PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE

August 31, 2022

PG&E Advice Letter 6626-E and 6626-E-A

Erik Jacobson
Director, Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

SUBJECT: Information-Only Advice Letter Regarding Air Pollution Control Information on Tree Mortality Contracts in Compliance with Decision (D.) 18-12-003

Dear Mr. Jacobson:

Advice Letter 6626-E and 6626-E-A are effective as of August 5, 2022.

Sincerely,

Leuwam Tesfai
Deputy Executive Director for Energy and Climate Policy
Director, Energy Division

Pacific Gas and Electric Company

Sidney Bob Dietz II
Director
Regulatory Relations

Pacific Gas and Electric Company
77 Beale St., Mail Code B13U
P.O. Box 770000
San Francisco, CA 94177

Fax: 415-973-3582

June 21, 2022

Advice 6626-E
(Pacific Gas and Electric Company U 39 E)

Public Utilities Commission of the State of California

Subject: **Information-Only Advice Letter Regarding Air Pollution Control Information on Tree Mortality Contracts in Compliance with Decision (D.) 18-12-003**

Purpose

In compliance with Decision (D.) 18-12-003 (the Decision), issued on December 21, 2018, Pacific Gas and Electric Company (PG&E) respectfully submits this information-only advice letter providing data on the Tree Mortality (TM)[1] facilities' compliance with air pollution control requirements, beginning from the latest available period for each respective TM contract.

Background

In Ordering Paragraph (OP) 6 of the Decision, the California Public Utilities Commission (Commission or CPUC) requires PG&E to collect air pollution control information on the TM facilities and to send an information-only advice letter to the Commission's Energy Division every six months, confirming whether the TM facilities under contract with PG&E have complied with their applicable air pollution control requirements over the previous six months, beginning six months after the date of the Decision being issued.[2] If the TM facilities do not comply with their air pollution control requirements, OP 6 requires that PG&E explain the circumstances of the non-compliance, the steps taken by the TM facility operator to rectify the non-compliance, and if the non-compliance is ongoing the expected resolution of the non-compliance. Furthermore, OP 6 of the Decision requires that each advice letter state whether any of PG&E's TM contracts are with facilities operating in federal severe or extreme nonattainment areas for particulate matter or ozone.

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[1] Tree Mortality contracts are those entered into pursuant to Resolutions E-4770, E-4805 and E-4977.

[2] D.18-12-003 was issued on December 21, 2018. Six months from the last submission on December 21, 2021 falls on June 21, 2022.

Air Pollution Control Information Reporting

In compliance with the Decision, PG&E hereby submits the air pollution control information provided by each TM facility, included as each of the attachments listed below. PG&E is submitting attestations provided by each TM facility regarding compliance with the facility's applicable air pollution requirements, included as Attachment 1, Attachment 3 and Attachment 5. The compliance certification reports provided by each TM facility have also been included as Attachment 2, Attachment 4 and Attachment 6. These attachments explain the circumstances of any non-compliance or other deviations from air permit requirements during the applicable periods and the steps taken by the TM facility operator to rectify the non-compliance.

Additionally, the TM contracts under contract with PG&E do not operate in federal severe or extreme nonattainment areas for particulate matter or ozone.

Attachments

Attachment 1: Shasta–Sustainable Resource Management Inc Air Quality Attestation
Attachment 2: Shasta – Sustainable Resource Management Inc Certification Reports and Monthly Emissions Reports
Attachment 3: Burney Forest Products Air Quality Attestation
Attachment 4: Burney Forest Products Certification and Monthly Emissions Reports
Attachment 5: Woodland Biomass Air Quality Attestation
Attachment 6: Woodland Biomass Certification, NOX, Deviation and Breakdown Follow-up Reports

Protests

This is an information-only advice letter submittal.[3] Pursuant to General Order 96-B Section 6.2, PG&E is not seeking relief through this advice letter, and therefore it is not subject to protest.

Effective Date

PG&E requests that this information-only advice letter become effective upon date of submittal, which is June 21, 2022.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically to parties shown on the attached list and the parties on the service list for A.16-11-005. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact

[3] *See* D.18-12-003 (OP 6) (specifying that the Advice Letter shall be information-only).

the Commission's Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter submittals can also be accessed electronically at: http://www.pge.com/tariffs/.

/S/
Sidney Bob Dietz II
Director, Regulatory Relations

Attachments

cc: Service List A.16-11-005



California Public Utilities Commission

ADVICE LETTER SUMMARY

ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Pacific Gas and Electric Company (U 39 E)

Utility type:
☑ ELC ☐ GAS ☐ WATER
☐ PLC ☐ HEAT

Contact Person: Stuart Rubio
Phone #: (415) 973-4587
E-mail: PGETariffs@pge.com
E-mail Disposition Notice to: SHR8@pge.com

EXPLANATION OF UTILITY TYPE
ELC = Electric GAS = Gas WATER = Water
PLC = Pipeline HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 6626-E

Tier Designation: info-only

Subject of AL: Information-Only Advice Letter Regarding Air Pollution Control Information on Tree Mortality Contracts in Compliance with Decision (D.) 18-12-003

Keywords (choose from CPUC listing): Compliance

AL Type: ☐ Monthly ☐ Quarterly ☐ Annual ☐ One-Time ☑ Other: Biannual

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: D.18-12-003

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL: N/A

Confidential treatment requested? ☐ Yes ☑ No

If yes, specification of confidential information:
Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required? ☐ Yes ☑ No

Requested effective date: 6/21/22

No. of tariff sheets: 0

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed[1]: N/A

Pending advice letters that revise the same tariff sheets: N/A

[1]Discuss in AL if more space is needed.

Clear Form

Protests and correspondence regarding this AL are to be sent via email and are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:

California Public Utilities Commission
Energy Division Tariff Unit Email:
EDTariffUnit@cpuc.ca.gov

Contact Name: Sidney Bob Dietz II, c/o Megan Lawson
Title: Director, Regulatory Relations
Utility/Entity Name: Pacific Gas and Electric Company

Telephone (xxx) xxx-xxxx: (415)973-2093
Facsimile (xxx) xxx-xxxx:
Email: PGETariffs@pge.com

Contact Name:
Title:
Utility/Entity Name:

Telephone (xxx) xxx-xxxx:
Facsimile (xxx) xxx-xxxx:
Email:

CPUC
Energy Division Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102

Clear Form

PACIFIC GAS AND ELECTRIC COMPANY

ATTACHMENT 1

Shasta – Sustainable Resource Management Inc

Air Quality Attestation

Shasta-Sustainable Resource Management, Inc.
20811 Industry Rd.
Anderson, CA 96007
(530) 339-7600

APPENDIX C
AIR QUALITY ATTESTATION

[VIA ELECTRONIC SUBMISSION]
[Sellers Letterhead]

[June 14, 2022]

PG&E
Attn: Energy Contract Management and Settlements
77 Beale Street, Mail Code N12E
San Francisco, CA 94105, 94105-1702

Subject: Bioenergy Renewable Auction Mechanism Power Purchase Agreement ("BioRAM PPA") by and between PG&E ("Buyer") and *Shasta - Sustainable Resource Management Inc, a Delaware corporation* ("Seller") – Seller's Air Quality Attestation

Dear Sir or Madam:

Pursuant to Section 3.11 of the BioRAM PPA, Seller attests that the Project *was not* in compliance with all applicable air pollution and control requirements for the period beginning *December 1, 2021* and ending *May 30,2022*. Seller hereby represents and warrants that:

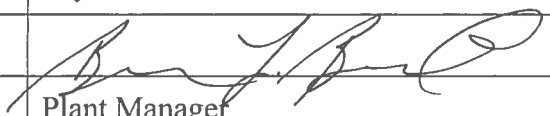
1. This Air Quality Attestation *is* submitted on or prior to the semiannual air quality attestation due date as specified in Section 3.11.

2. Seller *was not* in compliance with all applicable air pollution and control requirements for the period.

3. List of non-compliance: *Deviations to Title V permit conditions occurred during the reporting period as detailed in the Deviation Report Forms. There were four days when there were some periods of missing hourly averages of ESP power records.*

Compliance with the Project's applicable air quality and control requirements is documented in the attached Air Pollution Report. Buyer may request additional information to accommodate reporting and demonstrate Seller's compliance with air pollution and control requirements.

Capitalized terms used but not otherwise defined in this letter have the meanings set forth in the BioRAM PPA. The authorized signature from the Seller certifies that Seller has the knowledge and authority to attest that the information on this form is true and correct.

Seller	Shasta – Sustainable Resource Management Inc
Print Name	Bryan L. Booth
Signature	
Title	Plant Manager
Date	6/14/22

PACIFIC GAS AND ELECTRIC COMPANY

ATTACHMENT 2

Shasta – Sustainable Resource Management Inc

Certification Reports and Monthly Emissions Reports

Facility Name: Shasta – Sustainable Resource Management
Reporting Period: December 1, 2021 to May 30, 2022
Facility Permit Number: 86-TV-08j

Report Due Date: June, 2022
Submittal: ☒ Monitoring Report (District Rule 5.VI.B.7)
☒ Compliance Schedule Progress Report
☐ Compliance Certification (District Rule 5.VI.B.14)

1. Facility Information

Company Name: Shasta – Sustainable Resource Management
Facility Name: Shasta – Sustainable Resource Management
Nature of Business: Power Generation

Mailing Address: 20811 Industry Road
Anderson, CA 96007
Street Address: Same as Mailing Address

2. See attached Applicable Requirements Tables, and associated attachments for required reporting information. Terms used in the table are defined below.

An **excursion** is defined as "a departure from an indicator or surrogate parameter range established for monitoring under the applicable requirement or part 70 permit condition, consistent with any averaging period specified for averaging the results of the monitoring."
An **exceedance** is defined as "a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring."

3. CERTIFICATION

Statement of Certification:
I certify based on information and belief formed after reasonable inquiry, the statement and information in this document and attachments are true, accurate, and complete.

BRYAN L. BOOTH
Name of Responsible Official Certifying Compliance

PLANT MANAGER
Title of Responsible Official and Company Name

Signature of Responsible Official

6/6/22
Date

Annual Compliance Certifications (District Rule 5.VI.B.14) must also be submitted to:

U.S. EPA Region IX
Air Division (AIR-3)
75 Hawthorne Street
San Francisco, CA 94105-3901

Facility Name: Shasta – Sustainable Resource Management
Reporting Period: December 1, 2021 to May 30, 2022
Facility Permit: 86-TV-08j

Report Due Date: June 2022
Submittal Type:
[ ] Monitoring Report (District Rule 5.VI.B.7)
[ ] Compliance Schedule Progress Report
[X] Compliance Certification (District Rule 5.VI.B.14)

Applicable Requirements Table

Permit(s) & Conditions(s)	Compliance Determination Method (frequency, test method, etc.…)	Currently in Compliance?	Compliance Determination Method	During the Reporting Period (If yes to any question, attach Form 5-L)			Source Testing Required by Permit? (If yes, attach Form 5-K2 or summary)
				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 1	**Standard Emission Limits** - Compliance with other permit terms, along with equipment design, assures compliance with these general limits.	X Yes No	X Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 2	**Photochemically Reactive Solvents** - Use low VOC solvent in the plant's parts washer.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 3	**Stack Opacity Limits** – Maintain Continuous Opacity Monitors (COMS) and computer to calculate 6-minute block averages. Maintain at least one Visible Emissions Evaluator at the site and perform daily stack readings using Method 9.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 4	**BACT** - Maintain BACT at the facility, review excess emissions to verify that BACT systems were operating.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 5a (District-only requirement)	**Particulate Limits** - Conduct Annual Stack Testing for Particulate using EPA Method 5 and ARB Method 5	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	X Yes No
86-VP-08h and 86-TV-08i Condition 5b (District-only requirement)	**NMHC Limits** - Conduct VOC testing according to EPA Method 18/25A at the frequency specified in Condition 28.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	X Yes No
86-VP-08h and 86-TV-08i Condition 5c (District-only requirement)	**SOx Limits** - Note - RR Ties are no longer permitted under Boiler MACT.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	X Yes No
86-VP-08h and 86-TV-08i Condition 5d (District-only requirement)	**NOx and Ammonia Limits** - Maintain Continuous Emissions Monitoring System (CEMS) for NOx. Conduct Annual Stack Test for Ammonia.	X Yes No	X Continuous X Intermittent	Yes X No	Yes X No	Yes X No	X Yes No
86-VP-08h and 86-TV-08i Condition 5e (District-only requirement)	**CO Limits** - Conduct Annual Compliance Testing using ARB Method 100 and maintain Continuous Emission Monitoring System for CO.	X Yes No	X Continuous X Intermittent	Yes X No	Yes X No	Yes X No	X Yes No

Facility Name: Shasta – Sustainable Resource Management
Reporting Period: December 1, 2021 to May 30, 2022
Facility Permit: 86-TV-08j

Report Due Date: June 2022
Submittal Type:
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[ ] Compliance Schedule Progress Report
[X] Compliance Certification (District Rule 5.VI.B.14)

Applicable Requirements Table

Permit(s) & Conditions(s)	Compliance Determination Method (frequency, test method, etc.…)	Currently in Compliance?	Compliance Determination Method	During the Reporting Period (If yes to any question, attach Form 5-L)			Source Testing Required by Permit? (If yes, attach Form 5-K2 or summary)
				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 6 (District-only requirement)	**Fugitive Emissions Control** - Maintain dust control systems, high wind speed actions, ash handling, housekeeping and work practices.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 7	**Emission Offsets** - Maintain a database of fuel purchased for the facility, tracking fuel purchases from within the Sacramento River Air Basin of fuel that would otherwise have been open burned. Calculate offsets on an annual basis using ARB Manual of Procedures (MOP).	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 8	**Emission Offsets** – Obtain appropriate offsets that meet requirements and submit report to AQMD.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 9	**Excess Emissions** – Take immediate action on excess emissions. Conduct Annual Stack Testing and maintain Continuous Emissions Monitoring System.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 10	**Halogenated Solvent Degreaser** - Obtain AQMD approval prior to using halogenated solvent in the cold cleaning solvent degreaser.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 11	**Fuel Sources** - Maintain fuel database, track fuel sources for the facility and implement fuel quality control procedures. Prior to using fuels listed in Condition 11.h, fuel must be determined to qualify as a non-hazardous secondary material.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 12	**Fuel Process Rates** - Maintain fuel database tracking fuel sources for the facility. Maintain facility capacity factor and submit to the District in the monthly report.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 13 (District-only requirement)	**Fuel Supplier Agreements** – Include stipulation that fuel suppliers obtain and maintain required licenses, permits and other governmental approvals. Maintain records of fuel supplier fuel agreements.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 14	**Standards for Performance for CISWI, If Applicable** – Maintain fuel database tracking fuel sources for the facility, demonstrating that solid waste, as determined in 40 CFR 241, are not used as fuel.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No

Facility Name: Shasta – Sustainable Resource Management
Reporting Period: December 1, 2021 to May 30, 2022
Facility Permit: 86-TV-08j

Report Due Date: June 2022
Submittal Type:
[ ] Monitoring Report (District Rule 5.VI.B.7)
[ ] Compliance Schedule Progress Report
[X] Compliance Certification (District Rule 5.VI.B.14)

Applicable Requirements Table

Permit(s) & Conditions(s)	Compliance Determination Method (frequency, test method, etc.…)	Currently in Compliance?	Compliance Determination Method	During the Reporting Period (If yes to any question, attach Form 5-L)			Source Testing Required by Permit? (If yes, attach Form 5-K2 or summary)
				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 15	**Air Pollution Control Equipment** - Maintain facility such that the Air Pollution Control equipment is in service while combustion process is occurring.	X Yes No	X Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 16	**CEMS** - Maintain the Continuous Emissions Monitoring System (CEMS) and Data Acquisition System (DAS). Review emissions data monthly and summarize monitor downtime in the monthly report.	X Yes No	X Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 17	**Fuel Turnover** – Maintain fuel turnover to less than 180 days. Compliance is demonstrated by following the Fuel Management Plan (Condition 54).	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 19	**Steam Limits** - Maintain the DAS and fuel use database.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 20	**Water Treatment Chemicals** – Ensure no chrome-based water treatment chemicals are used.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 21a - 21f	**Combustion and Control Parameters** - Maintain the Bailey/NT Boiler Control system for conditions 21b through 21f. Maintain DAS and fuel use database for Condition 21a.	X Yes No	X Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 21g	**Sulfur in Fuels** - monitor if use new fuels	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 22	**Emission Reports** - Submit a monthly report containing the required information to the District by the first day of the following month.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 23 (District-only requirement)	**Deodorizer Use Records** – Maintain monthly deodorizer use records along with calendar year totals.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No

Facility Name: Shasta – Sustainable Resource Management
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				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 24	**Emission Test Methods** – Use only stipulated test methods unless approved in advance.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 25	**Annual Source Test** – Conduct annual source test for PM and ammonia. Annually test for SOx feeding creosote-treated wood at rates as indicated.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	X Yes No
86-VP-08h and 86-TV-08i Condition 26	**Annual Source Test Process Rate** – Conduct annual source test within 90% of full operation in accordance with District Rule 3:26.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	X Yes No
86-VP-08h and 86-TV-08i Condition 27	**Source Test** – Use independent vendor; Comply with approved test method procedures.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 28	**Source Tests** - Perform source tests at the required frequency. Submit test reports to AQMD as required.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 29	**Excess Emissions** - Maintain a log of APCO notifications, Report within 4 hours	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 30	**Permit Deviations** - Maintain a log of APCO notifications.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 31	**Semi-Annual Compliance Reports** - Submit the semi-annual compliance certification to the District by the required date.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 32	**Annual Compliance Reports** - Submit annual certification to the District and U.S. EPA.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No

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				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 33	**Emission Limit Demonstration** – Verify compliance with standard limits upon request. No request was made.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 34	**Visible Emission Observations** - Use opacity monitor for compliance with visible emissions limits.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 35	**Monitoring and Support Records** - Maintain records of maintenance and operation. Maintain CEMS data records.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 36	**Emission Increases** – Notify AQMD of changes that increase emissions.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 37	**File of all Measurements & Other Information Required in 40 CFR 60** - Maintain file of all measurements and other information required in 40 CFR 60 including CEMS, performance testing, etc…….	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 38	**Compliance Test Notification & Report Submittals** - Maintain all APCO correspondence pertaining to notification of emission testing and testing results.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 39	**Testing Facilities** - Maintain a safe stack sampling location.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 40 (District-only requirement)	**Wind Speed and Direction** - Maintain a wind speed/direction monitor at the site. Data is recorded on electronic media.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 41	**Good Operating Practices** – Operate and maintain equipment to minimize emissions.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No

Facility Name: Shasta – Sustainable Resource Management
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				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 42	**Opacity Monitors Span & Data Acquisition** – Maintain properly designed and installed opacity monitors. Maintain COMS data records.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 43	**CEMs Data** – Maintain CEMs operational and log of AQMD notifications.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 44	**Fuels & Capacity Factor** – Maintain records of amounts of each fuel used. Maintain a record of monthly rolling annual capacity factor for each boiler.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 45	**Risk Management Plan** - Maintain Risk Management Plan.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 46	**CAM Plan** - Maintain ESP monitoring computer and records required by the Compliance Assured Monitoring (CAM) Plan.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 47	**ESP Power** - Maintain ESP power monitoring system.	X Yes No	X Continuous Intermittent	X Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 48	**ESP Power Excursions** - Respond to and report as excursions all periods where the power requirement is not met. Maintain power input greater than 22 kw.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 49	**Semi-Annual NSPS Excess Emission Report** - Submit semi-annual excess emission report to USEPA Region IX.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 50	**Semi-Annual NSPS Summary Report** - Submit semi-annual summary report.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No

Facility Name: Shasta – Sustainable Resource Management
Reporting Period: December 1, 2021 to May 30, 2022
Facility Permit: 86-TV-08j

Report Due Date: June 2022
Submittal Type:
[ ] Monitoring Report (District Rule 5.VI.B.7)
[ ] Compliance Schedule Progress Report
[X] Compliance Certification (District Rule 5.VI.B.14)

Applicable Requirements Table

Permit(s) & Conditions(s)	Compliance Determination Method (frequency, test method, etc.…)	Currently in Compliance?	Compliance Determination Method	During the Reporting Period (If yes to any question, attach Form 5-L)			Source Testing Required by Permit? (If yes, attach Form 5-K2 or summary)
				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 51 (District-only requirement)	**Fuel Pile Camera & Observations** - Use camera to observe fuel piles. Report outages longer than 6 hours.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 52 (District-only requirement)	**Fuel Pile Dimensions** – Conduct quarterly fuel pile surveys.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 53 (District-only requirement)	**Off-Site Fuel Storage** - Report off-site fuel storage to the District in the monthly report.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 54 (District-only requirement)	**Fuel Management Plan** - Implement the Fuel Management Plan approved by the District. Train operating staff on the plan and keep records.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 56	**Title V Conditions** – Comply with all conditions of the permit	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 62	**Information Requests** – Supply information to AQMD upon request.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 63	**Construction** – Obtain authorization as needed for new equipment or changes to emissions sources.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 64	**Operating Permit** – Obtain permits as needed for new equipment or changes to emissions sources.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 66	**Permit** – Maintain permits in good condition.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No

Facility Name: Shasta – Sustainable Resource Management
Reporting Period: December 1, 2021 to May 30, 2022
Facility Permit: 86-TV-08j

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Applicable Requirements Table

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				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 67	**Permit Posting** – Maintain posted permits in good condition.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 73	**Inspections** – Permit entry of authorized agency personnel.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 75	**Permit Renewal** – Submit administratively complete permit renewal application within required timeframe.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 76	**Fees** – Submit annual fees	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 77	**Ozone Depleting Substances** – Hire only certified technicians for ODS work.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 78	**Ozone Depleting Substances** – Hire only certified technicians for ODS work.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 79	**Ozone Depleting Substances** – Hire only certified technicians for ODS work.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 80	**Circumvention** – Maintain operations so as to not circumvent emission limits.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 82	**Maintenance** – Maintain equipment in original operating condition.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No

Facility Name: Shasta – Sustainable Resource Management
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Facility Permit: 86-TV-08j

Report Due Date: June 2022
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[X] Compliance Certification (District Rule 5.VI.B.14)

Applicable Requirements Table

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				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 84	**Equipment Design –** Design all equipment to minimize emissions and maintain compliance.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 86	**Training** – Provide training for operating staff.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 87	**New Source Performance Standards** – Comply with NSPS standards.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 89	**Subpart ZZZZ Diesel Engine Requirements** – Track hours of operation. Ensure maintenance is performed and records are kept as required.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 90	**Subpart ZZZZ Diesel Engine Records** – Maintain maintenance records and records of hours of operation.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 92	**Boiler Tune-Ups** – Tune each boiler at the required frequency. Tune-ups are annual unless a continuous oxygen trim system is used.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 93	**Energy Assessment** – Perform the Energy Assessment. Submit upon request.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 94	**Initial Notification of Compliance Status** – Submit the initial Compliance Status Report within 60 days of completion of all initial performance tests and other initial compliance demonstrations.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 95	**Subpart DDDDD 30-Day Rolling CO Limit** - Maintain Continuous Emissions Monitoring System (CEMS) for CO to calculate 30-day rolling averages.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No

Facility Name: Shasta – Sustainable Resource Management
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Applicable Requirements Table

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				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 96	**Subpart DDDDD Mercury Limit** - Conduct performance testing according to Table 5 in 40 CFR Part 63, Subpart DDDDD at the frequency specified in Condition 108 and 112.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	X Yes No
86-VP-08h and 86-TV-08i Condition 97	**Subpart DDDDD Hydrochloric Acid Limit** - Conduct performance testing according to Table 5 in 40 CFR Part 63, Subpart DDDDD at the frequency specified in Condition 108 and 112.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	X Yes No
86-VP-08h and 86-TV-08i Condition 98	**Subpart DDDDD Particulate Limit** - Conduct performance testing according to Table 5 in 40 CFR Part 63, Subpart DDDDD at the frequency specified in Condition 108 and 112.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	X Yes No
86-VP-08h and 86-TV-08i Condition 99	**Subpart DDDDD Opacity Limit** – Maintain Continuous Opacity Monitors (COMS) and computer to calculate daily block averages.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 100	**Subpart DDDDD Operating Load Limit** – Maintain Continuous Monitoring System for steam production and a computer to calculate 30-day rolling averages.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	X Yes No
86-VP-08h and 86-TV-08i Condition 101	**Subpart DDDDD Boiler Emission Averaging** – Emission averaging is not done. No plan needed, not using emissions averaging.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 102	**Subpart DDDDD Good Operating Practices** – Operate and maintain equipment to minimize emissions.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 103	**Subpart DDDDD Startup & Shutdown Exemptions** – For all startup and shutdown events that are exempted from emission limits in Conditions 95-101. Follow the listed practices.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 104	**Subpart DDDDD** Affirmative Defense – May be made for malfunctions as per requirements	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No

Facility Name: Shasta – Sustainable Resource Management
Reporting Period: December 1, 2021 to May 30, 2022
Facility Permit: 86-TV-08j

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Applicable Requirements Table

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				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 105	**Subpart DDDDD Data Collection** – Collect data in accordance with Table 8 of Subpart DDDDD.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 106	**Subpart DDDDD Site Specific Monitoring Plan** – Develop and maintain a Site Specific Monitoring Plan. Submit upon request.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 107	**Subpart DDDDD Monitoring Systems Operation** – Operate the monitoring system as required, maintain records of system operations including results of performance audits, out of control periods, etc.… and submit upon request. Include all data, unless otherwise excepted, in assessing compliance.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 108	**Subpart DDDDD Initial Performance Test** – Perform the initial testing.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 109	**Initial Performance Testing Alternative: Fuel Sampling & Analysis** – This option was not used.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 110	**Initial & Annual Performance Evaluations of CO CEMS & COMS** – Notify the District of evaluations, perform evaluations initially and annually, and submit the evaluation reports, as required in the permit.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 111	**Site Specific Fuel Monitoring Plan, If Required** - A fuel monitoring plan is not required at this time, as the plant uses a single fuel (biomass) along with natural gas as supplemental fuel for startup, shutdown, and flame stabilization purposes.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 112	**Periodic Performance Testing** – Perform testing annually (at least every 12 months), or every 3rd year (at least every 37 months), if pollutants are less than 75% of the applicable limit for at least two years and there are no changes that could increase emissions.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	X Yes No
86-VP-08h and 86-TV-08i Condition 113	**Periodic Performance Testing Alternative: Fuel Sampling & Analysis** – This option is not used.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No

Facility Name: Shasta – Sustainable Resource Management
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Facility Permit: 86-TV-08j

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[ ] Monitoring Report (District Rule 5.VI.B.7)
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Applicable Requirements Table

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				Any Excursions?	Any Exceedances?	Other Information Indicating Non-Compliance?	
86-VP-08h and 86-TV-08i Condition 114	**Performance Testing Methods, Notifications, & Submittal of Test Plans** – Use the specified methods and submit notifications and test plans as required in the permit.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 115	**Performance Test Reports** – Submit performance test reports as required in the permit.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 116	**New Fuel Requirements** –No new fuels used during the reporting period.	X Yes No	X Continuous Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 117	**Applicability of New 40 CFR 63 Subpart DDDDD Subcategory Due to Fuel Switch / Physical Boiler Change** – Submit required notification if applicability changes. No such change this reporting period.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 118	**Non-Hazardous Secondary Materials, Not Solid Waste** – If NHSM have been determined not to be solid waste per 40 CFR 241, keep records of the determination as required in the permit.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 119	**40 CFR 63 Subpart DDDDD Semi-Annual Compliance Reports** – Submit semi-annual reports.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 120	**Maintain 40 CFR 63 Subpart DDDDD Records** – Subpart DDDDD records are maintained as required.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No
86-VP-08h and 86-TV-08i Condition 121	**Alternative Output Based Limits & Credit for Energy Conservation Measures** – These options are not used.	X Yes No	Continuous X Intermittent	Yes X No	Yes X No	Yes X No	Yes X No

List of Conditions Not Requiring Certification (Informational Only)	
Title V Condition No.	January 1, 2020 to December 31, 2020
18	Combustion of wet fuel only considered an upset/malfunction condition when slug feeding of fuel wetted by an unusual storm occurrence causes the emission excursions.
55	References to rules, regulations, etc.. in the permit refer to those in place at the time of permit issuance.
57	Title V Permit does not convey property rights.
58	Non-compliance with Title V Permit is grounds for termination, revocation, modification, enforcement, or denial of permit renewal for both the Title V Permit and the Permit to Operate.
59	Permit can be modified, revoked, reopened and reissued, or terminated for cause.
60	Not a defense that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
61	Pending permit action or notification of anticipated non-compliance does not stay any permit condition.
65	Where an application for or issuance of a permit is pending or in the event of an emergency occurring as a result of an excusable malfunction of a device under permit, AQMD may authorize the operation of the article, machine, equipment, etc... for which a permit is sought for periods of time not to exceed 60 days each for the purpose of testing, experimentation, or obtaining necessary data for a permit or correcting a malfunction.
68	Information that AQMD requires prior to building, erecting, altering, etc… an air emissions source is public record.
69	Air and other pollution monitoring date, including data compiled from facilities are public records.
70	Except as otherwise provided, trade secrets (as described) are not public records.
71	Emission data are public records. Data used to calculate emissions that constitute trade secrets are not public records.
72	Each and every provision of federal or state law or applicable Air Basin Plan now or hereinafter enacted or as amended that regulates the discharge of any air contaminants is incorporated here by reference. Where such provision conflict with local rules and regulations, the more restrictive provision shall apply.
74	Provisions of the Title V Permit are severable.
81	The Title V Permit is not transferable.
83	If any provision of this permit is found invalid, such finding shall not affect the remaining provisions.
85	The right of entry described in California Health and Safety Code Section 41510, Division 26, shall apply at all times.
88	Regarding emissions trading, no permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in the permit.
104	Information on affirmative defense provisions of 40 CFR Part 63, Subpart DDDDD.
122	Permit Shield

DEVIATION REPORT
(FORM 5-L)

SHASTA COUNTY AIR QUALITY MANAGEMENT DISTRICT

DEVIATION INFORMATION

1. **Permit numbers(s) and condition(s) of emission unit or control unit affected:**
   86-TV-08j –Condition 47

1. **Description of deviation and methods used to determine compliance status:**
   As previously reported, the hourly ESP data was not being continuously monitored and recorded on a log at all times. There were four days when there were gaps in the continuous records.

