-3.87
4/30/2025 15:07	19.95	0.59	9.18	3.86	0.88	4.04	-3.65
4/30/2025 15:08	19.96	0.59	10.38	3.78	0.86	4.54	-3.79
4/30/2025 15:09	19.95	0.61	10.27	3.78	0.89	4.50	-3.95
4/30/2025 15:10	19.97	0.58	9.27	3.80	0.76	3.99	-3.79
4/30/2025 15:11	19.96	0.59	10.12	3.73	0.80	4.39	-3.77

Data Log

Time	Outlet O2	CO2	CO	Nox	SO2	THC	Inlet THC
4/30/2025 15:12	19.95	0.61	10.32	3.77	0.81	4.73	-3.78
4/30/2025 15:13	19.95	0.58	9.39	3.81	0.81	4.91	-3.62
4/30/2025 15:14	19.96	0.59	10.38	3.75	0.82	5.17	-3.86
4/30/2025 15:15	19.95	0.60	10.21	3.80	0.79	4.98	-3.69
4/30/2025 15:16	19.99	0.57	9.19	3.74	0.77	4.40	-3.84
4/30/2025 15:17	19.96	0.59	10.54	3.66	0.73	4.91	-3.7
4/30/2025 15:18	19.96	0.60	10.36	3.73	0.74	4.88	-3.81
4/30/2025 15:19	19.98	0.58	9.29	3.74	0.67	4.25	-3.88
4/30/2025 15:20	19.95	0.60	10.45	3.68	0.76	4.71	-3.69
4/30/2025 15:21	19.93	0.61	10.20	3.72	0.73	4.65	-3.73
4/30/2025 15:22	19.97	0.58	9.45	3.76	0.61	4.43	-3.76
4/30/2025 15:23	19.95	0.58	10.62	3.67	0.74	4.85	-3.94
4/30/2025 15:24	19.95	0.60	10.33	3.73	0.72	4.58	-3.76
4/30/2025 15:25	19.97	0.59	9.45	3.74	0.76	4.13	-3.85
4/30/2025 15:26	19.96	0.59	10.50	3.65	0.66	4.51	-3.84
4/30/2025 15:27	19.94	0.61	6.53	3.72	0.74	4.47	-3.84
4/30/2025 15:28	19.96	0.59	10.23	3.84	0.74	4.64	14.75
4/30/2025 15:29	19.92	0.61	16.72	3.85	0.63	6.78	71.43
4/30/2025 15:30	19.91	0.64	21.66	4.08	0.75	6.92	97.42
4/30/2025 15:31	19.97	0.59	20.56	4.03	0.77	6.68	95.76
4/30/2025 15:32	19.93	0.61	20.67	4.08	0.77	7.29	73.94
4/30/2025 15:33	19.90	0.63	22.64	4.38	0.72	7.43	167.97
4/30/2025 15:34	19.98	0.60	21.91	4.21	0.68	6.66	67.22
4/30/2025 15:35	19.95	0.59	18.16	4.21	0.68	6.83	77.03
4/30/2025 15:36	19.90	0.63	29.61	4.53	0.71	7.65	172.61
4/30/2025 15:37	19.96	0.60	28.36	4.45	0.72	7.76	213.72
4/30/2025 15:38	19.91	0.63	31.68	4.62	0.74	9.39	296.63
4/30/2025 15:39	19.97	0.59	26.96	4.50	0.69	7.75	111.61
4/30/2025 15:40	20.04	0.55	19.38	4.31	0.74	6.59	75.06
4/30/2025 15:41	19.98	0.58	23.08	4.34	0.78	7.70	91.89
4/30/2025 15:42	19.97	0.59	21.10	4.47	0.74	7.38	167.5
4/30/2025 15:43	19.96	0.61	33.31	4.44	0.59	9.22	186.13
4/30/2025 15:44	19.99	0.58	23.79	4.46	0.69	7.51	82.07
4/30/2025 15:45	19.95	0.60	26.42	4.58	0.61	7.57	125.51
4/30/2025 15:46	20.01	0.58	20.86	4.50	0.66	7.14	130.83
4/30/2025 15:47	19.97	0.60	22.70	4.65	0.68	8.61	91.48
4/30/2025 15:48	19.93	0.61	22.40	4.68	0.63	7.62	161.58
4/30/2025 15:49	19.98	0.59	27.63	4.72	0.66	7.52	135.1
4/30/2025 15:50	19.95	0.60	23.95	4.55	0.67	7.56	128.03
4/30/2025 15:51	19.91	0.63	30.30	4.59	0.61	8.53	184.11
4/30/2025 15:52	19.99	0.58	23.83	4.47	0.72	7.31	100.73
4/30/2025 15:53	19.96	0.59	22.36	4.43	0.64	7.76	182.53
4/30/2025 15:54	19.89	0.64	37.44	4.79	0.66	9.26	216.84
4/30/2025 15:55	20.01	0.57	24.00	4.71	0.52	7.33	158.7
4/30/2025 15:56	19.92	0.63	31.21	4.93	0.48	8.84	288.74
4/30/2025 15:57	19.92	0.62	33.86	5.46	0.58	9.13	253.43
4/30/2025 15:58	19.99	0.60	31.71	5.46	0.56	8.35	186.69
4/30/2025 15:59	20.00	0.57	26.02	5.42	0.61	7.84	76.39
4/30/2025 16:00	19.97	0.59	24.86	5.67	0.54	7.21	168.86
4/30/2025 16:01	19.98	0 59	31.70	5.41	0.59	8.62	194.71
4/30/2025 16:02	19.98	0.59	28.54	5.31	0.46	8.57	166.51
4/30/2025 16:03	19.95	0.60	32.54	5.18	0.51	8.35	149.06
4/30/2025 16:04	19.99	0.59	30.69	5.05	0.39	8.52	200.18
4/30/2025 16:05	19.99	0.58	27.55	5.03	0.53	8.67	170.03
4/30/2025 16:06	19.94	0.61	31.61	5.49	0.43	9.06	180.29
4/30/2025 16:07	19.99	0.58	27.62	5.21	0.35	8.57	197.78
4/30/2025 16:08	19.97	0.59	31.46	5.09	0.47	8.78	139.13
4/30/2025 16:09	19.98	0.58	24.16	5.14	0.45	7.29	91.47
4/30/2025 16:10	20.00	0.57	23.07	5.01	0.37	7.67	97.76
4/30/2025 16:11	19.98	0.59	22.10	4.90	0.42	8.10	55.2
4/30/2025 16:12	19.96	0.58	19.18	5.16	0.41	6.85	71.73
4/30/2025 16:13	19.97	0.60	21.93	5.26	0.36	7.47	87.01
4/30/2025 16:14	19.95	0.60	24.26	4.93	0.34	7.77	112.18
4/30/2025 16:15	19.92	0.61	26.45	5.08	0.32	7.75	127.41
4/30/2025 16:16	19.95	0.61	26.45	5.05	0.27	7.40	114.58
4/30/2025 16:17	19.97	0.59	20.40	4.97	0.25	6.90	49.87

