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Source Test Report for 2024 Compliance Testing
FGScrubber 1 & FGScrubber 2
Temperform, LLC
Novi, MI

Prepared For:

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For Submission To:

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Document Number: MW023AS-042498-RT-2307
Test Dates: July 23 and 24, 2024
Submittal Date: October 1, 2024

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Review and Certification

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

Signature:	John Nestor	**Date:**	09 / 20 / 2024
Name:	John Nestor, QI	**Title:**	District Manager

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

Signature:		**Date:**	09 / 20 / 2024
Name:	Scott Brown, QSTI	**Title:**	Reporting Hub Manager-Midwest

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1.0 Introduction

1.1 Summary of Test Program

Temperform, LLC (Temperform) contracted Montrose Air Quality Services, LLC (Montrose) to perform a compliance emissions test program on the scrubbers FGScrubber 1 and FGScrubber 2 at their facility located in Novi, MI.

The tests were conducted to satisfy the emission testing requirements pursuant to Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) Consent Decree No. 2024-04.

The specific objectives were to:

- Determine actual emissions of VOC and FPM as $PM_{10}/PM_{2.5}$ from the FGScrubber 1 and FGScrubber 2 stacks
- Measure emissions of multi-metals from the FGScrubber 1 and FGScrubber 2 stacks
- Conduct the test program with a focus on safety

Montrose performed the tests to measure the emission parameters listed in Table 1-1.

Table 1-1
Summary of Test Program

Test Dates	Unit ID/ Source Name	Activity/Parameters	Test Methods	No. of Runs	Duration (Minutes)
7/23/2024 & 7/24/2024	FGScrubber 1 & FGScrubber 2	Velocity/Volumetric Flow Rate	EPA 1 & 2	3	72
		O_2, CO_2	EPA 3A		
		Moisture	EPA 4		
		FPM	EPA 17		
		VOC	EPA 25A/18		
		As, Be, Cd, Cr, Co, Mn, Ni, Pb, Sb, Se	EPA 29		

To simplify this report, a list of Units and Abbreviations is included in Appendix D.1. Throughout this report, chemical nomenclature, acronyms, and reporting units are not defined. Please refer to the list for specific details.

This report presents the test results and supporting data, descriptions of the testing procedures, descriptions of the facility and sampling locations, and a summary of the quality assurance procedures used by Montrose. The average emission test results are summarized and compared to their respective permit limits in Table 1-2. Detailed results for individual test runs can be found in Section 4.0. All supporting data can be found in the appendices.

The testing was conducted by the Montrose personnel listed in Table 1-3. The tests were conducted according to the test plan (protocol) dated June 24, 2024 that was submitted to and approved by EGLE.

Table 1-2
Summary of Average Test Results – FGScrubber 1 & FGScrubber 2

July 23-24, 2024

Parameter/Units	Average Results	Emission Limits
FGScrubber 1 Total Non-Methane/Non-Ethane Hydrocarbons, as Propane (VOC)		
lb/hr	9.51	--
FGScrubber 2 Total Non-Methane/Non-Ethane Hydrocarbons, as Propane (VOC)		
lb/hr	2.27	--
Combined Total Non-Methane/Non-Ethane Hydrocarbons, as Propane (VOC)		
lb/hr	11.77	25.0

1.2 Key Personnel

A list of project participants is included below:

Facility Information

Source Location:	Temperform, LLC 25425 Trans-X Road Nova, MI 48375
Project Contact:	Gloria Webber
Role:	Site Manager
Company:	Temperform, LLC
Telephone:	248-349-5230 ext. 214
Email:	gloria@temperform.com

Agency Information

Regulatory Agency:	EGLE
Agency Contact:	Andrew Riley
Telephone:	586-565-7379
Email:	rileya8@michigan.gov

Testing Company Information

Testing Firm:	Montrose Air Quality Services, LLC
Contact:	John Nestor
Title:	District Manager
Telephone:	248-765-5032
Email:	jonestor@montrose-env.com

Laboratory Information

Laboratory:	Enthalpy Analytical
City, State:	Durham, North Carolina
Method:	EPA 29

Laboratory Information

Laboratory:	Montrose
City, State:	Elk Grove Village, Illinois
Method:	EPA 18

Test personnel and observers are summarized in Table 1-3.

