

**Source Test Report for 2024 Relative Accuracy
Test Audit (RATA)
EUPRESSLINE Biofilter and FGDRYERS RTO
Weyerhaeuser NR Company
State Registration No. (SRN): B7302
Grayling, MI**

Prepared For:

**Weyerhaeuser
4111 West 4 Mile Road
Grayling, MI 49378**

Prepared By:

**Montrose Air Quality Services, LLC
4949 Fernlee Avenue
Royal Oak, MI 48073**

For Submission To:

**Michigan Department of Environmental, Great Lakes and Energy
Air Quality Division (EGLE-AQD)
Constitution Hall, 2nd Floor, South 525 West Allegan Street
Lansing, MI 48909**

Document Number: MW023AS-038677-RT-2373

Test Dates: September 10-11, 2024

Submittal Date: November 5, 2024



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:** 11 / 04 / 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: Scott Brown **Date:** 11 / 05 / 2024

Name: Scott Brown, QSTI **Title:** Reporting Hub Manager - Midwest

Table of Contents

<u>Section</u>	<u>Page</u>
1.0 Introduction	5
1.1 Summary of Test Program	5
1.2 Key Personnel	7
2.0 Plant and Sampling Location Descriptions	9
2.1 Process Description, Operation, and Control Equipment	9
2.2 CERMS Description	9
2.3 Flue Gas Sampling Locations	10
2.4 Operating Conditions and Process Data	10
3.0 Sampling and Analytical Procedures	11
3.1 Test Methods	11
3.1.1 EPA Method 1	11
3.1.2 EPA Method 2	11
3.1.3 EPA Method 3A	13
3.1.4 EPA Method 4	13
3.1.5 EPA Method 10	15
3.1.6 EPA Method 25A	16
3.1.7 EPA Performance Specification 4	18
3.1.8 EPA Performance Specification 6	19
3.1.9 EPA Performance Specification 8	20
3.2 Process Test Methods	20
4.0 Test Discussion and Results	21
4.1 Field Test Deviations and Exceptions	21
4.2 Presentation of Results	21
5.0 Internal QA/QC Activities	24
5.1 QA/QC Audits	24
5.2 QA/QC Discussion	24
5.3 Quality Statement	24

List of Appendices

A Field Data and Calculations	25
A.1 Sampling Locations	26
A.2 Field Data Sheets	29
A.3 Instrumental Test Method Data	88
A.4 Calculations/Results	111
A.5 Example Calculations	139

B	Facility Process Data	157
C	Quality Assurance/Quality Control	160
	C.1 Units and Abbreviations	161
	C.2 Manual Test Method QA/QC Data	170
	C.3 Accreditation Information/Certifications	236

List of Tables

1-1	Summary of Test Program	5
1-2	Summary of Average Compliance Results	6
1-3	Test Personnel and Observers	8
2-1	EUPRESSLINE CERMS Information	9
2-2	FGDRYERS CERMS Information	10
2-3	Sampling Locations	10
4-1	CO (lb/hr) RATA Results- FGDRYERS RTO	21
4-2	VOC (lb/hr) RATA Results- FGDRYERS RTO	22
4-3	VOC (lb/hr) RATA Results- EUPRESSLINE Biofilter	23

List of Figures

3-1	US EPA Method 2 Sampling Train	12
3-2	US EPA Method 4 Sampling Train	15
3-3	US EPA Method 3A, 10, and 25A (FGDRYERS RTO) Sampling Train	16
3-4	US EPA Method 3A and 25A (EUPRESSLINE Biofilter) Sampling Train	18

1.0 Introduction

1.1 Summary of Test Program

Weyerhaeuser contracted Montrose Air Quality Services, LLC (Montrose) to perform a Continuous Emission Rate Monitoring System (CERMS) RATA on the EUPRESSLINE Biofilter and FGDRYERS RTO at the facility located in Grayling, MI.

The tests were conducted to determine compliance with the Relative Accuracy (RA) requirements listed in permit number MI-ROP-B7302-2016c issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE AQD) and with the Relative Accuracy (RA) requirements listed in Appendix B or 40 CFR 60.