Data Log

Time	Outlet O2	CO2	CO	Nox	SO2	THC	Inlet THC
4/30/2025 16:18	19.94	0.60	17.93	4.83	0.26	6.54	67.02
4/30/2025 16:19	19.96	0.60	19.80	4.91	0.27	7.16	66.62
4/30/2025 16:20	19.96	0.60	19.53	4.91	0.19	7.08	76.96
4/30/2025 16:21	19.92	0.62	22.27	4.99	0.26	6.84	129.61
4/30/2025 16:22	19.89	0.65	31.85	4.85	0.16	8.43	243.62
4/30/2025 16:23	19.95	0.60	28.72	4.91	0.13	7.54	107.45
4/30/2025 16:24	19.94	0.61	26.86	7.01	0.16	7.48	146.5
4/30/2025 16:25	19.97	0.60	27.76	6.07	0.17	7.97	232.11
4/30/2025 16:26	19.96	0.61	31.19	6.57	0.10	8.16	134.37
4/30/2025 16:27	19.98	0.58	24.44	5.98	0.19	7.09	185.12
4/30/2025 16:28	19.99	0.59	27.11	5.85	0.13	7.60	117.61
4/30/2025 16:29	19.98	0.58	28.51	5.39	0.05	8.52	158.54
4/30/2025 16:30	20.00	0.56	23.20	5.37	0.01	6.81	69.11
4/30/2025 16:31	20.00	0.58	22.19	5.36	-0.04	7.47	82.23
4/30/2025 16:32	19.98	0.58	22.65	5.23	0.00	7.43	91.2
4/30/2025 16:33	19.95	0.59	26.09	5.37	-0.07	7.62	199.35
4/30/2025 16:34	19.93	0.65	34.23	5.49	-0.04	12.53	240.8
4/30/2025 16:35	19.99	0.59	27.05	5.24	-0.10	8.70	94.49
4/30/2025 16:36	19.98	0.57	20.41	5.27	-0.10	6.96	97.23
4/30/2025 16:37	19.99	0.59	23.48	5.13	-0.17	7.73	79.56
4/30/2025 16:38	19.98	0.59	21.08	5.08	-0.03	7.63	114.59
4/30/2025 16:39	19.94	0.60	29.67	5.14	-0.22	7.65	141.86
4/30/2025 16:40	19.98	0.60	23.89	5.14	-0.12	7.47	101.42
4/30/2025 16:41	19.97	0.60	23.40	5.67	-0.19	7.61	90.17
4/30/2025 16:42	19.96	0.59	24.09	6.55	-0.28	7.67	118.01
4/30/2025 16:43	19.96	0.61	23.05	6.44	-0.32	7.53	110.08
4/30/2025 16:44	19.96	0.61	24.43	6.05	-0.30	7.35	102.4
4/30/2025 16:45	19.97	0.58	21.68	5.68	-0.29	6.66	71.11
4/30/2025 16:46	19.97	0.59	20.88	5.44	-0.30	7.13	76.26
4/30/2025 16:47	19.95	0.60	22.68	5.44	-0.38	7.44	136.43
4/30/2025 16:48	19.93	0.61	28.92	5.48	-0.41	7.76	172.31
4/30/2025 16:49	19.96	0.60	23.94	5.37	-0.44	7.36	81.95
4/30/2025 16:50	19.95	0.61	23.71	5.38	-0.44	7.37	146.44
4/30/2025 16:51	19.98	0.58	25.41	5.23	-0.49	6.41	148.12
4/30/2025 16:52	19.96	0.60	24.76	5.04	-0.55	7.17	201.29
4/30/2025 16:53	19.96	0.62	30.40	5.20	-0.54	7.87	171.37
4/30/2025 16:54	19.99	0.58	24.72	5.11	-0.52	7.42	147.32
4/30/2025 16:55	20.00	0.59	19.21	5.10	-0.61	7.72	92.31
4/30/2025 16:56	20.02	0.58	17.16	4.91	-0.57	6.75	47.81
4/30/2025 16:57	20.03	0.55	13.69	4.75	-0.66	4.98	38.42
4/30/2025 16:58	19.99	0.58	16.77	4.65	-0.75	5.64	59.31
4/30/2025 16:59	19.98	0.59	15.79	4.64	-0.76	5.63	28.66
4/30/2025 17:00	20.00	0.57	13.06	4.54	-0.87	4.91	25.56
4/30/2025 17:01	19.96	0.59	13.29	4.45	-0.83	5.54	25.68
4/30/2025 17:02	19.95	0.61	15.46	4.49	-0.86	5.59	55.16
4/30/2025 17:03	19.98	0.59	15.65	4.51	-0.91	5.67	52.61
4/30/2025 17:04	19.94	0.61	14.76	4.50	-1.02	5.86	44.01
4/30/2025 17:05	19.93	0.61	14.94	4.52	-0.96	5.72	39.69
4/30/2025 17:06	19.97	0.59	13.82	4.46	-0.94	5.10	44.82
4/30/2025 17:07	19.94	0.61	17.11	4.48	-0.94	5.63	52.17
4/30/2025 17:08	19.93	0.62	15.22	4.63	-1.12	5.17	41
4/30/2025 17:09	19.96	0.59	14.75	4.44	-1.19	4.92	49.67
4/30/2025 17:10	19.94	0.61	17.49	4.37	-1.17	5.79	84.39
4/30/2025 17:11	19.95	0.62	17.76	4.47	-1.17	6.11	61.6
4/30/2025 17:12	19.96	0.60	16.79	4.46	-1.20	5.80	73.53
4/30/2025 17:13	19.97	0.59	14.53	4.36	-1.25	5.57	32.25
4/30/2025 17:14	19.96	0.60	13.54	4.47	-1.28	5.35	35.47
4/30/2025 17:15	20.00	0.58	13.50	4.28	-1.35	4.91	29.37
4/30/2025 17:16	19.98	0.59	14.35	4.22	-1.46	5.18	26.64
4/30/2025 17:17	19.94	0.61	15.74	4.31	-1.38	5.72	52.29
4/30/2025 17:18	19.99	0.57	15.09	4.29	-1.38	4.90	31.09
4/30/2025 17:19	8.53	0.36	9.92	1.84	-0.36	13.38	8.58
4/30/2025 17:20	0.07	0.09	-0.11	0.30	18.03	0.04	3.1
4/30/2025 17:21	0.06	0.10	-0.21	0.27	25.08	-0.16	2.01
4/30/2025 17:22	0.06	0.09	0.20	0.24	26.52	-0.20	1.05
4/30/2025 17:23	0.05	0.09	0.18	0.20	27.59	-0.22	-0.79