Table 1-3
Test Personnel and Observers

Name	Affiliation	Role/Responsibility
John Nestor	Montrose	Project Manager/Field Team Leader/Qualified Individual (QI)/Trailer operator
Matthew D'Anna, Jose Hernandez, Cody Hubbard, & Ryan Soehren	Montrose	Sample recovery/Sample train operator
Olivia Rosario	Montrose	Calculations and report preparation
Gloria Webber	Temperform	Observer/Client Liaison/Test Coordinator
Andrew Riley	EGLE	Observer

2.0 Plant and Sampling Location Descriptions

2.1 Process Description, Operation, and Control Equipment

The melting, pouring, and cooling of metal and mold/core preparation operations are controlled by two 40,000 CFM wet scrubbers (FGSCRUBBER1 and FGSCRUBBER2) that are arranged in parallel. There is a liquid phase carbon absorption system, with random packing to increase mass transfer surface area and is present to reduce organics in the scrubber liquor. The emissions exhaust through stacks SV001 and SV002.

2.2 Flue Gas Sampling Locations

Information regarding the sampling locations is presented in Table 2-1.

Table 2-1
Sampling Locations

Sampling Location	Stack Inside Diameter (in.)	Distance from Nearest Disturbance		Number of Traverse Points
		Downstream EPA "B" (in./dia.)	Upstream EPA "A" (in./dia.)	
FGScrubber 1	43 x 39	92/2.2	21/0.51	Isokinetic: 24 (6/port) Gaseous: 1
FGScrubber 2	43 x 39	92/2.2	21/0.51	Isokinetic: 24 (6/port) Gaseous: 1

The sample locations were verified in the field to conform to EPA Method 1. Acceptable cyclonic flow conditions were confirmed prior to testing using EPA Method 1, Section 11.4. See Appendix A.1 for more information.

2.3 Operating Conditions and Process Data

Emission tests were performed while the units and air pollution control devices were operating at maximum routine operating conditions.

Plant personnel were responsible for establishing the test conditions and collecting all applicable unit-operating data. The process data that was provided is presented in Appendix B.

3.0 Sampling and Analytical Procedures

3.1 Test Methods

The test methods for this test program have been presented in Table 1-1. Additional information regarding specific applications or modifications to standard procedures is presented below.

3.1.1 EPA Method 1, Sample and Velocity Traverses for Stationary Sources

EPA Method 1 is used to assure that representative samples or measurements of volumetric flow rate are obtained by dividing the cross-section of the stack or duct into equal areas, and then locating a traverse point within each of the equal areas. Acceptable sample locations must be located at least two stack or duct equivalent diameters downstream from a flow disturbance and one-half equivalent diameter upstream from a flow disturbance.

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

- Method Options:
  - None
- Method Exceptions:
  - None

The sample port and traverse point locations are detailed in Appendix A.

3.1.2 EPA Method 2, Determination of Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)

EPA Method 2 is used to measure the gas velocity using an S-type pitot tube connected to a pressure measurement device, and to measure the gas temperature using a calibrated thermocouple connected to a thermocouple indicator. Typically, Type S (Stausscheibe) pitot tubes conforming to the geometric specifications in the test method are used, along with an inclined manometer. The measurements are made at traverse points specified by EPA Method 1. The molecular weight of the gas stream is determined from independent measurements of O_2, CO_2, and moisture. The stack gas volumetric flow rate is calculated using the measured average velocity head, the area of the duct at the measurement plane, the measured average temperature, the measured duct static pressure, the molecular weight of the gas stream, and the measured moisture.