2. **Description and identification of permit condition(s) deviated:**
   Condition 47 requires that the ESP power be continuously monitored and that the hourly values be recorded in a log.

3. **Associated equipment and equipment operation (if any):**
   ESP and computer.

4. **Date and time when deviation was discovered:**
   The data gaps were discovered when the report was generated

5. **Date, time and duration of deviation:**
   The gaps of data are listed below:
   - 1/23/22 – missing hours 1800 and 1900
   - 1/27/22 - missing hours 0000 through 0600 and 0800
   - 2/4/22 – missing hours 1500 through 1700
   - 3/27/22 – missing hours 0100 through 0500

6. **Probable cause of deviation:**
   The software program to record the data did not record the data.

7. **Preventative or corrective action taken:**
   Investigating alternate methods to back up or record data if the control room computer is not operating correctly. The ESP power data is now also being saved to the plant control computer and the emission monitoring system.

DEVIATION REPORT
(FORM 5-L)

SHASTA COUNTY AIR QUALITY MANAGEMENT DISTRICT

DEVIATION INFORMATION

1. **Permit numbers(s) and condition(s) of emission unit or control unit affected:**
   86-TV-08j – Condition 56

2. **Description of deviation and methods used to determine compliance status:**
   As noted elsewhere in the report there were deviations to compliance with some permit conditions.

3. **Description and identification of permit condition(s) deviated:**
   Condition 56 requires compliance with all conditions in the permit.

4. **Associated equipment and equipment operation (if any):**
   See the other Form 5-Ls included in this report.

5. **Date and time when deviation was discovered:**
   See the other Form 5-Ls included in this report.

6. **Date, time and duration of deviation:**
   See the other Form 5-Ls included in this report

7. **Probable cause of deviation:**
   See the other Form 5-Ls included in this report.

8. **Preventative or corrective action taken:**
   See the other Form 5-Ls included in this report.

QUANTIFIABLE APPLICABLE REQUIREMENT REPORT (FORM 5-K2)

SHASTA COUNTY AIR QUALITY MANAGEMENT DISTRICT

Emission Unit Description: Boiler 1

Pollutant	Unit of Measure	Measured Emission Rate	Emission Rate Limit	Specific Source Test or Monitoring Record Citation	Date of Test
Carbon Monoxide - CO	ppm @ 3% O_2	393	1696 Three boiler average	EPA Method 10	6/21/21 and 6/22/21
Carbon Monoxide - CO	lbs/hr	94	793 Total all three boilers	EPA Method 10	6/21/21 and 6/22/21
Ammonia - NH_3	ppm @ 3% O_2	14.8	28	SCAQMD 207.1 Modified	6/21/21 and 6/22/21
Oxides of Sulfur - SO_2	ppm @ 3% O_2	0.3	24	EPA Method 6C	6/21/21 and 6/22/21
Oxides of Sulfur - SO_2	lbs/hr	0.2	45 Total all three boilers	EPA Method 6C	6/21/21 and 6/22/21
Filterable Particulate	gr/dscf @ 3% O_2	0.00065	0.014	CARB Method 5	6/21/21 and 6/22/21
Total Particulate	lbs/hr	1.3	20	CARB Method 5	6/21/21 and 6/22/21
Nonmethane Hydrocarbons	ppm @ 3% O_2	10.2	191	EPA Method 25A & EPA Method 18	6/21/21 and 6/22/21
Nonmethane Hydrocarbons	lbs/hr	1.0	89 Total all three boilers	EPA Method 25A & EPA Method 18	6/21/21 and 6/22/21
Mercury – Hg*	lbs/MMBtu	<1.21 E-6	5.76 E-6	EPA Method 29	6/21/21 and 6/22/21
Hydrochloric Acid – HCl*	lbs/MMBtu	0.00017	0.022	EPA Method 26A	6/21/21 and 6/22/21
Filterable Particulate*	lbs/MMBtu	0.0015	0.037	CARB Method 5	6/21/21 and 6/22/21

*As per Condition 112 of the permit, testing results are less than 75% of the limit

QUANTIFIABLE APPLICABLE REQUIREMENT REPORT (FORM 5-K2)

Emission Unit Description: Boiler 2

Pollutant	Unit of Measure	Measured Emission Rate	Emission Rate Limit	Specific Source Test or Monitoring Record Citation	Date of Test
Carbon Monoxide - CO	ppm @ 3% O_2	671	1696 Three boiler average	EPA Method 10	6/23/21
Carbon Monoxide - CO	lbs/hr	165	793 Total all three boilers	EPA Method 10	6/23/21
Ammonia - NH_3	ppm @ 3% O_2	10.1	28	SCAQMD 207.1 Modified	6/23/21
Oxides of Sulfur - SO_2	ppm @ 3% O_2	0.8	24	EPA Method 6C	6/23/21
Oxides of Sulfur - SO_2	lbs/hr	0.5	45 Total all three boilers	EPA Method 6C	6/23/21
Filterable Particulate	gr/dscf @ 3% O_2	0.0018	0.014	CARB Method 5	6/23/21
Total Particulate	lbs/hr	1.4	20	CARB Method 5	6/23/21
Nonmethane Hydrocarbons	ppm @ 3% O_2	13.1	191	EPA Method 25A & EPA Method 18	6/23/21
Nonmethane Hydrocarbons	lbs/hr	1.4	89 Total all three boilers	EPA Method 25A & EPA Method 18	6/23/21
Mercury – Hg*	lbs/MMBtu	<1.30 E-6	5.76 E-6	EPA Method 29	6/23/21
Hydrochloric Acid – HCl*	lbs/MMBtu	0.00019	0.022	EPA Method 26A	6/23/21
Filterable Particulate*	lbs/MMBtu	0.0023	0.037	CARB Method 5	6/23/21 and 6/24/21

*As per Condition 112 of the permit, testing results are less than 75% of the limit

QUANTIFIABLE APPLICABLE REQUIREMENT REPORT (FORM 5-K2)

Emission Unit Description: Boiler 3

Pollutant	Unit of Measure	Measured Emission Rate	Emission Rate Limit	Specific Source Test or Monitoring Record Citation	Date of Test
Carbon Monoxide - CO	ppm @ 3% O_2	459	1696 Three boiler average	EPA Method 10	6/21/21 and 6/22/21
Carbon Monoxide - CO	lbs/hr	100	793 Total all three boilers	EPA Method 10	6/21/21 and 6/22/21
Ammonia - NH_3	ppm @ 3% O_2	20.6	28	SCAQMD 207.1 Modified	6/21/21 and 6/22/21
Oxides of Sulfur - SO_2	ppm @ 3% O_2	1.1	24	EPA Method 6C	6/21/21 and 6/22/21
Oxides of Sulfur - SO_2	lbs/hr	0.6	45 Total all three boilers	EPA Method 6C	6/21/21 and 6/22/21
Filterable Particulate	gr/dscf @ 3% O_2	0.0030	0.014	CARB Method 5	6/21/21 and 6/22/21
Total Particulate	lbs/hr	2.3	20	CARB Method 5	6/21/21 and 6/22/21
Nonmethane Hydrocarbons	ppm @ 3% O_2	9.6	191	EPA Method 25A & EPA Method 18	6/21/21 and 6/22/21
Nonmethane Hydrocarbons	lbs/hr	0.9	89 Total all three boilers	EPA Method 25A & EPA Method 18	6/21/21 and 6/22/21
Mercury – Hg*	lbs/MMBtu	<1.34 E-6	5.76 E-6	EPA Method 29	6/21/21 and 6/22/21
Hydrochloric Acid – HCl*	lbs/MMBtu	0.0002	0.022	EPA Method 26A	6/21/21 and 6/22/21
Filterable Particulate*	lbs/MMBtu	0.0029	0.037	CARB Method 5	6/21/21 and 6/22/21

*As per Condition 112 of the permit, testing results are less than 75% of the limit

Shasta-Sustainable Resource Management, Inc.
20811 Industry Road • Anderson, CA 96007
(530) 339-7600

December 22, 2021 DELIVERED by: Email

Mr. Paul Hellman
Air Pollution Control Officer
Air Quality Management District
1855 Placer Street
Redding, CA 96001

Subject: Shasta Sustainable Resource Management Emissions Report for the Month of November 2021, Title V Operating Permit 86-TV-08j and Permits to Operate No. 86-PO-08q and 89-PO-04g.

Dear Mr. Hellman:

Attached you will find the November 2021 Emissions Report for our wood fired power plant. The report consists of the following tables.

Table I – 30-Day Rolling Averages for CO and NOx Emissions
Table II – Daily Hours of Operation for the Facility
Table III – 12-Month Capacity Utilization for Wood & Natural Gas
Table IV – Monthly Railroad Tie Usage & Associated Estimated SO2 Emissions
Table V – NOx and CO Emissions During Startup and Shutdown
Table VI – CEMS Downtime
Table VII – Emission Exceedances & 6-Minute Block Opacity Averages > 20%

The CEMS were in service the entire month while the facility was operating except during periods of daily calibration and the periods of maintenance or malfunction, as listed in Table VI.

The steam generated during the month of November is given below.

Boiler #1 -	0.7319	E+8 pounds
Boiler #2 -	0.6656	E+8 pounds
Boiler #3 -	0.6807	E+8 pounds

Fuel stored off-site at the end of the month is listed below.

None

Based upon information and belief formed after reasonable inquiry, I am certifying that the statements and information in this report are true, accurate, and complete. If you have any questions please contact Derrick Boom at (530) 339-7627.

Sincerely,

Bryan Booth
Plant Manager

enc Tables I through Table VII
Fuel Pile Survey Results
Quarterly CGA and Opacity Audit Reports

TABLE I
SHASTA SUSTAINABLE RESOURCE MANAGEMENT
NOx and CO 30 DAY Rolling Averages

Date	Boiler 1			Boiler 2			Boiler 3		
	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm
11/1/21	114	0.147	580	Not Oper	Not Oper	Not Oper	112	0.144	487
11/2/21	114	0.147	632	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
11/3/21	114	0.147	671	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
11/4/21	114	0.147	662	113	0.145	209	Not Oper	Not Oper	Not Oper
11/5/21	114	0.147	654	113	0.145	195	Not Oper	Not Oper	Not Oper
11/6/21	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
11/7/21	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
11/8/21	114.3	0.147	662	114.0	0.146	194	112.5	0.145	490
11/9/21	114.3	0.147	657	113.9	0.146	195	112.5	0.145	494
11/10/21	114.3	0.147	654	113.9	0.146	196	112.6	0.145	496
11/11/21	114.2	0.147	656	113.8	0.146	200	112.7	0.145	494
11/12/21	114.3	0.147	657	113.8	0.146	203	112.7	0.145	501
11/13/21	114.3	0.147	641	113.9	0.146	201	112.8	0.145	504
11/14/21	114.3	0.147	626	114.0	0.146	199	112.8	0.145	502
11/15/21	114.3	0.147	618	114.0	0.146	207	112.9	0.145	501
11/16/21	114.3	0.147	609	114.0	0.146	217	113.1	0.145	500
11/17/21	114.3	0.147	601	114.0	0.146	225	113.1	0.145	500
11/18/21	114.3	0.147	595	114.0	0.146	230	113.1	0.145	494
11/19/21	114.3	0.147	586	114.0	0.146	237	113.1	0.145	491
11/20/21	114.2	0.147	581	114.0	0.146	244	113.1	0.145	488
11/21/21	114.2	0.147	578	114.0	0.146	252	113.1	0.145	490
11/22/21	114.2	0.147	576	114.0	0.146	260	113.2	0.146	492
11/23/21	114.2	0.146	571	114.0	0.146	264	113.2	0.146	490
11/24/21	114.1	0.146	567	114.0	0.146	267	113.2	0.146	487
11/25/21	114.0	0.146	551	114.0	0.146	277	113.2	0.146	482
11/26/21	114.0	0.146	543	114.0	0.146	286	113.3	0.146	476
11/27/21	114.0	0.146	530	114.0	0.146	295	113.3	0.146	462
11/28/21	114.0	0.146	518	114.0	0.146	304	113.3	0.146	454
11/29/21	114.0	0.146	511	114.0	0.146	306	113.3	0.146	441
11/30/21	114.0	0.146	505	114.0	0.146	311	113.3	0.146	437

Table II

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Boiler Hours

Date	Boiler 1	Boiler 2	Boiler 3
11/1/21	24.0	0.0	4.1
11/2/21	24.0	0.0	0.0
11/3/21	24.0	0.0	0.0
11/4/21	24.0	20.5	0.0
11/5/21	19.5	19.5	0.0
11/6/21	0.0	0.0	0.0
11/7/21	0.0	0.0	0.0
11/8/21	18.8	10.7	20.5
11/9/21	24.0	24.0	24.0
11/10/21	24.0	24.0	24.0
11/11/21	24.0	24.0	24.0
11/12/21	24.0	24.0	24.0
11/13/21	24.0	24.0	24.0
11/14/21	24.0	24.0	24.0
11/15/21	24.0	24.0	24.0
11/16/21	24.0	24.0	24.0
11/17/21	24.0	24.0	24.0
11/18/21	24.0	24.0	24.0
11/19/21	24.0	24.0	24.0
11/20/21	24.0	24.0	24.0
11/21/21	24.0	24.0	24.0
11/22/21	24.0	24.0	24.0
11/23/21	24.0	24.0	24.0
11/24/21	24.0	24.0	24.0
11/25/21	24.0	24.0	24.0
11/26/21	24.0	24.0	24.0
11/27/21	24.0	24.0	24.0
11/28/21	24.0	24.0	24.0
11/29/21	24.0	24.0	24.0
11/30/21	24.0	24.0	24.0
Total Hours	662.3	578.7	552.6

TABLE III

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

ANNUAL CAPACITY FACTOR

(PERMITTED CAPACITY 1,017 MMBTU / HR)

			Monthly Average	Annual Capacity	Annual Capacity	Annual Capacity
Month / Year	Natural Gas	Wood	Heat Input	Factor	Factor	Factor Total
	MMBTU	MMBTU	MMBTU / HR	Natural Gas	Wood	Fuels
November 2021	5,266	326,106	460	0.16%	54.4%	54.6%
October 2021	1,188	429,872	579	0.11%	54.3%	54.4%
September 2021	452	429,138	597	0.10%	54.3%	54.4%
August 2021	917	439,367	592	0.10%	54.4%	54.5%
July 2021	730	436,096	587	0.10%	54.2%	54.3%
June 2021	687	412,057	573	0.10%	53.7%	53.8%
May 2021	10	431,050	579	0.10%	54.0%	54.1%
April 2021	2,651	313,873	440	0.12%	54.3%	54.4%
March 2021	223	431,483	580	0.11%	55.2%	55.3%
February 2021	436	383,147	571	0.11%	55.1%	55.2%
January 2021	826	420,767	567	0.11%	55.2%	55.3%
December 2020	689	393,337	530	0.10%	55.3%	55.4%
November 2020	1,106	315,016	439	0.10%	55.7%	55.8%
October 2020	520	429,064	577	0.09%	57.1%	57.2%
September 2020	315	437,777	608			
August 2020	918	428,287	577			
July 2020	964	387,877	523			
June 2020	573	439,875	612			
May 2020	1,530	456,532	616			
April 2020	2,073	394,165	550			
March 2020	12	425,441	572			
February 2020	512	390,272	561			
January 2020	27	428,155	576			
December 2019	385	432,444	582			
November 2019	435	440,834	613			

Table IV

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Estimated Use and Emissions from Fuel Cubes and Cardboard

Month	Fuel Cubes and Cardboard Dry tons	Sulfur Content %
January	0	
February	0	
March	0	
April	0	
May	0	
June	0	
July	0	
August	0	
September	0	
October	0	
November	0	
December		
YTD		

TABLE V

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

NOx and CO Emissions During Startup, Shutdown & Malfunction (Natural Gas Only)

Boiler 1				Boiler 2				Boiler 3			
Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr
11/7/21	1	0.8	2.1	11/3/21	4	0.0	0.1	11/7/21	3	2.8	1.1
11/8/21	5	4.6	0.6	11/4/21	3	0.1	0.0	11/8/21	3	6.8	0.3
				11/7/21	2	1.1	9.6				
				11/8/21	4	5.6	2.0				
				11/8/21	3	2.9	5.5				

Table VI

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

CEMS Downtime

Note: This report shows downtime for gas analyzers at the 1-hour level and opacity monitors at the 6-minute level

Monitor	Time O/S	Time I/S	Parameter and Reason
2	11/2/21 8:12 AM	11/2/21 8:41 AM	OPAC - Preventative Maintenance - changed monitor air blower filter, performed cal
3	11/2/21 8:12 AM	11/2/21 10:41 AM	OPAC - Preventative Maintenance - changed monitor air blower filter, performed cal
1	11/2/21 8:42 AM	11/2/21 10:41 AM	OPAC - Preventative Maintenance - changed monitor air blower filter, performed cal
1	11/4/21 6:00 AM	11/5/21 12:59 PM	NOXR - Out Of Control - Checked lines, recalibrated
1	11/5/21 10:00 AM	11/5/21 12:59 PM	COR - Checked lines, recalibrated
1	11/5/21 10:00 AM	11/5/21 12:59 PM	COM - Checked lines, recalibrated
2	11/5/21 10:00 AM	11/5/21 12:59 PM	NOXR - Preventative Maintenance - Checked lines, recalibrated
2	11/5/21 10:00 AM	11/5/21 12:59 PM	COR - Preventative Maintenance - Checked lines, recalibrated
2	11/5/21 10:00 AM	11/5/21 12:59 PM	COM - Preventative Maintenance - Checked lines, recalibrated
1	11/8/21 6:00 AM	11/9/21 6:59 AM	NOXR - Out Of Control - Checked lines, recalibrated
1	11/10/21 3:00 PM	11/10/21 4:59 PM	NOXR - Quarterly Audit
1	11/10/21 3:00 PM	11/10/21 4:59 PM	COR - Quarterly Audit
1	11/10/21 3:00 PM	11/10/21 4:59 PM	COM - Quarterly Audit
2	11/11/21 9:00 AM	11/11/21 10:59 AM	NOXR - Quarterly Audit
2	11/11/21 9:00 AM	11/11/21 10:59 AM	COR - Quarterly Audit
2	11/11/21 9:00 AM	11/11/21 10:59 AM	COM - Quarterly Audit
1	11/11/21 12:18 PM	11/11/21 2:05 PM	OPAC - Quarterly Audit
2	11/11/21 2:12 PM	11/11/21 3:53 PM	OPAC - Quarterly Audit
3	11/11/21 4:00 PM	11/11/21 5:29 PM	OPAC - Quarterly Audit
1	11/22/21 9:00 AM	11/22/21 9:59 AM	NOXR - Preventative Maintenance - Changed hot scrubber media, ran cal
1	11/22/21 9:00 AM	11/22/21 9:59 AM	COR - Preventative Maintenance - Changed hot scrubber media, ran cal
1	11/22/21 9:00 AM	11/22/21 9:59 AM	COM - Preventative Maintenance - Changed hot scrubber media, ran cal
2	11/22/21 9:00 AM	11/22/21 11:59 AM	NOXR - Preventative Maintenance - Changed pump tubing, hot scrubber media, ran cal
2	11/22/21 9:00 AM	11/22/21 11:59 AM	COR - Preventative Maintenance - Changed pump tubing, hot scrubber media, ran cal
2	11/22/21 9:00 AM	11/22/21 11:59 AM	COM - Preventative Maintenance - Changed pump tubing, hot scrubber media, ran cal
1	11/22/21 9:06 AM	11/22/21 10:29 AM	OPAC - Preventative Maintenance - changed monitor air blower filter, performed cal
2	11/22/21 9:06 AM	11/22/21 12:11 PM	OPAC - Preventative Maintenance - changed monitor air blower filter, performed cal
3	11/22/21 12:12 PM	11/22/21 2:53 PM	OPAC - Preventative Maintenance - changed monitor air blower filter, performed cal

Table VII

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Emission Exceedances & All 6-Minute Block Opacity Averages That Are Greater Than 20%

Date	Start Time	Unit	Boiler Status	Avg Value	Max Value	Reason
11/1/21	4:00 AM	#3 Opacity	Shutting down	26%	76%	Allowable hourly value not greater than 27%, boiler online, shutting down, ESP Tripped
11/1/21	4:06 AM	#3 Opacity	Off	26%	63%	Shutting boiler down, ESP tripped
11/1/21	8:12 PM	#3 Opacity	Off	28%	39%	Cleaing Boiler, Blasting
11/1/21	8:18 PM	#3 Opacity	Off	27%	30%	Cleaing Boiler, Blasting
11/1/21	9:18 PM	#3 Opacity	Off	22%	24%	Allowable hourly less than 27%, Cleaing Boiler, Blasting
11/1/21	11:06 PM	#3 Opacity	Off	26%	29%	Allowable hourly less than 27%, Cleaing Boiler, Blasting
11/1/21	11:12 PM	#3 Opacity	Off	21%	24%	Cleaing Boiler, Blasting
11/1/21	11:42 PM	#3 Opacity	Off	23%	26%	Cleaing Boiler, Blasting
11/1/21	11:48 PM	#3 Opacity	Off	24%	28%	Cleaing Boiler, Blasting
11/2/21	12:48 AM	#3 Opacity	Off	23%	37%	Allowable hourly less than 27%, Cleaing Boiler, Blasting
11/2/21	12:54 AM	#3 Opacity	Off	29%	44%	Cleaing Boiler, Blasting
11/2/21	1:12 AM	#3 Opacity	Off	25%	37%	Allowable hourly less than 27%, Cleaing Boiler, Blasting
11/2/21	1:18 AM	#3 Opacity	Off	34%	39%	Cleaing Boiler, Blasting
11/2/21	4:12 AM	#3 Opacity	Off	38%	47%	Cleaing Boiler, Blasting
11/2/21	4:18 AM	#3 Opacity	Off	32%	45%	Cleaing Boiler, Blasting
11/7/21	5:54 PM	#3 Opacity	Off	24%	25%	Allowable hourly value not greater than 27%, boiler offline; Black Plant, Powering back up
11/7/21	6:00 PM	#3 Opacity	Off	21%	23%	Allowable hourly value not greater than 27%, boiler offline; Black Plant, Powering back up

Shasta-Sustainable Resource Management, Inc.
20811 Industry Road • Anderson, CA 96007
(530) 339-7600

January 13, 2022 DELIVERED by: Email

Mr. Paul Hellman
Air Pollution Control Officer
Air Quality Management District
1855 Placer Street
Redding, CA 96001

Subject: Shasta Sustainable Resource Management Emissions Report for the Month of December 2021, Title V Operating Permit 86-TV-08j and Permits to Operate No. 86-PO-08q and 89-PO-04g.

Dear Mr. Hellman:

Attached you will find the December 2021 Emissions Report for our wood fired power plant. The report consists of the following tables.

Table I – 30-Day Rolling Averages for CO and NOx Emissions
Table II – Daily Hours of Operation for the Facility
Table III – 12-Month Capacity Utilization for Wood & Natural Gas
Table IV – Monthly Railroad Tie Usage & Associated Estimated SO2 Emissions
Table V – NOx and CO Emissions During Startup and Shutdown
Table VI – CEMS Downtime
Table VII – Emission Exceedances & 6-Minute Block Opacity Averages > 20%

The CEMS were in service the entire month while the facility was operating except during periods of daily calibration and the periods of maintenance or malfunction, as listed in Table VI.

The steam generated during the month of December is given below.

Boiler #1 -	0.9052	E+8 pounds
Boiler #2 -	0.9152	E+8 pounds
Boiler #3 -	0.9329	E+8 pounds

Fuel stored off-site at the end of the month is listed below.
None

Based upon information and belief formed after reasonable inquiry, I am certifying that the statements and information in this report are true, accurate, and complete. If you have any questions please contact Derrick Boom at (530) 339-7627.