Data Log

	Outlet						Inlet
Time	O2	CO2	CO	Nox	SO2	THC	THC
4/30/2025 17:24	0.05	0.10	0.21	0.18	28.17	-0.23	-0.91
4/30/2025 17:25	0.05	0.09	0.21	0.18	28.55	-0.25	-0.65
4/30/2025 17:26	0.06	0.09	0.21	0.17	28.66	-0.25	-0.89
4/30/2025 17:27	0.05	0.09	0.21	0.05	15.29	-0.31	-0.72
4/30/2025 17:28	0.05	0.08	0.20	0.03	1.98	-0.31	-1
4/30/2025 17:29	3.41	0.84	0.63	0.34	1.36	5.90	-0.8
4/30/2025 17:30	9.86	9.09	-0.22	0.03	2.82	0.18	-0.73
4/30/2025 17:31	9.87	9.36	-0.41	0.04	0.40	-0.04	-1.6
4/30/2025 17:32	10.31	9.11	-0.26	0.25	0.02	0.26	-3.86
4/30/2025 17:33	0.52	0.80	16.73	17.98	0.81	0.12	-3.75
4/30/2025 17:34	0.06	0.11	26.36	24.09	0.01	-0.23	-3.71
4/30/2025 17:35	0.05	0.10	26.45	24.26	-0.25	-0.28	-2.61
4/30/2025 17:36	2.11	0.18	27.53	28.96	-0.35	-0.17	-0.92
4/30/2025 17:37	0.06	0.09	42.01	38.27	-0.31	-0.28	-0.81
4/30/2025 17:38	1.39	0.11	41.48	36.38	-0.40	-0.23	0.25
4/30/2025 17:39	4.01	0.31	30.32	22.52	-0.42	6.28	1.96
4/30/2025 17:40	0.06	0.12	1.96	0.30	-0.34	44.85	2.08
4/30/2025 17:41	0.05	0.10	0.24	0.15	-0.47	45.21	2.13
4/30/2025 17:42	5.89	0.16	0.23	1.49	-0.54	32.84	2.23
4/30/2025 17:43	20.15	0.45	0.22	4.61	-0.30	0.61	-0.06
4/30/2025 17:44	20.17	0.45	0.22	4.59	-0.22	0.53	-3.77
4/30/2025 17:45	20.15	0.47	0.22	5.01	-0.35	0.51	22.52
4/30/2025 17:46	20.16	0.46	0.22	5.00	-0.31	0.46	995.88
4/30/2025 17:47	20.16	0.47	0.20	5.11	-0.41	0.53	1005.34
4/30/2025 17:48	19.32	0.47	0.22	5.18	-0.41	2.19	1004.35
4/30/2025 17:49	0.25	0.12	0.24	0.09	-0.50	1.53	242.28
4/30/2025 17:50	0.07	0.09	0.21	0.06	-0.62	-0.07	2.13

Appendix G

Alliance
TECHNICAL GROUP

Site Specific Test Plan

Metal Management Midwest, Inc
Paulina Facility
2500 South Paulina Street
Chicago, Illinois 60608

Source to be Tested: Hammermill Shredder System
Proposed Test Date: April 30, 2025

Project No. AST-2025-0397

Prepared By
Alliance Technical Group, LLC
1355 Sherman Road, Suite 300
Hiawatha, IA 52233

Regulatory Information

Permit No.(s) Illinois EPA Construction Permit No. 21120017

Source Information

Source Name

Hammermill Shredder System

Target Parameters

PM, HCl, TSM, SO_2, NOx, CO, VOC, PTE, VEE

Contact Information

Test Location
Sims Metal
Paulina Facility
2500 South Paulina Street
Chicago, Illinois 60608

Client Contact
Michael Trupin
michael.trupin@simsmm.com
(215) 478-1886

Test Company
Alliance Technical Group, LLC
1355 Sherman Road, Suite 300
Hiawatha, IA 52233

Project Manager
Wyatt Wille
wyatt.wille@alliancetg.com
(563) 794-2039

Field Team Leader
Wyatt Wille
wyatt.wille@alliancetg.com
(563) 794-2039

QA/QC Manager
Kathleen Shonk
katie.shonk@alliancetg.com
(812) 452-4785

Test Plan/Report Coordinator
Nicholas Venderley
nick.venderley@alliancetg.com
(812) 452-4785

Field Technical Services Lead
Rich Trzupek
rich.trzupek@alliancetg.com
(847)809-7864

Analytical Laboratories
Alliance Technical Group, LLC
214 Central Circle SW
Decatur, AL 35603
John Lawrence
john.lawrence@alliancetg.com
(256) 351-0121 ext. 124

Alliance Technical Group, LLC
4500 Ball Rd. NE
Circle Pines, MN 55014
Hailee Bonds
(651) 319-1305

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1.0 Introduction

Alliance Technical Group, LLC (Alliance) was retained by Metal Management Midwest, Inc (Sims Metal) to conduct stack testing at the Sims Metal - Paulina facility located in Chicago, IL. Portions of the facility are subject to provisions of the Illinois Environmental Protection Agency (IEPA) Construction Permit Application No. 21120017. Testing will be conducted to determine the emission rates of particulate matter (PM), particulate matter less than 10 microns (PM10), particulate matter less than 2.5 microns (PM2.5), sulfur dioxide (SO_2), nitrogen oxide (NOx), carbon monoxide (CO), hydrogen chloride (HCl), and total selected metals (TSM) at the stack of the Hammermill Shredder Emission Control System, with visible emissions (VE) also being observed concurrently with testing. Additional testing will also be conducted to determine the emission rate of Volatile Organic Material (VOM) from the inlet and outlet (i.e, Emission Control System Stack) associated with the Valveless Regenerative Thermal Oxidizer (VRTO) used to control VOM emissions. These emission rates will be used to determine the destruction efficiency (DE) of the VRTO.

This site-specific test plan (SSTP) has been prepared to address the notification and testing requirements of the IEPA permit.

1.1 Process Description

There are two emission capture hoods directly connected to the shredder, one located at the shredder in feed and the second at the under-mill oscillator (UMO or shredder outlet). The capture hoods and the entirety of the shredder assembly are enclosed consistent with Method 204 (permanent total enclosure) criteria. The capture system is designed with an exhaust air flow of 75,000 CFM produced by two fans, each powered by700hp drives. Emissions are directed through a cyclone and venturi scrubber, where particulate matter is captured and controlled. The emissions are then directed to the VRTO. The VRTO operates with natural gas as its primary fuel and serves to destroy VOM in the exhaust stream. The particulate matter and VOM free exhaust pass through a Dry Sorbent Injection (DSI) Scrubber equipped with a dry sorbent fabric filter baghouse. As the exhaust gas passes through the DSI Scrubber, acid gases (e.g., HCl) in the exhaust react with calcium hydroxide. The exhaust gas from the Emission Control System is then released through a 60ft stack.

1.2 Project Team

Personnel planned to be involved in this project are identified in the following table.