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

- Method Options:
  - S-type pitot tube coefficient is 0.84
- Method Exceptions:
  - None

3.1.3 EPA Method 3A, Determination of Oxygen and Carbon Dioxide in Emissions from Stationary Sources (Instrumental Analyzer Procedure)

EPA Method 3A is an instrumental test method used to measure the concentration of O_2 and CO_2 in stack gas. The effluent gas is continuously or intermittently sampled and conveyed to analyzers that measure the concentrations of O_2 and CO_2. The performance requirements of the method must be met to validate data.

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

- Method Options:
  - Single-point sampling is performed if O_2 and CO_2 measurements are for molecular weight calculations only
  - A paramagnetic analyzer is used to measure O_2
  - A nondispersive infrared analyzer is used to measure CO_2
- Method Exceptions:
  - None
- Target and/or Minimum Required Sample Duration: 72 minutes

3.1.4 EPA Method 4, Determination of Moisture Content in Stack Gas

EPA Method 4 is a manual, non-isokinetic method used to measure the moisture content of gas streams. Gas is sampled at a constant sampling rate through a probe and impinger train. Moisture is removed using a series of pre-weighed impingers containing methodology-specific liquids and silica gel immersed in an ice water bath. The impingers are weighed after each run to determine the percent moisture.

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

- Method Options:
  - Moisture sampling is performed as part of the pollutant sample trains
  - Sampling was conducted in near saturated conditions. Used saturation for Runs 1 and 3
- Method Exceptions:
  - None
- Target and/or Minimum Required Sample Duration: 60 minutes

3.1.5 EPA Method 17, Determination of Particulate Matter Emissions from Stationary Sources

EPA Method 17 is a manual, isokinetic test method used to measure emissions of FPM. Particulate matter is withdrawn isokinetically from the source and collected on a glass fiber

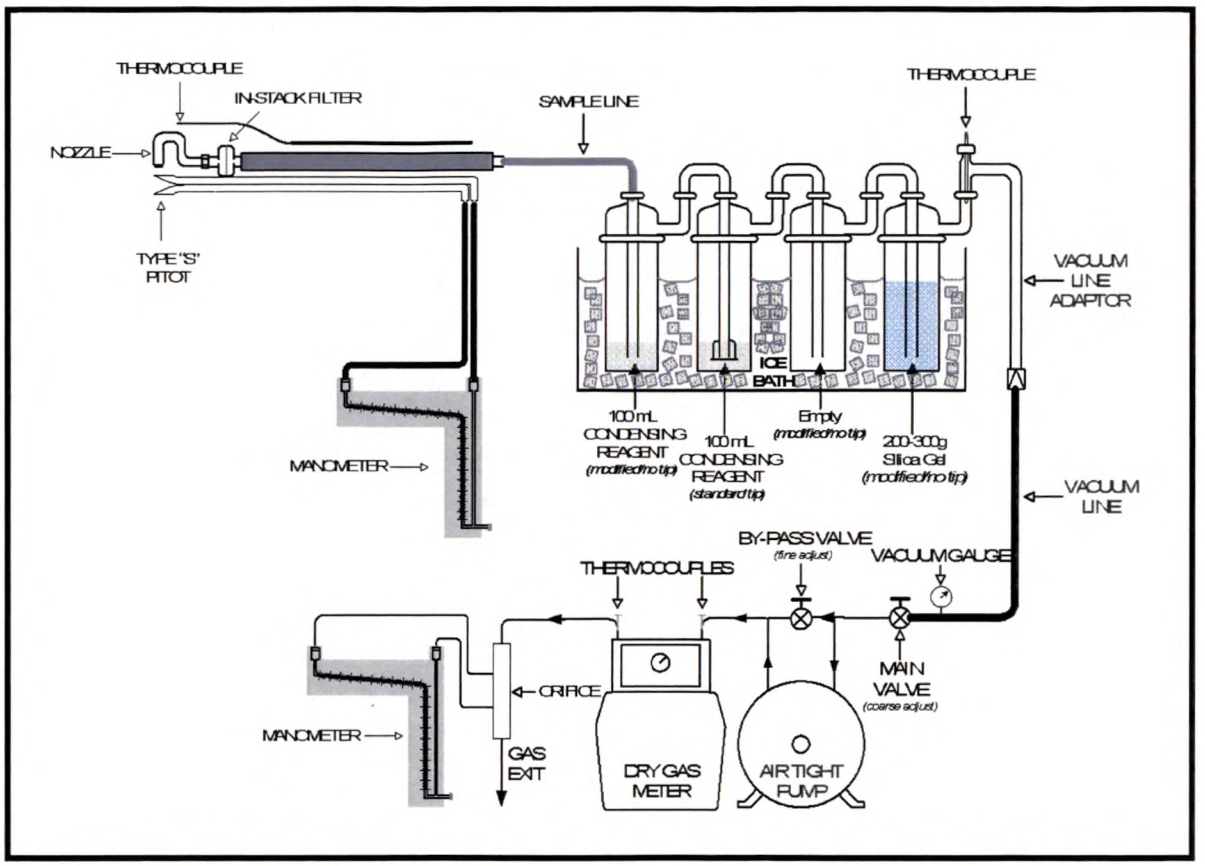
filter maintained at stack temperature. The PM mass is determined gravimetrically after the removal of uncombined water.