Sincerely,

Bryan Booth
Plant Manager

enc Tables I through Table VII
Fuel Pile Survey Results

TABLE I
SHASTA SUSTAINABLE RESOURCE MANAGEMENT
NOx and CO 30 DAY Rolling Averages

Date	Boiler 1			Boiler 2			Boiler 3		
	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm
12/1/21	114.0	0.146	492	114.0	0.146	319	113.2	0.146	431
12/2/21	113.9	0.146	489	114.0	0.146	324	113.0	0.145	426
12/3/21	113.3	0.146	412	114.0	0.146	331	113.0	0.145	413
12/4/21	113.2	0.146	363	114.0	0.146	337	113.0	0.145	408
12/5/21	113.2	0.146	324	114.0	0.146	340	113.0	0.145	395
12/6/21	113.1	0.146	330	113.7	0.146	351	113.0	0.145	386
12/7/21	113.1	0.146	336	113.5	0.146	356	113.0	0.145	383
12/8/21	113.1	0.146	325	112.9	0.145	360	113.0	0.145	381
12/9/21	113.1	0.146	328	113.0	0.146	367	113.0	0.145	382
12/10/21	113.0	0.146	332	113.1	0.146	373	113.0	0.145	388
12/11/21	113.0	0.146	331	113.1	0.146	373	113.0	0.145	390
12/12/21	113.0	0.145	329	113.2	0.146	374	112.9	0.145	387
12/13/21	113.0	0.145	336	113.2	0.146	375	112.9	0.145	390
12/14/21	113.0	0.145	343	113.2	0.146	378	112.9	0.145	395
12/15/21	113.0	0.145	345	113.2	0.146	379	112.9	0.145	401
12/16/21	113.0	0.145	350	113.2	0.146	380	112.9	0.145	404
12/17/21	113.0	0.145	354	113.2	0.146	383	112.9	0.145	404
12/18/21	113.0	0.145	353	113.2	0.146	387	112.9	0.145	406
12/19/21	112.9	0.145	352	113.2	0.146	389	112.9	0.145	406
12/20/21	112.9	0.145	353	113.2	0.146	389	112.8	0.145	406
12/21/21	112.9	0.145	356	113.1	0.146	388	112.8	0.145	403
12/22/21	112.9	0.145	357	113.1	0.146	387	112.8	0.145	398
12/23/21	112.9	0.145	355	113.1	0.146	388	112.8	0.145	399
12/24/21	112.9	0.145	352	113.1	0.146	389	112.7	0.145	403
12/25/21	113.0	0.145	356	113.1	0.146	386	112.7	0.145	406
12/26/21	113.0	0.145	361	113.1	0.146	381	112.7	0.145	405
12/27/21	113.0	0.145	367	113.1	0.146	375	112.7	0.145	403
12/28/21	112.9	0.145	368	113.1	0.146	371	112.7	0.145	406
12/29/21	112.9	0.145	371	113.1	0.146	367	112.7	0.145	406
12/30/21	112.9	0.145	374	113.2	0.146	365	112.8	0.145	408
12/31/21	113.0	0.145	379	113.2	0.146	362	112.9	0.145	408

Table II

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Boiler Hours

Date	Boiler 1	Boiler 2	Boiler 3
12/1/21	24.0	24.0	24.0
12/2/21	24.0	24.0	24.0
12/3/21	24.0	24.0	24.0
12/4/21	24.0	24.0	24.0
12/5/21	24.0	24.0	24.0
12/6/21	24.0	24.0	24.0
12/7/21	24.0	24.0	24.0
12/8/21	24.0	24.0	24.0
12/9/21	24.0	24.0	24.0
12/10/21	24.0	24.0	24.0
12/11/21	24.0	24.0	24.0
12/12/21	24.0	24.0	24.0
12/13/21	24.0	24.0	24.0
12/14/21	24.0	24.0	24.0
12/15/21	24.0	24.0	24.0
12/16/21	24.0	24.0	24.0
12/17/21	24.0	24.0	24.0
12/18/21	24.0	24.0	24.0
12/19/21	24.0	24.0	24.0
12/20/21	24.0	24.0	24.0
12/21/21	24.0	24.0	24.0
12/22/21	24.0	24.0	24.0
12/23/21	24.0	24.0	24.0
12/24/21	24.0	24.0	24.0
12/25/21	24.0	24.0	24.0
12/26/21	24.0	24.0	24.0
12/27/21	24.0	24.0	24.0
12/28/21	24.0	24.0	24.0
12/29/21	24.0	24.0	24.0
12/30/21	24.0	24.0	24.0
12/31/21	24.0	24.0	24.0
Total Hours	744.0	744.0	744.0

TABLE III

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

ANNUAL CAPACITY FACTOR

(PERMITTED CAPACITY 1,017 MMBTU / HR)

			Monthly Average	Annual Capacity	Annual Capacity	Annual Capacity
Month / Year	Natural Gas	Wood	Heat Input	Factor	Factor	Factor Total
	MMBTU	MMBTU	MMBTU / HR	Natural Gas	Wood	Fuels
December 2021	25	441,855	594	0.15%	54.9%	55.1%
November 2021	5,266	326,106	460	0.16%	54.4%	54.6%
October 2021	1,188	429,872	579	0.11%	54.3%	54.4%
September 2021	452	429,138	597	0.10%	54.3%	54.4%
August 2021	917	439,367	592	0.10%	54.4%	54.5%
July 2021	730	436,096	587	0.10%	54.2%	54.3%
June 2021	687	412,057	573	0.10%	53.7%	53.8%
May 2021	10	431,050	579	0.10%	54.0%	54.1%
April 2021	2,651	313,873	440	0.12%	54.3%	54.4%
March 2021	223	431,483	580	0.11%	55.2%	55.3%
February 2021	436	383,147	571	0.11%	55.1%	55.2%
January 2021	826	420,767	567	0.11%	55.2%	55.3%
December 2020	689	393,337	530	0.10%	55.3%	55.4%
November 2020	1,106	315,016	439	0.10%	55.7%	55.8%
October 2020	520	429,064	577			
September 2020	315	437,777	608			
August 2020	918	428,287	577			
July 2020	964	387,877	523			
June 2020	573	439,875	612			
May 2020	1,530	456,532	616			
April 2020	2,073	394,165	550			
March 2020	12	425,441	572			
February 2020	512	390,272	561			
January 2020	27	428,155	576			
December 2019	385	432,444	582			

Table IV

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Estimated Use and Emissions from Fuel Cubes and Cardboard

Month	Fuel Cubes and Cardboard Dry tons	Sulfur Content %
January	0	
February	0	
March	0	
April	0	
May	0	
June	0	
July	0	
August	0	
September	0	
October	0	
November	0	
December	0	
YTD		

TABLE V

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

NOx and CO Emissions During Startup, Shutdown & Malfunction (Natural Gas Only)

No Startup, Shutdown or Malfunction emissions to Report

Boiler 1				Boiler 2				Boiler 3			
Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr

Table VI

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

CEMS Downtime

Note: This report shows downtime for gas analyzers at the 1-hour level and opacity monitors at the 6-minute level

Monitor	Time O/S	Time I/S	Parameter and Reason
3	12/9/21 10:00 AM	12/9/21 10:59 AM	NOXR - Calibration maintenance limit, checked for leaks, ran cal
3	12/9/21 10:00 AM	12/9/21 10:59 AM	COR - Calibration maintenance limit, checked for leaks, ran cal
3	12/9/21 10:00 AM	12/9/21 10:59 AM	COM - Calibration maintenance limit, checked for leaks, ran cal
1	12/10/21 9:00 AM	12/10/21 9:59 AM	NOXR - High vacuum, cleaned lines, performed cal
1	12/10/21 9:00 AM	12/10/21 9:59 AM	COR - High vacuum, cleaned lines, performed cal
1	12/10/21 9:00 AM	12/10/21 9:59 AM	COM - High vacuum, cleaned lines, performed cal
1	12/13/21 12:00 PM	12/13/21 1:59 PM	NOXR - Excessive moisture, cleaned lines and replaced moisture sensor filter, ran cal
1	12/13/21 12:00 PM	12/13/21 1:59 PM	COR - Excessive moisture, cleaned lines and replaced moisture sensor filter, ran cal
1	12/13/21 12:00 PM	12/13/21 1:59 PM	COM - Excessive moisture, cleaned lines and replaced moisture sensor filter, ran cal
1	12/14/21 10:00 AM	12/14/21 1:59 PM	NOXR - High vacuum, replaced probe gasket and filter, ran cal
1	12/14/21 10:00 AM	12/14/21 1:59 PM	COR - High vacuum, replaced probe gasket and filter, ran cal
1	12/14/21 10:00 AM	12/14/21 1:59 PM	COM - High vacuum, replaced probe gasket and filter, ran cal
1	12/14/21 11:06 AM	12/14/21 2:05 PM	OPAC - Replaced probe gasket and filter, ran cal
2	12/14/21 11:18 AM	12/14/21 2:05 PM	OPAC - Checked filter, ran cal
2	12/14/21 12:00 PM	12/14/21 1:59 PM	NOXR - Changed cal gas bottles, ran cal
2	12/14/21 12:00 PM	12/14/21 1:59 PM	COR - Changed cal gas bottles, ran cal
2	12/14/21 12:00 PM	12/14/21 1:59 PM	COM - Changed cal gas bottles, ran cal
3	12/19/21 6:00 AM	12/20/21 9:59 AM	NOXR - OOC Cal, checked for and fixed leaks, ran cal
3	12/19/21 6:00 AM	12/20/21 9:59 AM	COR - OOC Cal, checked for and fixed leaks, ran cal
3	12/20/21 6:00 AM	12/20/21 9:59 AM	COM - OOC Cal, checked for and fixed leaks, ran cal

Table VII

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Emission Exceedances & All 6-Minute Block Opacity Averages That Are Greater Than 20%

There were no emission exceedances this month

Date	Start Time	Unit	Boiler Status	Avg Value	Max Value	Reason

Shasta-Sustainable Resource Management, Inc.
20811 Industry Road • Anderson, CA 96007
(530) 339-7600

February 21, 2022 DELIVERED by: Email

Mr. Paul Hellman
Air Pollution Control Officer
Air Quality Management District
1855 Placer Street
Redding, CA 96001

Subject: Shasta Sustainable Resource Management Emissions Report for the Month of January 2022, Title V Operating Permit 86-TV-08j and Permits to Operate No. 86-PO-08q and 89-PO-04g.

Dear Mr. Hellman:

Attached you will find the January 2022 Emissions Report for our wood fired power plant. The report consists of the following tables.

Table I – 30-Day Rolling Averages for CO and NOx Emissions
Table II – Daily Hours of Operation for the Facility
Table III – 12-Month Capacity Utilization for Wood & Natural Gas
Table IV – Monthly Railroad Tie Usage & Associated Estimated SO2 Emissions
Table V – NOx and CO Emissions During Startup and Shutdown
Table VI – CEMS Downtime
Table VII – Emission Exceedances & 6-Minute Block Opacity Averages > 20%

The CEMS were in service the entire month while the facility was operating except during periods of daily calibration and the periods of maintenance or malfunction, as listed in Table VI.

The steam generated during the month of January is given below.

Boiler #1 -	0.9293	E+8 pounds
Boiler #2 -	0.7493	E+8 pounds
Boiler #3 -	0.7409	E+8 pounds

Fuel stored off-site at the end of the month is listed below.
None

Based upon information and belief formed after reasonable inquiry, I am certifying that the statements and information in this report are true, accurate, and complete. If you have any questions please contact Derrick Boom at (530) 339-7627.

Sincerely,

Bryan Booth
Plant Manager

enc Tables I through Table VII
Fuel Pile Survey Results

TABLE I
SHASTA SUSTAINABLE RESOURCE MANAGEMENT
NOx and CO 30 DAY Rolling Averages

Date	Boiler 1			Boiler 2			Boiler 3		
	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm
1/1/22	113.0	0.145	379	113.3	0.146	356	113.2	0.146	405
1/2/22	113.1	0.145	379	113.3	0.146	351	113.2	0.146	406
1/3/22	113.1	0.145	382	113.4	0.146	348	113.3	0.146	404
1/4/22	113.2	0.146	387	113.5	0.146	345	113.3	0.146	402
1/5/22	113.3	0.146	391	113.5	0.146	339	113.4	0.146	401
1/6/22	113.3	0.146	394	113.6	0.146	336	113.4	0.146	400
1/7/22	113.4	0.146	396	113.7	0.146	338	113.5	0.146	400
1/8/22	113.5	0.146	397	113.7	0.146	334	113.6	0.146	406
1/9/22	113.6	0.146	398	113.8	0.146	331	113.6	0.146	403
1/10/22	113.9	0.146	399	114.0	0.146	329	113.8	0.146	404
1/11/22	114.0	0.146	394	114.0	0.146	323	113.8	0.146	401
1/12/22	114.0	0.146	389	114.0	0.147	328	113.8	0.146	396
1/13/22	114.0	0.146	397	114.0	0.147	330	113.9	0.146	394
1/14/22	114.0	0.146	400	114.0	0.147	325	113.9	0.146	386
1/15/22	114.0	0.146	403	114.0	0.147	322	113.9	0.146	385
1/16/22	113.9	0.146	399	114.0	0.147	317	113.9	0.146	383
1/17/22	113.9	0.146	397	114.0	0.147	311	113.9	0.146	378
1/18/22	113.9	0.146	397	114.1	0.147	306	113.8	0.146	374
1/19/22	114.0	0.146	396	114.1	0.147	304	113.6	0.146	371
1/20/22	114.0	0.146	395	114.1	0.147	305	113.5	0.146	368
1/21/22	114.0	0.147	397	114.1	0.147	303	113.3	0.146	369
1/22/22	114.1	0.147	416	Not Oper	Not Oper	Not Oper	113.3	0.146	371
1/23/22	114.1	0.147	428	Not Oper	Not Oper	Not Oper	113.3	0.146	369
1/24/22	114.1	0.147	436	Not Oper	Not Oper	Not Oper	113.4	0.146	369
1/25/22	114.1	0.147	437	Not Oper	Not Oper	Not Oper	113.4	0.146	370
1/26/22	114.2	0.147	450	Not Oper	Not Oper	Not Oper	113.4	0.146	385
1/27/22	114.1	0.147	475	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
1/28/22	114.2	0.147	489	114.1	0.147	306	Not Oper	Not Oper	Not Oper
1/29/22	114.2	0.147	504	114.1	0.147	314	Not Oper	Not Oper	Not Oper
1/30/22	114.1	0.147	525	114.1	0.147	329	Not Oper	Not Oper	Not Oper
1/31/22	114.1	0.147	550	114.1	0.147	343	113.4	0.146	385

Table II

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Boiler Hours

Date	Boiler 1	Boiler 2	Boiler 3
1/1/22	24.0	24.0	24.0
1/2/22	24.0	24.0	24.0
1/3/22	24.0	24.0	24.0
1/4/22	24.0	24.0	24.0
1/5/22	24.0	24.0	24.0
1/6/22	24.0	24.0	24.0
1/7/22	24.0	24.0	24.0
1/8/22	24.0	24.0	24.0
1/9/22	7.0	6.2	5.3
1/10/22	16.7	16.4	13.8
1/11/22	24.0	24.0	24.0
1/12/22	24.0	24.0	24.0
1/13/22	24.0	24.0	24.0
1/14/22	24.0	24.0	24.0
1/15/22	24.0	24.0	24.0
1/16/22	24.0	24.0	24.0
1/17/22	24.0	24.0	24.0
1/18/22	24.0	24.0	24.0
1/19/22	24.0	24.0	24.0
1/20/22	24.0	24.0	24.0
1/21/22	18.8	18.8	18.8
1/22/22	21.3	0.4	13.5
1/23/22	18.1	0.0	24.0
1/24/22	23.0	0.0	24.0
1/25/22	24.0	0.0	24.0
1/26/22	23.9	0.0	23.9
1/27/22	23.8	0.0	0.0
1/28/22	23.8	23.6	0.0
1/29/22	24.0	24.0	0.0
1/30/22	22.1	23.8	0.0
1/31/22	24.0	24.0	0.1
Total Hours	702.6	569.2	579.3

TABLE III

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

ANNUAL CAPACITY FACTOR

(PERMITTED CAPACITY 1,017 MMBTU / HR)

			Monthly Average	Annual Capacity	Annual Capacity	Annual Capacity
Month / Year	Natural Gas	Wood	Heat Input	Factor	Factor	Factor Total
	MMBTU	MMBTU	MMBTU / HR	Natural Gas	Wood	Fuels
January 2022	3,043	385,856	523	0.18%	54.6%	54.7%
December 2021	No Data	441,855	594	0.15%	54.9%	55.1%
November 2021	5,266	326,106	460	0.16%	54.4%	54.6%
October 2021	1,188	429,872	579	0.11%	54.3%	54.4%
September 2021	452	429,138	597	0.10%	54.3%	54.4%
August 2021	917	439,367	592	0.10%	54.4%	54.5%
July 2021	730	436,096	587	0.10%	54.2%	54.3%
June 2021	687	412,057	573	0.10%	53.7%	53.8%
May 2021	10	431,050	579	0.10%	54.0%	54.1%
April 2021	2,651	313,873	440	0.12%	54.3%	54.4%
March 2021	223	431,483	580	0.11%	55.2%	55.3%
February 2021	436	383,147	571	0.11%	55.1%	55.2%
January 2021	826	420,767	567	0.11%	55.2%	55.3%
December 2020	689	393,337	530	0.10%	55.3%	55.4%
November 2020	1,106	315,016	439			
October 2020	520	429,064	577			
September 2020	315	437,777	608			
August 2020	918	428,287	577			
July 2020	964	387,877	523			
June 2020	573	439,875	612			
May 2020	1,530	456,532	616			
April 2020	2,073	394,165	550			
March 2020	12	425,441	572			
February 2020	512	390,272	561			
January 2020	27	428,155	576			

Table IV

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Estimated Use and Emissions from Fuel Cubes and Cardboard

Month	Fuel Cubes and Cardboard Dry tons	Sulfur Content %
January	0	
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		
YTD		

TABLE V

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

NOx and CO Emissions During Startup, Shutdown & Malfunction (Natural Gas Only)

Boiler 1				Boiler 2				Boiler 3			
Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr
1/10/22	6	8.0	0.6	1/10/22	6	8.2	0.0	1/10/22	6	4.0	0.0
1/21/22	2	3.9	2.4	1/21/22	2	0.6	2.9	1/22/22	3	0.0	0.0
1/22/22	2	11.6	1.1	1/22/22	4	3.8	1.0	1/31/22	5	2.4	16.5
1/23/22	2	3.1	2.6	1/27/22	5	4.6	0.0				
1/24/22	1	7.5	2.6								
1/31/22	1	8.6	32.5								

Table VI

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

CEMS Downtime

Note: This report shows downtime for gas analyzers at the 1-hour level and opacity monitors at the 6-minute level

Monitor	Time O/S	Time I/S	Parameter and Reason
3	1/4/22 10:00 AM	1/4/22 1:59 PM	NOXR - Found and fixed leak, ran cal
3	1/4/22 10:00 AM	1/4/22 1:59 PM	COR - Found and fixed leak, ran cal
3	1/4/22 10:00 AM	1/4/22 1:59 PM	COM - Found and fixed leak, ran cal
2	1/5/22 10:00 AM	1/5/22 10:59 AM	NOXR - Changed cal gas bottle, checked settings, ran cal
2	1/5/22 10:00 AM	1/5/22 10:59 AM	COR - Changed cal gas bottle, checked settings, ran cal
2	1/5/22 10:00 AM	1/5/22 10:59 AM	COM - Changed cal gas bottle, checked settings, ran cal
3	1/5/22 10:00 AM	1/5/22 1:59 PM	NOXR - Changed cal gas bottle, changed probe filter and gasket, ran cal
3	1/5/22 10:00 AM	1/5/22 1:59 PM	COR - Changed cal gas bottle, changed probe filter and gasket, ran cal
3	1/5/22 10:00 AM	1/5/22 1:59 PM	COM - Changed cal gas bottle, changed probe filter and gasket, ran cal
1	1/10/22 9:00 AM	1/10/22 11:59 AM	NOXR - Changed cold scrubber media, ran cal
1	1/10/22 9:00 AM	1/10/22 11:59 AM	COR - Changed cold scrubber media, ran cal
1	1/10/22 9:00 AM	1/10/22 11:59 AM	COM - Changed cold scrubber media, ran cal
2	1/10/22 9:00 AM	1/10/22 11:59 AM	NOXR - Changed cold scrubber media, ran cal
2	1/10/22 9:00 AM	1/10/22 11:59 AM	COR - Changed cold scrubber media, ran cal
2	1/10/22 9:00 AM	1/10/22 11:59 AM	COM - Changed cold scrubber media, ran cal
2	1/14/22 2:00 PM	1/14/22 5:59 PM	NOXR - Preventative maintenance, ran cal
2	1/14/22 2:00 PM	1/14/22 5:59 PM	COR - Preventative maintenance, ran cal
2	1/14/22 2:00 PM	1/14/22 5:59 PM	COM - Preventative maintenance, ran cal
3	1/14/22 2:00 PM	1/17/22 6:59 AM	NOXR - OOC - O2 failed cal, checked for leaks, ran cal
3	1/14/22 2:00 PM	1/17/22 6:59 AM	COR - OOC - O2 failed cal, checked for leaks, ran cal
3	1/14/22 2:00 PM	1/14/22 5:59 PM	COM - Preventative maintenance, ran cal
3	1/15/22 6:00 AM	1/16/22 3:59 PM	COM - OOC - O2 failed cal, checked for leaks, ran cal
3	1/17/22 6:00 AM	1/17/22 6:59 AM	COM - OOC - O2 failed cal, checked for leaks, ran cal
3	1/19/22 12:00 PM	1/19/22 5:59 PM	NOXR - Investigating system leaks, ran cal
3	1/19/22 12:00 PM	1/19/22 5:59 PM	COR - Investigating system leaks, ran cal
3	1/19/22 12:00 PM	1/19/22 5:59 PM	COM - Investigating system leaks, ran cal
3	1/20/22 9:00 AM	1/20/22 4:59 PM	NOXR - Investigating system leaks, ran cal
3	1/20/22 9:00 AM	1/20/22 4:59 PM	COR - Investigating system leaks, ran cal

Table VII

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Emission Exceedances & All 6-Minute Block Opacity Averages That Are Greater Than 20%

Date	Start Time	Unit	Boiler Status	Avg Value	Max Value	Reason
1/22/22	7:06 PM	#2 Opacity	Off	23%	24%	Boiler offline; Black Plant, Powering back up; Allowable hourly value not greater than 27%
1/30/22	12:48 PM	#1 Opacity	Starting up	27%	54%	Boiler offline, boiler trip, powering back up
1/30/22	12:54 PM	#1 Opacity	Starting up	21%	48%	Boiler offline, boiler trip, powering back up

Shasta-Sustainable Resource Management, Inc.
20811 Industry Road • Anderson, CA 96007
(530) 339-7600

March 23, 2022

DELIVERED by: Email

Mr. Paul Hellman
Air Pollution Control Officer
Air Quality Management District
1855 Placer Street
Redding, CA 96001

Subject: Shasta Sustainable Resource Management Emissions Report for the Month of February 2022, Title V Operating Permit 86-TV-08j and Permits to Operate No. 86-PO-08q and 89-PO-04g.

Dear Mr. Hellman:

Attached you will find the February 2022 Emissions Report for our wood fired power plant. The report consists of the following tables.

Table I – 30-Day Rolling Averages for CO and NOx Emissions
Table II – Daily Hours of Operation for the Facility
Table III – 12-Month Capacity Utilization for Wood & Natural Gas
Table IV – Monthly Railroad Tie Usage & Associated Estimated SO2 Emissions
Table V – NOx and CO Emissions During Startup and Shutdown
Table VI – CEMS Downtime
Table VII – Emission Exceedances & 6-Minute Block Opacity Averages > 20%

The CEMS were in service the entire month while the facility was operating except during periods of daily calibration and the periods of maintenance or malfunction, as listed in Table VI.

The steam generated during the month of February is given below.

Boiler #1 -	0.8262	E+8 pounds
Boiler #2 -	0.8306	E+8 pounds
Boiler #3 -	0.8392	E+8 pounds

Fuel stored off-site at the end of the month is listed below.

None

Based upon information and belief formed after reasonable inquiry, I am certifying that the statements and information in this report are true, accurate, and complete. If you have any questions please contact Derrick Boom at (530) 339-7627.

Sincerely,

Bryan Booth
Plant Manager

enc Tables I through Table VII
Fuel Pile Survey Results
Quarterly CGA and Opacity Audit Reports

TABLE I
SHASTA SUSTAINABLE RESOURCE MANAGEMENT
NOx and CO 30 DAY Rolling Averages

Date	Boiler 1			Boiler 2			Boiler 3		
	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm
2/1/22	114.1	0.147	553	114.1	0.147	344	113.5	0.146	392
2/2/22	114.0	0.147	555	114.1	0.147	341	113.6	0.146	388
2/3/22	114.0	0.146	549	114.1	0.147	340	113.6	0.146	383
2/4/22	113.9	0.146	547	114.1	0.147	339	113.6	0.146	378
2/5/22	113.8	0.146	546	114.0	0.146	336	113.7	0.146	377
2/6/22	113.7	0.146	545	113.9	0.146	336	113.6	0.146	378
2/7/22	113.7	0.146	544	113.9	0.146	337	113.6	0.146	381
2/8/22	113.7	0.146	539	113.8	0.146	334	113.6	0.146	386
2/9/22	113.4	0.146	534	113.8	0.146	332	113.6	0.146	389
2/10/22	113.3	0.146	536	113.7	0.146	330	113.6	0.146	389
2/11/22	113.3	0.146	539	113.6	0.146	329	113.6	0.146	390
2/12/22	113.3	0.146	534	113.5	0.146	323	113.5	0.146	382
2/13/22	113.3	0.146	532	113.5	0.146	318	113.5	0.146	377
2/14/22	113.4	0.146	528	113.5	0.146	315	113.5	0.146	374
2/15/22	113.4	0.146	524	113.3	0.146	310	113.5	0.146	378
2/16/22	113.4	0.146	523	113.2	0.146	310	113.4	0.146	379
2/17/22	113.4	0.146	521	113.2	0.146	299	113.4	0.146	379
2/18/22	113.4	0.146	516	113.2	0.146	292	113.4	0.146	376
2/19/22	113.4	0.146	511	113.2	0.146	287	113.4	0.146	371
2/20/22	113.4	0.146	503	113.2	0.146	283	113.4	0.146	367
2/21/22	113.4	0.146	477	113.2	0.146	278	113.5	0.146	362
2/22/22	113.4	0.146	463	113.2	0.146	276	113.6	0.146	360
2/23/22	113.4	0.146	446	113.2	0.146	275	113.8	0.146	358
2/24/22	113.4	0.146	436	113.2	0.146	273	113.9	0.146	355
2/25/22	113.4	0.146	420	113.3	0.146	267	114.2	0.147	352
2/26/22	113.4	0.146	398	113.2	0.146	263	114.2	0.147	344
2/27/22	113.4	0.146	382	113.2	0.146	253	114.2	0.147	339
2/28/22	113.4	0.146	364	113.2	0.146	238	114.2	0.147	330

Table II

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Boiler Hours

Date	Boiler 1	Boiler 2	Boiler 3
2/1/22	24.0	24.0	24.0
2/2/22	24.0	24.0	24.0
2/3/22	24.0	24.0	24.0
2/4/22	24.0	24.0	24.0
2/5/22	24.0	24.0	24.0
2/6/22	24.0	24.0	24.0
2/7/22	24.0	24.0	24.0
2/8/22	24.0	24.0	24.0
2/9/22	24.0	24.0	24.0
2/10/22	24.0	24.0	24.0
2/11/22	24.0	24.0	24.0
2/12/22	24.0	24.0	24.0
2/13/22	24.0	24.0	24.0
2/14/22	24.0	24.0	24.0
2/15/22	24.0	24.0	24.0
2/16/22	24.0	24.0	24.0
2/17/22	24.0	24.0	24.0
2/18/22	24.0	24.0	24.0
2/19/22	24.0	24.0	24.0
2/20/22	24.0	24.0	24.0
2/21/22	24.0	24.0	24.0
2/22/22	24.0	24.0	24.0
2/23/22	24.0	24.0	24.0
2/24/22	24.0	24.0	24.0
2/25/22	24.0	24.0	24.0
2/26/22	24.0	24.0	24.0
2/27/22	24.0	24.0	24.0
2/28/22	24.0	24.0	24.0
Total Hours	672.0	672.0	672.0

TABLE III

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

ANNUAL CAPACITY FACTOR

(PERMITTED CAPACITY 1,017 MMBTU / HR)

			Monthly Average	Annual Capacity	Annual Capacity	Annual Capacity
Month / Year	Natural Gas	Wood	Heat Input	Factor	Factor	Factor Total
	MMBTU	MMBTU	MMBTU / HR	Natural Gas	Wood	Fuels
February 2022	11	400,585	596	0.40%	54.7%	55.2%
January 2022	23,820	385,856	551	0.41%	54.6%	55.0%
December 2021	25	441,855	594	0.15%	54.9%	55.1%
November 2021	5,266	326,106	460	0.16%	54.4%	54.6%
October 2021	1,188	429,872	579	0.11%	54.3%	54.4%
September 2021	452	429,138	597	0.10%	54.3%	54.4%
August 2021	917	439,367	592	0.10%	54.4%	54.5%
July 2021	730	436,096	587	0.10%	54.2%	54.3%
June 2021	687	412,057	573	0.10%	53.7%	53.8%
May 2021	10	431,050	579	0.10%	54.0%	54.1%
April 2021	2,651	313,873	440	0.12%	54.3%	54.4%
March 2021	223	431,483	580	0.11%	55.2%	55.3%

Table IV

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Estimated Use and Emissions from Fuel Cubes and Cardboard

Month	Fuel Cubes and Cardboard Dry tons	Sulfur Content %
January	0	
February	0	
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		
YTD		

TABLE V

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

NOx and CO Emissions During Startup, Shutdown & Malfunction (Natural Gas Only)

No Startup, Shutdown or Malfunction emissions to Report

Boiler 1				Boiler 2				Boiler 3			
Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr

Table VI

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

CEMS Downtime

Note: This report shows downtime for gas analyzers at the 1-hour level and opacity monitors at the 6-minute level

Monitor	Time O/S	Time I/S	Parameter and Reason
1	2/1/22 9:54 AM	2/1/22 12:05 PM	OPAC - Quarterly Opacity Audit
2	2/1/22 12:18 PM	2/1/22 2:05 PM	OPAC - Quarterly Opacity Audit
3	2/1/22 2:54 PM	2/1/22 4:35 PM	OPAC - Quarterly Opacity Audit
1	2/22/22 10:12 AM	2/22/22 12:11 PM	OPAC - Preventative Maintenance - Clean filter, run calibration
2	2/22/22 12:12 PM	2/22/22 12:29 PM	OPAC - Preventative Maintenance - Clean filter, run calibration
3	2/22/22 12:12 PM	2/22/22 12:29 PM	OPAC - Preventative Maintenance - Clean filter, run calibration
1	2/22/22 3:00 PM	2/22/22 3:59 PM	NOXR - Change gas bottles, ran can
1	2/22/22 3:00 PM	2/22/22 3:59 PM	COR - Change gas bottles, ran can
1	2/22/22 3:00 PM	2/22/22 3:59 PM	COM - Change gas bottles, ran can
2	2/24/22 9:00 AM	2/24/22 9:59 AM	NOXR - Preventative Maintenance - Change drain tubing, ran cal
2	2/24/22 9:00 AM	2/24/22 9:59 AM	COR - Preventative Maintenance - Change drain tubing, ran cal
2	2/24/22 9:00 AM	2/24/22 9:59 AM	COM - Preventative Maintenance - Change drain tubing, ran cal

Table VII

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Emission Exceedances & All 6-Minute Block Opacity Averages That Are Greater Than 20%

There were no emission exceedances this month

Date	Start Time	Unit	Boiler Status	Avg Value	Max Value	Reason

Shasta-Sustainable Resource Management, Inc.
20811 Industry Road • Anderson, CA 96007
(530) 339-7600

April 25, 2022

DELIVERED by: Email

Mr. Paul Hellman
Air Pollution Control Officer
Air Quality Management District
1855 Placer Street
Redding, CA 96001

Subject: Shasta Sustainable Resource Management Emissions Report for the Month of March 2022, Title V Operating Permit 86-TV-08j and Permits to Operate No. 86-PO-08q and 89-PO-04g.