Table 1-3: Project Team

Facility Personnel	Michael Trupin Director of Air and Permitting & Compliance Programs Debbie Hays Permitting & Compliance Specialist
Regulatory Agency	Kevin Mattison Compliance Section - IEPA
Alliance Personnel	Wyatt Wille Rich Trzupek other field personnel assigned at time of testing event

1.3 Safety Requirements

Testing personnel will undergo site-specific safety training for all applicable areas upon arrival at the site. Alliance personnel will have current OSHA or MSHA safety training and be equipped with hard hats, safety glasses with side shields, steel-toed (puncture resistant, lace-up) safety shoes, hearing protection, fire resistant clothing, and fall protection (including shock corded lanyards and full-body harnesses). Alliance personnel will conduct themselves in a manner consistent with Client and Alliance's safety policies.

A Job Safety Analysis (JSA) will be completed daily by the Alliance Field Team Leader.

2.0 Summary of Test Program

To satisfy the requirements of the IEPA Construction permit, the facility will conduct a performance test program at the Hammermill Shredder Emission Control System at the subject Sims Metal facility.

2.1 General Description

All testing will be performed in accordance with specifications stipulated in U.S. EPA Reference Test Methods 1, 2, 3A, 4, 5/202, 6C, 7E, 9, 10, 25A, 26A, 29, and 204. Table 2-1 presents an outline and tentative schedule for the emissions testing program. The following is a summary of the test objectives.

- Testing will be performed consistent with the requirements of the facility's construction permit.
- Emissions testing will be conducted on the exhaust of Hammermill Shredder Emission Control System.
- Performance testing will be conducted within +/- 10% of the maximum material throughput of the shredder. The maximum material throughput of the shredder is 200 net tons per hour (i.e., 180 gross tons per hour). Sims will also perform each test run at an End of Life Vehicle (ELV) mix feed rate of 50% (along with 50% light iron).
- Total selected metals include Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, and zinc.
- Each of the three (3) test runs will be approximately 90 minutes in duration.
- If the stack gas temperature is less than 85°F at the time of testing, total particulate matter will be measured using modified U.S. EPA Reference Test Method 5 with an unheated sample system.
- Testing will be performed to determine the destruction efficiency of the VRTO within the Hammermill Shredder Emission Control System.

2.2 Process/Control System Parameters to be Monitored and Recorded

Plant personnel will collect operational and parametric data during the testing. To the extent possible, datasheets including the below data will be comprised of a line-by-line summary of each parameter. Sims will maintain underlying supporting data in electronic form (e.g., 1-minute average data for control device measurements) for each of the parameters below. The following list identifies the measurements, observations and records that will be collected during the testing program:

- Material Processed – tons per test run and tons/hr;
- Material Mix – Percent End of Life Vehicles per test run;
- Flow rate of natural gas at the VRTO, total scf per test run;
- Dry Sorbent Injection System Baghouse Differential Pressure, hourly or test run average in WC;
- Sorbent injection rate, hourly or test run average in lb/hr;
- Scrubbant liquid flow rate at the venturi scrubber, hourly or test run average in gpm;
- Pressure drop across the venturi scrubber, hourly or test run average in WC;
- Pressure drop across the cyclone, hourly or test run average in WC; and
- VRTO combustion chamber temperature, hourly or test run average in degrees Fahrenheit

2.3 Proposed Test Schedule

Table 2-1 presents an outline and tentative schedule for the emissions testing program.

Table 2-1: Program Outline and Tentative Test Schedule

Testing Location	Parameter	US EPA Method	No. of Runs	Run Duration	Est. Onsite Time
DAY 1 – April 29, 2025					
Equipment Setup & Pretest QA/QC Checks, Validate PTE					6 hr
DAY 2 – April 30, 2025					
VRTO (Inlet and Outlet/Stack)	VFR	1-2	3	90 Min	10 hr
	O_2/CO_2	3A			
	BWS	4			
	VOM	25A			
VRTO (Outlet/Stack)	PM	5/202			
	SO_2	6C			
	NOx	7E			
	VEE	9			
	CO	10			
	VOM	25A			
	HCl	26A			
	TSM	29[2]			
Hammermill Shredder System (Inlet and Outlet)	PTE	204[1]	--		
DAY 3 – May 1, 2025					
Contingency Day (if needed)					

1 Volumetric flowrate measurements will be used to calculate Facial Velocity (FV) through Natural Draft Openings (NDOs) for the purpose of demonstrating consistency with Method 204 criteria. It is anticipated that FV will exceed 500 feet per minute (fpm), so a demonstration of direction of air flow at the NDOs is not technically necessary. Please see Section 3.12 of this Plan for a further discussion on a demonstration of inward flow and measurement of differential pressure. All other Method 204 related demonstrations will be provided based on as-built drawings, dimensions and associated calculations.

2 Alliance will target a sample volume of approximately 60 dscf (1.7 dscm) per test run.

2.4 Emission Limits

Emission limits for each pollutant are below.

Table 2-2: Emission Limits

Source	Pollutant	Citation
VRTO (Outlet)[2]	PM –TBD gr/dscf, TBD lb/hr	Permit
	PM10 –TBD gr/dscf, TBD lb/hr	
	PM2.5 –TBD gr/dscf, TBD lb/hr	
	SO_2 – TBD ppmvd, TBD lb/hr	
	NOx - TBD ppmvd, TBD lb/hr	
	CO - TBD ppmvd, TBD lb/hr	
	VEE - 30%	
	HCl - TBD ppmvd, TBD lb/hr	
	TSM - TBD ppmvd, TBD lb/hr	
VRTO (Inlet and Outlet)	VOM DRE[1] - ≥ 85% VOM – TBD ppmv, TBD, lb/hr	

1. The permit includes a requirement to either reduce VOM emissions to 10 ppm equivalent methane or less, or to convert 85% of the hydrocarbons to carbon dioxide and water. Beyond that, emission capture and control must achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent.
2. Condition 8a of the permit includes CO, NOx and SO2 emission limits related to natural gas combustion only. These values are provided as 260.56 lb/mmscf, 100.0 lb/mmscf and 0.6 lb/mmscf, respectively.

2.5 Test Report

The final test report must be submitted within 60 days of the completion of the performance test and will include the following information.

- *Introduction* – Brief discussion of project scope of work and activities.
- *Results and Discussion* – A summary of test results and process/control system operational data with comparison to regulatory requirements if/as applicable, along with a description of process conditions and/or testing deviations that may have affected the testing results.
- *Methodology* – A description of the sampling and analytical methodologies.
- *Sample Calculations* – Example calculations for each target parameter.
- *Field Data* – Copies of actual handwritten or electronic field data sheets.
- *Laboratory Data* – Copies of laboratory report(s) and chain of custody(s).
- *Quality Control Data* – Copies of all instrument calibration data and/or calibration gas certificates.
- *Process Operating/Control System Data* – Process operating and control system data (as provided by Sims Metal) to support the test results.