The specific objectives were to:

- Determine the RA for the EUPRESSLINE Biofilter Volumetric Flow and VOC CERMS
- Determine the RA for the FGDRYERS RTO Volumetric Flow, CO, and VOC CERMS

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

Table 1-1
Summary of Test Program

Test Date(s)	Unit ID/ Source Name	Activity/Parameters	Test Methods	No. of Runs	Duration (Minutes)
9/10/2024	FGDRYERS RTO	Velocity/Volumetric Flow Rate	EPA 1 & 2	10-12	varies
		O ₂ , CO ₂	EPA 3A	10-12	21
		Moisture	EPA 4	3-4	63
		CO	PS4/PS6	10-12	21
		VOC, as carbon	PS6/PS8	10-12	21
9/11/2024	EUPRESSLINE Biofilter	Velocity/Volumetric Flow Rate	EPA 1 & 2	10-12	varies
		O ₂ , CO ₂	EPA 3A	10-12	21
		Moisture	EPA 4	3-4	63
		VOC, as carbon	EPA 25A/PS6	10-12	21

To simplify this report, a list of Units and Abbreviations is included in Appendix C.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 the RA requirements 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 April 11, 2024, that was submitted to and approved by the Michigan EGLE-AQD.

Table 1-2
Summary of Average Compliance Results

September 10-11, 2024

Parameter/Units	Average Results	Emission Limits
FGDRYERS RTO		
CO lb/hr, %	16.80	< 20% of RM
VOC lb/hr, %	0.90	< 10% of AS
EUPRESSLINE Biofilter		
VOC lb/hr, %	3.16	< 10% of AS

1.2 Key Personnel

A list of project participants is included below:

Facility Information

Source Location: Weyerhaeuser
4111 West 4 Mile Road
Grayling, MI 49378
Project Contact: Tim Tadlock
Role: Environmental Manager
Telephone: 989-348-3411
Email: Timothy.Tadlock@weyerhaeuser.com

Agency Information

Regulatory Agency: EGLE
Agency Contact: Jeremy Howe
Telephone: 231-878-6687
Email: HoweJ1@michigan.gov

Testing Company Information

Testing Firm:	Montrose Air Quality Services, LLC	
Contact:	John Nestor	Matt Libman
Title:	District Manager	Vice President - Midwest
Telephone:	248-765-5032	630-625-2114
Email:	jonestor@montrose-env.com	mllibman@montrose-env.com

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, Cody Hubbard, Jose Hernandez, Ryan Soehren	Montrose	Sample recovery/Sample train operator
Olivia Rosario	Montrose	Report preparation
Tim Tadlock	Weyerhaeuser	Test Coordinator

2.0 Plant and Sampling Location Descriptions

2.1 Process Description, Operation, and Control Equipment

Weyerhaeuser manufactures orient-stand board (OSB) at its facility in Grayling, Michigan. Wood logs are sorted by species and sorted in the wood yard. Logs are transferred to heated vats to clean and thaw (in winter months) the wood. The wood logs are conveyed from the vats to a debarking machine that removes the outer layers of the logs. A ring-strander cuts the logs into thin wood chips (strands). The strands are conveyed to a storage bin where they are fed into four wood-fired dryers. The dryers remove moisture from the strands to a product-specific content. The strands exit the dryers and are sorted according to size using shaker screens.

The fine strands are collected and used as fuel in the dryers and RTOs. The larger strands are conveyed to a blending area where wax and resins are added for adhesion purposes. The strands are then layered, at different angles for strength, onto an 8-foot-wide conveyor belt. The layered strands are cut into 8-foot-by-24-foot sections and formed into mats. The mats are stacked and the press is used to heat and compact the strands to form OSB. Depending on the thickness of the product (i.e. 7/16 or 3/8 inch) up to 16 mats can be compacted in less than 4 minutes. The OSB is cut, labelled and prepared for shipment.

As part of the manufacturing process, emissions are generated by wood debarking and stranding conveyance, drying, binding, and pressing, milling, and painting (sides of wood). Weyerhaeuser operates pollution control equipment to control the discharge of pollutants to the atmosphere. The wet electrostatic precipitator (WESP) and Durr MEGTEC Regenerative Thermal Oxidizers (RTOs) are used to control emissions from the drying and pressing operations, and biofilter to control emissions from pressing operations.

2.2 CERMS Description

The VOC CERMS installed on the EUPRESSLINE Biofilter and the VOC and CO CERMS on the FGDRYERS RTOs exhaust stacks are used to evaluate continuous compliance with facility permit limits.

The CERMS analyzers are presented in Table 2-1.

Table 2-1
EUPRESSLINE CERMS Information

Analyzer Type	Manufacturer	Model No.	Serial No.	Range
Flowrate/Ultrasonic	Teledyne UltraFlow	150	1501355	NA
VOC/Flame Ionization Detector (FID)	California Analytical Instruments	600 HFID	B05010	0-100 ppm

Table 2-2
FGDRYERS CERMS Information

Analyzer Type	Manufacturer	Model No.	Serial No.	Range
Flowrate/Ultrasonic	Teledyne UltraFlow	150	1501354	NA
VOC/FID	California Analytical Instruments	600 HFID	B05011	0-100 ppm and 0-1000 ppm
CO/Non-Dispersive Infrared Analysis (NDIR)	California Analytical Instruments	601	B06014-M	0-500 ppm and 0-1000 ppm

2.3 Flue Gas Sampling Locations

Information regarding the sampling locations is presented in Table 2-3.