Dear Mr. Hellman:

Attached you will find the March 2022 Emissions Report for our wood fired power plant. The report consists of the following tables.

Table I – 30-Day Rolling Averages for CO and NOx Emissions
Table II – Daily Hours of Operation for the Facility
Table III – 12-Month Capacity Utilization for Wood & Natural Gas
Table IV – Monthly Railroad Tie Usage & Associated Estimated SO2 Emissions
Table V – NOx and CO Emissions During Startup and Shutdown
Table VI – CEMS Downtime
Table VII – Emission Exceedances & 6-Minute Block Opacity Averages > 20%

The CEMS were in service the entire month while the facility was operating except during periods of daily calibration and the periods of maintenance or malfunction, as listed in Table VI.

The steam generated during the month of March is given below.

Boiler #1 -	1.1626	E+8 pounds
Boiler #2 -	0.3541	E+8 pounds
Boiler #3 -	1.1669	E+8 pounds

Fuel stored off-site at the end of the month is listed below.

None

Based upon information and belief formed after reasonable inquiry, I am certifying that the statements and information in this report are true, accurate, and complete. If you have any questions please contact Derrick Boom at (530) 339-7627.

Sincerely,

Bryan Booth
Plant Manager

enc Tables I through Table VII
Fuel Pile Survey Results

TABLE I
SHASTA SUSTAINABLE RESOURCE MANAGEMENT
NOx and CO 30 DAY Rolling Averages

Date	Boiler 1			Boiler 2			Boiler 3		
	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm
3/1/22	113.4	0.146	338	113.2	0.146	218	114.2	0.147	326
3/2/22	113.3	0.146	313	113.2	0.146	201	114.2	0.147	314
3/3/22	113.4	0.146	308	113.3	0.146	198	114.1	0.147	304
3/4/22	113.4	0.146	300	113.3	0.146	194	114.1	0.147	304
3/5/22	113.4	0.146	297	113.3	0.146	190	114.1	0.147	303
3/6/22	113.4	0.146	294	113.3	0.146	188	114.1	0.147	302
3/7/22	113.5	0.146	291	113.3	0.146	186	114.0	0.147	302
3/8/22	113.5	0.146	290	113.3	0.146	184	114.0	0.147	294
3/9/22	113.5	0.146	288	113.3	0.146	180	114.0	0.147	289
3/10/22	113.5	0.146	284	113.3	0.146	178	113.9	0.147	281
3/11/22	113.5	0.146	282	113.3	0.146	178	113.9	0.147	276
3/12/22	113.5	0.146	284	113.3	0.146	180	113.9	0.147	274
3/13/22	113.5	0.146	301	113.3	0.146	180	113.9	0.146	285
3/14/22	113.5	0.146	311	Not Oper	Not Oper	Not Oper	113.8	0.146	293
3/15/22	113.5	0.146	341	Not Oper	Not Oper	Not Oper	113.8	0.146	314
3/16/22	113.5	0.146	355	Not Oper	Not Oper	Not Oper	113.7	0.146	323
3/17/22	113.6	0.146	369	Not Oper	Not Oper	Not Oper	113.7	0.146	333
3/18/22	113.6	0.146	382	Not Oper	Not Oper	Not Oper	113.7	0.146	342
3/19/22	113.6	0.146	396	Not Oper	Not Oper	Not Oper	113.6	0.146	350
3/20/22	113.6	0.146	410	Not Oper	Not Oper	Not Oper	113.7	0.146	366
3/21/22	113.7	0.146	420	Not Oper	Not Oper	Not Oper	113.7	0.146	375
3/22/22	113.7	0.146	431	Not Oper	Not Oper	Not Oper	113.6	0.146	386
3/23/22	113.7	0.146	442	Not Oper	Not Oper	Not Oper	113.6	0.146	397
3/24/22	113.7	0.146	451	Not Oper	Not Oper	Not Oper	113.6	0.146	408
3/25/22	113.7	0.146	463	Not Oper	Not Oper	Not Oper	113.6	0.146	420
3/26/22	113.8	0.146	476	Not Oper	Not Oper	Not Oper	113.6	0.146	432
3/27/22	113.8	0.146	485	Not Oper	Not Oper	Not Oper	113.6	0.146	442
3/28/22	113.8	0.146	492	Not Oper	Not Oper	Not Oper	113.5	0.146	450
3/29/22	113.8	0.146	497	Not Oper	Not Oper	Not Oper	113.5	0.146	455
3/30/22	113.8	0.146	507	Not Oper	Not Oper	Not Oper	113.5	0.146	469
3/31/22	113.8	0.146	524	Not Oper	Not Oper	Not Oper	113.4	0.146	483

Table II

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Boiler Hours

Date	Boiler 1	Boiler 2	Boiler 3
3/1/22	24.0	24.0	24.0
3/2/22	24.0	24.0	24.0
3/3/22	24.0	24.0	24.0
3/4/22	24.0	24.0	24.0
3/5/22	24.0	24.0	24.0
3/6/22	24.0	24.0	24.0
3/7/22	24.0	24.0	24.0
3/8/22	24.0	24.0	24.0
3/9/22	24.0	24.0	24.0
3/10/22	24.0	24.0	24.0
3/11/22	24.0	24.0	24.0
3/12/22	24.0	24.0	24.0
3/13/22	24.0	1.8	24.0
3/14/22	24.0	0.0	24.0
3/15/22	24.0	0.0	24.0
3/16/22	24.0	0.0	24.0
3/17/22	24.0	0.0	24.0
3/18/22	24.0	0.0	24.0
3/19/22	24.0	0.0	24.0
3/20/22	24.0	0.0	24.0
3/21/22	24.0	0.0	24.0
3/22/22	24.0	0.0	24.0
3/23/22	24.0	0.0	24.0
3/24/22	24.0	0.0	24.0
3/25/22	24.0	0.0	24.0
3/26/22	24.0	0.0	24.0
3/27/22	24.0	0.0	24.0
3/28/22	24.0	0.0	24.0
3/29/22	24.0	0.0	24.0
3/30/22	24.0	0.0	24.0
3/31/22	24.0	0.0	24.0
Total Hours	744.0	289.8	744.0

TABLE III

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

ANNUAL CAPACITY FACTOR

(PERMITTED CAPACITY 1,017 MMBTU / HR)

			Monthly Average	Annual Capacity	Annual Capacity	Annual Capacity
Month / Year	Natural Gas	Wood	Heat Input	Factor	Factor	Factor Total
	MMBTU	MMBTU	MMBTU / HR	Natural Gas	Wood	Fuels
March 2022	247	426,841	574	0.40%	54.7%	55.1%
February 2022	11	400,585	596	0.40%	54.7%	55.2%
January 2022	23,820	385,856	551	0.41%	54.6%	55.0%
December 2021	25	441,855	594	0.15%	54.9%	55.1%
November 2021	5,266	326,106	460	0.16%	54.4%	54.6%
October 2021	1,188	429,872	579	0.11%	54.3%	54.4%
September 2021	452	429,138	597	0.10%	54.3%	54.4%
August 2021	917	439,367	592	0.10%	54.4%	54.5%
July 2021	730	436,096	587	0.10%	54.2%	54.3%
June 2021	687	412,057	573	0.10%	53.7%	53.8%
May 2021	10	431,050	579	0.10%	54.0%	54.1%
April 2021	2,651	313,873	440	0.12%	54.3%	54.4%

Table IV

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Estimated Use and Emissions from Fuel Cubes and Cardboard

Month	Fuel Cubes and Cardboard Dry tons	Sulfur Content %
January	0	
February	0	
March	0	
April		
May		
June		
July		
August		
September		
October		
November		
December		
YTD		

TABLE V

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

NOx and CO Emissions During Startup, Shutdown & Malfunction (Natural Gas Only)

No Startup, Shutdown or Malfunction emissions to Report

Boiler 1				Boiler 2				Boiler 3			
Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr

Table VI

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

CEMS Downtime

Note: This report shows downtime for gas analyzers at the 1-hour level and opacity monitors at the 6-minute level

Monitor	Time O/S	Time I/S	Parameter and Reason
1	3/3/22 10:48 AM	3/3/22 11:17 AM	OPAC - Preventative maintenance, ran cal
1	3/17/22 9:00 AM	3/17/22 9:59 AM	NOXR - Changed cold scrubber media, ran cal
1	3/17/22 9:00 AM	3/17/22 9:59 AM	COR - Changed cold scrubber media, ran cal
1	3/17/22 9:00 AM	3/17/22 9:59 AM	COM - Changed cold scrubber media, ran cal
2	3/3/22 10:48 AM	3/3/22 11:17 AM	OPAC - Preventative maintenance, ran cal
3	3/3/22 11:24 AM	3/3/22 11:41 AM	OPAC - Preventative maintenance, ran cal
3	3/9/22 3:00 PM	3/10/22 7:59 AM	NOXR - Preventative maintenance, ran cal
3	3/9/22 3:00 PM	3/10/22 7:59 AM	COR - Preventative maintenance, ran cal
3	3/9/22 3:00 PM	3/10/22 7:59 AM	COM - Preventative maintenance, ran cal

Table VII

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Emission Exceedances & All 6-Minute Block Opacity Averages That Are Greater Than 20%

There were no emission exceedances this month

Date	Start Time	Unit	Boiler Status	Avg Value	Max Value	Reason

Shasta-Sustainable Resource Management, Inc.
20811 Industry Road • Anderson, CA 96007
(530) 339-7600

May 18, 2022 DELIVERED by: Email

Mr. Paul Hellman
Air Pollution Control Officer
Air Quality Management District
1855 Placer Street
Redding, CA 96001

Subject: Shasta Sustainable Resource Management Emissions Report for the Month of April 2022, Title V Operating Permit 86-TV-08j and Permits to Operate No. 86-PO-08q and 89-PO-04g.

Dear Mr. Hellman:

Attached you will find the April 2022 Emissions Report for our wood fired power plant. The report consists of the following tables.

Table I – 30-Day Rolling Averages for CO and NOx Emissions
Table II – Daily Hours of Operation for the Facility
Table III – 12-Month Capacity Utilization for Wood & Natural Gas
Table IV – Monthly Railroad Tie Usage & Associated Estimated SO2 Emissions
Table V – NOx and CO Emissions During Startup and Shutdown
Table VI – CEMS Downtime
Table VII – Emission Exceedances & 6-Minute Block Opacity Averages > 20%

The CEMS were in service the entire month while the facility was operating except during periods of daily calibration and the periods of maintenance or malfunction, as listed in Table VI.

The steam generated during the month of April is given below.

Boiler #1 -	0.6024	E+8 pounds
Boiler #2 -	0.4790	E+8 pounds
Boiler #3 -	0.5934	E+8 pounds

Fuel stored off-site at the end of the month is listed below.
None

Based upon information and belief formed after reasonable inquiry, I am certifying that the statements and information in this report are true, accurate, and complete. If you have any questions please contact Derrick Boom at (530) 339-7627.

Sincerely,

Bryan Booth
Plant Manager

enc Tables I through Table VII
Fuel Pile Survey Results

TABLE I
SHASTA SUSTAINABLE RESOURCE MANAGEMENT
NOx and CO 30 DAY Rolling Averages

Date	Boiler 1			Boiler 2			Boiler 3		
	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm	NOx @ 3% O2 ppm	NOx lb/MMBtu	CO @ 3% O2 ppm
4/1/22	113.9	0.147	534	Not Oper	Not Oper	Not Oper	113.5	0.146	501
4/2/22	114.2	0.147	548	Not Oper	Not Oper	Not Oper	113.5	0.146	507
4/3/22	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
4/4/22	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
4/5/22	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
4/6/22	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
4/7/22	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
4/8/22	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
4/9/22	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
4/10/22	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
4/11/22	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
4/12/22	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper	Not Oper
4/13/22	114.2	0.147	568	113.4	0.146	178	113.6	0.146	515
4/14/22	114.4	0.147	599	113.7	0.146	176	113.9	0.147	521
4/15/22	114.4	0.147	607	113.7	0.146	179	113.8	0.146	517
4/16/22	114.3	0.147	607	113.7	0.146	181	113.8	0.146	510
4/17/22	114.3	0.147	603	113.6	0.146	183	113.7	0.146	510
4/18/22	114.2	0.147	603	113.6	0.146	183	113.7	0.146	505
4/19/22	114.2	0.147	607	113.6	0.146	184	113.6	0.146	505
4/20/22	114.2	0.146	609	113.6	0.146	185	113.6	0.146	509
4/21/22	114.1	0.146	604	113.6	0.146	185	113.6	0.146	505
4/22/22	114.1	0.146	579	113.5	0.146	184	113.6	0.146	488
4/23/22	114.1	0.146	565	113.5	0.146	183	113.6	0.146	479
4/24/22	114.0	0.146	537	113.5	0.146	182	113.5	0.146	460
4/25/22	114.0	0.146	531	113.5	0.146	183	113.4	0.146	453
4/26/22	114.0	0.146	515	113.4	0.146	183	113.4	0.146	441
4/27/22	113.9	0.146	501	113.4	0.146	182	113.4	0.146	428
4/28/22	113.9	0.146	486	113.2	0.145	181	113.4	0.146	414
4/29/22	113.8	0.146	475	113.2	0.145	182	113.3	0.146	397
4/30/22	113.7	0.146	465	113.2	0.145	183	113.3	0.146	387

Table II

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Boiler Hours

Date	Boiler 1	Boiler 2	Boiler 3
4/1/22	24.0	0.0	24.0
4/2/22	23.7	0.0	23.7
4/3/22	0.0	0.0	0.0
4/4/22	0.0	0.0	0.0
4/5/22	0.0	0.0	0.0
4/6/22	0.0	0.0	0.0
4/7/22	0.0	0.0	0.0
4/8/22	0.0	0.0	0.0
4/9/22	0.0	0.0	0.0
4/10/22	0.0	0.0	0.0
4/11/22	0.0	0.0	0.0
4/12/22	0.0	0.0	0.0
4/13/22	0.9	3.4	3.7
4/14/22	24.0	24.0	24.0
4/15/22	24.0	24.0	24.0
4/16/22	24.0	24.0	24.0
4/17/22	24.0	24.0	24.0
4/18/22	24.0	24.0	24.0
4/19/22	24.0	24.0	23.9
4/20/22	24.0	24.0	24.0
4/21/22	24.0	24.0	24.0
4/22/22	24.0	24.0	24.0
4/23/22	24.0	24.0	24.0
4/24/22	24.0	24.0	24.0
4/25/22	24.0	24.0	24.0
4/26/22	24.0	24.0	24.0
4/27/22	24.0	24.0	24.0
4/28/22	24.0	24.0	24.0
4/29/22	24.0	24.0	24.0
4/30/22	24.0	24.0	24.0
Total Hours	456.6	411.4	459.3

TABLE III

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

ANNUAL CAPACITY FACTOR

(PERMITTED CAPACITY 1,017 MMBTU / HR)

			Monthly Average	Annual Capacity	Annual Capacity	Annual Capacity
Month / Year	Natural Gas	Wood	Heat Input	Factor	Factor	Factor Total
	MMBTU	MMBTU	MMBTU / HR	Natural Gas	Wood	Fuels
April 2022	2,472	266,548	374	0.40%	54.2%	54.6%
March 2022	247	426,841	574	0.40%	54.7%	55.1%
February 2022	11	400,585	596	0.40%	54.7%	55.2%
January 2022	23,820	385,856	551	0.41%	54.6%	55.0%
December 2021	25	441,855	594	0.15%	54.9%	55.1%
November 2021	5,266	326,106	460	0.16%	54.4%	54.6%
October 2021	1,188	429,872	579	0.11%	54.3%	54.4%
September 2021	452	429,138	597	0.10%	54.3%	54.4%
August 2021	917	439,367	592	0.10%	54.4%	54.5%
July 2021	730	436,096	587	0.10%	54.2%	54.3%
June 2021	687	412,057	573	0.10%	53.7%	53.8%
May 2021	10	431,050	579	0.10%	54.0%	54.1%

Table IV

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Estimated Use and Emissions from Fuel Cubes and Cardboard

Month	Fuel Cubes and Cardboard Dry tons	Sulfur Content %
January	0	
February	0	
March	0	
April	0	
May		
June		
July		
August		
September		
October		
November		
December		
YTD		

TABLE V

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

NOx and CO Emissions During Startup, Shutdown & Malfunction (Natural Gas Only)

Boiler 1				Boiler 2				Boiler 3			
Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr	Date	Duration hr	NOx lb/hr	CO lb/hr
4/13/22	8	0.0	0.6	4/13/22	8	1.6	0.1	4/13/22	8	2.3	0.2

Table VI

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

CEMS Downtime

Note: This report shows downtime for gas analyzers at the 1-hour level and opacity monitors at the 6-minute level

Monitor	Time O/S	Time I/S	Parameter and Reason
3	4/2/22 3:00 PM	4/2/22 10:59 PM	CO_MACT - Moisture in line, drain water, ran cal
3	4/2/22 3:00 PM	4/2/22 10:59 PM	CORPT - Moisture in line, drain water, ran cal
3	4/2/22 3:00 PM	4/2/22 10:59 PM	NOxRPT - Moisture in line, drain water, ran cal
3	4/14/22 11:06 AM	4/14/22 11:11 AM	OPACITY - DAS system data collection
1	4/15/22 2:00 AM	4/15/22 10:59 AM	CO_MACT - Moisture in line, fix pump tubing, drain water, ran cal
1	4/15/22 2:00 AM	4/15/22 10:59 AM	CORPT - Moisture in line, fix pump tubing, drain water, ran cal
1	4/15/22 2:00 AM	4/15/22 10:59 AM	NOxRPT - Moisture in line, fix pump tubing, drain water, ran cal
3	4/15/22 10:00 AM	4/15/22 10:59 AM	CO_MACT - Preventative Maintenance - replace tubing, ran cal
3	4/15/22 10:00 AM	4/15/22 10:59 AM	CORPT - Preventative Maintenance - replace tubing, ran cal
3	4/15/22 10:00 AM	4/15/22 10:59 AM	NOxRPT - Preventative Maintenance - replace tubing, ran cal
2	4/26/22 4:18 AM	4/26/22 5:17 AM	OPACITY - High contamination, clean lense
2	4/30/22 9:24 AM	4/30/22 10:35 AM	OPACITY - High contamination, clean lense, change filter

Table VII

SHASTA SUSTAINABLE RESOURCE MANAGEMENT

Emission Exceedances & All 6-Minute Block Opacity Averages That Are Greater Than 20%

There were no emission exceedances this month

Date	Start Time	Unit	Boiler Status	Avg Value	Max Value	Reason

PACIFIC GAS AND ELECTRIC COMPANY

ATTACHMENT 3

Burney Forest Products Air Quality Attestation

APPENDIX C
AIR QUALITY ATTESTATION

[VIA ELECTRONIC SUBMISSION]



May 20, 2022

PG&E
Attn: Energy Contract Management & Settlements
77 Beale Street, Mail Code NI2E
San Francisco, CA 94105-1702

Subject: Bioenergy Renewable Auction Mechanism Power Purchase Agreement ("BioRAM PPA") by and between PG&E ("Buyer") and Burney Forest Products, A Joint Venture ("Seller") – Seller's Air Quality Attestation

Dear Sir or Madam:

Seller attests that the Project is in compliance with all applicable air pollution and control requirements for the period beginning November 1, 2021 and ending April 30, 2022. Seller hereby represents and warrants that:

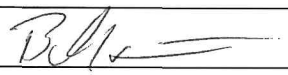
1. This Air Quality Attestation is submitted on or prior to the semiannual air quality attestation due date as specified in Section 3.11.

2. Seller was in compliance with all applicable air pollution and control requirements for the period.

3. List of non-compliance: None.

Compliance with the Project's applicable air quality and control requirements is documented in the attached Air Pollution Report. Buyer may request additional information to accommodate reporting and demonstrate Seller's compliance with air pollution and control requirements.

Capitalized terms used but not otherwise defined in this letter have the meanings set forth in the BioRAM PPA. The authorized signature from the Seller certifies that Seller has the knowledge and authority to attest that the information on this form is true and correct.

Seller	Burney Forest Products
Print Name	Billy Dillard
Signature	
Title	Plant Manager
Date	May 20, 2022

PACIFIC GAS AND ELECTRIC COMPANY

ATTACHMENT 4

Burney Forest Products Certification Reports and Monthly Emissions Reports

April 26, 2022

Ms. Lindsey Welch
Senior Air Pollution Inspector
Shasta County Air Quality Management District
1855 Placer Street, Suite 101
Redding, CA 96001

Re: **Title V Semi-Annual Monitoring Report**
Title V Operating Permit # 87-TV-27n
Burney Forest Products

Dear Ms. Welch

In accordance with Conditions 23 of the referenced permit, enclosed please find Burney Forest Product's completed Semi-Annual Monitoring Report. This submittal covers the time period from October 14, 2021 through April 13, 2022 reporting period.

If you have any questions or require additional information, please do not hesitate to contact me at 530-335-5023.

Sincerely,

Bill Dillard,
Plant Manager, Burney Forest Products

Enclosures

cc: John Christian, Olympus Power (email)
File 201-40-09

CERTIFICATION REPORT
(FORM 5-K1)

DISTRICT: Shasta County AQMD	**< DISTRICT USE ONLY =** **DISTRICT ID:**
COMPANY NAME: Burney Forest Products, a Joint Venture	**FACILITY NAME: Burney Forest Products**

I. FACILITY INFORMATION

1. Company Name: Burney Forest Products, a Joint Venture
2. Facility Name (if different than Company Name): Burney Forest Products
3. Mailing Address: 35586-B Highway 299 East, Burney, CA 96013
4. Street Address or Source Location: Same as mailing address
5. Facility Permit Number: 87-TV-27n

II. GENERAL INFORMATION

1. Reporting period (specify dates): October 14, 2021 through April 13, 2022
2. Due date for submittal of report: May 28, 2022

3. Type of submittal: [X] Monitoring Report (complete Section III below)
   [ ] Compliance Schedule Progress Report (complete Section IV of Form 5-K2)
   [ ] Compliance Certification (complete Section V of Form 5-K2)

III. MONITORING REPORT INFORMATION

1. Were deviations from monitoring requirements encountered during the reporting period?
   [ ] No [X] Yes (If Yes, complete Form 5-L)

CERTIFICATION REPORT
(FORM 5-K2)

DISTRICT: Shasta County AQMD	**< DISTRICT USE ONLY =** **DISTRICT ID:**
COMPANY NAME: Burney Forest Products, a Joint Venture	**FACILITY NAME: Burney Forest Products**

IV. COMPLIANCE SCHEDULE PROGRESS INFORMATION

1. Dates the activities, milestones, or compliance required by schedule of compliance was achieved/will be achieved:

2. Provide explanation of why any dates in schedule of compliance were not/will not be met:

3. Describe in chronological order preventive or corrective action taken:

V. COMPLIANCE CERTIFICATION

1. Was source in compliance during the reporting period specified in Section II of Form 5-K1 and is source currently in compliance with all applicable federal requirements and permit conditions.

   [ ] Yes [ ] No (If no, re-submit Forms 5-I and 5-J)

I certify based on information and belief formed after reasonable inquiry, the statement and information in this document and supplements are true, accurate, and complete.

Signature of Responsible Official — Date: 5-2-2022

Bill Dillard
Print Name of Responsible Official

Plant Manager, Burney Forest Products
Title of Responsible Official and Company Name

Telephone Number of Responsible Official: (530) 335 - 5023

DEVIATION REPORT
(FORM 5-L)

DISTRICT: Shasta County AQMD	**< DISTRICT USE ONLY =** **DISTRICT ID:**
COMPANY NAME: Burney Forest Products, a Joint Venture	**FACILITY NAME: Burney Forest Products**

I. DEVIATION INFORMATION

1. Permit number(s) of emission unit or control unit affected: 87-TV-27n
2. Description of deviation: Compliance Assurance Monitoring Plan Excursion – ESP Transformer Voltage out of Range.
3. Description and identification of permit condition(s) deviated: Condition 43 – The permittee shall respond to and report as excursions all periods where the following conditions (as described in the Compliance Assurance Monitoring Plan) have occurred: a. Primary Transformer Voltage of less than 70 volts AC. B. Secondary (Precipitator) Voltage less than 10.0 KV, (DC). C. Secondary Transformer (Precipitator) Current less than 0.01 MA, (DC).
4. Associated equipment and equipment operation (if any): Boiler # 1 ESP TR-1B
5. Date and time when deviation was discovered: October 22, 2021 at approximately 13:00
6. Date, time and duration of deviation: October 22, 2021 at approximately 13:00 hours. Taken offline at 15:00. Duration was approximately 2 hours. Boiler #1 was restarted on October 24, 2021, at approximately 19:45, and ran without TR-1B until October 29, 2021, in coordination with SCAQMD. No opacity limits were exceeded during this timeframe.
7. Probable cause of deviation: At around 13:00 hours on October 22, 2021, while starting up Boiler #1 after an outage for performing unscheduled maintenance, the Operator noticed Boiler #1 ESP TR-1B wouldn't start. The cause was due to a malfunction of the ESP controller.
8. Preventive or corrective action taken: During startup of Boiler #1 on Oct 22, 2021, TR-1B would not start. The Boiler was taken offline for troubleshooting and repair, and the issue was determined to be a malfunctioning controller. The replacement part was going to take several days to arrive and be installed. The issue was reported to SCAQMD on October 24, 2021 with a request to run without TR-1B under the condition of watching the opacities and staying within permitted limits. Boiler #1 was restarted on October 24, 2021. In coordination with and approval from SCAQMD, Boiler #1 continued to operate from October 24, 2021 until the controller was replaced and repairs completed on October 29. No excess opacity emissions were observed during the time period when TR-1B was offline.

December 21, 2021

Ms. Lindsey Welch
Senior Air Pollution Inspector
Shasta County Air Quality Management District
1855 Placer Street, Suite 101
Redding, CA 96001

Re: **Monthly Emission Report – November 2021**
Burney Forest Products

Dear Ms. Welch,

Pursuant to Title V Operating Permit 87-TV-27n, Condition 20, enclosed please find the November 2021 *Monthly Emissions Report* for Burney Forest Products (BFP).

If you have any questions or require additional information, please contact Josh Hirschi, EH&S Manager, at 530-335-5023 ext. 105.