3.0 Testing Methodology

This section provides a description of the sampling and analytical procedures for each test method that will be employed during the test program. All equipment, procedures and quality assurance measures necessary for the completion of the test program meet or exceed the specifications of each relevant test method. The emission testing program will be conducted in accordance with the test methods listed in Table 3-1.

Table 3-1: Source Testing Methodology

Parameter	U.S. EPA Reference Test Methods	Notes/Remarks
Volumetric Flow Rate	1 & 2	Full Velocity Traverses
Oxygen/Carbon Dioxide	3A	Instrumental Analysis
Moisture Content	4	Gravimetric Analysis
Particulate Matter	5/202	Isokinetic Sampling
Sulfur Dioxide	6C	Instrumental Analysis
Nitrogen Oxides	7E	Instrumental Analysis
Visible Emission Evaluation	9	Certified Observer
Carbon Monoxide	10	Instrumental Analysis
Volatile Organic Material	25A	Instrumental Analysis
Hydrogen Chloride	26A	Isokinetic Sampling
Metals	29	Isokinetic Testing
Permanent Total Enclosure	204	--

All stack diameters, depths, widths, upstream and downstream disturbance distances and nipple lengths will be measured on site with an EPA Method 1 verification measurement provided by the Field Team Leader. These measurements will be included in the test report.

3.1 U.S. EPA Reference Test Methods 1 and 2 – Sampling/Traverse Points and Volumetric Flow Rate

The sampling location and number of traverse (sampling) points will be selected in accordance with U.S. EPA Reference Test Method 1. To determine the minimum number of traverse points, the upstream and downstream distances will be equated into equivalent diameters and compared to Figure 1-1 (for isokinetic sampling) and/or Figure 1-2 (measuring velocity alone) in U.S. EPA Reference Test Method 1.

Full velocity traverses will be conducted in accordance with U.S. EPA Reference Test Method 2 to determine the average stack gas velocity pressure, static pressure and temperature. The velocity and static pressure measurement system will consist of a pitot tube and inclined manometer. The stack gas temperature will be measured with a K-type thermocouple and pyrometer.

Stack gas velocity pressure and temperature readings will be recorded during each test run. The data collected will be utilized to calculate the volumetric flow rate in accordance with U.S. EPA Reference Test Method 2. Two (2) sets of traverses will be performed at the inlet location for each test run in accordance with U.S. EPA Reference Test Method

2. At the RTO outlet, the average of the volumetric flows measured using the Method 5 sampling train and the Method 29 sampling train will be calculated and used to determine pollutant mass emission rates. At the RTO inlet, one complete velocity traverse will be conducted upon initiation of each test run and a second will be conducted beginning approximately fifteen minutes before the conclusion of each test run. The average of the two volumetric flow rates calculated will be used to determine pollutant mass emission rates.

3.2 U.S. EPA Reference Test Method 3A – Oxygen/Carbon Dioxide

The oxygen (O_2) and carbon dioxide (CO_2) testing will be conducted in accordance with U.S. EPA Reference Test Method 3A. Data will be collected and reported in one-minute averages. EPA Method 3A will be performed continuously in conjunction with U.S. EPA Reference Test Methods 1, 2, 4 and 25A on the inlet duct. EPA Method 3A will be performed continuously in conjunction with U.S. EPA Reference Test Methods 1, 2, 4 and 29 on the outlet duct. EPA Method 3A will be used to determine stack gas molecular weight. The sampling system will consist of a stainless steel probe, Teflon sample line(s), gas conditioning system and the identified gas analyzer. The gas conditioning system will be a non-contact condenser used to remove moisture from the stack gas. If an unheated Teflon sample line is used, then a portable non-contact condenser will be placed in the system directly after the probe. Otherwise, a heated Teflon sample line will be used. The quality control measures are described in Section 3.13.

3.3 U.S. EPA Reference Test Method 4 – Moisture Content

The stack gas moisture content will be determined in accordance with U.S. EPA Reference Test Method 4. EPA Method 4 will be performed in conjunction with U.S. EPA Reference Test Methods 1, 2, 3A and 25A on the inlet duct. Method 4 will be performed in conjunction with U.S. EPA Reference Test Methods 1, 2, 3A and 29 on the exhaust duct. The gas conditioning train will consist of a series of chilled impingers. Prior to testing, each impinger will be filled with a known quantity of water or silica gel. Each impinger will be analyzed gravimetrically before and after each test run on the same analytical balance to determine the amount of moisture condensed. Inlet stack gas moisture will be calculated based on the weight gain of the EPA Method 4 sample train used during each test run. Exhaust stack gas moisture contest will be calculated based on the weight gain of the EPA Method 29 sample train used during each test run.

3.4 U.S. EPA Reference Test Methods 5 and 202 – Total Particulate Matter

The total particulate matter (filterable and condensable PM) testing will be conducted in accordance with U.S. EPA Reference Test Methods 5 and 202. The complete sampling system will consist of a glass nozzle, glass-lined probe, pre-weighed quartz filter, coil condenser, un-weighed Teflon filter, gas conditioning train, pump and calibrated dry gas meter. The gas conditioning train will consist of a coiled condenser and four (4) chilled impingers. The first and second impingers will be initially empty, the third will contain 100 mL of de-ionized water and the last impinger will contain 200-300 grams of silica gel. The un-weighed 90 mm Teflon filter will be placed between the second and third impingers. The probe liner heating system will be maintained at a temperature of 248 ±25°F, and the impinger temperature will be maintained at 68°F or less throughout testing. The temperature of the Teflon filter will be maintained greater than 65°F but less than or equal to 85°F.

If the stack gas temperature is less than 85°F at the time of testing, total particulate matter will be measured using U.S. EPA Reference Test Method 17 or modified U.S. EPA Reference Test Method 5 with an unheated sample system.

Following the completion of each test run, the sampling train will be leak checked at a vacuum pressure greater than or equal to the highest vacuum pressure observed during the run. If condensate is collected in the first dry impinger, then the front-half of the sample train (the nozzle, probe, and heated pre-weighed filter) will be removed in order to

purge the back-half of the sample train (coil condenser, first and second impingers and CPM filter). A glass bubbler will be inserted into the first impinger. If needed, de-ionized ultra-filtered (DIUF) water will be added to the first impinger to raise the water level above the bubbler, then the coil condenser will be replaced. Zero nitrogen will be connected to the condenser, and a 60-minute purge at 14 liters per minute will be conducted. After the completion of the nitrogen purge the impinger contents will be measured for moisture gain. The nitrogen purge will be omitted if minimal condensate is collected in the dry impingers.

The pre-weighed quartz filter will be carefully removed and placed in container 1. The probe, nozzle and front half of the filter holder will be rinsed three (3) times with acetone to remove any adhering particulate matter and these rinses will be recovered in container 2. All containers will be sealed, labeled and liquid levels marked for transport to the identified laboratory for filterable particulate matter analysis.