Table 2-3
Sampling Locations

Sampling Location	Stack Inside Diameter (in.)	Distance from Nearest Disturbance Downstream EPA "B" (in./dia.) Upstream EPA "A" (in./dia.)		Number of Traverse Points
EUPRESSLINE Biofilter Stack	84.0	>840/>8.0	>720/>2.0	Flow: 12 (6/port) Gaseous RATA: 3
FGDRYERS RTO Stack	105.0	>360/>3.4	>480/>4.6	Flow: 16 (4/port) Gaseous RATA: 3

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.

2.4 Operating Conditions and Process Data

Emission tests were performed while the units were tested when operating greater than 50% of maximum/rated normal load.

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. Data collected includes the following parameters:

- Production Rate, lb/hr
- Production, tons of wood dried, type of finished product, species mix and tons of finished product
- EUPRESSLINE Biofilter, media temperature
- FGDRYERS RTO, firebox combustion temperature

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 O₂, CO₂, 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.

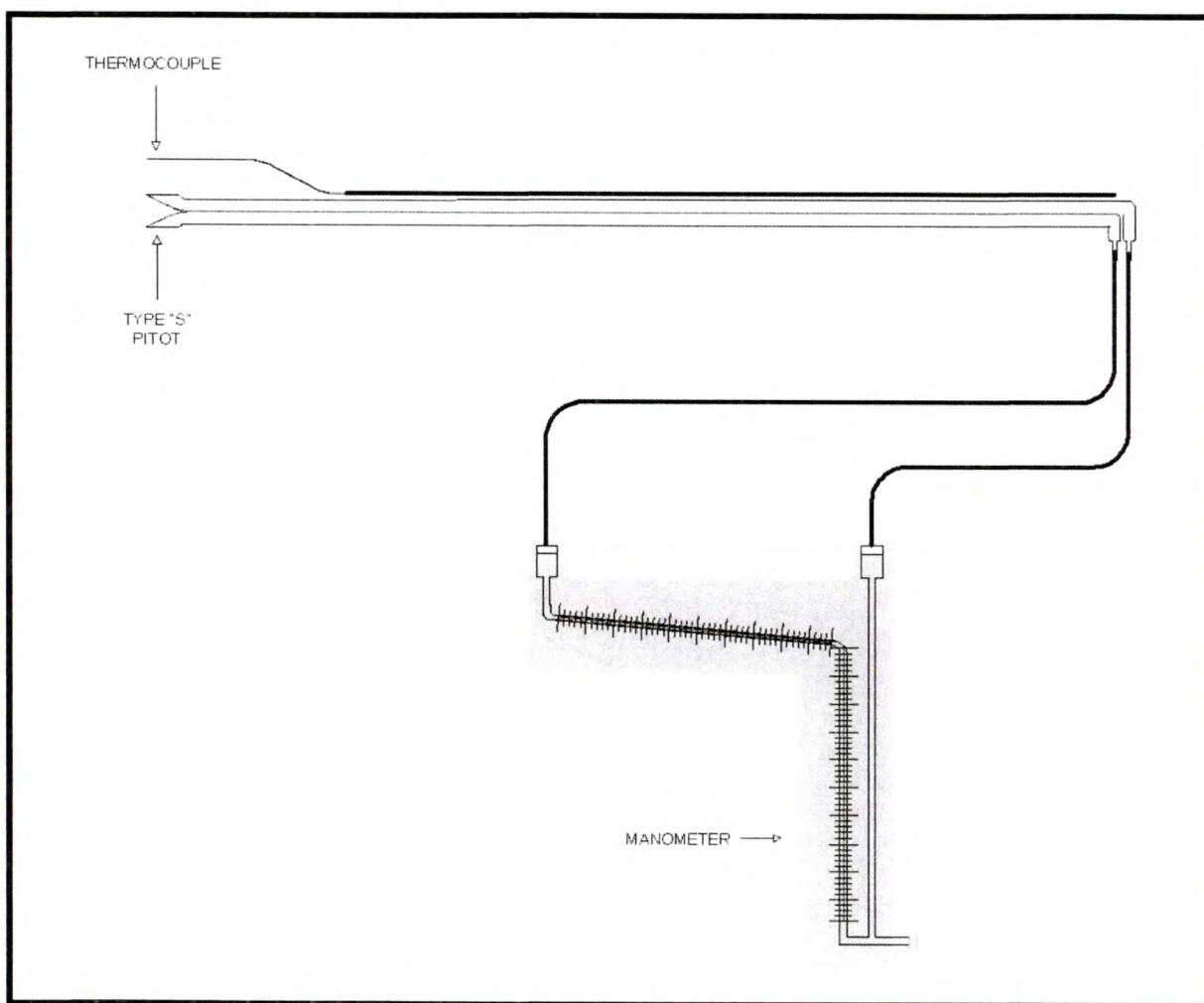
Pertinent information regarding the performance of the method is presented below:

- Method Options:
 - S-type pitot tube coefficient is 0.84
- Method Exceptions:

- A flow traverse is conducted once during each test run to represent the flow rate for the entire test run
- Stack gas temperatures thermocouples are checked using EPA Alternate Method 011 (ALT-011). A single-point calibration is performed using a NIST-traceable thermometer.

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

Figure 3-1
US EPA Method 2 Sampling Train



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 O₂ and CO₂ in stack gas. The effluent gas is continuously or intermittently sampled and conveyed to analyzers that measure the concentrations of O₂ and CO₂. 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:
 - Sampling is performed in conjunction with the pertinent gas RATA
 - O₂ and CO₂ measurements are used for molecular weight calculations
 - A paramagnetic analyzer is used to measure O₂
 - A nondispersive infrared analyzer is used to measure CO₂
 - Calibration span values are 24.99% O₂ and 24.36% CO₂ for the EUPRESSLINE Biofilter
 - Calibration span values are 19.83% O₂ and 19.91% CO₂ for the FGDRYER RTO
- Method Exceptions:
 - For gaseous emissions sampling, MDL are calculated for each analyzer. The ISDL is equal to the sensitivity of the instrumentation, which is 2% of the span value.
- Target and/or Minimum Required Sample Duration: 21 minutes
- Target Analytes: O₂ and CO₂

The typical sampling system is detailed in Figures 3-3 and 3-4.

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.

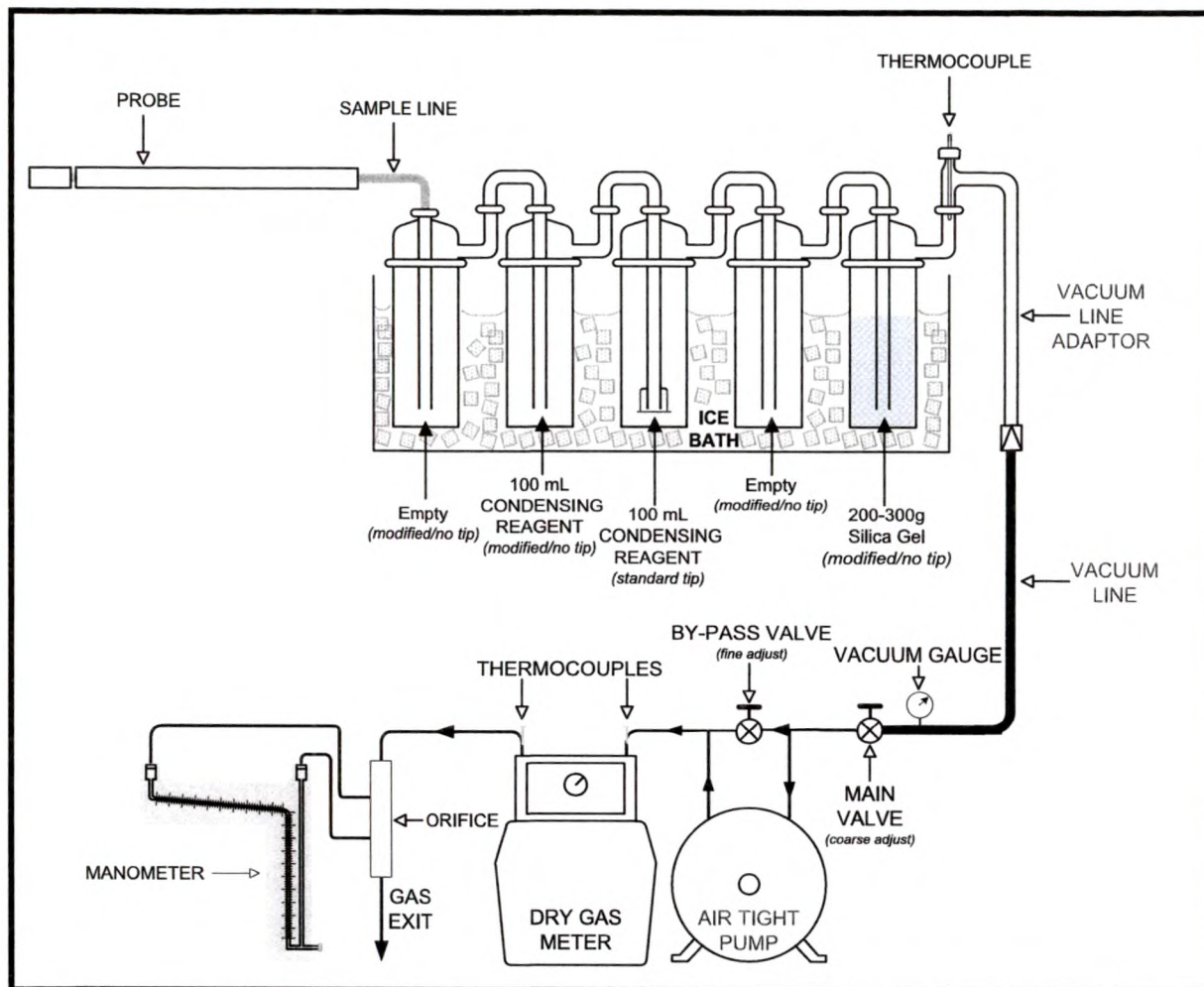
Pertinent information regarding the performance of the method is presented below:

- Method Options:
 - The reference method is used to measure moisture
 - One 63-minute run was performed and the results used for three 21-minute RATA runs

- EUPRESSLINE Biofilter Run 10 utilized a 30-minute moisture run
- Method Exceptions:
 - Moisture sampling is performed as a stand-alone method at a single point in the centroid of the stack
- Target and/or Minimum Required Sample Duration: 60 minutes
- Target and/or Minimum Required Sample Volume: 21 scf

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

Figure 3-2
US EPA Method 4 Sampling Train



3.1.5 EPA Method 10 - Determination of Carbon Monoxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)

EPA Method 10 is an instrumental test method used to continuously measure emissions of CO. Conditioned gas is sent to a gas filter correlation NDIR analyzer to measure the concentration of CO. The performance requirements of the method must be met to validate the data.

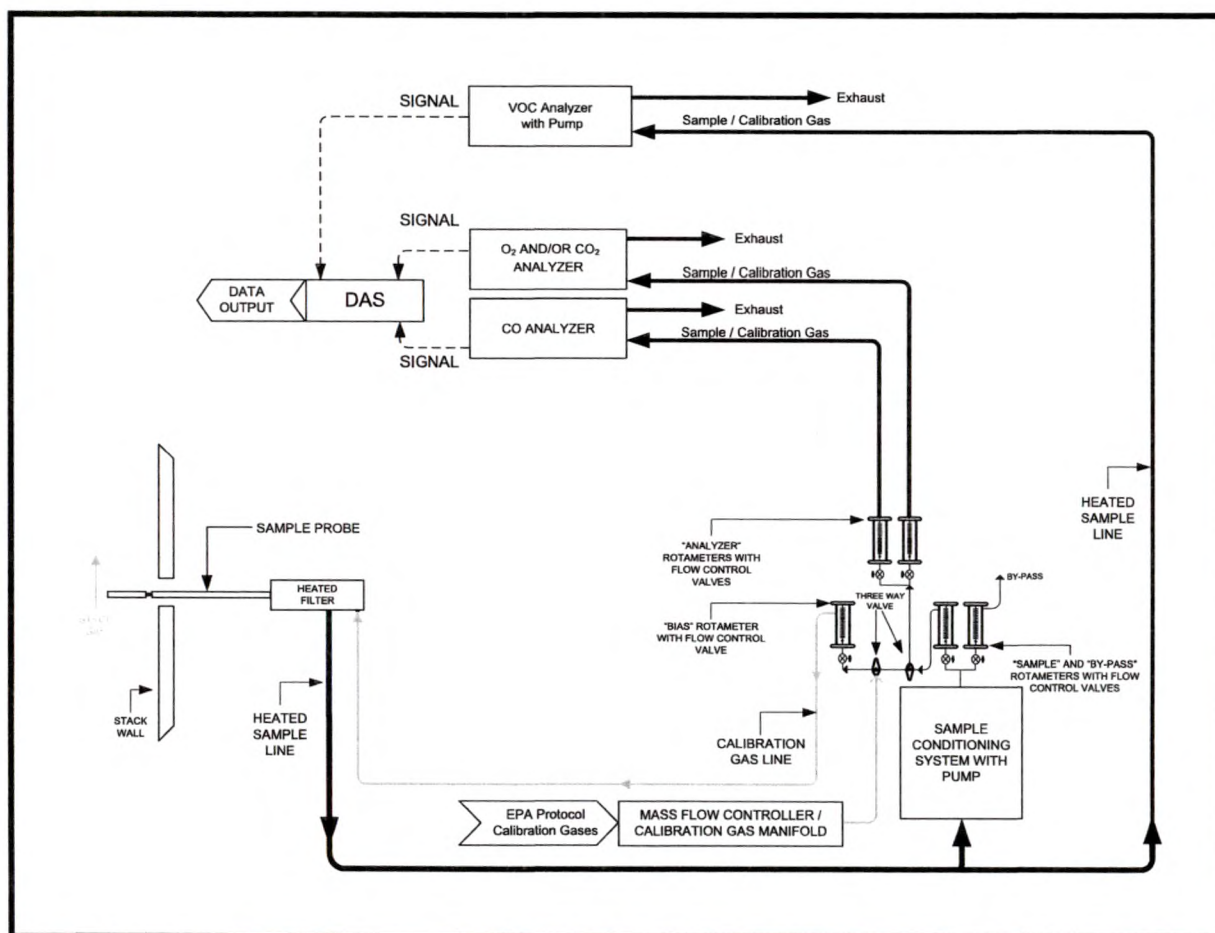
Pertinent information regarding the performance of the method is presented below:

- Method Options:
 - A dry extractive sampling system is used to report emissions on a dry basis

- Calibration span values are 792.3 ppmvd CO
- Method Exceptions:
 - For gaseous emissions sampling, MDL are calculated for each analyzer. The ISDL is equal to the sensitivity of the instrumentation, which is 2% of the span value.
- Target and/or Minimum Required Sample Duration: 21 minutes

The typical sampling system is detailed in Figure 3-3 on the following page.

Figure 3-3
US EPA Method 3A, 10, and 25A (FGDRYERS RTO) Sampling Train



3.1.6 EPA Method 25A - Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer

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

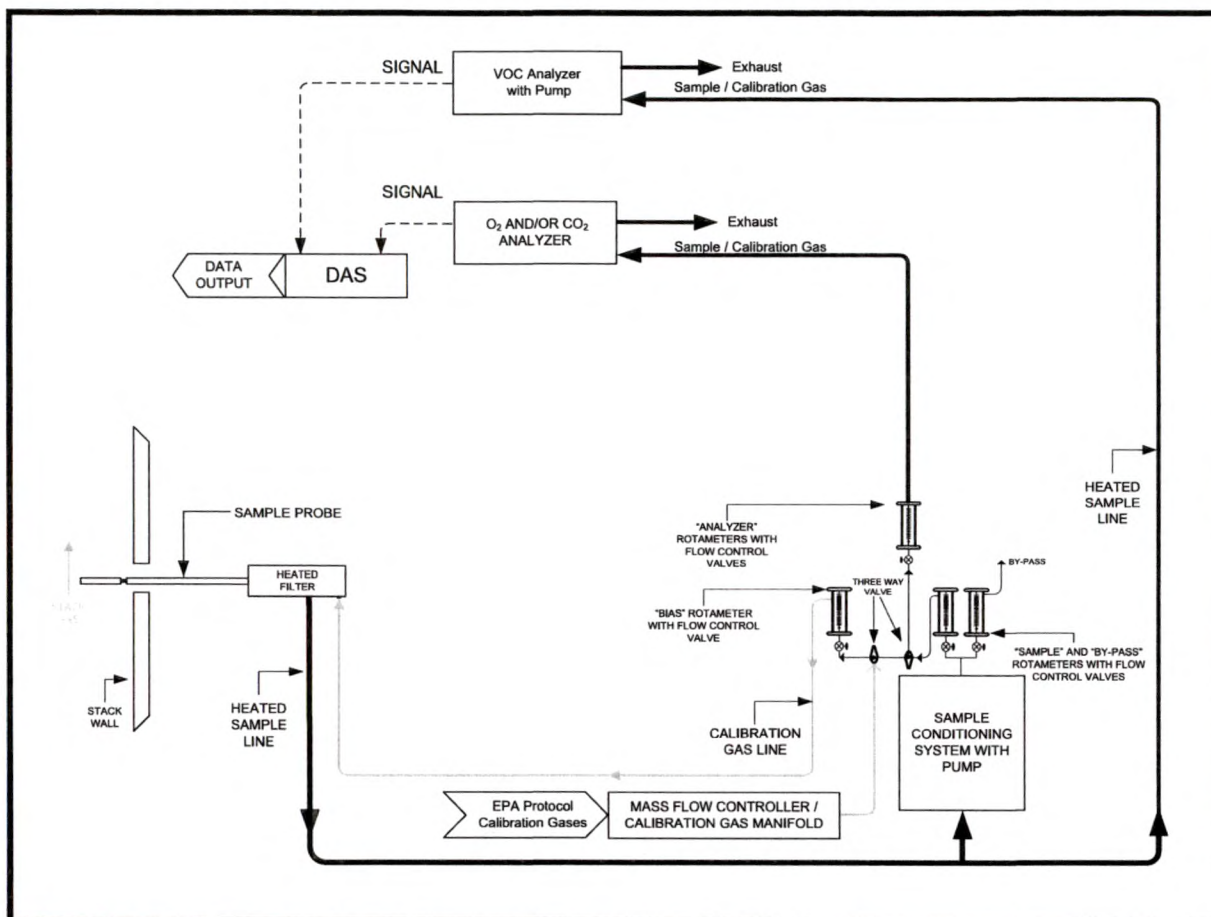
through a heated sample line and glass fiber filter to an FIA. Results are reported as THC as volume concentration equivalents of the calibration gas, typically propane, or as carbon equivalents.