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

- Method Options:
  - None
- Method Exceptions:
  - None
- Target and/or Minimum Required Sample Duration: 72 minutes
- Analytical Laboratory: Montrose, Royal Oak, Michigan

The typical sampling system is detailed in Figure 3-1.

FIGURE 3-1
EPA Method 17 Sampling Train



3.1.6 EPA Methods 25A and 18, Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer and Measurement of Gaseous Organic Compound Emissions by Gas Chromatography

EPA Method 25A is an instrumental test method used for the determination of total gaseous organic concentration of vapors in stack gas. A gas sample is extracted from the source through a heated sample line and glass fiber filter to an FIA. Results are reported as THC as volume concentration equivalents of the calibration gas, typically propane, or as carbon equivalents.

EPA Method 18 is used to measure gaseous organic compounds from stationary sources. The major organic components of a gas mixture are separated by GC and are individually quantified using a FID, PID, ECD, or other appropriate detection principles. The retention times of each separated component are compared with those of known compounds under identical conditions. The GC analyst confirms the identity and approximate concentrations of the organic emission components beforehand. With this information, the analyst then

prepares or purchases commercially available standard mixtures to calibrate the GC under conditions identical to those of the samples. The analyst also determines the need for sample dilution to avoid detector saturation, gas stream filtration to eliminate particulate matter, and prevention of moisture condensation.

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

- Method Options:
  - Results are reported in terms of propane
  - Integrated bag sampling and analysis is performed for Method 18
  - Flows and moistures were obtained from near simultaneous Method 17 test runs
- Method Exceptions:
  - None
- Target and/or Minimum Required Sample Duration: 72 minutes
- Analytical Laboratory: Montrose, Elk Grove Village, Illinois

3.1.7 EPA Method 29, Determination of Metals Emissions from Stationary Sources

EPA Method 29 is a manual, isokinetic test method to measure a variety of metals using inductively coupled argon plasma emission spectroscopy (ICAP) and cold vapor atomic absorption (CVAA) spectroscopy. This method is performed in conjunction with EPA Methods 1-4. A stack sample is withdrawn isokinetically from the source, filterable emissions are collected in the probe and on a heated filter, and condensable emissions are collected in an aqueous acidic solution of hydrogen peroxide (analyzed for all target analytes) and an optional aqueous acidic solution of potassium permanganate (required only when Hg is a target analyte). The recovered samples are digested, and appropriate fractions are analyzed for the target analytes which may include Hg by CVAAS and for Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Mn, Ni, P, Se, Ag, Tl, and Zn by ICAP or atomic absorption spectroscopy (AAS). Graphite furnace atomic absorption spectroscopy (GFAAS) is used for analysis of Sb, As, Cd, Co, Pb, Se, and Tl if these elements require greater analytical sensitivity than can be obtained using ICAP. AAS may be used for analysis of all target analytes if the resulting in-stack method detection limits meet the goal of the testing program. Similarly, inductively coupled plasma-mass spectroscopy (ICP-MS) may be used for analysis of Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Mn, Ni, Ag, Tl and Zn. The results from analysis of individual fractions of the sample train are summed to obtain the total concentration of each metal per sample train.