The contents of impingers 1 and 2 will be recovered in container CPM Cont. #1. The back half of the filterable PM filter holder, the coil condenser, impingers 1 and 2 and all connecting glassware will be rinsed with DIUF water and then rinsed with acetone, followed by hexane. The water rinses will be added to container CPM Cont. #1 while the solvent rinses will be recovered in container CPM Cont. #2. The Teflon filter will be removed from the filter holder and placed in container CPM Cont. #3. The front half of the condensable PM filter holder will be rinsed with DIUF water and then with acetone, followed by hexane. The water rinse will be added to container CPM Cont. #1 while the solvent rinses will be added to container CPM Cont. #2. All containers will be sealed, labeled and liquid levels marked for transport to the identified laboratory for condensable particulate matter analysis.

3.5 U.S. EPA Reference Test Method 6C – Sulfur Dioxide

The sulfur dioxide (SO_2) testing will be conducted in accordance with U.S. EPA Reference Test Method 6C. Data will be collected and reported in one-minute averages. The sampling system will consist of a heated stainless steel probe, Teflon sample line(s), gas conditioning system and the identified analyzer. The gas conditioning system will be a non-contact condenser used to remove moisture from the source gas. If an unheated Teflon sample line is used, then a portable non-contact condenser will be placed in the system directly after the probe. Otherwise, a heated Teflon sample line will be used. The quality control measures are described in Section 3.13.

3.6 U.S. EPA Reference Test Method 7E – Nitrogen Oxides

The nitrogen oxides (NOx) testing will be conducted in accordance with U.S. EPA Reference Test Method 7E. Data will be collected and reported in one-minute averages. The sampling system will consist of a stainless steel probe, Teflon sample line(s), gas conditioning system and the identified gas analyzer. The gas conditioning system will be a non-contact condenser used to remove moisture from the stack gas. If an unheated Teflon sample line is used, then a portable non-contact condenser will be placed in the system directly after the probe. Otherwise, a heated Teflon sample line will be used. The quality control measures are described in Section 3.13.

3.7 U.S. EPA Reference Test Method 9 – Visible Emissions Evaluations

The stack gas opacity will be determined in accordance with U.S. EPA Reference Test 9. Visible emission evaluations will be conducted by a certified visible emissions evaluator. Opacity readings will be recorded in 15-second intervals during each of three (3) 60-minute evaluations.

3.8 U.S. EPA Reference Test Method 10 – Carbon Monoxide

The carbon monoxide (CO) testing will be conducted in accordance with U.S. EPA Reference Test Method 10. Data will be collected and reported in one-minute averages. The sampling system will consist of a stainless steel probe,

Teflon sample line(s), gas conditioning system, and the identified gas analyzer. The gas conditioning system will be a non-contact condenser used to remove moisture from the gas. If an unheated Teflon sample line is used, then a portable non-contact condenser will be placed in the system directly after the probe. Otherwise, a heated Teflon sample line will be used. The quality control measures are described in Section 3.13.

3.9 U.S. EPA Reference Test Method 25A –Volatile Organic Material

The volatile organic material (VOM) testing will be conducted in accordance with U.S. EPA Reference Test Method 25A. Data will be collected online and reported in one-minute averages. The sampling system will consist of a stainless steel probe, heated Teflon sample line(s) and the identified gas analyzer. The quality control measures are described in Section 3.14.

3.10 U.S. EPA Reference Test Method 26A – Hydrogen Chloride

The hydrogen chloride testing will be conducted in accordance with U.S. EPA Reference Test Method 26A. The complete sampling system will consist of a glass nozzle, heated glass-lined probe, heated Teflon filter, gas conditioning train, pump and calibrated dry gas meter. The gas conditioning train will consist of four (4) chilled impingers. The first and second impingers will contain 100 mL of 0.1 N H_2SO_4, the third will be initially empty and the fourth will contain 200-300 grams of silica gel. The probe liner and filter heating systems will be maintained at 248-273°F, and the impinger temperature will be maintained at 20°C (68°F) or less throughout the testing.

Following the completion of each test run, the sampling train will be leak checked at a vacuum pressure greater than or equal to the highest vacuum pressure observed during the run and the contents of the impingers will be measured for moisture gain. The absorbing solution (0.1 N H_2SO_4) from the first and second impingers will be placed into sample container 3. The back-half of the filter holder, first, second and third impingers and all glassware leading to the outlet of the third impinger will be rinsed with de-ionized (DI) water. These rinses will be also placed in container 3. All containers will be sealed, labeled and liquid levels marked for transport to the identified laboratory for analysis.

3.11 U.S. EPA Reference Test Method 29 – Metals

The metals testing will be conducted in accordance with U.S. EPA Reference Test Method 29. The complete sampling system will consist of a glass nozzle, glass-lined probe, pre-cleaned heated quartz filter, gas conditioning system, pump and calibrated dry gas meter. The gas conditioning train will consist of seven (7) chilled impingers. The first impinger will be empty, the second and third will contain 100 mL of HNO_3/H_2O_2, the fourth will be empty, the fifth and sixth will contain 100 mL of acidic $KMnO_4$, and the seventh will contain 200-300 grams of silica gel. The probe liner and filter heating systems will be maintained at a temperature of 120 ± 14°C (248 ±25°F), and the impinger temperature will be maintained at 20°C (68°F) or less throughout testing. Prior to testing, all glassware will be cleaned and sealed in a controlled environment as outlined in the test method.

Following the completion of each test run, the sample train will be leak checked at a vacuum pressure equal to or greater than the highest vacuum pressure observed during the run and the contents of the impingers will be measured for moisture gain. The quartz filter will be carefully removed and placed into container 1. The probe and nozzle will be rinsed and brushed three (3) times with 0.1 N HNO_3 using a non-metallic brush and these rinses will be placed in container 3. The front half of the filter holder will be rinsed three (3) times with 0.1 N HNO_3 and these rinses will be added to container 3. The contents of impingers 1, 2, and 3 will be placed in container 4. Impingers 1, 2, and 3 along with the filter support, back half of the filter holder and all connecting glassware will be triple-rinsed with 0.1 N HNO_3 and these rinses will be added to container 4. The contents of impinger 4 will be placed in container 5A. The impinger

and connecting glassware will be triple-rinsed with HNO_3 and these rinses added to container 5A. The contents of impingers 5 and 6 will be placed in container 5B. The impingers and all connecting glassware will be triple-rinsed with acidified $KMNO_4$ and then with de-ionized (DI) water and these rinses will be added to container 5B. Impingers 5 and 6 will be rinsed again with 25 mL of 8N HCl and this rinse will be collected into container 5C, which will contain 200 mL of DI water. All containers will be sealed, labeled and liquid levels marked for transport to the identified laboratory for analysis.