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

- Method Options:
 - Results are reported in terms of carbon and measured in terms of propane
 - Span value for VOC is 89.87 ppmvw (EUPRESSLINE Biofilter and FGDRYER RTO)
- Method Exceptions:
 - For gaseous emissions sampling, MDL are calculated for each analyzer. The ISDL is equal to the sensitivity of the instrumentation, which is 2% of the span value.
- Target and/or Minimum Required Sample Duration: 21 minutes

The typical sampling system is detailed in Figures 3-3 and 3-4.

Figure 3-4
US EPA Method 3A and 25A (EUPRESSLINE Biofilter) Sampling Train



3.1.7 EPA Performance Specification 4 - Specifications and Test Procedures for Carbon Monoxide Continuous Emission Monitoring Systems in Stationary Sources

EPA Performance Specification 4 is a specification used to evaluate the acceptability of CO CEMS. The evaluation is conducted at the time of installation or soon after, and whenever specified in the regulations. This specification was developed primarily for CEMS having span values of 1,000 ppmv CO. The RA and CD tests are conducted to determine conformance of the CEMS to the specification.

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

- Method Options:
 - Three traverse points located at 16.7, 50.0, and 83.3% of the measurement line are utilized or three traverse points located at 0.4, 1.2,

and 2.0 meters from the stack wall are utilized since the measurement line is >2.4 meters and pollutant stratification is not expected

- More than nine sets of RM tests are performed. A maximum of three sets of the test results may be rejected so long as the total number of test results used to determine the RA is greater than or equal to nine. All data is reported, including the rejected data.
- EPA Method 10 is utilized as the reference method procedure
- Diluent and moisture measurements are conducted simultaneously to pollutant measurements
- Method Exceptions:
 - None
- Applicable Performance Specifications:
 - RA calculated with RM in the denominator must be <20% or RA calculated with AS in the denominator must be <10%, whichever is greater

3.1.8 EPA Performance Specification 6 - Specifications and Test Procedures for Continuous Emission Rate Monitoring Systems in Stationary Sources

EPA Performance Specification 6 is a specification used to evaluate the acceptability of CERMS. The evaluation is conducted at the time of installation or soon after, and whenever specified in the regulations. The RA and CD tests are conducted to determine conformance of the CERMS to the specification.

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

- Method Options:
 - More than nine sets of RM tests are performed. A maximum of three sets of the test results may be rejected so long as the total number of test results used to determine the RA is greater than or equal to nine. All data is reported, including the rejected data.
 - EPA Method 2 is utilized as the reference method
- Method Exceptions:
 - None
- Applicable Performance Specifications:
 - RA calculated with RM in the denominator must be $\leq 20.0\%$

3.1.9 EPA Performance Specification 8– Performance Specifications for Volatile Organic Compound Continuous Emission Monitoring Systems in Stationary Sources

EPA Performance Specification 8 is a specification used to evaluate the acceptability of a VOC CEMS that measures a mixture of VOCs and generates a single combined response value. The evaluation is conducted at the time of installation or soon after, and whenever specified in the regulations. The VOC detection principle may be FI, PI, NDIR or any other detection principle that is appropriate for the VOC species present in the emission gases and that meets this performance specification. The RA and CD tests are conducted to determine conformance of the CEMS to the specification.