Sincerely,

Bill Dillard
Plant Manager

Cc: John Christian (email)

File: 201-40-03

BURNEY FOREST PRODUCTS
Monthly Emissions Report
November 2021

EXCESS EMISSION SUMMARY			
Parameter	**Limit**	**Averaging Period**	**Excursions**
CO – Gas	400 ppm@3% O2	24-hr Block Avg (Calendar Day)	None
CO - Wood	1,200 ppm@12% CO2	24-hr Block Avg (Calendar Day)	None
NOx – Gas	70 ppm@3% O2	3-hr Block Avg	None
NOx – Gas	0.084 lb/mmBtu	3-hr Block Avg	None
NOx – Wood	0.12 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 1	0.145 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 2	0.146 lb/mmBtu	3-hr Block Avg	None
NOx – All Fuels	57.4 lb/hr (both boilers combined)	1-hr Total	None
NOx – All Fuels	250 ppm@12% CO2	1-hr Avg	None
Opacity	20%	6-min Avg	None
Opacity	40%	3-min aggr./hr	None

CEMS/COMS DOWNTIME PERIODS	
NOx	
Boiler 1	None
Boiler 2	On 11/10/21: One (1) hour period downtime due to CEMS Maintenance
CO	
Boiler 1	None
Boiler 2	On 11/10/21: One (1) hour period downtime due to CEMS Maintenance
CO2	
Boiler 1	None
Boiler 2	On 11/10/21: One (1) hour period downtime due to CEMS Maintenance
O2	
Boiler 1	None
Boiler 2	On 11/10/21: One (1) hour period downtime due to CEMS Maintenance
OPACITY	
Boiler 1	On 11/10/21: Two (2) six-minute periods downtime due to CEMS Maintenance
Boiler 2	None

OPERATING DATA	
Ammonia Usage (Pounds)	
Boiler 1	31,254
Boiler 2	37,669
Total Both Boilers	68,923
Boiler Operating Time (Hours)	
Boiler 1	656
Boiler 2	696

BOILER OFF LINE TIMES

Boiler 1

Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
11/17/2021	16:02	11/18/2021	11:45	Boiler 1 offline due to PG&E Trip – Black Plant
11/18/2021	16:09	11/21/2021	06:50	Boiler 1 offline for PG&E line outage and maintenance

Boiler 2

Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
11/17/2021	16:02	11/18/2021	00:36	Boiler 2 offline due to PG&E Trip – Black Plant
11/18/2021	02:14	11/18/2021	15:03	Boiler 2 offline due to turbine trip
11/19/2021	05:00	11/19/2021	22:45	Boiler 2 offline for PG&E line outage

Note: Boiler Off Line Times are in DAHS time

CAM Plan Excursions	
Date	**Description**
	None

Burney Forest Products
Wood Fuel: **Nov 2021**

	#1 Boiler								#2 Boiler							
Day	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH
1	600.0	24.0	25.0	35%	391.1	16.3	285.4	192.4	610.0	24.0	25.4	35%	397.6	16.6	290.1	197.1
2	596.0	24.0	24.9	35%	384.9	16.1	281.1	194.8	612.8	24.0	25.5	35%	395.8	16.5	288.8	193.1
3	578.8	24.0	24.1	36%	370.0	15.4	269.8	194.5	600.0	24.0	25.0	36%	383.5	16.0	279.7	196.2
4	630.0	24.0	26.3	37%	398.0	16.6	290.2	195.0	612.0	24.0	25.5	37%	386.6	16.1	282.1	191.9
5	614.5	24.0	25.6	35%	397.4	16.6	289.7	190.8	614.0	24.0	25.6	35%	397.0	16.5	289.5	194.6
6	620.0	24.0	25.8	36%	399.1	16.6	291.0	194.8	620.0	24.0	25.8	36%	399.1	16.6	291.0	192.4
7	640.0	24.0	26.7	36%	406.7	16.9	296.6	185.5	645.0	24.0	26.9	36%	409.9	17.1	298.9	194.3
8	630.0	24.0	26.3	36%	402.4	16.8	293.4	194.9	630.0	24.0	26.3	36%	402.4	16.8	293.8	190.5
9	687.7	24.0	28.7	42%	400.5	16.7	292.4	192.3	660.0	24.0	27.5	42%	384.3	16.0	280.3	193.9
10	677.4	24.0	28.2	41%	396.9	16.5	289.4	195.1	680.0	24.0	28.4	41%	398.4	16.6	290.9	193.0
11	604.9	23.9	25.3	39%	370.0	15.5	270.5	190.3	630.0	24.0	26.3	39%	385.3	16.1	281.0	193.0
12	607.3	24.0	25.3	36%	389.2	16.2	283.8	191.2	620.0	24.0	25.9	36%	397.3	16.6	289.9	189.5
13	630.7	24.0	26.3	39%	387.3	16.2	282.8	193.8	640.0	24.0	26.7	39%	393.1	16.4	286.6	192.7
14	680.0	24.0	28.4	40%	405.4	16.9	295.8	194.3	650.0	24.0	27.1	40%	387.5	16.2	282.7	192.5
15	621.3	24.0	25.9	36%	397.8	16.6	290.2	190.7	620.0	24.0	25.9	36%	396.9	16.6	289.6	193.6
16	572.6	24.0	23.9	39%	351.2	14.7	256.4	162.9	650.0	24.0	27.1	39%	398.7	16.6	291.1	189.1
17	452.3	16.2	27.9	38%	279.3	17.2	301.7	168.2	537.4	19.9	27.0	38%	331.8	16.7	292.1	149.0
18	197.3	16.3	12.1	31%	136.1	8.4	146.5	98.3	300.3	14.5	20.7	31%	207.1	14.2	249.4	126.4
19	0.0	0.0	0.0	24%	0.0	0.0	0.0	0.0	176.0	7.4	23.7	24%	134.1	18.1	316.3	102.9
20	0.0	0.0	0.0	49%	0.0	0.0	0.0	0.0	729.4	24.0	30.4	49%	370.0	15.4	269.8	178.0
21	517.5	20.5	25.2	40%	310.3	15.1	264.7	166.7	620.0	24.0	25.9	40%	371.8	15.5	271.3	182.7
22	645.5	24.0	26.9	40%	386.5	16.1	281.8	185.1	650.0	24.0	27.1	40%	389.2	16.2	283.8	191.3
23	678.4	23.9	28.3	41%	399.8	16.7	292.3	192.3	650.0	23.9	27.2	41%	383.0	16.0	280.1	188.3
24	649.3	24.0	27.1	40%	392.4	16.4	286.2	189.8	650.0	24.0	27.1	40%	392.9	16.4	286.5	191.3
25	660.0	24.0	27.5	40%	397.8	16.6	290.3	190.4	650.0	24.0	27.1	40%	391.8	16.3	286.1	189.6
26	650.0	24.0	27.1	42%	375.9	15.7	274.1	179.7	660.0	24.0	27.5	42%	381.6	15.9	278.3	189.6
27	660.0	24.0	27.5	43%	375.9	15.7	274.1	188.4	680.0	24.0	28.4	43%	387.3	16.1	282.6	184.8
28	660.0	24.0	27.5	43%	379.2	15.8	276.5	185.8	670.0	24.0	27.9	43%	385.0	16.0	280.7	190.2
29	650.0	24.0	27.1	40%	391.6	16.3	285.6	189.6	650.0	24.0	27.1	40%	391.6	16.3	286.0	187.8
30	630.0	23.9	26.3	38%	391.0	16.3	285.9	189.3	650.0	24.0	27.1	38%	403.4	16.8	294.1	190.3
Total	**17,042**	**653**			**10,463**				**18,367**	**689**			**11,234**			
Average							**261**								**285**	

12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factor = 71%

12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factr = 73%

Burney Forest Products
Natural Gas Fuel: **Nov 2021**

	#1 Boiler						#2 Boiler						Plant
Day	Hours on Gas Fuel Only	Hours on Gas Fuel Co-Fire	Gas Usage MCF Day	Average Usage Rate MCF/hr	HHV Average Gas Heat Input Rate mmbtu/hr	HHV Gas Heat Input Day mmbtu	Hours on Gas Fuel Only	Hours on Gas Fuel Co-Fire	Gas Usage MCF Day	Average Usage Rate MCF/hr	HHV Average Gas Heat Input Rate mmbtu/hr	HHV Gas Heat Input Day mmbtu	Total Gas Usage MCF Day
1	0.00	23.50	498	21.2	21.5	505.4	0.00	0.03	0	0.0	0.0	0.0	498
2	0.00	20.60	253	12.3	12.5	257.1	0.00	22.30	571	25.6	26.0	579.5	824
3	0.00	24.00	442	18.4	18.7	448.5	0.00	24.00	486	20.2	20.5	492.8	927
4	0.00	12.37	138	11.2	11.4	140.6	0.00	12.22	383	31.4	31.9	389.2	522
5	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
6	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
7	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
8	0.00	0.00	0	0.0	0.0	0.0	0.00	1.65	49	29.7	30.1	49.7	49
9	0.00	3.07	52	16.9	17.1	52.5	0.00	0.00	0	0.0	0.0	0.0	52
10	0.00	0.00	0	0.0	0.0	0.0	0.00	0.62	20	33.0	33.5	20.7	20
11	0.00	2.15	58	26.9	27.3	58.6	0.00	0.00	0	0.0	0.0	0.0	58
12	0.00	0.00	0	0.0	0.0	0.0	0.00	2.75	118	43.0	43.7	120.1	118
13	0.00	3.45	207	59.9	60.8	209.7	0.00	0.00	0	0.0	0.0	0.0	207
14	0.00	10.80	153	14.1	14.4	155.1	0.00	15.10	415	27.5	27.9	420.8	567
15	0.00	17.53	292	16.7	16.9	296.4	0.00	17.70	342	19.3	19.6	346.8	634
16	0.00	5.52	294	53.2	54.0	298.1	0.00	2.10	79	37.5	38.1	80.0	372
17	0.02	3.02	121	40.0	40.6	123.2	0.02	3.85	91	23.6	23.9	92.6	213
18	0.00	11.73	391	33.4	33.9	397.3	0.12	13.37	443	32.9	33.4	450.0	835
19	0.00	0.00	0	0.0	0.0	0.0	5.48	7.42	409	31.7	32.2	414.8	409
20	0.00	0.00	0	0.0	0.0	0.0	0.00	24.00	596	24.8	25.2	604.7	596
21	2.55	13.95	438	26.5	26.9	444.4	0.00	18.58	472	25.4	25.8	478.8	910
22	0.00	24.00	400	16.6	16.9	405.5	0.00	24.00	544	22.7	23.0	551.8	943
23	0.00	23.60	455	19.3	19.6	461.6	0.00	23.88	534	22.3	22.7	541.8	989
24	0.00	24.00	373	15.5	15.8	378.6	0.00	24.00	453	18.9	19.2	460.1	826
25	0.00	7.30	102	14.0	14.2	104.0	0.00	11.22	226	20.2	20.5	229.8	329
26	0.00	0.00	0	0.0	0.0	0.0	0.00	24.00	478	19.9	20.2	484.8	478
27	0.00	0.00	0	0.0	0.0	0.0	0.00	2.92	56	19.2	19.4	56.7	56
28	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
29	0.00	0.00	0	0.0	0.0	0.0	0.00	2.67	79	29.6	30.1	80.2	79
30	0.00	4.10	186	45.4	46.0	188.7	0.00	0.00	0	0.0	0.0	0.0	186
Total	**2.57**	**235**	**4,853**			**4,925**	**5.62**	**278**	**6,843**			**6,946**	**11,696**
Average					**20.8**						**24.5**		

Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	2%	Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	3%
12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	3%	12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	4%
Flame Stablization MCF	4,800	Flame Stablization MCF	6,708
Other Gas Uses	52	Other Gas Uses	135
		Flame Stablization Total =	11,508
		Other Gas Uses Total =	188

Daily Averages - 11/2021

Facility Name: Burney Forest Power **Location:** **Source:** B1 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
11/01/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/02/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/03/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/04/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/05/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/06/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/07/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/08/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/09/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/10/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/11/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/12/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/13/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/14/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/15/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/16/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/17/21	1	13.1	7.54	334.0	0.0	0.836	1.1	34.8	32.7	32.1	0.046	0.2	5.6
11/18/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/19/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/20/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/21/21	4	17.3	2.17	36.8	0.0	0.177	12.2	3.9	10.5	45.9	0.056	4.7	1.8
11/22/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/23/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/24/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/25/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/26/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/27/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/28/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/29/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/30/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.1667	1.0133	0.3237	12.3600	0.0000	0.0338	0.4433	1.2900	1.4400	2.6000	0.0034	0.1633	0.2467
Report Total:	5						13.3					4.9	

Daily Averages - 11/2021

Facility Name: Burney Forest Power **Location:** **Source:** B1 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
11/01/21	2	8.1	12.03	665.9	0.0	0.809	79.9	167.5	47.8	0.095	10.3	19.8
11/02/21	5	5.1	15.30	517.7	0.0	0.510	437.4	130.2	66.4	0.107	90.7	27.4
11/03/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/04/21	12	5.0	15.29	475.8	373.9	0.466	1390.9	119.7	65.8	0.106	316.6	27.2
11/05/21	24	5.2	15.04	536.6	441.9	0.546	3238.8	135.0	64.8	0.106	643.0	26.8
11/06/21	24	5.1	15.07	482.4	384.9	0.476	2911.9	121.3	63.4	0.103	628.9	26.2
11/07/21	24	5.5	14.84	523.9	444.6	0.551	3162.4	131.8	62.6	0.104	620.7	25.9
11/08/21	24	5.0	15.18	506.5	400.3	0.495	3056.9	127.4	66.1	0.106	655.6	27.3
11/09/21	22	5.2	15.11	512.7	413.1	0.512	2641.9	128.9	65.5	0.106	574.6	27.1
11/10/21	24	5.2	15.27	509.0	400.0	0.505	3072.3	128.0	67.1	0.109	665.3	27.7
11/11/21	23	5.5	15.09	486.1	388.2	0.491	2640.7	122.3	66.0	0.109	598.6	27.3
11/12/21	24	5.5	15.05	515.6	413.3	0.521	3112.1	129.7	64.3	0.106	637.4	26.6
11/13/21	21	4.9	15.65	524.4	401.6	0.509	2707.3	131.9	65.1	0.104	552.4	26.9
11/14/21	14	5.3	15.23	519.5	411.1	0.518	1699.1	130.7	63.6	0.104	347.7	26.3
11/15/21	7	4.9	15.37	501.8	391.8	0.488	816.7	126.2	66.9	0.107	180.1	27.7
11/16/21	19	5.9	14.41	574.0	487.3	0.604	2650.2	144.4	62.8	0.107	480.7	25.9
11/17/21	15	5.8	14.48	601.5	499.9	0.622	1983.1	151.3	62.0	0.105	339.4	25.6
11/18/21	6	7.0	13.12	800.5	781.0	0.944	829.9	201.3	57.6	0.104	112.2	23.8
11/19/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/20/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/21/21	8	5.9	14.62	596.3	490.4	0.617	986.8	150.0	63.4	0.108	176.7	26.2
11/22/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/23/21	1	5.2	14.62	737.2	0.0	0.729	58.7	185.4	71.7	0.117	9.4	29.6
11/24/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/25/21	17	5.3	15.30	593.0	464.9	0.590	2490.5	149.2	64.8	0.106	448.3	26.8
11/26/21	24	5.8	14.65	607.6	507.9	0.634	3667.2	152.8	63.6	0.107	631.0	26.3
11/27/21	24	5.6	14.81	575.7	467.5	0.583	3475.2	144.8	64.6	0.108	640.9	26.7
11/28/21	24	5.4	15.07	563.8	458.3	0.576	3403.1	141.8	65.4	0.108	648.8	27.0
11/29/21	24	5.5	14.98	544.1	437.2	0.548	3284.5	136.9	65.8	0.109	652.9	27.2
11/30/21	21	5.2	15.26	530.7	416.9	0.526	2641.9	133.5	66.7	0.109	546.7	27.5
Report Average:	14.4333	4.6033	12.3613	466.7433	329.2000	0.4790	1881.3133	117.4000	53.4600	0.0887	373.6300	22.0933
Report Total:	433						56439.4				11208.9	

Daily Averages - 11/2021

Facility Name: Burney Forest Power **Location:** **Source:** B1 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
11/01/21	24	5.8	13.86	449.2	396.4	0.465	2634.5	113.0	75.6	0.127	737.4	31.2
11/02/21	21	5.8	14.27	444.7	375.0	0.457	2301.9	111.9	75.5	0.127	642.9	31.2
11/03/21	24	5.5	14.38	438.2	367.2	0.441	2645.2	110.2	77.1	0.128	764.4	31.9
11/04/21	13	5.5	14.29	473.6	398.6	0.479	1468.8	119.1	75.8	0.126	389.8	31.3
11/05/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/06/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/07/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/08/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/09/21	4	6.5	13.22	542.9	0.0	0.586	428.5	136.6	70.9	0.126	91.3	29.3
11/10/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/11/21	4	8.1	11.74	610.8	0.0	0.744	337.2	153.6	65.1	0.129	56.2	26.9
11/12/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/13/21	4	6.7	12.41	567.5	0.0	0.620	484.7	142.7	70.7	0.127	100.5	29.2
11/14/21	11	5.0	15.02	533.7	426.6	0.522	1446.5	134.2	79.1	0.127	353.3	32.7
11/15/21	18	5.7	14.14	529.9	455.3	0.544	2329.6	133.3	75.9	0.127	551.0	31.4
11/16/21	7	12.3	7.07	488.9	1127.3	1.085	561.1	123.0	31.4	0.095	68.3	13.0
11/17/21	5	9.1	10.50	506.4	564.8	0.622	395.8	127.4	55.8	0.109	74.6	23.1
11/18/21	12	13.9	5.29	211.1	330.5	0.321	592.1	53.1	27.1	0.088	127.9	11.2
11/19/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/20/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/21/21	15	7.2	12.56	559.5	524.1	0.614	1956.6	140.7	67.2	0.123	394.2	27.8
11/22/21	24	6.1	13.78	566.5	531.7	0.636	3419.9	142.5	73.6	0.127	730.4	30.4
11/23/21	24	5.5	14.32	591.5	496.3	0.595	3489.6	148.8	76.9	0.127	750.1	31.8
11/24/21	24	5.9	14.23	516.1	443.5	0.540	3115.3	129.8	75.0	0.127	743.3	31.0
11/25/21	8	5.3	14.96	474.8	380.7	0.472	873.4	119.4	76.4	0.125	233.1	31.6
11/26/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/27/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/28/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/29/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/30/21	5	7.0	12.41	550.6	0.0	0.616	590.0	138.5	67.5	0.124	114.6	27.9
Report Average:	8.2333	4.2300	7.6150	301.8633	227.2667	0.3453	969.0233	75.9267	40.5533	0.0730	230.7767	16.7633
Report Total:	247						29070.7				6923.3	

CO Daily Totals Daily Averages - 11/01/21 To 11/30/21

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 1

Period: 11/01/21 00:00:00 To 11/30/21 23:59:59; **Records** = 30

	Operating Hours				B1	B1	B1	B1	B1	B1	B1
	Boiler	On Gas	On	On Mix	UP Time	Gas On	Gas CO	Wood On	Wood CO	Mix On	Mix CO
Date	1		Wood		Minutes	Minutes	Daily #	Minutes	Daily #	Minutes	Daily #
11/01/21	24	0	2	24	1440	0	0.0	29	79.9	1410	2634.5
11/02/21	24	0	5	21	1440	0	0.0	202	437.4	1236	2301.9
11/03/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2645.2
11/04/21	24	0	12	13	1440	0	0.0	698	1390.9	742	1468.8
11/05/21	24	0	24	0	1440	0	0.0	1440	3238.8	0	0.0
11/06/21	24	0	24	0	1440	0	0.0	1440	2911.9	0	0.0
11/07/21	24	0	24	0	1440	0	0.0	1440	3162.4	0	0.0
11/08/21	24	0	24	0	1440	0	0.0	1440	3056.9	0	0.0
11/09/21	24	0	22	4	1440	0	0.0	1254	2641.9	184	428.5
11/10/21	24	0	24	0	1440	0	0.0	1440	3072.3	0	0.0
11/11/21	24	0	23	4	1440	0	0.0	1307	2640.7	129	337.2
11/12/21	24	0	24	0	1440	0	0.0	1440	3112.1	0	0.0
11/13/21	24	0	21	4	1440	0	0.0	1231	2707.3	207	484.7
11/14/21	24	0	14	11	1440	0	0.0	791	1699.1	648	1446.5
11/15/21	24	0	7	18	1440	0	0.0	387	816.7	1052	2329.6
11/16/21	24	0	19	7	1440	0	0.0	1107	2650.2	331	561.1
11/17/21	18	1	15	5	975	1	1.1	791	1983.1	181	395.8
11/18/21	17	0	6	12	976	0	0.0	271	829.9	704	592.1
11/19/21	0	0	0	0	0	0	0.0	0	0.0	0	0.0
11/20/21	0	0	0	0	0	0	0.0	0	0.0	0	0.0
11/21/21	24	4	8	15	1387	153	12.2	394	986.8	837	1956.6
11/22/21	24	0	0	24	1440	0	0.0	0	0.0	1440	3419.9
11/23/21	24	0	1	24	1440	0	0.0	20	58.7	1416	3489.6
11/24/21	24	0	0	24	1440	0	0.0	0	0.0	1440	3115.3
11/25/21	24	0	17	8	1440	0	0.0	1001	2490.5	438	873.4
11/26/21	24	0	24	0	1440	0	0.0	1440	3667.2	0	0.0
11/27/21	24	0	24	0	1440	0	0.0	1440	3475.2	0	0.0
11/28/21	24	0	24	0	1440	0	0.0	1440	3403.1	0	0.0
11/29/21	24	0	24	0	1440	0	0.0	1440	3284.5	0	0.0
11/30/21	24	0	21	5	1440	0	0.0	1190	2641.9	246	590.0

Daily Averages - 11/2021

Facility Name: Burney Forest Power **Location:** **Source:** B2 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
11/01/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/02/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/03/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/04/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/05/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/06/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/07/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/08/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/09/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/10/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/11/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/12/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/13/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/14/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/15/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/16/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/17/21	1	13.1	7.51	357.3	0.0	2.553	1.2	33.4	32.2	37.6	0.046	0.2	5.0
11/18/21	1	18.3	1.88	63.9	0.0	0.325	0.7	6.0	1.8	12.4	0.015	0.0	0.3
11/19/21	8	17.1	2.42	105.9	416.8	0.308	27.5	9.9	9.0	36.0	0.044	4.3	1.4
11/20/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/21/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/22/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/23/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/24/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/25/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/26/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/27/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/28/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/29/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
11/30/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.3333	1.6167	0.3937	17.5700	13.8933	0.1062	0.9800	1.6433	1.4333	2.8667	0.0035	0.1500	0.2233
Report Total:	10						29.4					4.5	

Daily Averages - 11/2021

Facility Name: Burney Forest Power **Location:** **Source:** B2 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
11/01/21	24	5.9	14.91	493.3	395.6	0.508	2980.8	124.7	64.2	0.109	638.6	26.7
11/02/21	3	5.4	16.02	637.8	0.0	0.637	279.1	161.3	63.6	0.105	46.4	26.4
11/03/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/04/21	12	5.5	15.57	603.7	466.9	0.612	1782.1	152.7	63.8	0.106	312.5	26.5
11/05/21	24	5.7	15.35	478.4	374.0	0.488	2903.3	121.0	62.9	0.105	627.0	26.1
11/06/21	24	5.9	15.11	490.8	394.4	0.514	2978.9	124.1	60.2	0.103	600.4	25.0
11/07/21	24	5.8	15.36	463.9	362.1	0.476	2815.0	117.3	60.2	0.102	600.4	25.0
11/08/21	23	5.9	15.10	511.0	406.4	0.531	2880.5	129.2	63.0	0.107	585.6	26.2
11/09/21	24	5.6	15.54	515.6	397.9	0.523	3129.3	130.4	62.6	0.105	624.5	26.0
11/10/21	24	5.8	14.99	527.3	422.2	0.544	2977.8	133.3	62.9	0.107	588.3	26.1
11/11/21	24	5.9	14.42	502.5	418.5	0.521	3049.5	127.1	64.0	0.109	638.1	26.6
11/12/21	23	5.8	14.63	524.6	430.3	0.538	2793.9	132.7	62.5	0.105	557.9	26.0
11/13/21	24	5.5	14.87	567.2	455.4	0.570	3442.5	143.4	62.9	0.104	627.2	26.1
11/14/21	9	5.2	15.21	672.6	530.4	0.663	1503.5	170.1	62.9	0.102	232.0	26.1
11/15/21	7	5.7	14.44	494.0	410.7	0.505	779.5	124.9	63.4	0.107	167.6	26.4
11/16/21	23	5.6	14.72	646.4	526.7	0.655	3581.5	163.5	63.6	0.106	578.9	26.4
11/17/21	17	5.7	14.53	720.9	592.8	0.735	2949.8	182.3	62.1	0.105	413.2	25.8
11/18/21	3	6.1	13.89	644.7	0.0	0.680	176.9	163.0	63.7	0.110	30.8	26.5
11/19/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/20/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/21/21	7	5.8	14.66	624.4	511.2	0.641	856.5	157.9	64.1	0.108	146.3	26.6
11/22/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/23/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/24/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/25/21	14	5.4	15.22	761.5	602.6	0.766	2492.1	192.5	63.0	0.104	335.8	26.2
11/26/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/27/21	22	5.7	14.75	624.2	504.4	0.634	2950.5	157.8	64.2	0.108	562.4	26.7
11/28/21	24	5.6	14.93	539.5	433.3	0.546	3273.9	136.4	65.4	0.109	651.9	27.2
11/29/21	22	5.9	14.60	484.2	397.2	0.499	2598.8	122.4	64.4	0.109	570.9	26.7
11/30/21	24	5.8	14.71	495.8	403.8	0.509	3008.7	125.4	64.4	0.109	642.3	26.8
Report Average:	14.1667	4.3733	11.4510	434.1433	314.5600	0.4432	1872.8133	109.7800	48.4667	0.0815	359.3000	20.1367
Report Total:	425						56184.4				10779.0	

Daily Averages - 11/2021

Facility Name: Burney Forest Power **Location:** **Source:** B2 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
11/01/21	1	5.0	15.41	1095.3	0.0	1.070	9.2	277.0	67.8	0.109	0.9	28.2
11/02/21	23	5.9	14.42	399.1	331.8	0.413	2226.7	100.9	74.4	0.127	688.7	30.9
11/03/21	24	5.4	15.10	433.9	344.3	0.434	2633.6	109.7	77.0	0.127	768.2	32.0
11/04/21	13	5.8	14.26	450.0	381.2	0.465	1397.5	113.8	74.2	0.125	379.9	30.8
11/05/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/06/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/07/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/08/21	3	5.5	14.64	698.0	0.0	0.705	304.2	176.5	77.3	0.128	52.9	32.1
11/09/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/10/21	2	5.0	16.02	1083.9	0.0	1.058	123.3	274.1	75.2	0.121	14.0	31.2
11/11/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/12/21	3	7.3	12.16	371.9	0.0	0.424	256.7	94.0	69.2	0.129	79.1	28.7
11/13/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/14/21	16	5.6	14.07	443.2	376.3	0.449	1639.6	112.1	75.5	0.126	477.2	31.4
11/15/21	18	5.7	14.00	455.1	389.9	0.466	2037.5	115.1	75.5	0.127	555.5	31.4
11/16/21	3	7.6	11.95	561.5	0.0	0.646	294.4	142.0	64.8	0.125	57.1	26.9
11/17/21	4	15.4	4.51	197.0	0.0	0.508	92.6	49.9	17.9	0.063	10.5	7.4
11/18/21	15	9.3	10.16	359.6	487.8	0.510	1231.4	90.9	55.5	0.108	314.1	23.0
11/19/21	8	7.7	11.47	306.3	326.1	0.360	592.8	77.5	65.2	0.125	208.4	27.1
11/20/21	24	5.9	13.84	421.7	364.9	0.436	2559.0	106.6	74.6	0.127	744.0	31.0
11/21/21	19	6.2	13.55	442.2	393.0	0.468	2073.3	111.8	73.3	0.127	565.9	30.4
11/22/21	24	5.7	13.98	444.2	380.8	0.454	2695.7	112.3	75.6	0.127	753.9	31.4
11/23/21	24	5.6	14.03	528.7	459.7	0.546	3190.3	133.7	75.9	0.127	752.8	31.5
11/24/21	24	5.5	14.44	462.1	383.3	0.466	2804.1	116.8	76.3	0.127	760.5	31.7
11/25/21	12	5.7	14.30	436.8	366.6	0.445	1238.8	110.4	75.9	0.127	353.5	31.5
11/26/21	24	5.8	14.15	458.4	387.3	0.469	2782.0	115.9	75.2	0.127	749.5	31.2
11/27/21	3	5.5	14.33	468.6	0.0	0.473	344.5	118.5	76.5	0.127	92.8	31.8
11/28/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
11/29/21	4	6.6	13.28	579.0	0.0	0.623	351.0	146.4	72.1	0.128	76.5	30.0
11/30/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	9.7000	4.7900	9.8023	369.8833	179.1000	0.3963	1029.2733	93.5300	51.4967	0.0895	281.8633	21.3867
Report Total:	291						30878.2				8455.9	

CO Daily Totals Daily Averages - 11/01/21 To 11/30/21

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 2

Period: 11/01/21 00:00:00 To 11/30/21 23:59:59; **Records** = 30

	Operating Hours				B2	B2	B2	B2	B2	B2	B2
Date	Boiler 2	On Gas	On Wood	On Mix	UP Time Minutes	Gas On Minutes	Gas CO Daily #	Wood On Minutes	Wood CO Daily #	Mix On Minutes	Mix CO Daily #
11/01/21	24	0	24	1	1440	0	0.0	1437	2980.8	2	9.2
11/02/21	24	0	3	23	1440	0	0.0	101	279.1	1338	2226.7
11/03/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2633.6
11/04/21	24	0	12	13	1440	0	0.0	706	1782.1	733	1397.5
11/05/21	24	0	24	0	1440	0	0.0	1440	2903.3	0	0.0
11/06/21	24	0	24	0	1440	0	0.0	1440	2978.9	0	0.0
11/07/21	24	0	24	0	1440	0	0.0	1440	2815.0	0	0.0
11/08/21	24	0	23	3	1440	0	0.0	1339	2880.5	99	304.2
11/09/21	24	0	24	0	1440	0	0.0	1440	3129.3	0	0.0
11/10/21	24	0	24	2	1440	0	0.0	1401	2977.8	37	123.3
11/11/21	24	0	24	0	1440	0	0.0	1440	3049.5	0	0.0
11/12/21	24	0	23	3	1440	0	0.0	1274	2793.9	165	256.7
11/13/21	24	0	24	0	1440	0	0.0	1440	3442.5	0	0.0
11/14/21	24	0	9	16	1440	0	0.0	533	1503.5	906	1639.6
11/15/21	24	0	7	18	1440	0	0.0	377	779.5	1062	2037.5
11/16/21	24	0	23	3	1440	0	0.0	1312	3581.5	126	294.4
11/17/21	21	1	17	4	1195	1	1.2	962	2949.8	231	92.6
11/18/21	16	1	3	15	883	7	0.7	70	176.9	802	1231.4
11/19/21	14	8	0	8	776	329	27.5	0	0.0	445	592.8
11/20/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2559.0
11/21/21	24	0	7	19	1440	0	0.0	324	856.5	1115	2073.3
11/22/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2695.7
11/23/21	24	0	0	24	1440	0	0.0	3	0.0	1433	3190.3
11/24/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2804.1
11/25/21	24	0	14	12	1440	0	0.0	765	2492.1	673	1238.8
11/26/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2782.0
11/27/21	24	0	22	3	1440	0	0.0	1264	2950.5	175	344.5
11/28/21	24	0	24	0	1440	0	0.0	1440	3273.9	0	0.0
11/29/21	24	0	22	4	1440	0	0.0	1278	2598.8	160	351.0
11/30/21	24	0	24	0	1440	0	0.0	1440	3008.7	0	0.0

January 28, 2022

Ms. Lindsey Welch
Senior Air Pollution Inspector
Shasta County Air Quality Management District
1855 Placer Street, Suite 101
Redding, CA 96001

Re: **Monthly Emission Report – December 2021**
Burney Forest Products

Dear Ms. Welch,

Pursuant to Title V Operating Permit 87-TV-27n, Condition 20, enclosed please find the December 2021 *Monthly Emissions Report* for Burney Forest Products (BFP).