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

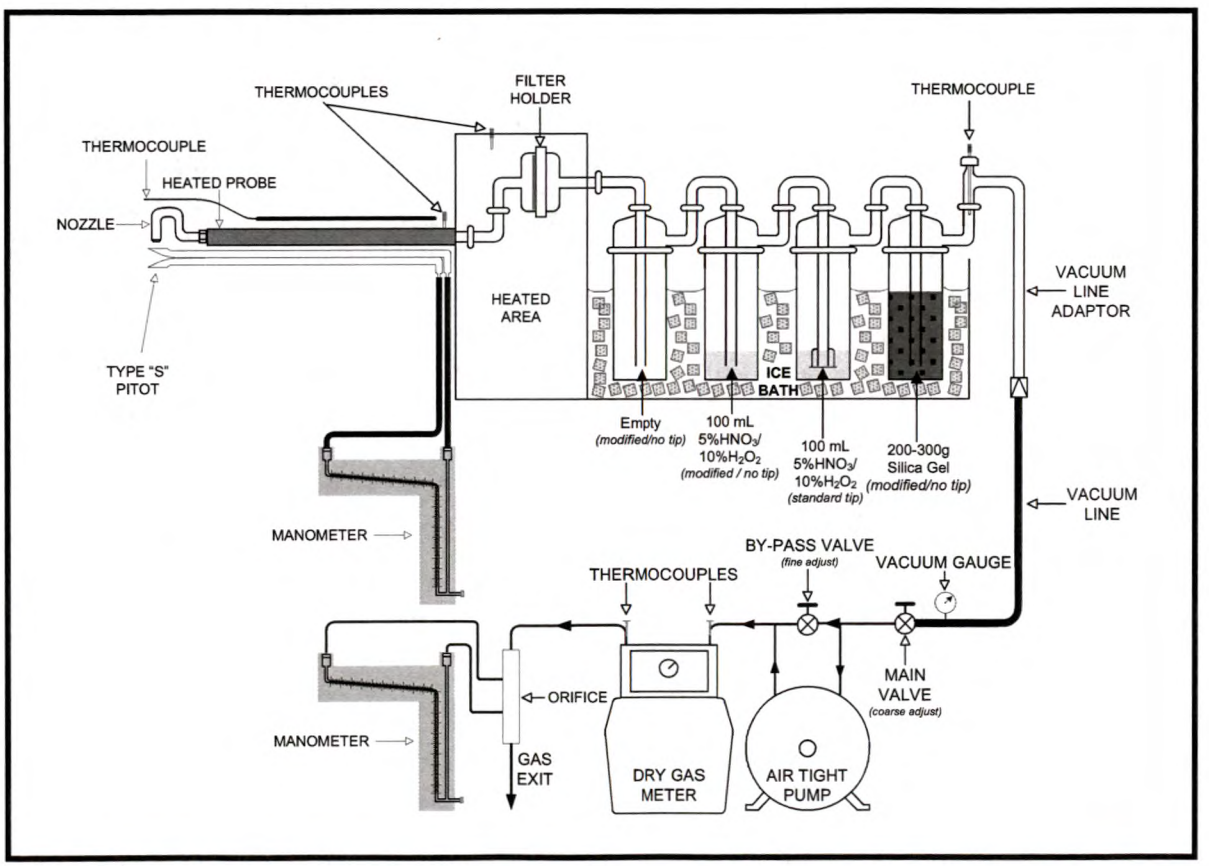
- Method Options:
  - The method is performed for the following target analytes: Antimony (Sb), Arsenic (As), Beryllium (Be), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Lead (Pb), Manganese (Mn), Nickel (Ni), Selenium (Se)

- Since mercury is not a target analyte, the fourth, fifth, and sixth impingers of the sample train are eliminated

- Method Exceptions:
  - None
- Target and/or Minimum Required Sample Duration: 72 minutes
- Analytical Laboratory: Enthalpy Analytical, Durham, North Carolina

The typical sampling system is detailed in Figure 3-2.