3.12 U.S. EPA Reference Test Method 204 – Permanent Total Enclosures

The following procedures will be used to verify 100% of volatile organic compound emissions are captured through the use of the Permanent Total Enclosure.

The equivalent diameters of the natural draft openings (NDOs) and the distances from the VOM emitting point to each NDOs will be determined. Distances will be calculated in terms of equivalent diameters. The distances between each NDO and the VOM emission point must be at least four equivalent diameters. All measurements will be based on as-built scale drawings provided by Sims Metal and/or its suppliers, with NDO measurements (only) being physically confirmed (for observers) prior to the commencement of testing. Please see Appendix D for the drawings associated with the emission capture system.

The total surface area (A_T) of the enclosure and the total area (A_N) of all NDO's in the enclosure will be measured. The NDO to enclosure area ratio (NEAR) will be calculated as follows: NEAR = A_N/A_T. The NEAR must be less than or equal to 0.05. All measurements will be based on as-built scale drawings provided by Sims Metal and/or its suppliers.

The volumetric flow rate, corrected to standard conditions, of the combined gas stream from the aforementioned capture hoods will be determined using U.S. EPA Reference Test Method 2, as referenced in the above sections. The FV will be calculated using the following equation,

$FV = (Q_o - Q_i)/A_N$.

where,

Q_o = the sum of the volumetric flow from all gas streams exiting the enclosure through an exhaust duct or hood.

Q_i =the sum of the volumetric flow from all gas streams into the enclosure through a forced makeup air duct; Since there is no forced makeup air in the system, Q_i will be zero in this case.

A_N = total area of all NDO's in enclosure. This will be based on as-built scale drawings provided by Sims Metal and/or its suppliers.

The FV shall be at least 3,600 m/hr (200 fpm). Please see Appendix D which included drawings associated with the Permanent Total Enclosure and calculations to document consistency with Method 204.

Based on the anticipated/calculated FV being over 500 fpm, the direction of air flow through all NDO's not required by Method 204. However, Sims will demonstrate (one-time, prior to commencement of material flow into the shredder) inward flow of air at the shredder infeed NDO and the UMO NDO. Sims will utilize either a streamer-like approach or smoke at the two indicated NDOs for this demonstration. In addition (and although not required by Method 204), Sims will perform a similar one-time verification of differential pressure (prior to the commencement of material flow into the shredder) by measuring the differential pressure at the aforementioned NDOs (i.e., near or within the hood associated with each NDO). The pressure differential measurement and the streamer/smoke demonstration will be instantaneous in nature prior to commencement of the emission test event.

3.13 Quality Assurance/Quality Control – U.S. EPA Reference Test Methods 3A, 6C, 7E and 10

EPA Protocol 1 Calibration Gases

Cylinder calibration gases will meet EPA Protocol 1 (+/- 2%) standards. Copies of all calibration gas certificates will be included in the Quality Assurance/Quality Control Appendix of the report.

Direct Calibration & Calibration Error Test

Low Level gas will be introduced directly to the analyzer. After adjusting the analyzer to the Low-Level gas concentration and once the analyzer reading is stable, the analyzer value will be recorded. This process will be repeated for the High-Level gas. For the Calibration Error Test, Low, Mid, and High-Level calibration gases will be sequentially introduced directly to the analyzer. The Calibration Error for each gas must be within 2.0 percent of the Calibration Span or 0.5 ppmv/% absolute difference.

System Bias and Response Time

High or Mid-Level gas (whichever is closer to the stack gas concentration) will be introduced at the probe and the time required for the analyzer reading to reach 95 percent or 0.5 ppm/% (whichever was less restrictive) of the gas concentration will be recorded. The analyzer reading will be observed until it reaches a stable value, and this value will be recorded. Next, Low-Level gas will be introduced at the probe and the time required for the analyzer reading to decrease to a value within 5.0 percent or 0.5 ppm/% (whichever was less restrictive) will be recorded. If the Low-Level gas is zero gas, the acceptable response must be 5.0 percent of the upscale gas concentration or 0.5 ppm/% (whichever was less restrictive). The analyzer reading will be observed until it reaches a stable value, and this value will be recorded. The measurement system response time and initial system bias will be determined from these data. The System Bias for each gas must be within 5.0 percent of the Calibration Span or 0.5 ppmv/% absolute difference.

Post Test System Bias Checks

High or Mid-Level gas (whichever is closer to the stack gas concentration) will be introduced at the probe. After the analyzer response is stable, the value will be recorded. Next, Low-Level gas will be introduced at the probe, and the analyzer value will be recorded once it reaches a stable response. The System Bias for each gas must be within 5.0 percent of the Calibration Span or 0.5 ppmv/% absolute difference or the data is invalidated, and the Calibration Error Test and System Bias must be repeated.

Post Test Drift Checks

The Drift between pre- and post-run System Bias must be within 3 percent of the Calibration Span or 0.5 ppmv/% absolute difference or the Calibration Error Test and System Bias must be repeated.

Stratification Check

To determine the number of sampling points, a gas stratification check will be conducted prior to initiating testing. The pollutant concentrations will be measured at twelve traverse points (as described in Method 1) or three points (16.7, 50.0 and 83.3 percent of the measurement line). Each traverse point will be sampled for a minimum of twice the system response time.

If the pollutant concentration at each traverse point do not differ more than 5% or 0.5 ppm/0.3% (whichever is less restrictive) of the average pollutant concentration, then single point sampling will be conducted during the test runs. If the pollutant concentration does not meet these specifications but differs less than 10% or 1.0 ppm/0.5% from the average concentration, then three (3) point sampling will be conducted (stacks less than 7.8 feet in diameter - 16.7, 50.0 and 83.3 percent of the measurement line; stacks greater than 7.8 feet in diameter – 0.4, 1.0, and 2.0 meters from the stack wall). If the pollutant concentration differs by more than 10% or 1.0 ppm/0.5% from the average concentration, then sampling will be conducted at a minimum of twelve (12) traverse points. Copies of stratification check data will be included in the Quality Assurance/Quality Control Appendix of the report.

NO_x Converter Check

An NO_2 – NO converter check will be performed on the analyzer prior to initiating testing or at the completion of testing. An approximately 50 ppm nitrogen dioxide cylinder gas will be introduced directly to the NOx analyzer and the instrument response will be recorded in an electronic data sheet. The instrument response must be within +/- 10 percent of the cylinder concentration.

Data Collection

A Data Acquisition System with battery backup will be used to record the instrument response in ten (10) second and one (1) minute averages. The data will be continuously stored as a *.CSV file in Excel format on the hard drive of a computer. At the completion of testing, the data will also be saved to the Alliance server. All data will be reviewed by the Field Team Leader before leaving the facility. Once arriving at Alliance's office, all written and electronic data will be relinquished to the report coordinator and then a final review will be performed by the Project Manager. Instrumental data recorded during onsite testing will be included in the appendices of the final draft test report. Data Acquisition System Data containing ten (10) second averages used for instrumental calibration will be reported in addition to one (1) minute averages used to determine average stack gas concentrations.