If you have any questions or require additional information, please contact Josh Hirschi, EH&S Manager, at 530-335-5023 ext. 105.

Sincerely,

Bill Dillard
Plant Manager

Cc: John Christian (email)

File: 201-40-03

BURNEY FOREST PRODUCTS
Monthly Emissions Report
December 2021

EXCESS EMISSION SUMMARY			
Parameter	**Limit**	**Averaging Period**	**Excursions**
CO – Gas	400 ppm@3% O2	24-hr Block Avg (Calendar Day)	None
CO - Wood	1,200 ppm@12% CO2	24-hr Block Avg (Calendar Day)	None
NOx – Gas	70 ppm@3% O2	3-hr Block Avg	None
NOx – Gas	0.084 lb/mmBtu	3-hr Block Avg	None
NOx – Wood	0.12 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 1	0.145 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 2	0.146 lb/mmBtu	3-hr Block Avg	None
NOx – All Fuels	57.4 lb/hr (both boilers combined)	1-hr Total	None
NOx – All Fuels	250 ppm@12% CO2	1-hr Avg	None
Opacity	20%	6-min Avg	None
Opacity	40%	3-min aggr./hr	None

CEMS/COMS DOWNTIME PERIODS	
NOx	
Boiler 1	On 12/2/21: One (1) hour period downtime due to CEMS CGA
Boiler 2	On 12/2/21: One (1) hour period downtime due to CEMS CGA
CO	
Boiler 1	On 12/2/21: One (1) hour period downtime due to CEMS CGA
Boiler 2	On 12/2/21: One (1) hour period downtime due to CEMS CGA
CO2	
Boiler 1	On 12/2/21: One (1) hour period downtime due to CEMS CGA
Boiler 2	On 12/2/21: One (1) hour period downtime due to CEMS CGA
O2	
Boiler 1	On 12/2/21: One (1) hour period downtime due to CEMS CGA
Boiler 2	On 12/2/21: One (1) hour period downtime due to CEMS CGA
OPACITY	
Boiler 1	On 12/02/21: Sixteen (16) six-minute periods downtime due to CEMS CGA
Boiler 1	On 12/03/21: Four (4) six-minute periods downtime due to COMS Audit
Boiler 2	On 12/02/21: Sixteen (16) six-minute periods downtime due to CEMS CGA
Boiler 2	On 12/03/21: Four (4) six-minute periods downtime due to COMS Audit

OPERATING DATA	
Ammonia Usage (Pounds)	
Boiler 1	21,191
Boiler 2	37,223
Total Both Boilers	58,414
Boiler Operating Time (Hours)	
Boiler 1	744
Boiler 2	744

BOILER OFF LINE TIMES				
Boiler 1				
Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
				No Offline Time During December 2021
Boiler 2				
Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
				No Offline Time During December 2021

Note: Boiler Off Line Times are in DAHS time

CAM Plan Excursions	
Date	**Description**
	None

Burney Forest Products
Wood Fuel: **Dec 2021**

	#1 Boiler								#2 Boiler							
Day	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH
1	650.0	24.0	27.1	41%	383.6	16.0	279.7	191.8	654.7	24.0	27.3	41%	386.4	16.1	282.4	187.9
2	650.0	24.0	27.1	40%	387.6	16.2	283.0	191.0	689.7	24.0	28.8	40%	411.2	17.1	300.1	189.6
3	650.0	24.0	27.1	40%	387.1	16.1	282.2	193.0	680.0	24.0	28.4	40%	404.9	16.9	295.7	189.9
4	660.0	24.0	27.5	41%	390.9	16.3	285.0	189.8	670.0	24.0	27.9	41%	396.8	16.5	289.3	192.3
5	660.0	24.0	27.5	41%	389.6	16.2	284.1	191.7	670.0	24.0	28.0	41%	395.5	16.5	288.8	190.4
6	678.2	24.0	28.3	41%	400.1	16.7	292.1	191.3	660.0	24.0	27.5	41%	389.4	16.2	283.9	190.3
7	684.9	24.0	28.5	41%	402.1	16.8	293.2	190.5	670.0	24.0	28.0	41%	393.4	16.4	287.3	187.6
8	660.0	24.0	27.5	40%	397.2	16.6	290.0	191.6	650.0	24.0	27.1	40%	391.2	16.3	285.2	192.8
9	670.0	24.0	27.9	42%	390.7	16.3	284.9	193.8	669.0	24.0	27.9	42%	390.1	16.3	284.9	191.6
10	670.0	24.0	27.9	42%	385.9	16.1	281.6	181.1	750.8	24.0	31.3	42%	432.4	18.0	315.3	191.4
11	680.0	24.0	28.3	44%	381.1	15.9	277.9	192.7	705.8	24.0	29.4	44%	395.6	16.5	288.8	188.7
12	700.0	24.0	29.2	47%	374.4	15.6	273.0	192.5	725.0	24.0	30.2	47%	387.8	16.2	282.7	189.9
13	749.9	24.0	31.3	48%	387.8	16.2	283.1	193.9	730.0	24.0	30.5	48%	377.5	15.8	275.6	185.7
14	732.5	24.0	30.6	52%	348.2	14.5	254.3	193.0	750.0	24.0	31.3	52%	356.5	14.9	260.3	185.7
15	720.0	23.9	30.1	51%	352.0	14.7	257.4	186.3	710.0	24.0	29.6	51%	347.1	14.5	253.5	184.9
16	730.0	24.0	30.5	49%	368.7	15.4	269.2	189.1	740.0	24.0	30.9	49%	373.8	15.6	272.9	189.7
17	720.0	24.0	30.0	47%	378.1	15.8	275.9	193.9	730.0	24.0	30.4	47%	383.4	16.0	279.8	188.7
18	720.0	24.0	30.0	44%	405.5	16.9	296.1	188.5	710.0	24.0	29.6	44%	399.8	16.7	291.8	191.0
19	733.3	24.0	30.6	47%	388.6	16.2	283.7	186.5	714.0	24.0	29.7	47%	378.3	15.8	275.9	189.8
20	720.0	23.9	30.1	45%	396.9	16.6	290.6	191.7	710.0	24.0	29.6	45%	391.3	16.3	285.6	189.3
21	712.0	23.9	29.7	43%	405.4	16.9	296.4	188.6	700.0	24.0	29.2	43%	398.6	16.6	290.8	186.7
22	720.0	24.0	30.0	48%	375.7	15.7	273.9	184.3	730.0	24.0	30.4	48%	380.9	15.9	277.7	186.9
23	713.9	24.0	29.7	50%	359.5	15.0	262.2	175.5	710.0	24.0	29.6	50%	357.6	14.9	260.9	170.7
24	713.3	24.0	29.7	50%	355.1	14.8	258.9	173.9	728.1	24.0	30.4	50%	362.5	15.1	264.5	166.8
25	735.2	24.0	30.6	54%	340.0	14.2	247.9	166.0	720.0	24.0	30.0	54%	333.0	13.9	242.8	158.1
26	720.0	24.0	30.0	52%	343.3	14.3	250.4	164.7	710.0	24.0	29.6	52%	338.6	14.1	246.9	159.5
27	710.0	24.0	29.6	55%	321.2	13.4	234.2	160.5	552.0	24.0	23.0	55%	249.7	10.4	182.5	136.1
28	711.0	24.0	29.6	55%	319.8	13.3	233.2	165.6	733.0	24.0	30.5	55%	329.7	13.7	240.4	162.6
29	711.0	24.0	29.6	57%	309.1	12.9	225.4	175.8	724.0	24.0	30.2	57%	314.7	13.1	229.5	159.6
30	730.0	24.0	30.4	56%	320.7	13.4	233.9	161.7	700.0	24.0	29.2	56%	307.5	12.8	224.2	164.3
31	740.0	24.0	30.8	60%	296.2	12.3	216.0	154.1	720.0	24.0	30.0	60%	288.2	12.0	210.1	148.0
Total	**21,755**	**743**			**11,442**				**21,716**	**743**			**11,444**			
Average							**269**								**269**	

12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factor = 71%

12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factr = 72%

Burney Forest Products
Natural Gas Fuel: **Dec 2021**

	#1 Boiler						#2 Boiler						
Day	Hours on Gas Fuel Only	Hours on Gas Fuel Co-Fire	Gas Usage MCF Day	Average Usage Rate MCF/hr	HHV Average Gas Heat Input Rate mmbtu/hr	HHV Gas Heat Input Day mmbtu	Hours on Gas Fuel Only	Hours on Gas Fuel Co-Fire	Gas Usage MCF Day	Average Usage Rate MCF/hr	HHV Average Gas Heat Input Rate mmbtu/hr	HHV Gas Heat Input Day mmbtu	**Plant** Total Gas Usage MCF Day
1	0.00	0.00	0	0.0	0.0	0.0	0.00	3.73	159	42.5	43.2	161.2	159
2	0.00	3.18	171	53.8	54.6	173.7	0.00	0.32	6	18.3	18.6	5.9	177
3	0.00	0.00	0	0.0	0.0	0.0	0.00	2.98	92	30.9	31.4	93.7	92
4	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
5	0.00	0.00	0	0.0	0.0	0.0	0.00	2.65	66	25.0	25.4	67.3	66
6	0.00	3.33	91	27.2	27.6	91.9	0.00	0.00	0	0.0	0.0	0.0	91
7	0.00	0.00	0	0.0	0.0	0.0	0.00	2.82	74	26.4	26.8	75.5	74
8	0.00	3.07	104	33.8	34.3	105.1	0.00	0.00	0	0.0	0.0	0.0	104
9	0.00	0.00	0	0.0	0.0	0.0	0.00	3.87	118	30.6	31.0	120.0	118
10	0.00	8.70	152	17.5	17.7	154.3	0.00	0.00	0	0.0	0.0	0.0	152
11	0.00	24.00	361	15.1	15.3	366.7	0.00	8.28	281	33.9	34.4	285.1	642
12	0.00	24.00	455	19.0	19.2	461.8	0.00	0.00	0	0.0	0.0	0.0	455
13	0.00	10.67	173	16.2	16.4	175.2	0.00	6.72	192	28.6	29.0	195.0	365
14	0.00	17.63	406	23.1	23.4	412.5	0.00	17.32	395	22.8	23.1	400.6	801
15	0.00	14.38	294	20.4	20.7	298.5	0.00	16.48	408	24.7	25.1	414.0	702
16	0.00	18.18	337	18.5	18.8	341.6	0.00	12.18	278	22.8	23.1	282.0	614
17	0.00	21.03	323	15.3	15.6	327.4	0.00	21.10	509	24.1	24.5	516.9	832
18	0.00	3.90	92	23.6	23.9	93.4	0.00	19.17	441	23.0	23.4	447.6	533
19	0.00	6.37	142	22.3	22.6	143.9	0.00	21.48	507	23.6	24.0	514.8	649
20	0.00	12.92	251	19.4	19.7	254.8	0.00	23.90	572	23.9	24.3	580.5	823
21	0.00	0.22	4	20.1	20.4	4.4	0.00	18.80	509	27.1	27.5	516.9	514
22	0.00	14.87	468	31.5	31.9	474.9	0.00	24.00	603	25.1	25.5	611.7	1071
23	0.00	24.00	643	26.8	27.2	652.6	0.00	20.12	573	28.5	28.9	581.3	1216
24	0.00	24.00	449	18.7	19.0	456.2	0.00	13.40	329	24.5	24.9	333.5	778
25	0.00	24.00	538	22.4	22.8	546.5	0.00	24.00	675	28.1	28.5	685.1	1213
26	0.00	24.00	511	21.3	21.6	519.1	0.00	24.00	587	24.4	24.8	595.4	1098
27	0.00	24.00	376	15.6	15.9	381.2	0.02	23.95	1008	42.1	42.7	1023.0	1383
28	0.00	24.00	1052	43.8	44.5	1067.4	0.00	24.00	1057	44.1	44.7	1073.2	2109
29	0.00	24.00	1626	67.8	68.8	1650.7	0.00	24.00	1153	48.1	48.8	1170.5	2780
30	0.00	24.00	1533	63.9	64.8	1556.3	0.00	24.00	1163	48.4	49.2	1180.2	2696
31	0.00	24.00	0	0.0	0.0	0.0	0.00	24.00	0	0.0	0.0	0.0	0
Total	**0.00**	**402**	**10,552**			**10,710**	**0.02**	**407**	**11,755**			**11,931**	**22,306**
Average					**26.6**						**29.3**		

Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	5%	Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	5%
12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	3%	12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	4%
Flame Stablization MCF	10,552	Flame Stablization MCF	11,754
Other Gas Uses	0	Other Gas Uses	0
		Flame Stablization Total =	22,306
		Other Gas Uses Total =	0

Daily Averages - 12/2021

Facility Name: Burney Forest Power **Location:** **Source:** B1 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
12/01/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/02/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/03/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/04/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/05/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/06/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/07/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/08/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/09/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/10/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/11/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/12/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/13/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/14/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/15/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/16/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/17/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/18/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/19/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/20/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/21/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/22/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/23/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/24/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/25/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/26/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/27/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/28/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/29/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/30/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/31/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Report Total:	0						0.0					0.0	

Daily Averages - 12/2021

Facility Name: Burney Forest Power **Location:** **Source:** B1 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
12/01/21	24	5.5	14.92	553.4	446.0	0.556	3340.5	139.2	65.7	0.108	651.5	27.1
12/02/21	22	5.5	14.72	592.0	483.8	0.594	3043.2	148.9	65.1	0.107	561.3	26.9
12/03/21	24	5.4	14.56	577.7	475.9	0.577	3487.5	145.3	64.6	0.106	640.2	26.7
12/04/21	24	5.7	14.32	598.4	506.3	0.615	3611.6	150.5	61.1	0.102	606.1	25.3
12/05/21	24	5.7	14.42	585.7	487.3	0.595	3535.4	147.3	61.0	0.102	605.5	25.2
12/06/21	22	5.4	14.49	575.7	477.2	0.576	2982.7	144.8	64.2	0.105	548.2	26.5
12/07/21	24	5.3	14.53	554.0	458.9	0.552	3344.3	139.3	65.9	0.107	653.1	27.2
12/08/21	22	5.6	14.13	605.8	514.9	0.613	3175.1	152.4	65.1	0.108	563.7	26.9
12/09/21	24	5.3	14.50	580.2	480.4	0.574	3502.1	145.9	65.4	0.106	648.6	27.0
12/10/21	16	6.2	13.73	620.1	558.1	0.672	2384.3	156.0	60.2	0.104	379.4	24.9
12/11/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/12/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/13/21	14	5.0	14.23	610.0	514.1	0.595	2004.1	153.4	65.8	0.106	360.9	27.2
12/14/21	7	5.0	14.52	582.1	481.4	0.566	916.9	146.4	64.4	0.103	168.5	26.6
12/15/21	11	5.3	14.22	656.1	555.7	0.654	1434.8	165.0	65.2	0.106	239.1	27.0
12/16/21	7	5.3	14.32	621.9	521.2	0.618	897.2	156.4	63.4	0.104	152.7	26.2
12/17/21	3	4.9	14.93	535.6	0.0	0.519	396.8	134.7	64.2	0.102	78.3	26.5
12/18/21	21	5.4	14.31	555.6	466.1	0.555	2808.7	139.7	65.4	0.107	542.3	27.0
12/19/21	20	5.6	13.92	645.4	563.3	0.661	2850.9	162.3	65.4	0.109	478.7	27.0
12/20/21	13	5.1	14.48	619.6	514.9	0.609	1703.8	155.8	67.4	0.109	306.0	27.9
12/21/21	24	5.1	14.58	602.5	495.2	0.588	3600.9	151.5	65.8	0.106	645.3	27.2
12/22/21	10	5.5	14.00	585.2	501.4	0.586	1323.6	147.2	63.1	0.104	239.1	26.1
12/23/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/24/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/25/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/26/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/27/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/28/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/29/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/30/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/31/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	11.4839	3.4774	9.2848	382.4839	306.5194	0.3831	1624.0129	96.1935	41.5613	0.0681	292.5323	17.1742
Report Total:	356						50344.4				9068.5	

Daily Averages - 12/2021

Facility Name: Burney Forest Power **Location:** **Source:** B1 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
12/01/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/02/21	4	6.2	12.92	608.2	0.0	0.641	265.2	153.0	74.1	0.129	52.7	30.7
12/03/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/04/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/05/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/06/21	4	6.3	13.10	540.6	0.0	0.571	447.6	136.0	72.0	0.125	99.6	29.7
12/07/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/08/21	4	6.0	13.06	514.9	0.0	0.536	401.7	129.5	74.6	0.127	93.7	30.8
12/09/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/10/21	9	5.2	14.26	423.7	356.6	0.419	924.1	106.6	77.8	0.126	280.0	32.1
12/11/21	24	5.4	14.03	464.8	397.4	0.464	2805.3	116.9	77.1	0.127	764.5	31.9
12/12/21	24	5.4	13.67	549.1	485.6	0.550	3314.3	138.1	77.3	0.127	766.4	31.9
12/13/21	12	5.1	13.93	552.0	475.7	0.539	1493.4	138.8	79.0	0.127	347.7	32.6
12/14/21	18	5.0	13.88	473.1	410.5	0.462	2102.3	119.0	78.9	0.126	575.4	32.6
12/15/21	16	5.6	13.45	524.9	469.4	0.532	1870.5	132.0	75.9	0.126	453.0	31.4
12/16/21	19	5.5	13.65	568.8	503.0	0.574	2600.8	143.1	76.6	0.126	576.2	31.7
12/17/21	22	5.1	14.34	470.6	393.6	0.460	2502.1	118.4	78.9	0.127	686.4	32.6
12/18/21	5	6.4	12.92	478.0	0.0	0.510	473.5	120.2	72.3	0.127	116.1	29.9
12/19/21	7	5.0	14.01	468.9	401.6	0.456	750.3	117.9	79.3	0.127	208.7	32.8
12/20/21	16	5.1	14.10	569.8	488.6	0.559	1864.8	143.3	78.5	0.126	422.2	32.4
12/21/21	1	4.9	14.41	457.2	0.0	0.442	24.9	115.0	78.3	0.124	7.0	32.4
12/22/21	15	5.6	13.01	526.2	489.8	0.535	1965.0	132.3	76.4	0.127	469.8	31.6
12/23/21	24	5.5	13.07	428.2	393.5	0.429	2584.5	107.7	77.0	0.127	763.3	31.8
12/24/21	24	5.7	12.96	480.0	445.0	0.487	2897.3	120.7	76.0	0.127	753.2	31.4
12/25/21	24	5.9	12.67	434.4	413.8	0.449	2622.1	109.3	74.7	0.126	741.0	30.9
12/26/21	24	6.0	12.62	431.5	414.1	0.452	2604.6	108.5	74.1	0.127	734.3	30.6
12/27/21	24	6.1	12.68	482.9	457.4	0.506	2914.9	121.5	73.7	0.127	731.0	30.5
12/28/21	24	6.3	12.07	484.8	481.6	0.509	2926.2	121.9	72.9	0.127	723.2	30.1
12/29/21	24	5.5	12.33	504.9	490.6	0.507	3047.7	127.0	76.6	0.127	760.0	31.7
12/30/21	24	6.7	11.32	418.3	449.1	0.458	2525.1	105.2	70.8	0.126	701.7	29.2
12/31/21	24	7.0	10.99	361.9	394.8	0.403	2184.3	91.0	69.1	0.127	685.3	28.6
Report Average:	13.4194	4.5968	10.6274	394.1194	284.2484	0.4016	1552.0161	99.1258	61.0290	0.1021	403.6258	25.2226
Report Total:	416						48112.5				12512.4	

CO Daily Totals Daily Averages - 12/01/21 To 12/31/21

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 1

Period: 12/01/21 00:00:00 To 12/31/21 23:59:59; Records = 31

	Operating Hours				B1	B1	B1	B1	B1	B1	B1
	Boiler	On Gas	On	On Mix	UP Time	Gas On	Gas CO	Wood On	Wood CO	Mix On	Mix CO
Date	1		Wood		Minutes	Minutes	Daily #	Minutes	Daily #	Minutes	Daily #
12/01/21	24	0	24	0	1440	0	0.0	1440	3340.5	0	0.0
12/02/21	24	0	22	4	1440	0	0.0	1247	3043.2	191	265.2
12/03/21	24	0	24	0	1440	0	0.0	1440	3487.5	0	0.0
12/04/21	24	0	24	0	1440	0	0.0	1440	3611.6	0	0.0
12/05/21	24	0	24	0	1440	0	0.0	1440	3535.4	0	0.0
12/06/21	24	0	22	4	1440	0	0.0	1238	2982.7	200	447.6
12/07/21	24	0	24	0	1440	0	0.0	1440	3344.3	0	0.0
12/08/21	24	0	22	4	1440	0	0.0	1254	3175.1	184	401.7
12/09/21	24	0	24	0	1440	0	0.0	1440	3502.1	0	0.0
12/10/21	24	0	16	9	1440	0	0.0	917	2384.3	522	924.1
12/11/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2805.3
12/12/21	24	0	0	24	1440	0	0.0	0	0.0	1440	3314.3
12/13/21	24	0	14	12	1440	0	0.0	798	2004.1	640	1493.4
12/14/21	24	0	7	18	1440	0	0.0	380	916.9	1058	2102.3
12/15/21	24	0	11	16	1440	0	0.0	573	1434.8	863	1870.5
12/16/21	24	0	7	19	1440	0	0.0	347	897.2	1091	2600.8
12/17/21	24	0	3	22	1440	0	0.0	177	396.8	1262	2502.1
12/18/21	24	0	21	5	1440	0	0.0	1204	2808.7	234	473.5
12/19/21	24	0	20	7	1440	0	0.0	1056	2850.9	382	750.3
12/20/21	24	0	13	16	1440	0	0.0	659	1703.8	775	1864.8
12/21/21	24	0	24	1	1440	0	0.0	1423	3600.9	13	24.9
12/22/21	24	0	10	15	1440	0	0.0	548	1323.6	892	1965.0
12/23/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2584.5
12/24/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2897.3
12/25/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2622.1
12/26/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2604.6
12/27/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2914.9
12/28/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2926.2
12/29/21	24	0	0	24	1440	0	0.0	0	0.0	1440	3047.7
12/30/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2525.1
12/31/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2184.3

Daily Averages - 12/2021

Facility Name: Burney Forest Power **Location:** **Source:** B2 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
12/01/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/02/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/03/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/04/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/05/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/06/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/07/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/08/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/09/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/10/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/11/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/12/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/13/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/14/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/15/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/16/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/17/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/18/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/19/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/20/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/21/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/22/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/23/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/24/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/25/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/26/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/27/21	1	11.5	6.27	542.0	0.0	0.763	0.8	50.5	47.0	89.5	0.109	0.1	7.2
12/28/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/29/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/30/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
12/31/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.0323	0.3710	0.2023	17.4839	0.0000	0.0246	0.0258	1.6290	1.5161	2.8871	0.0035	0.0032	0.2323
Report Total:	1						0.8					0.1	