FIGURE 3-2
EPA Method 29 (No Hg) Sampling Train



3.2 Process Test Methods

The test plan did not require that process samples be collected during this test program; therefore, no process sample data are presented in this test report.

4.0 Test Discussion and Results

4.1 Field Test Deviations and Exceptions

On July 23, 2024, four (4) EPA Method 29 test runs were conducted on the EUSCRUBBER2 stack. Following Run 2, the sampling train did not pass the post-leak check. Run 2 was discarded and an additional test run (Run 4) was conducted. Therefore, Table 4-6 includes the metals results for Runs 1,3, and 4. Field data sheets from the discarded run are included in the appendices below.

No other field deviations or exceptions from the test plan or test methods occurred during this test program.

4.2 Presentation of Results

The average VOC results are compared to the permit limits in Table 1-2. The average PM and metals results are presented in Table 1-3. For metals where one or both fractions were below the minimum detection limit and/or the limit of quantification, the detection limit and/or estimated quantification were used for calculations and no blank correction was applied to yield results on a "worst-case scenario" basis. The results of individual test runs performed are presented in Tables 4-1 through 4-6. Emissions are reported in units consistent with those in the applicable regulations or requirements. Additional information is included in the appendices as presented in the Table of Contents.

Table 4-1
VOC Emissions Results -
FGScrubber 1

Parameter/Units	Run 1	Run 2	Run 3	Average
Date	7/23/24	7/23/24	7/23/24	--
Start Time	4:35	8:35	11:15	--
Stop Time	5:46	9:46	12:26	--
Sampling & Flue Gas Parameters				
sample duration, minutes	72	72	72	72
O_2, % volume dry	20.83	20.82	20.69	20.78
CO_2, % volume dry	0.0	0.1	0.1	0.1
flue gas temperature, °F	70	73	75	73
moisture content, % volume	2.6	2.3	3.0	2.6
volumetric flow rate, dscfm	32,246	31,554	28,773	30,858
Total Non-Methane/Non-Ethane Hydrocarbons, as Propane (VOC)				
THC Concentration, C (ppmvw)	35.58	49.19	66.41	50.39
Methane Concentration, C (ppmvw)	11.00	18.70	11.30	13.67
Ethane Concentration, C (ppmvw)	0.76	1.10	0.75	0.87
NMNE-VOC lb/hr	6.96	9.07	12.49	9.51

Table 4-2
PM Emissions Results -
FGScrubber 1

Parameter/Units	Run 1	Run 2	Run 3	Average
Date	7/23/2024	7/23/2024	7/23/2024	--
Start Time	4:35	8:35	11:15	--
Stop Time	6:47	10:12	12:43	--
Sampling & Flue Gas Parameters				
temperature (°F)	70	73	75	73
volumetric Flow Rate (acfm)	34,277	33,591	30,985	32,951
volumetric Flow Rate (scfm)	33,082	32,283	29,649	31,671
volumetric Flow Rate (dscfm)	32,246	31,554	28,773	30,858
carbon Dioxide (% dry)	0.0	0.1	0.1	0.1
oxygen (% dry)	20.9	20.8	20.7	20.8
moisture (%)	2.6	2.3	3.0	2.6
Total PM				
gr/dscf	0.0007	0.0006	0.0007	0.0006
lb/hr	0.19	0.16	0.16	0.17