3.14 Quality Assurance/Quality Control – U.S. EPA Reference Test Method 25A

EPA Protocol 1 Calibration Gases

Cylinder calibration gases will meet EPA Protocol 1 (+/- 2%) standards. Copies of all calibration gas certificates will be included in the Quality Assurance/Quality Control Appendix of the report.

Calibration Error Test and Response Time

Within two (2) hours prior to testing, zero gas will be introduced through the sampling system to the analyzer. After adjusting the analyzer to the Zero gas concentration and once the analyzer reading is stable, the analyzer value will be recorded. This process will be repeated for the High-Level gas, and the time required for the analyzer reading to reach 95 percent of the gas concentration will be recorded to determine the response time. Next, Low and Mid-Level gases will be introduced through the sampling system to the analyzer, and the response will be recorded when it is stable. All values must be less than +/- 5 percent of the calibration gas concentrations.

Post Test Drift Checks

Mid-Level gas will be introduced through the sampling system. After the analyzer response is stable, the value will be recorded. Next, Zero gas will be introduced through the sampling system, and the analyzer value recorded once it reaches a stable response. The Analyzer Drift must be less than +/- 3 percent of the span value.

Data Collection

A Data Acquisition System with battery backup will be used to record the instrument response in one (1) minute averages. The data will be continuously stored as a *.CSV file in Excel format on the hard drive of a computer. At the completion of testing, the data will also be saved to the Alliance server. All data will be reviewed by the Field Team Leader before leaving the facility. Once arriving at Alliance's office, all written and electronic data will be relinquished to the report coordinator and then a final review will be performed by the Project Manager.

4.0 Quality Assurance Program

Alliance follows the procedures outlined in the Quality Assurance/Quality Control Management Plan to ensure the continuous production of useful and valid data throughout the course of this test program. The QC checks and procedures described in this section represent an integral part of the overall sampling and analytical scheme. Adherence to prescribed procedures is quite often the most applicable QC check.

4.1 Equipment

Field test equipment is assigned a unique, permanent identification number. Prior to mobilizing for the test program, equipment is inspected before being packed to detect equipment problems prior to arriving on site. This minimizes lost time on the job site due to equipment failure. Occasional equipment failure in the field is unavoidable despite the most rigorous inspection and maintenance procedures. Therefore, replacements for critical equipment or components are brought to the job site. Equipment returning from the field is inspected before it is returned to storage. During the course of these inspections, items are cleaned, repaired, reconditioned and recalibrated where necessary.

Calibrations are conducted in a manner, and at a frequency, which meets or exceeds U.S. EPA specifications. The calibration procedures outlined in the U.S. EPA Methods, and those recommended within the Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III (EPA-600/R-94/038c, September 1994) are utilized. When these methods are inapplicable, methods such as those prescribed by the American Society for Testing and Materials (ASTM) or other nationally recognized agency may be used. Data obtained during calibrations is checked for completeness and accuracy. Copies of calibration forms are included in the report.

The following sections elaborate on the calibration procedures followed by Alliance for these items of equipment.

- Dry Gas Meter and Orifice. A full meter calibration using critical orifices as the calibration standard is conducted at least semi-annually, more frequently if required. The meter calibration procedure determines the meter correction factor (Y) and the meter's orifice pressure differential (ΔH@). Alliance uses approved Alternative Method 009 as a post-test calibration check to ensure that the correction factor has not changed more than 5% since the last full meter calibration. This check is performed after each test series.
- Pitot Tubes and Manometers. Type-S pitot tubes that meet the geometric criteria required by U.S. EPA Reference Test Method 2 are assigned a coefficient of 0.84 unless a specific coefficient has been determined from a wind tunnel calibration. If a specific coefficient from a wind tunnel calibration has been obtained that coefficient will be used in lieu of 0.84. Standard pitot tubes that meet the geometric criteria required by U.S. EPA Reference Test Method 2 are assigned a coefficient of 0.99. Any pitot tubes not meeting the appropriate geometric criteria are discarded and replaced. Manometers are verified to be level and zeroed prior to each test run and do not require further calibration.
- Temperature Measuring Devices. All thermocouple sensors mounted in Dry Gas Meter Consoles are calibrated semi-annually with a NIST-traceable thermocouple calibrator (temperature simulator) and verified during field use using a second NIST-traceable meter. NIST-traceable thermocouple calibrators are calibrated annually by an outside laboratory.
- Nozzles. Nozzles are measured three (3) times prior to initiating sampling with a caliper. The maximum difference between any two (2) dimensions is 0.004 in.
- Digital Calipers. Calipers are calibrated annually by Alliance by using gage blocks that are calibrated annually by an outside laboratory.

- Barometer. The barometric pressure is obtained from a nationally recognized agency or a calibrated barometer. Calibrated barometers are checked prior to each field trip against a mercury barometer. The barometer is acceptable if the values agree within ± 2 percent absolute. Barometers not meeting this requirement are adjusted or taken out of service.
- Balances and Weights. Balances are calibrated annually by an outside laboratory. A functional check is conducted on the balance each day it is use in the field using a calibration weight. Weights are re-certified every two (2) years by an outside laboratory or internally. If conducted internally, they are weighed on a NIST traceable balance. If the weight does not meet the expected criteria, they are replaced.
- Other Equipment. A mass flow controller calibration is conducted on each Environics system annually following the procedures in the Manufacturer's Operation manual. A methane/ethane penetration factor check is conducted on the total hydrocarbon analyzers equipped with non-methane cutters every six (6) months following the procedures in 40 CFR 60, Subpart JJJJ. Other equipment such as probes, umbilical lines, cold boxes, etc. are routinely maintained and inspected to ensure that they are in good working order. They are repaired or replaced as needed.

4.2 Field Sampling

Field sampling will be done in accordance with the Standard Operating Procedures (SOP) for the applicable test method(s). General QC measures for the test program include:

- Cleaned glassware and sample train components will be sealed until assembly.
- Sample trains will be leak checked before and after each test run.
- Appropriate probe, filter and impinger temperatures will be maintained.
- The sampling port will be sealed to prevent air from leaking from the port.
- Dry gas meter, ΔP, ΔH, temperature and pump vacuum data will be recorded during each sample point.
- An isokinetic sampling rate of 90-110% will be maintained, as applicable.
- All raw data will be maintained in organized manner.
- All raw data will be reviewed on a daily basis for completeness and acceptability.

4.3 Analytical Laboratory

Analytical laboratory selection for sample analyses is based on the capabilities, certifications and accreditations that the laboratory possesses. An approved analytical laboratory subcontractor list is maintained with a copy of the certificate and analyte list as evidence of compliance. Alliance assumes responsibility to the client for the subcontractor's work. Alliance maintains a verifiable copy of the results with chain of custody documentation.

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