Daily Averages - 12/2021

Facility Name: Burney Forest Power **Location:** **Source:** B2 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
12/01/21	21	5.8	14.66	523.2	427.9	0.536	2675.0	132.3	65.4	0.110	549.6	27.2
12/02/21	24	5.4	14.85	525.8	423.9	0.522	3015.2	133.0	65.5	0.107	616.2	27.2
12/03/21	22	5.6	14.13	493.8	419.6	0.500	2589.1	124.9	63.5	0.106	559.1	26.4
12/04/21	24	5.5	14.35	584.2	486.7	0.585	3545.7	147.7	63.2	0.104	630.3	26.3
12/05/21	22	5.4	14.54	514.8	424.6	0.513	2776.2	130.2	63.3	0.104	560.3	26.3
12/06/21	24	5.6	14.15	505.0	427.2	0.509	3064.6	127.7	63.9	0.106	637.6	26.6
12/07/21	22	5.6	14.04	477.8	407.7	0.484	2551.1	120.8	64.4	0.107	565.3	26.7
12/08/21	24	5.6	14.02	527.7	450.3	0.531	3202.5	133.4	65.9	0.109	656.7	27.4
12/09/21	21	5.7	13.93	519.6	447.0	0.526	2638.2	131.4	64.8	0.108	542.5	26.9
12/10/21	24	5.4	14.40	562.0	466.0	0.558	3410.9	142.1	66.3	0.108	660.6	27.5
12/11/21	18	5.4	14.27	678.5	567.1	0.672	2670.0	171.6	65.6	0.107	434.0	27.3
12/12/21	24	5.3	14.04	592.3	505.8	0.588	3594.3	149.8	66.7	0.109	665.1	27.7
12/13/21	19	5.5	13.69	651.0	570.3	0.653	2789.3	164.6	65.2	0.108	470.3	27.1
12/14/21	8	5.5	13.94	538.8	463.3	0.542	915.8	136.3	63.9	0.106	179.1	26.5
12/15/21	10	5.3	14.12	656.6	556.4	0.650	1276.6	166.0	67.2	0.110	209.9	27.9
12/16/21	13	5.5	14.18	558.9	472.1	0.561	1664.7	141.3	65.7	0.108	323.7	27.3
12/17/21	3	5.6	14.22	465.5	0.0	0.472	339.3	117.7	65.5	0.109	78.3	27.2
12/18/21	5	5.8	14.14	467.6	0.0	0.478	570.1	118.3	67.1	0.113	134.4	27.9
12/19/21	3	5.1	14.63	849.6	0.0	0.832	530.8	214.8	68.2	0.110	71.3	28.4
12/20/21	1	6.5	13.17	495.3	0.0	0.532	10.4	125.2	62.9	0.111	2.2	26.1
12/21/21	6	5.8	14.03	471.9	403.7	0.484	619.5	119.3	63.4	0.107	136.9	26.3
12/22/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/23/21	4	6.0	13.32	629.3	0.0	0.655	616.5	159.2	63.7	0.109	102.2	26.5
12/24/21	11	6.5	12.87	617.9	576.1	0.662	1651.5	156.3	61.7	0.109	271.4	25.6
12/25/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/26/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/27/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/28/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/29/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/30/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/31/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	11.3871	4.1742	10.4416	416.3581	274.0548	0.4208	1507.0097	105.2871	48.1613	0.0802	292.1613	20.0097
Report Total:	353						46717.3				9057.0	

Daily Averages - 12/2021

Facility Name: Burney Forest Power **Location:** **Source:** B2 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
12/01/21	6	6.5	13.22	352.9	319.9	0.378	315.4	89.3	69.1	0.122	108.3	28.7
12/02/21	1	6.3	13.63	423.4	0.0	0.449	33.9	107.1	76.8	0.134	10.1	31.9
12/03/21	4	7.2	12.06	506.1	0.0	0.572	360.1	128.0	67.1	0.125	83.3	27.9
12/04/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/05/21	3	6.3	13.17	652.3	0.0	0.693	437.2	165.0	72.8	0.127	80.4	30.3
12/06/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/07/21	4	6.8	12.44	352.7	0.0	0.390	250.9	89.2	69.8	0.126	81.2	29.0
12/08/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/09/21	5	5.8	13.24	573.5	0.0	0.584	462.8	145.0	70.8	0.119	117.5	29.4
12/10/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/11/21	10	6.0	13.03	593.2	533.4	0.606	1077.0	150.0	71.7	0.123	251.9	29.8
12/12/21	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
12/13/21	8	5.5	13.06	698.1	634.2	0.694	1141.7	176.5	76.0	0.125	212.4	31.6
12/14/21	18	5.4	13.51	555.0	491.6	0.552	2405.6	140.4	76.4	0.125	550.5	31.8
12/15/21	18	5.7	13.33	543.6	487.1	0.551	2221.7	137.4	74.6	0.125	513.6	31.0
12/16/21	13	5.5	13.61	440.4	387.6	0.441	1346.6	111.4	76.7	0.126	387.7	31.9
12/17/21	22	5.5	13.79	462.3	402.3	0.466	2480.5	116.9	76.6	0.127	669.8	31.8
12/18/21	20	5.8	13.54	399.4	353.8	0.410	1930.6	101.0	74.6	0.126	598.0	31.0
12/19/21	23	5.3	13.82	560.1	483.8	0.554	2943.0	141.6	76.7	0.125	686.7	31.9
12/20/21	24	5.5	13.78	430.4	373.4	0.430	2602.3	108.8	76.6	0.126	761.1	31.8
12/21/21	19	5.7	13.51	479.9	426.2	0.488	2279.2	121.4	75.8	0.126	591.5	31.5
12/22/21	24	5.4	13.67	504.2	440.8	0.500	3059.6	127.5	77.2	0.126	769.7	32.1
12/23/21	21	5.9	12.90	504.2	466.9	0.517	2522.2	127.5	74.8	0.127	624.5	31.1
12/24/21	14	5.8	12.95	619.5	571.7	0.634	2045.0	156.7	74.9	0.126	417.5	31.1
12/25/21	24	6.5	12.22	435.2	423.6	0.464	2641.3	110.1	71.7	0.126	714.7	29.8
12/26/21	24	6.5	12.32	368.0	357.4	0.395	2233.1	93.0	71.3	0.126	711.3	29.6
12/27/21	24	8.4	10.10	321.1	399.1	0.408	1942.7	81.2	62.0	0.126	617.3	25.8
12/28/21	24	6.5	12.06	303.5	301.8	0.326	1842.1	76.8	71.4	0.126	712.3	29.7
12/29/21	24	6.4	12.14	308.5	305.2	0.328	1872.7	78.0	72.3	0.126	720.7	30.0
12/30/21	24	5.9	12.58	339.5	322.6	0.350	2060.3	85.8	74.4	0.126	742.1	30.9
12/31/21	24	7.2	11.42	297.7	317.2	0.340	1806.7	75.3	68.1	0.126	679.1	28.3
Report Average:	13.7097	5.1387	10.8097	387.8935	283.8581	0.4039	1429.4903	98.0935	61.2968	0.1054	400.4258	25.4742
Report Total:	425						44314.2				12413.2	

CO Daily Totals Daily Averages - 12/01/21 To 12/31/21

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 2

Period: 12/01/21 00:00:00 To 12/31/21 23:59:59; **Records =** 31

	Operating Hours				B2	B2	B2	B2	B2	B2	B2
Date	Boiler 2	On Gas	On Wood	On Mix	UP Time Minutes	Gas On Minutes	Gas CO Daily #	Wood On Minutes	Wood CO Daily #	Mix On Minutes	Mix CO Daily #
12/01/21	24	0	21	6	1440	0	0.0	1213	2675.0	224	315.4
12/02/21	24	0	24	1	1440	0	0.0	1420	3015.2	19	33.9
12/03/21	24	0	22	4	1440	0	0.0	1259	2589.1	179	360.1
12/04/21	24	0	24	0	1440	0	0.0	1440	3545.7	0	0.0
12/05/21	24	0	22	3	1440	0	0.0	1279	2776.2	159	437.2
12/06/21	24	0	24	0	1440	0	0.0	1440	3064.6	0	0.0
12/07/21	24	0	22	4	1440	0	0.0	1269	2551.1	169	250.9
12/08/21	24	0	24	0	1440	0	0.0	1440	3202.5	0	0.0
12/09/21	24	0	21	5	1440	0	0.0	1206	2638.2	232	462.8
12/10/21	24	0	24	0	1440	0	0.0	1440	3410.9	0	0.0
12/11/21	24	0	18	10	1440	0	0.0	941	2670.0	497	1077.0
12/12/21	24	0	24	0	1440	0	0.0	1440	3594.3	0	0.0
12/13/21	24	0	19	8	1440	0	0.0	1035	2789.3	403	1141.7
12/14/21	24	0	8	18	1440	0	0.0	399	915.8	1039	2405.6
12/15/21	24	0	10	18	1440	0	0.0	449	1276.6	989	2221.7
12/16/21	24	0	13	13	1440	0	0.0	707	1664.7	731	1346.6
12/17/21	24	0	3	22	1440	0	0.0	173	339.3	1266	2480.5
12/18/21	24	0	5	20	1440	0	0.0	289	570.1	1150	1930.6
12/19/21	24	0	3	23	1440	0	0.0	151	530.8	1289	2943.0
12/20/21	24	0	1	24	1440	0	0.0	5	10.4	1434	2602.3
12/21/21	24	0	6	19	1440	0	0.0	311	619.5	1128	2279.2
12/22/21	24	0	0	24	1440	0	0.0	0	0.0	1440	3059.6
12/23/21	24	0	4	21	1440	0	0.0	232	616.5	1207	2522.2
12/24/21	24	0	11	14	1440	0	0.0	635	1651.5	804	2045.0
12/25/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2641.3
12/26/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2233.1
12/27/21	24	1	0	24	1440	1	0.8	0	0.0	1437	1942.7
12/28/21	24	0	0	24	1440	0	0.0	0	0.0	1440	1842.1
12/29/21	24	0	0	24	1440	0	0.0	0	0.0	1440	1872.7
12/30/21	24	0	0	24	1440	0	0.0	0	0.0	1440	2060.3
12/31/21	24	0	0	24	1440	0	0.0	0	0.0	1440	1806.7

February 28, 2022

Ms. Lindsey Welch
Senior Air Pollution Inspector
Shasta County Air Quality Management District
1855 Placer Street, Suite 101
Redding, CA 96001

Re: **Monthly Emission Report – January 2022**
Burney Forest Products

Dear Ms. Welch,

Pursuant to Title V Operating Permit 87-TV-27n, Condition 20, enclosed please find the January 2022 *Monthly Emissions Report* for Burney Forest Products (BFP).

If you have any questions or require additional information, please contact Josh Hirschi, EH&S Manager, at 530-335-5023 ext. 105.

Sincerely,

Bill Dillard
Plant Manager

Cc: John Christian (email)

File: 201-40-03

BURNEY FOREST PRODUCTS
Monthly Emissions Report
January 2022

EXCESS EMISSION SUMMARY			
Parameter	**Limit**	**Averaging Period**	**Excursions**
CO – Gas	400 ppm@3% O2	24-hr Block Avg (Calendar Day)	None
CO - Wood	1,200 ppm@12% CO2	24-hr Block Avg (Calendar Day)	None
NOx – Gas	70 ppm@3% O2	3-hr Block Avg	None
NOx – Gas	0.084 lb/mmBtu	3-hr Block Avg	None
NOx – Wood	0.12 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 1	0.145 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 2	0.146 lb/mmBtu	3-hr Block Avg	None
NOx – All Fuels	57.4 lb/hr (both boilers combined)	1-hr Total	None
NOx – All Fuels	250 ppm@12% CO2	1-hr Avg	None
Opacity	20%	6-min Avg	None
Opacity	40%	3-min aggr./hr	None

CEMS/COMS DOWNTIME PERIODS	
NOx	
Boiler 1	No Downtime in January 2022
Boiler 2	No Downtime in January 2022
CO	
Boiler 1	No Downtime in January 2022
Boiler 2	No Downtime in January 2022
CO2	
Boiler 1	No Downtime in January 2022
Boiler 2	No Downtime in January 2022
O2	
Boiler 1	No Downtime in January 2022
Boiler 2	No Downtime in January 2022
OPACITY	
Boiler 1	On 1/09/22: Thirty-two (32) six-minute periods downtime due to equipment malfunctions.
Boiler 1	On 1/18/22 – 1/19/22: Two Hundred and Twenty-Nine (229) six-minute periods downtime due to analyzer sampling line plug. Corrected within 24 hours.
Boiler 2	On 1/19/22: Forty-six (46) six-minute periods downtime due to sample line plug

OPERATING DATA	
Ammonia Usage (Pounds)	
Boiler 1	15,844
Boiler 2	34,856
Total Both Boilers	50,700
Boiler Operating Time (Hours)	
Boiler 1	730
Boiler 2	725

BOILER OFF LINE TIMES				
Boiler 1				
Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
1/9/2022	05:44	1/10/2022	07:51	Black plant due to PG&E line maintenance
Boiler 2				
Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
1/9/2022	05:25	1/10/2022	00:36	Black plant due to PG&E line maintenance

Note: Boiler Off Line Times are in DAHS time

CAM Plan Excursions	
Date	**Description**
	None

Burney Forest Products
Wood Fuel: **Jan 2022**

	#1 Boiler								#2 Boiler							
Day	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH
1	740.0	24.0	30.8	56%	325.9	13.6	237.6	159.8	755.0	24.0	31.5	56%	332.5	13.9	242.5	156.8
2	750.0	24.0	31.3	56%	332.1	13.8	242.1	164.8	765.0	24.0	31.9	56%	338.7	14.1	247.0	161.2
3	740.0	24.0	30.9	55%	332.9	13.9	243.1	173.1	740.4	24.0	30.8	55%	333.1	13.9	242.9	171.3
4	731.9	24.0	30.5	55%	329.8	13.8	240.7	179.8	711.2	24.0	29.7	55%	320.5	13.4	234.0	165.3
5	710.0	24.0	29.6	53%	334.5	13.9	243.9	182.0	724.0	24.0	30.2	53%	341.1	14.2	248.7	176.4
6	713.0	24.0	29.7	53%	335.0	14.0	244.3	186.1	723.0	24.0	30.1	53%	339.7	14.2	247.7	172.8
7	730.0	24.0	30.4	51%	356.8	14.9	260.1	178.7	740.0	24.0	30.8	51%	361.6	15.1	263.7	173.9
8	710.0	24.0	29.6	55%	320.1	13.3	233.4	169.3	720.0	24.0	30.0	55%	324.6	13.5	236.7	164.0
9	114.1	7.2	16.0	33%	76.2	10.7	186.4	120.0	129.8	5.4	24.0	33%	86.6	16.0	279.9	138.8
10	527.0	24.0	22.0	47%	280.3	11.7	204.5	143.1	516.9	23.3	22.2	47%	274.9	11.8	206.2	153.6
11	730.0	24.0	30.4	49%	373.7	15.6	272.5	180.4	745.0	24.0	31.0	49%	381.3	15.9	278.1	178.8
12	725.0	24.0	30.3	45%	399.6	16.7	292.0	182.7	735.0	24.0	30.7	45%	405.1	16.9	295.8	183.8
13	710.0	24.0	29.6	46%	383.3	16.0	279.5	186.1	725.0	24.0	30.2	46%	391.4	16.3	285.4	185.1
14	730.0	24.0	30.4	44%	410.6	17.1	299.6	184.2	740.0	24.0	30.8	44%	416.2	17.3	303.5	187.2
15	745.0	24.0	31.0	51%	364.3	15.2	265.6	187.8	750.0	24.0	31.3	51%	366.7	15.3	267.4	171.3
16	730.0	24.0	30.4	52%	354.0	14.7	258.1	176.3	745.0	24.0	31.0	52%	361.2	15.1	263.4	162.8
17	735.0	24.0	30.6	48%	378.6	15.8	276.0	179.4	745.0	24.0	31.0	48%	383.7	16.0	279.8	163.1
18	710.0	24.0	29.6	44%	395.7	16.5	289.1	174.6	720.0	24.0	30.0	44%	401.3	16.7	292.6	174.5
19	700.0	24.0	29.2	44%	391.7	16.3	285.6	172.2	710.0	24.0	29.6	44%	397.3	16.6	289.7	167.3
20	715.0	24.0	29.8	45%	391.8	16.3	285.7	170.2	715.0	24.0	29.8	45%	391.8	16.3	285.9	162.6
21	760.0	23.9	31.8	48%	393.3	16.4	287.8	181.0	740.0	23.9	30.9	48%	383.0	16.0	280.0	160.1
22	500.0	13.6	36.8	45%	274.1	20.2	353.2	115.7	740.0	24.0	30.8	45%	405.7	16.9	295.8	169.9
23	770.0	24.0	32.1	47%	410.3	17.1	299.2	185.3	755.0	24.0	31.5	47%	402.3	16.8	293.4	170.3
24	758.0	24.0	31.6	46%	407.3	17.0	297.4	169.3	766.0	24.0	31.9	46%	411.6	17.2	300.4	158.5
25	765.0	24.0	31.9	49%	387.6	16.2	282.8	170.3	780.0	24.0	32.5	49%	395.2	16.5	288.2	156.6
26	755.0	24.0	31.5	49%	384.0	16.0	280.0	162.5	760.0	24.0	31.7	49%	386.5	16.1	281.8	157.0
27	740.0	24.0	30.8	50%	368.5	15.4	268.7	164.5	750.0	24.0	31.3	50%	373.5	15.6	272.4	155.0
28	731.0	24.0	30.5	50%	365.5	15.2	266.7	158.8	712.0	24.0	29.7	50%	356.0	14.8	259.6	157.2
29	724.0	24.0	30.2	50%	365.5	15.2	266.7	167.1	710.0	24.0	29.6	50%	358.4	14.9	261.4	164.4
30	720.0	24.0	30.0	51%	352.2	14.7	256.8	165.6	710.0	24.0	29.6	51%	347.3	14.5	253.2	167.2
31	754.0	24.0	31.4	51%	371.6	15.5	271.0	173.7	760.0	24.0	31.7	51%	374.6	15.6	273.1	165.0
Total	**21,673**	**716**			**10,947**				**22,038**	**725**			**11,144**			
Average							**267**								**269**	

12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factor = 71%

12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factr = 73%

Burney Forest Products
Natural Gas Fuel: **Jan 2022**

	#1 Boiler						#2 Boiler						
Day	Hours on Gas Fuel Only	Hours on Gas Fuel Co-Fire	Gas Usage MCF Day	Average Usage Rate MCF/hr	HHV Average Gas Heat Input Rate mmbtu/hr	HHV Gas Heat Input Day mmbtu	Hours on Gas Fuel Only	Hours on Gas Fuel Co-Fire	Gas Usage MCF Day	Average Usage Rate MCF/hr	HHV Average Gas Heat Input Rate mmbtu/hr	HHV Gas Heat Input Day mmbtu	**Plant** Total Gas Usage MCF Day
1	0.00	24.00	1540	64.2	65.1	1563.5	0.00	24.00	1271	52.9	53.7	1289.8	2811
2	0.00	24.00	1514	63.1	64.0	1536.7	0.00	24.00	1258	52.4	53.2	1276.4	2772
3	0.00	23.92	1124	47.0	47.7	1140.4	0.00	23.88	770	32.2	32.7	781.3	1893
4	0.00	23.92	672	28.1	28.5	682.2	0.00	23.92	632	26.4	26.8	641.9	1305
5	0.00	24.00	625	26.0	26.4	634.2	0.00	24.00	596	24.8	25.2	604.9	1221
6	0.00	24.00	638	26.6	27.0	648.0	0.00	24.00	700	29.2	29.6	710.7	1339
7	0.00	24.00	785	32.7	33.2	797.2	0.00	24.00	618	25.8	26.2	627.7	1404
8	0.00	24.00	1033	43.1	43.7	1048.8	0.00	24.00	863	36.0	36.5	875.8	1896
9	2.57	7.15	367	37.8	38.4	372.7	0.00	5.37	196	36.5	37.1	198.8	563
10	0.00	16.67	515	30.9	31.4	523.1	0.05	23.33	544	23.3	23.6	552.5	1060
11	0.00	0.00	0	0.0	0.0	0.0	0.00	24.00	554	23.1	23.4	562.4	554
12	0.00	2.97	152	51.2	52.0	154.2	0.00	21.72	415	19.1	19.4	421.3	567
13	0.00	0.00	0	0.0	0.0	0.0	0.00	24.00	490	20.4	20.7	497.5	490
14	0.00	6.28	251	39.9	40.5	254.3	0.00	24.00	538	22.4	22.8	546.5	789
15	0.00	24.00	630	26.3	26.6	639.6	0.00	24.00	653	27.2	27.6	663.1	1283
16	0.00	24.00	1184	49.4	50.1	1202.2	0.00	24.00	800	33.3	33.8	812.1	1984
17	0.00	24.00	1317	54.9	55.7	1337.1	0.00	24.00	879	36.6	37.2	892.3	2196
18	0.02	23.95	1280	53.4	54.2	1299.1	0.00	24.00	845	35.2	35.7	857.7	2125
19	0.00	24.00	792	33.0	33.5	804.3	0.00	24.00	728	30.4	30.8	739.4	1521
20	0.00	24.00	580	24.1	24.5	588.2	0.00	17.03	423	24.8	25.2	429.2	1002
21	0.03	16.78	409	24.4	24.7	415.6	0.00	23.25	581	25.0	25.4	589.5	990
22	10.22	13.58	1078	45.3	46.0	1094.5	0.00	24.00	539	22.5	22.8	547.1	1617
23	0.00	24.00	473	19.7	20.0	480.6	0.00	24.00	572	23.8	24.2	580.8	1046
24	0.00	23.47	586	25.0	25.3	594.8	0.00	16.50	397	24.1	24.4	403.0	983
25	0.00	20.27	412	20.3	20.6	418.3	0.00	24.00	629	26.2	26.6	637.9	1041
26	0.00	24.00	685	28.5	29.0	694.9	0.00	24.00	454	18.9	19.2	460.4	1138
27	0.00	24.00	508	21.2	21.5	515.3	0.00	24.00	602	25.1	25.5	610.9	1109
28	0.00	23.93	502	21.0	21.3	510.0	0.00	24.00	456	19.0	19.3	463.1	959
29	0.00	23.67	479	20.2	20.5	485.9	0.00	24.00	563	23.4	23.8	571.1	1041
30	0.00	24.00	538	22.4	22.8	546.2	0.00	24.00	577	24.0	24.4	585.4	1115
31	0.00	24.00	517	21.5	21.9	524.5	0.00	24.00	616	25.6	26.0	624.8	1132
Total	**12.83**	**611**	**21,189**			**21,506**	**0.05**	**707**	**19,759**			**20,055**	**40,947**
Average					**34.5**						**28.4**		

Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	9%	Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	9%
12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	3%	12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	4%
Flame Stablization MCF	20,752	Flame Stablization MCF	19,757
Other Gas Uses	436	Other Gas Uses	1
		Flame Stablization Total =	40,510
		Other Gas Uses Total =	438

Daily Averages - 1/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
01/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/03/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/09/22	3	17.6	1.73	71.7	0.0	0.297	19.7	7.5	2.7	14.4	0.018	1.2	0.5
01/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/13/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/14/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/16/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/17/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/18/22	1	15.6	3.14	684.3	0.0	1.708	1.2	71.3	24.9	84.1	0.102	0.1	4.3
01/19/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/20/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/21/22	1	12.6	4.79	190.8	0.0	0.304	0.7	19.9	37.3	80.4	0.098	0.2	6.4
01/22/22	12	14.0	3.53	38.8	103.6	0.077	38.4	4.0	21.8	57.0	0.069	38.1	3.7
01/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/24/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/25/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/28/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/29/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/30/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/31/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.5484	1.9290	0.4255	31.7935	3.3419	0.0770	1.9355	3.3129	2.7968	7.6097	0.0093	1.2774	0.4806
Report Total:	17						60.0					39.6	

Daily Averages - 1/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
01/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/03/22	1	10.1	8.77	963.4	0.0	1.384	12.1	242.3	54.2	0.128	1.1	22.4
01/04/22	1	7.6	11.61	720.9	0.0	0.841	12.1	181.3	60.3	0.116	1.7	24.9
01/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/10/22	8	6.4	13.40	590.3	527.1	0.630	1062.3	148.5	60.8	0.107	184.5	25.1
01/11/22	24	5.9	13.89	680.1	587.6	0.703	4105.6	171.1	64.3	0.109	638.2	26.6
01/12/22	22	5.7	14.03	738.4	629.6	0.751	3862.8	185.7	64.4	0.108	560.8	26.6
01/13/22	24	5.3	14.39	814.6	680.0	0.809	4917.4	204.9	67.0	0.109	664.9	27.7
01/14/22	19	5.4	14.40	668.0	556.6	0.667	2937.7	168.0	66.5	0.109	486.7	27.5
01/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/16/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/17/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/18/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/19/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/20/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/21/22	8	6.1	13.65	715.2	628.9	0.751	1293.7	179.9	62.0	0.107	184.1	25.7
01/22/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/24/22	1	7.8	11.75	1116.0	0.0	1.322	140.4	280.7	59.7	0.116	12.4	24.7
01/25/22	4	6.9	12.74	999.2	0.0	1.106	934.0	251.3	59.0	0.107	90.7	24.4
01/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/28/22	1	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/29/22	2	8.8	10.93	1184.8	0.0	1.513	98.9	298.0	50.4	0.106	6.5	20.9
01/30/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/31/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	3.7097	2.4516	4.5019	296.4806	116.4452	0.3380	625.0645	74.5710	21.5677	0.0394	91.3419	8.9194
Report Total:	115						19377.0				2831.6	

Daily Averages - 1/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
01/01/22	24	7.2	11.18	414.1	452.7	0.475	2499.9	104.2	68.4	0.127	678.2	28.3
01/02/22	24	7.1	11.24	389.1	416.5	0.438	2348.6	97.9	68.7	0.127	681.6	28.4
01/03/22	24	6.4	11.94	444.1	448.6	0.476	2671.0	111.7	72.4	0.127	715.7	29.9
01/04/22	24	5.8	13.08	467.6	428.3	0.480	2813.3	117.6	75.2	0.127	743.0	31.1
01/05/22	24	5.6	13.38	532.5	477.6	0.538	3214.5	133.9	76.2	0.127	755.1	31.5
01/06/22	24	5.2	13.59	505.9	445.7	0.499	3053.4	127.2	78.2	0.127	775.9	32.3
01/07/22	24	5.7	12.81	472.8	447.4	0.483	2854.2	118.9	76.0	0.127	753.5	31.4
01/08/22	24	6.1	12.48	384.6	370.8	0.404	2321.5	96.7	73.5	0.127	729.0	30.4
01/09/22	8	9.9	8.86	299.4	419.8	0.408	551.9	75.3	51.3	0.102	163.0	21.2
01/10/22	17	9.1	9.97	432.7	504.4	0.540	1796.6	108.8	57.3	0.118	391.8	23.7
01/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/12/22	4	6.6	12.04	588.3	0.0	0.637	423.0	148.0	72.6	0.129	86.7	30.0
01/13/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/14/22	8	6.1	12.94	599.0	554.5	0.624	893.7	150.7	74.1	0.128	189.6	30.6
01/15/22	24	5.2	13.87	543.7	468.6	0.536	3282.3	136.8	78.2	0.127	775.6	32.3
01/16/22	24	6.0	12.48	417.0	403.4	0.437	2517.2	104.9	74.1	0.127	734.9	30.6
01/17/22	24	5.7	12.58	390.2	371.6	0.399	2355.5	98.1	75.6	0.127	749.8	31.2
01/18/22	24	6.7	11.78	432.9	509.3	0.514	2609.4	108.9	70.3	0.125	696.5	29.0
01/19/22	24	6.7	12.30	456.9	453.6	0.507	2757.8	114.9	70.9	0.127	703.0	29.3
01/20/22	24	6.6	12.60	531.2	533.8	0.600	3206.6	133.6	71.4	0.127	708.1	29.5
01/21/22	17	4.9	14.32	498.0	416.0	0.481	1992.8	125.2	79.7	0.127	524.9	32.9
01/22/22	15	7.3	11.45	468.7	444.9	0.490	1748.4	117.9	65.4	0.119	390.5	27.0
01/23/22	24	5.4	13.83	627.8	545.8	0.628	3789.7	157.9	77.4	0.127	767.7	32.0
01/24/22	24	6.2	12.76	702.4	669.5	0.749	4065.0	176.7	73.0	0.127	709.5	30.2
01/25/22	22	5.7	13.39	702.1	632.9	0.719	3484.6	176.6	75.7	0.127	636.3	31.3
01/26/22	24	7.0	11.96	573.8	582.6	0.641	3463.4	144.3	69.3	0.127	687.5	28.6
01/27/22	24	7.0	12.28	561.1	548.0	0.625	3386.8	141.1	69.4	0.127	688.5	28.7
01/28/22	24	7.1	12.11	642.2	648.0	0.732	3867.3	161.5	68.7	0.127	679.5	28.4
01/29/22	24	6.3	12.84	582.2	544.6	0.620	3461.2	146.4	72.6	0.127	710.2	30.0
01/30/22	24	6.6	12.41	639.0	630.9	0.705	3857.2	160.7	71.1	0.127	705.2	29.4
01/31/22	24	6.1	12.95	626.7	580.1	0.657	3783.2	157.6	73.7	0.127	731.2	30.5
Report Average:	19.9677	6.0419	11.5942	481.4839	449.9968	0.5175	2550.6452	121.0968	67.1097	0.1175	589.0968	27.7323
Report Total:	619						79070.0				18262.0	