Table 4-3
Metals Emissions Results -
FGScrubber 1

Parameter/Units	Run 1	Run 2	Run 3	Average
Date	7/23/2024	7/23/2024	7/23/2024	--
Time	4:35	8:35	11:15	--
Time	6:47	10:12	12:43	--
Sampling & Flue Gas Parameters				
temperature (°F)	70	74	78	74
volumetric Flow Rate (acfm)	32,415	33,447	31,628	32,497
volumetric Flow Rate (scfm)	31,330	32,067	30,112	31,170
volumetric Flow Rate (dscfm)	30,560	31,245	29,136	30,314
carbon Dioxide (% dry)	0.0	0.1	0.1	0.1
oxygen (% dry)	20.8	20.8	20.7	20.8
moisture (%)	2.8	2.6	3.3	2.9
Antimony				
µg/dscm	<0.43	<0.24	<0.27	<0.31
lb/hr	<4.91E-05	<2.78E-05	<2.93E-05	<3.54E-05
Arsenic				
µg/dscm	<0.56	<0.44	<0.49	<0.50
lb/hr	<6.36E-05	<5.19E-05	<5.38E-05	<5.65E-05
Beryllium				
µg/dscm	<0.03	<0.03	<0.04	<0.03
lb/hr	<3.81E-06	<3.78E-06	<3.92E-06	<3.84E-06
Cadmium				
µg/dscm	<0.21	<2.21	<1.06	<1.16
lb/hr	<2.41E-05	<2.59E-04	<1.15E-04	<1.33E-04
Chromium				
µg/dscm	55.57	69.01	40.92	55.17
lb/hr	6.36E-03	8.08E-03	4.47E-03	6.30E-03

Table 4-3
Metals Emissions Results Continued-
FGScrubber 1

Parameter/Units	Run 1	Run 2	Run 3	Average
Cobalt				
µg/dscm	0.81	<1.43	<0.94	<1.06
lb/hr	9.22E-05	<1.67E-04	<1.03E-04	<1.21E-04
Lead				
µg/dscm	3.73	3.28	3.90	3.64
lb/hr	4.27E-04	3.84E-04	4.26E-04	4.12E-04
Manganese				
µg/dscm	128.78	29.75	31.69	63.41
lb/hr	1.47E-02	3.48E-03	3.46E-03	7.23E-03
Nickel				
µg/dscm	42.78	<71.13	<113.79	<75.90
lb/hr	4.90E-03	<8.32E-03	<1.24E-02	<8.55E-03
Selenium				
µg/dscm	<1.80	<3.26	<2.31	<2.46
lb/hr	<2.06E-04	<3.81E-04	<2.53E-04	<2.80E-04

Table 4-4
VOC Emissions Results -
FGScrubber 2

Parameter/Units	Run 1	Run 2	Run 3	Average
Date	7/24/24	7/24/24	7/24/24	--
Start Time	4:53	7:12	10:56	--
Stop Time	6:04	8:23	12:07	--
Sampling & Flue Gas Parameters				
sample duration, minutes	72	72	72	72
O_2, % volume dry	20.9	20.9	20.9	20.9
CO_2, % volume dry	0.0	0.0	0.0	0.0
flue gas temperature, °F	71	74	77	74
moisture content, % volume	2.7	2.6	2.9	2.7
volumetric flow rate, dscfm	27,984	28,257	27,943	28,061
Total Non-Methane/Non-Ethane Hydrocarbons, as Propane (VOC)				
THC Concentration, C (ppmvw)	8.38	12.51	17.87	12.92
Methane Concentration, C (ppmvw)	3.10	2.80	2.40	2.77
Ethane Concentration, C (ppmvw)	0.08	<0.05	<0.05	0.06
NMNE-VOC lb/hr	1.36	2.20	3.24	2.27

Table 4-5
PM Emissions Results -
FGScrubber 2

Parameter/Units	Run 1	Run 2	Run 3	Average
Date	7/24/2024	7/24/2024	7/24/2024	--
Start Time	4:53	7:12	10:56	--
Stop Time	6:20	8:39	12:23	--
Sampling & Flue Gas Parameters				
temperature (°F)	71	74	77	74
volumetric Flow Rate (acfm)	29,027	29,442	29,302	29,257
volumetric Flow Rate (scfm)	27,984	28,256	27,942	28,061
volumetric Flow Rate (dscfm)	27,256	27,531	27,158	27,315
carbon Dioxide (% dry)	0.0	0.0	0.0	0.0
oxygen (% dry)	20.9	20.9	20.9	20.9
moisture (%)	2.6	2.6	2.8	2.7
Total PM				
gr/dscf	0.0102	0.0086	0.0015	0.0068
lb/hr	2.4	2.0	0.4	1.6