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

- Method Options:
 - Three traverse points located at 16.7, 50.0, and 83.3% of the measurement line are utilized or three traverse points located at 0.4, 1.2, and 2.0 meters from the stack wall are utilized since the measurement line is >2.4 meters and pollutant stratification is not expected
 - More than nine sets of RM tests are performed. A maximum of three sets of the test results may be rejected so long as the total number of test results used to determine the RA is greater than or equal to nine. All data is reported, including the rejected data.
 - EPA Method 25A is utilized as the reference method
 - Diluent and moisture measurements are conducted simultaneously to pollutant measurements
- Method Exceptions:
 - None
- Applicable Performance Specifications:
 - RA calculated with RM in the denominator must be <20% of RA calculated with AS in the denominator must be <10%, whichever is greater
 - The CEMS calibration must not drift by more than 2.5% of the span value

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

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

4.2 Presentation of Results

The average results are compared to the permit limits in Table 1-2. The results of individual compliance test runs performed are presented in Tables 4-1 through 4-3. 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
CO (lb/hr) RATA Results-
FGDRYERS RTO

Run No.	Date	Time	RM	CERMS	Difference	Run used (Y or N)
1	9/10/2024	12:10-12:30	113.2	92.1	21.0	N
2	9/10/2024	12:31-12:51	97.6	83.5	14.1	Y
3	9/10/2024	12:52-13:12	96.0	83.7	12.3	Y
4	9/10/2024	14:20-14:40	72.6	61.7	10.9	Y
5	9/10/2024	14:41-15:01	85.4	82.2	3.2	Y
6	9/10/2024	15:02-15:22	104.6	87.2	17.3	Y
7	9/10/2024	16:15-16:35	60.6	44.6	15.9	N
8	9/10/2024	16:36-16:56	79.6	64.2	15.4	Y
9	9/10/2024	16:57-17:17	115.4	93.7	21.7	N
10	9/10/2024	17:40-18:00	120.9	105.9	15.1	Y
11	9/10/2024	18:01-18:21	116.6	103.3	13.2	Y
12	9/10/2024	18:22-18:42	113.7	96.1	17.6	Y
Averages			98.5	85.3	13.2	
Applicable Standard (AS)			147.3	lb/hr		
Standard Deviation			4.34			
Confidence Coefficient			3.33			
RA based on mean RM value			16.80	%		

Table 4-2
VOC (lb/hr) RATA Results-
FGDRYERS RTO

Run No.	Date	Time	RM	CERMS	Difference	Run used (Y or N)
1	9/10/2024	12:10-12:30	2.1	2.0	0.1	Y
2	9/10/2024	12:31-12:51	1.8	1.7	0.1	Y
3	9/10/2024	12:52-13:12	1.4	1.4	0.0	Y
4	9/10/2024	14:20-14:40	1.4	0.8	0.6	N
5	9/10/2024	14:41-15:01	1.7	1.2	0.5	N
6	9/10/2024	15:02-15:22	1.6	1.7	-0.1	Y
7	9/10/2024	16:15-16:35	1.3	1.1	0.2	N
8	9/10/2024	16:36-16:56	1.6	1.6	0.0	Y
9	9/10/2024	16:57-17:17	2.3	2.4	-0.1	Y
10	9/10/2024	17:40-18:00	2.3	2.8	-0.5	Y
11	9/10/2024	18:01-18:21	2.4	2.5	-0.1	Y
12	9/10/2024	18:22-18:42	2.0	2.0	0.0	Y
Averages			2.0	2.0	0.1	
Applicable Standard (AS)			18.6	lb/hr		
Standard Deviation			0.14			
Confidence Coefficient			0.11			
RA based on AS			0.90	%		

Table 4-3
VOC (lb/hr) RATA Results-
EUPRESSLINE Biofilter

Run No.	Date	Time	RM	CERMS	Difference	Run used (Y or N)
1	9/11/2024	10:40-11:00	13.8	13.4	0.4	Y
2	9/11/2024	11:01-11:21	10.0	9.6	0.4	Y
3	9/11/2024	11:22-11:42	6.9	6.6	0.3	Y
4	9/11/2024	12:10-12:30	4.7	4.1	0.6	Y
5	9/11/2024	12:31-12:51	4.9	4.2	0.7	Y
6	9/11/2024	12:52-13:12	3.7	3.0	0.7	Y
7	9/11/2024	16:30-16:50	5.1	4.3	0.8	N
8	9/11/2024	16:51-17:11	5.9	5.4	0.5	Y
9	9/11/2024	17:12-17:32	6.1	5.6	0.5	Y
10	9/11/2024	17:55-18:15	7.6	7.5	0.1	Y
Averages			7.1	6.6	0.5	
Applicable Standard (AS)			19.5	lb/hr		
Standard Deviation			0.19			
Confidence Coefficient			0.15			
RA based on AS			3.16	%		

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 and minimum sample durations 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.

An EPA Method 25 train leak check audit was performed prior to each run as per Section 8.1.4. All sample trains utilized met the criteria.

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).