Table 4-6
Metals Emissions Results -
FGScrubber 2

Parameter/Units	Run 1	Run 3	Run 4	Average
Date	7/24/2024	7/24/2024	7/24/2024	--
Start Time	4:53	10:56	13:44	--
Stop Time	6:20	12:23	15:11	--
Sampling & Flue Gas Parameters				
temperature (°F)	72	77	73	74
volumetric Flow Rate (acfm)	30,560	30,769	32,071	31,133
volumetric Flow Rate (scfm)	29,448	29,347	30,809	29,868
volumetric Flow Rate (dscfm)	28,711	28,573	30,036	29,107
carbon Dioxide (% dry)	0.0	0.0	0.0	0.0
oxygen (% dry)	20.9	20.9	20.9	20.9
moisture (%)	2.5	2.7	2.5	2.6
Antimony				
µg/dscm	<0.18	<0.20	<0.17	<0.19
lb/hr	<1.98E-05	<2.18E-05	<1.95E-05	<2.03E-05
Arsenic				
µg/dscm	<0.50	<0.48	<0.47	<0.48
lb/hr	<5.33E-05	<5.18E-05	<5.25E-05	<5.26E-05
Beryllium				
µg/dscm	<0.04	<0.04	<0.03	<0.04
lb/hr	<3.88E-06	<3.77E-06	<3.82E-06	<3.82E-06
Cadmium				
µg/dscm	<0.10	<0.16	<0.13	<0.13
lb/hr	<1.12E-05	<1.75E-05	<1.43E-05	<1.43E-05
Chromium				
µg/dscm	95.32	25.30	29.39	50.01
lb/hr	1.03E-02	2.71E-03	3.31E-03	5.42E-03

Table 4-6
Metals Emissions Results Continued-
FGScrubber 2

Parameter/Units	Run 1	Run 3	Run 4	Average
Cobalt				
µg/dscm	<1.17	<0.66	<0.69	<0.84
lb/hr	<1.26E-04	<7.07E-05	<7.75E-05	<9.15E-05
Lead				
µg/dscm	1.11	1.44	1.46	1.34
lb/hr	1.19E-04	1.55E-04	1.65E-04	1.46E-04
Manganese				
µg/dscm	41.27	18.28	16.90	25.48
lb/hr	4.44E-03	1.96E-03	1.90E-03	2.77E-03
Nickel				
µg/dscm	<79.55	49.111	29.131	<52.60
lb/hr	<8.56E-03	5.26E-03	3.28E-03	<5.70E-03
Selenium				
µg/dscm	<1.83	<1.77	<2.05	<1.89
lb/hr	<1.97E-04	<1.89E-04	<2.31E-04	<2.06E-04

5.0 Internal QA/QC Activities

5.1 QA/QC Audits

The meter boxes and sampling trains used during sampling performed within the requirements of their respective methods. All post-test leak checks, minimum metered volumes, minimum sample durations, and percent isokinetics met the applicable QA/QC criteria.

EPA Method 3A calibration audits were all within the measurement system performance specifications for the calibration drift checks, system calibration bias checks, and calibration error checks.

EPA Method 25A FIA calibration audits were within the measurement system performance specifications for the calibration drift checks and calibration error checks.

EPA Method 18 analytical QA/QC results are included in the laboratory report. The method QA/QC criteria were met.

EPA Method 29 analytical QA/QC results are included in the laboratory report. The method QA/QC criteria were met.

5.2 QA/QC Discussion

All QA/QC criteria were met during this test program.

5.3 Quality Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is included in the report appendices. The content of this report is modeled after the EPA Emission Measurement Center Guideline Document (GD-043).