CO Daily Totals Daily Averages - 01/01/22 To 01/31/22

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 1

Period: 01/01/22 00:00:00 To 01/31/22 23:59:59; Records = 31

	Operating Hours				B1	B1	B1	B1	B1	B1	B1
	Boiler	On Gas	On	On Mix	UP Time	Gas On	Gas CO	Wood On	Wood CO	Mix On	Mix CO
Date	1		Wood		Minutes	Minutes	Daily #	Minutes	Daily #	Minutes	Daily #
01/01/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2499.9
01/02/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2348.6
01/03/22	24	0	1	24	1440	0	0.0	3	12.1	1435	2671.0
01/04/22	24	0	1	24	1440	0	0.0	4	12.1	1435	2813.3
01/05/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3214.5
01/06/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3053.4
01/07/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2854.2
01/08/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2321.5
01/09/22	10	3	0	8	583	154	19.7	0	0.0	429	551.9
01/10/22	24	0	8	17	1440	0	0.0	439	1062.3	1000	1796.6
01/11/22	24	0	24	0	1440	0	0.0	1440	4105.6	0	0.0
01/12/22	24	0	22	4	1440	0	0.0	1259	3862.8	178	423.0
01/13/22	24	0	24	0	1440	0	0.0	1440	4917.4	0	0.0
01/14/22	24	0	19	8	1440	0	0.0	1062	2937.7	377	893.7
01/15/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3282.3
01/16/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2517.2
01/17/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2355.5
01/18/22	24	1	0	24	1440	1	1.2	0	0.0	1437	2609.4
01/19/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2757.8
01/20/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3206.6
01/21/22	24	1	8	17	1440	2	0.7	428	1293.7	1007	1992.8
01/22/22	24	12	0	15	1436	613	38.4	0	0.0	815	1748.4
01/23/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3789.7
01/24/22	24	0	1	24	1440	0	0.0	30	140.4	1408	4065.0
01/25/22	24	0	4	22	1440	0	0.0	223	934.0	1216	3484.6
01/26/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3463.4
01/27/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3386.8
01/28/22	24	0	1	24	1440	0	0.0	3	0.0	1436	3867.3
01/29/22	24	0	2	24	1440	0	0.0	19	98.9	1420	3461.2
01/30/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3857.2
01/31/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3783.2

Daily Averages - 1/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
01/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/03/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/10/22	1	20.1	0.89	27.4	0.0	0.453	0.1	2.6	0.3	6.7	0.008	0.0	0.0
01/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/13/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/14/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/16/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/17/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/18/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/19/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/20/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/21/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/22/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/24/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/25/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/28/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/29/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/30/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
01/31/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.0323	0.6484	0.0287	0.8839	0.0000	0.0146	0.0032	0.0839	0.0097	0.2161	0.0003	0.0000	0.0000
Report Total:	1						0.1					0.0	

Daily Averages - 1/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
01/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/03/22	1	11.5	8.09	1151.9	0.0	1.901	34.0	291.3	47.9	0.130	2.3	19.9
01/04/22	1	11.6	7.92	1005.0	0.0	1.677	12.7	254.1	49.4	0.135	1.0	20.5
01/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/09/22	1	13.7	6.20	1414.4	0.0	3.048	17.9	357.7	37.6	0.133	0.8	15.6
01/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/12/22	3	6.6	13.28	527.9	0.0	0.576	300.2	133.5	63.6	0.113	59.2	26.4
01/13/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/14/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/16/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/17/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/18/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/19/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/20/22	8	8.3	11.75	684.4	740.6	0.889	1232.9	173.1	55.8	0.113	163.7	23.2
01/21/22	3	6.8	13.11	681.7	0.0	0.752	120.5	172.4	62.0	0.112	17.9	25.8
01/22/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/24/22	8	8.0	11.96	719.9	723.1	0.865	1357.9	182.1	56.3	0.111	174.9	23.4
01/25/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/28/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/29/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/30/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
01/31/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.8065	2.1452	2.3326	199.5226	47.2161	0.3132	99.2290	50.4581	12.0194	0.0273	13.5419	4.9935
Report Total:	25						3076.1				419.8	

Daily Averages - 1/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
01/01/22	24	6.8	12.03	305.0	304.5	0.337	1850.8	77.1	70.0	0.127	697.7	29.1
01/02/22	24	6.6	12.22	324.2	319.3	0.352	1967.6	82.0	71.2	0.127	709.6	29.6
01/03/22	24	6.5	12.37	477.4	457.3	0.511	2885.2	120.7	71.3	0.127	708.4	29.6
01/04/22	24	7.0	12.25	482.8	472.6	0.539	2919.5	122.1	69.1	0.127	687.0	28.7
01/05/22	24	6.1	13.26	502.0	452.7	0.522	3046.7	126.9	74.0	0.127	737.8	30.7
01/06/22	24	6.2	12.84	502.6	492.5	0.545	3050.2	127.1	72.8	0.126	726.0	30.3
01/07/22	24	6.2	12.76	465.2	436.2	0.489	2823.2	117.6	73.2	0.127	729.6	30.4
01/08/22	24	6.9	12.18	338.8	337.0	0.377	2056.2	85.7	69.5	0.126	693.1	28.9
01/09/22	6	8.4	10.78	372.0	452.4	0.499	468.7	94.1	61.7	0.126	142.9	25.7
01/10/22	24	8.9	10.72	413.8	530.8	0.583	2499.4	104.6	58.1	0.114	579.6	24.2
01/11/22	24	6.2	13.30	432.6	389.2	0.454	2625.7	109.4	73.3	0.127	730.3	30.4
01/12/22	23	6.1	13.43	397.6	355.5	0.416	2176.6	100.5	73.5	0.126	664.5	30.6
01/13/22	24	6.0	13.41	460.2	410.5	0.477	2793.1	116.4	74.2	0.127	740.2	30.8
01/14/22	24	6.0	13.45	360.0	321.5	0.376	2184.9	91.0	74.0	0.127	737.3	30.7
01/15/22	24	6.6	12.72	419.0	399.0	0.458	2543.0	106.0	71.1	0.127	709.2	29.6
01/16/22	24	6.9	12.27	350.1	342.2	0.386	2125.0	88.5	69.9	0.127	697.2	29.1
01/17/22	24	7.1	11.84	386.6	395.5	0.440	2346.4	97.8	68.8	0.127	686.2	28.6
01/18/22	24	6.7	12.41	339.7	328.0	0.370	2061.6	85.9	70.7	0.127	705.2	29.4
01/19/22	24	7.4	11.96	354.5	362.8	0.414	2151.5	89.6	67.7	0.127	675.1	28.1
01/20/22	18	6.9	12.56	386.2	369.7	0.428	1669.9	97.7	69.3	0.126	494.4	28.8
01/21/22	23	7.5	11.97	412.5	436.3	0.494	2349.0	104.3	65.2	0.124	612.1	27.1
01/22/22	24	6.1	13.29	437.3	394.6	0.459	2653.9	110.6	73.3	0.127	731.2	30.5
01/23/22	24	6.5	12.88	409.9	382.8	0.443	2487.5	103.6	71.5	0.127	712.7	29.7
01/24/22	18	6.4	12.84	456.9	426.8	0.488	1904.4	115.5	72.5	0.127	501.8	30.1
01/25/22	24	7.2	12.03	457.8	459.3	0.520	2778.5	115.8	68.3	0.127	681.1	28.4
01/26/22	24	7.6	11.83	420.0	427.4	0.493	2548.8	106.2	66.0	0.127	657.9	27.4
01/27/22	24	7.9	11.55	388.3	407.4	0.465	2356.7	98.2	64.7	0.127	645.2	26.9
01/28/22	24	7.4	12.15	428.3	423.2	0.493	2599.3	108.3	67.1	0.127	668.5	27.9
01/29/22	24	6.8	12.54	389.9	375.1	0.431	2366.2	98.6	70.2	0.127	700.4	29.2
01/30/22	24	6.7	12.61	369.7	352.1	0.404	2243.8	93.5	70.8	0.127	705.5	29.4
01/31/22	24	7.0	12.29	387.7	380.7	0.433	2352.7	98.0	69.3	0.127	691.3	28.8
Report Average:	22.9677	6.8581	12.4110	407.3742	399.8355	0.4547	2351.1613	103.0097	69.7516	0.1263	663.1935	28.9903
Report Total:	712						72886.0				20559.0	

CO Daily Totals Daily Averages - 01/01/22 To 01/31/22

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 2

Period: 01/01/22 00:00:00 To 01/31/22 23:59:59; Records = 31

	Operating Hours				B2	B2	B2	B2	B2	B2	B2
Date	Boiler 2	On Gas	On Wood	On Mix	UP Time Minutes	Gas On Minutes	Gas CO Daily #	Wood On Minutes	Wood CO Daily #	Mix On Minutes	Mix CO Daily #
01/01/22	24	0	0	24	1440	0	0.0	0	0.0	1440	1850.8
01/02/22	24	0	0	24	1440	0	0.0	0	0.0	1440	1967.6
01/03/22	24	0	1	24	1440	0	0.0	7	34.0	1433	2885.2
01/04/22	24	0	1	24	1440	0	0.0	3	12.7	1435	2919.5
01/05/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3046.7
01/06/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3050.2
01/07/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2823.2
01/08/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2056.2
01/09/22	6	0	1	6	325	0	0.0	3	17.9	322	468.7
01/10/22	24	1	0	24	1404	3	0.1	0	0.0	1400	2499.4
01/11/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2625.7
01/12/22	24	0	3	23	1440	0	0.0	135	300.2	1303	2176.6
01/13/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2793.1
01/14/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2184.9
01/15/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2543.0
01/16/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2125.0
01/17/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2346.4
01/18/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2061.6
01/19/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2151.5
01/20/22	24	0	8	18	1440	0	0.0	417	1232.9	1022	1669.9
01/21/22	24	0	3	23	1440	0	0.0	41	120.5	1395	2349.0
01/22/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2653.9
01/23/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2487.5
01/24/22	24	0	8	18	1440	0	0.0	449	1357.9	990	1904.4
01/25/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2778.5
01/26/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2548.8
01/27/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2356.7
01/28/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2599.3
01/29/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2366.2
01/30/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2243.8
01/31/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2352.7

March 24, 2022

Ms. Lindsey Welch
Senior Air Pollution Inspector
Shasta County Air Quality Management District
1855 Placer Street, Suite 101
Redding, CA 96001

Re: **Monthly Emission Report – February 2022**
Burney Forest Products

Dear Ms. Welch,

Pursuant to Title V Operating Permit 87-TV-27n, Condition 20, enclosed please find the February 2022 *Monthly Emissions Report* for Burney Forest Products (BFP).

If you have any questions or require additional information, please contact Josh Hirschi, EH&S Manager, at 530-335-5023 ext. 105.

Sincerely,

Bill Dillard
Plant Manager

Cc: John Christian (email)

File: 201-40-03

BURNEY FOREST PRODUCTS
Monthly Emissions Report
February 2022

EXCESS EMISSION SUMMARY			
Parameter	**Limit**	**Averaging Period**	**Excursions**
CO – Gas	400 ppm@3% O2	24-hr Block Avg (Calendar Day)	None
CO - Wood	1,200 ppm@12% CO2	24-hr Block Avg (Calendar Day)	None
NOx – Gas	70 ppm@3% O2	3-hr Block Avg	None
NOx – Gas	0.084 lb/mmBtu	3-hr Block Avg	None
NOx – Wood	0.12 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 1	0.145 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 2	0.146 lb/mmBtu	3-hr Block Avg	None
NOx – All Fuels	57.4 lb/hr (both boilers combined)	1-hr Total	None
NOx – All Fuels	250 ppm@12% CO2	1-hr Avg	None
Opacity	20%	6-min Avg	None
Opacity	40%	3-min aggr./hr	None

CEMS/COMS DOWNTIME PERIODS	
NOx	
Boiler 1	On 2/14/2021: One (1) hour downtime for CEMS Quarterly Maintenance.
Boiler 2	On 2/03/2021: Two (2) hours downtime due to equipment malfunction.
Boiler 2	On 2/08/2021: Five (5) hours downtime due to equipment malfunction.
Boiler 2	On 2/14/2021: One (1) hour downtime for CEMS Quarterly Maintenance.
CO	
Boiler 1	On 2/14/2021: One (1) hour downtime for CEMS Quarterly Maintenance.
Boiler 2	On 2/14/2021: One (1) hour downtime for CEMS Quarterly Maintenance.
CO2	
Boiler 1	On 2/14/2021: One (1) hour downtime for CEMS Quarterly Maintenance.
Boiler 2	On 2/03/2021: Two (2) hours downtime due to equipment malfunction.
Boiler 2	On 2/08/2021: Five (5) hours downtime due to equipment malfunction.
Boiler 2	On 2/14/2021: One (1) hour downtime for CEMS Quarterly Maintenance.
O2	
Boiler 1	On 2/14/2021: One (1) hour downtime for CEMS Quarterly Maintenance.
Boiler 2	On 2/14/2021: One (1) hour downtime for CEMS Quarterly Maintenance.

CEMS/COMS DOWNTIME PERIODS	
OPACITY	
Boiler 1	On 2/14/22: Three (3) six-minute periods downtime due to CEMS Quarterly Maintenance.
Boiler 2	On 2/08/22: Ten (10) six-minute periods downtime due to COMS Maintenance.
Boiler 2	On 2/14/22: Seven (7) six-minute periods downtime due to CEMS Quarterly Maintenance.

OPERATING DATA	
Ammonia Usage (Pounds)	
Boiler 1	27,085
Boiler 2	42,900
Total Both Boilers	69,985
Boiler Operating Time (Hours)	
Boiler 1	672
Boiler 2	672

BOILER OFF LINE TIMES				
Boiler 1				
Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
				No downtime for February 2022
Boiler 2				
Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
				No downtime for February 2022

Note: Boiler Off Line Times are in DAHS time

CAM Plan Excursions	
Date	**Description**
	None

Burney Forest Products
Wood Fuel: **Feb 2022**

	#1 Boiler								#2 Boiler							
Day	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH
1	730.0	24.0	30.4	48%	379.7	15.8	276.9	169.7	725.0	24.0	30.2	48%	377.1	15.7	275.2	158.9
2	720.0	24.0	30.0	44%	399.7	16.7	291.4	172.7	715.0	24.0	29.8	44%	396.9	16.6	289.8	161.9
3	726.0	24.0	30.3	49%	369.3	15.4	269.3	165.3	735.0	24.0	30.7	49%	373.9	15.6	273.0	162.6
4	680.0	24.0	28.3	44%	379.7	15.8	276.8	163.2	710.0	24.0	29.6	44%	396.4	16.5	289.1	162.2
5	710.0	24.0	29.6	50%	353.9	14.8	258.4	155.3	716.0	24.0	29.9	50%	356.9	14.9	260.4	156.5
6	722.0	24.0	30.1	47%	381.2	15.9	278.4	170.0	747.0	24.0	31.1	47%	394.4	16.4	287.6	170.3
7	700.0	24.0	29.2	44%	394.8	16.5	288.3	181.0	695.0	24.0	29.0	44%	392.0	16.3	285.8	181.8
8	611.2	24.0	25.5	41%	357.6	14.9	260.7	188.0	630.0	24.0	26.3	41%	368.6	15.4	268.7	183.7
9	639.6	24.0	26.7	43%	367.5	15.3	268.1	185.5	630.0	24.0	26.3	43%	361.9	15.1	264.1	176.7
10	662.9	24.0	27.6	42%	382.1	15.9	278.6	183.4	655.0	24.0	27.3	42%	377.6	15.8	275.7	164.1
11	618.0	24.0	25.8	43%	353.8	14.8	258.3	176.3	614.0	24.0	25.6	43%	351.5	14.6	256.3	148.1
12	622.5	24.0	25.9	43%	355.6	14.8	259.3	171.2	630.0	24.0	26.3	43%	359.8	15.0	262.8	150.3
13	607.2	24.0	25.3	43%	347.8	14.5	253.9	171.5	650.0	24.0	27.1	43%	372.3	15.5	271.5	140.9
14	660.0	24.0	27.5	43%	377.7	15.7	275.6	162.0	641.0	24.0	26.7	43%	366.8	15.3	267.9	144.1
15	610.0	24.0	25.5	40%	363.1	15.2	265.3	148.7	570.0	24.0	23.8	40%	339.2	14.1	247.4	139.3
16	600.0	24.0	25.0	37%	377.1	15.7	275.0	165.4	570.0	24.0	23.8	37%	358.3	14.9	261.6	155.7
17	591.3	24.0	24.6	38%	364.8	15.2	266.0	176.7	567.0	22.9	24.7	38%	349.8	15.3	267.1	141.6
18	630.6	24.0	26.3	42%	366.7	15.3	267.6	184.4	605.0	24.0	25.2	42%	351.8	14.7	256.7	170.3
19	602.1	24.0	25.1	42%	349.0	14.6	254.8	183.8	635.5	24.0	26.5	42%	368.3	15.3	268.6	175.1
20	575.5	22.9	25.1	41%	340.9	14.9	260.7	175.2	600.0	24.0	25.0	41%	355.4	14.8	259.3	162.8
21	597.2	24.0	24.9	37%	375.1	15.6	273.7	190.4	616.8	24.0	25.7	37%	387.4	16.1	282.5	180.2
22	626.9	24.0	26.1	38%	390.0	16.2	284.4	190.7	584.3	24.0	24.4	38%	363.5	15.2	265.4	176.4
23	555.7	23.9	23.2	35%	359.4	15.0	262.8	185.6	553.3	24.0	23.1	35%	357.9	14.9	261.5	182.9
24	553.1	24.0	23.1	36%	356.5	14.9	260.1	186.1	545.8	24.0	22.8	36%	351.7	14.7	256.8	180.3
25	547.2	24.0	22.8	37%	342.8	14.3	250.3	187.9	596.4	24.0	24.9	37%	373.6	15.6	272.8	186.8
26	603.5	24.0	25.1	37%	379.4	15.8	276.6	193.3	592.1	24.0	24.7	37%	372.2	15.5	271.4	190.9
27	586.8	24.0	24.4	39%	355.4	14.8	259.1	185.2	616.2	24.0	25.7	39%	373.2	15.6	272.1	193.4
28	677.2	24.0	28.2	41%	402.7	16.8	293.7	194.3	610.3	24.0	25.4	41%	363.0	15.1	264.7	182.4
Total	**17,767**	**670**			**10,323**				**17,756**	**670**			**10,312**			
Average							**269**								**269**	
12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factor =						72%			12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factr =						74%	

Burney Forest Products
Natural Gas Fuel: **Feb 2022**

	#1 Boiler						#2 Boiler						Plant
Day	Hours on Gas Fuel Only	Hours on Gas Fuel Co-Fire	Gas Usage MCF Day	Average Usage Rate MCF/hr	HHV Average Gas Heat Input Rate mmbtu/hr	HHV Gas Heat Input Day mmbtu	Hours on Gas Fuel Only	Hours on Gas Fuel Co-Fire	Gas Usage MCF Day	Average Usage Rate MCF/hr	HHV Average Gas Heat Input Rate mmbtu/hr	HHV Gas Heat Input Day mmbtu	Total Gas Usage MCF Day
1	0.00	24.00	586	24.4	24.8	595.0	0.00	20.30	497	24.5	24.9	504.7	1083
2	0.00	24.00	557	23.2	23.6	565.4	0.02	23.97	638	26.6	27.0	647.1	1195
3	0.00	24.00	618	25.8	26.2	627.8	0.00	19.62	481	24.5	24.9	488.2	1099
4	0.00	24.00	483	20.1	20.4	489.7	0.00	24.00	655	27.3	27.7	664.7	1137
5	0.00	23.93	652	27.3	27.7	662.0	0.00	18.95	462	24.4	24.7	468.7	1114
6	0.00	22.80	521	22.9	23.2	528.8	0.00	24.00	666	27.7	28.1	675.6	1187
7	0.00	19.38	452	23.3	23.7	458.9	0.00	24.00	565	23.5	23.9	573.2	1017
8	0.00	24.00	498	20.7	21.1	505.3	0.00	24.00	642	26.7	27.1	651.5	1140
9	0.00	11.75	378	32.1	32.6	383.3	0.00	12.18	298	24.4	24.8	302.2	675
10	0.00	0.00	0	0.0	0.0	0.0	0.00	3.08	131	42.4	43.0	132.6	131
11	0.00	3.58	160	44.8	45.5	162.9	0.00	0.00	0	0.0	0.0	0.0	160
12	0.00	0.00	0	0.0	0.0	0.0	0.00	3.12	120	38.4	39.0	121.6	120
13	0.00	2.73	157	57.4	58.3	159.2	0.00	0.00	0	0.0	0.0	0.0	157
14	0.00	8.08	203	25.1	25.5	206.3	0.00	7.03	200	28.4	28.8	202.9	403
15	0.00	10.83	318	29.3	29.8	322.6	0.00	0.00	0	0.0	0.0	0.0	318
16	0.00	0.00	0	0.0	0.0	0.0	0.00	4.27	161	37.7	38.3	163.3	161
17	0.00	15.03	425	28.3	28.7	431.5	1.03	4.00	244	48.5	49.3	248.0	669
18	0.00	17.10	337	19.7	20.0	342.3	0.00	3.32	122	36.8	37.4	123.9	459
19	0.00	19.43	544	28.0	28.4	552.0	0.00	0.00	0	0.0	0.0	0.0	544
20	1.08	19.45	635	30.9	31.4	644.4	0.00	4.37	216	49.5	50.3	219.5	851
21	0.00	12.32	377	30.6	31.0	382.3	0.00	0.00	0	0.0	0.0	0.0	377
22	0.00	0.00	0	0.0	0.0	0.0	0.00	4.70	234	49.7	50.4	237.0	234
23	0.00	5.45	261	47.9	48.6	264.9	0.00	12.32	299	24.2	24.6	303.1	560
24	0.00	9.38	204	21.8	22.1	207.4	0.00	19.45	519	26.7	27.1	527.3	724
25	0.00	3.77	245	65.0	66.0	248.6	0.00	20.65	505	24.5	24.8	512.9	750
26	0.00	0.00	0	0.0	0.0	0.0	0.00	24.00	639	26.6	27.0	648.4	639
27	0.00	2.80	160	57.3	58.1	162.7	0.00	24.00	565	23.5	23.9	573.3	725
28	0.00	0.00	0	0.0	0.0	0.0	0.00	24.00	602	25.1	25.5	610.9	602
Total	**1.08**	**328**	**8,772**			**8,903**	**1.05**	**349**	**9,459**			**9,601**	**18,230**
Average					**27.1**						**27.4**		

Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	4%	Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	5%
12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	3%	12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	4%
Flame Stablization MCF	8,743	Flame Stablization MCF	9,430
Other Gas Uses	29	Other Gas Uses	28
		Flame Stablization Total =	18,173
		Other Gas Uses Total =	57

Daily Averages - 2/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
02/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/03/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/13/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/14/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/16/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/17/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/18/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/19/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/20/22	2	13.5	3.64	18.7	0.0	0.033	2.0	1.9	23.4	56.2	0.069	4.5	4.0
02/21/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/22/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/24/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/25/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/28/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.0714	0.4821	0.1300	0.6679	0.0000	0.0012	0.0714	0.0679	0.8357	2.0071	0.0025	0.1607	0.1429
Report Total:	2						2.0					4.5	

Daily Averages - 2/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
02/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/03/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/05/22	1	7.0	12.62	814.3	0.0	0.909	6.8	204.8	69.1	0.127	1.0	28.6
02/06/22	2	8.3	11.62	1029.3	0.0	1.263	304.5	258.9	53.9	0.109	26.1	22.3
02/07/22	5	6.1	13.59	687.5	0.0	0.723	788.8	172.9	61.4	0.106	116.8	25.4
02/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/09/22	13	5.5	14.19	774.6	655.5	0.782	2383.5	194.8	63.5	0.105	326.8	26.3
02/10/22	24	5.7	14.00	749.8	642.4	0.764	4525.5	188.6	64.0	0.107	634.2	26.4
02/11/22	21	6.1	13.46	765.5	682.6	0.805	3917.6	192.5	63.3	0.109	533.8	26.2
02/12/22	24	6.1	13.50	727.4	646.5	0.763	4390.9	183.0	62.7	0.108	622.2	25.9
02/13/22	22	6.1	13.52	732.2	650.1	0.768	3906.4	184.2	63.1	0.109	554.9	26.1
02/14/22	16	6.6	12.86	809.0	756.0	0.880	2420.6	203.5	61.1	0.109	300.6	25.2
02/15/22	17	6.6	12.83	724.3	681.1	0.789	2363.2	182.2	58.6	0.104	330.8	24.2
02/16/22	24	6.2	13.42	628.5	562.2	0.662	3793.7	158.1	63.5	0.110	629.9	26.2
02/17/22	9	5.9	13.85	638.1	553.0	0.660	1438.8	160.5	64.6	0.110	239.4	26.7
02/18/22	8	7.0	12.76	760.4	717.5	0.851	1304.9	191.3	59.1	0.108	170.1	24.4
02/19/22	6	6.1	13.44	682.6	609.5	0.714	781.1	171.7	62.6	0.108	118.9	25.8
02/20/22	5	6.4	12.87	596.9	0.0	0.639	512.5	150.1	60.4	0.106	85.6	24.9
02/21/22	12	5.5	13.62	653.4	575.3	0.660	1919.6	164.3	65.8	0.109	317.8	27.2
02/22/22	24	5.5	13.78	620.6	540.9	0.624	3745.9	156.1	66.5	0.110	659.3	27.5
02/23/22	20	5.9	13.62	646.9	573.6	0.671	2970.1	162.7	66.5	0.113	511.2	27.5
02/24/22	15	6.1	13.46	653.7	584.1	0.687	2403.8	164.4	63.4	0.109	383.3	26.2
02/25/22	21	5.8	13.78	672.3	587.3	0.694	3384.9	169.1	64.6	0.109	543.5	26.7
02/26/22	24	5.5	14.18	657.5	556.9	0.662	3968.5	165.4	66.6	0.110	660.5	27.5
02/27/22	23	5.6	14.08	683.2	583.9	0.697	3608.0	171.8	65.2	0.109	578.9	26.9
02/28/22	24	5.3	14.35	785.2	656.4	0.781	4739.6	197.5	68.2	0.112	676.5	28.2
Report Average:	12.8571	5.0321	11.0500	589.0429	421.9571	0.6231	2127.8286	148.1571	52.0607	0.0899	322.2179	21.5107
Report Total:	360						59579.2				9022.1	

Daily Averages - 2/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
02/01/22	24	6.5	12.46	571.2	554.2	0.620	3447.5	143.6	71.6	0.127	710.5	29.6
02/02/22	24	6.6	12.51	462.2	444.1	0.503	2790.0	116.3	71.1	0.127	705.3	29.4
02/03/22	24	6.9	12.23	505.3	498.3	0.560	3049.9	127.1	69.9	0.127	693.4	28.9
02/04/22	24	6.9	12.44	509.7	496.1	0.569	3076.6	128.2	69.8	0.127	691.9	28.8
02/05/22	24	7.0	12.11	465.5	468.5	0.523	2801.1	117.1	69.4	0.127	686.4	28.7
02/06/22	24	6.3	12.93	494.2	459.2	0.525	2834.0	124.3	72.9	0.127	687.7	30.1
02/07/22	21	6.0	13.23	600.3	550.3	0.627	2926.5	151.0	74.5	0.127	595.4	30.8
02/08/22	24	5.9	13.35	587.4	527.1	0.608	3546.0	147.8	74.4	0.127	737.2	30.7
02/09/22	12	6.2	12.82	635.6	603.8	0.675	1857.8	159.9	73.5	0.127	356.8	30.4
02/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/11/22	5	6.7	12.05	699.1	0.0	0.764	609.0	175.8	70.1	0.126	103.0	29.0
02/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/13/22	4	7.3	11.27	596.1	0.0	0.681	407.3	149.9	67.0	0.126	74.1	27.7
02/14/22	9	6.4	12.33	599.7	582.1	0.638	1211.2	150.8	71.5	0.125	241.8	29.6
02/15/22	12	7.1	11.66	567.6	599.0	0.647	1518.3	142.8	68.9	0.127	309.2	28.5
02/16/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/17/22	16	6.9	12.20	586.0	588.2	0.661	2146.2	147.4	68.3	0.125	435.3	28.2
02/18/22	18	5.9	13.35	576.4	517.5	0.596	2480.0	145.0	74.9	0.127	530.3	31.0
02/19/22	20	6.2	12.69	484.4	475.4	0.518	2359.0	121.8	73.1	0.127	587.3	30.2
02/20/22	21	6.6	12.00	546.2	546.4	0.589	2795.7	137.4	70.6	0.125	586.2	29.2
02/21/22	13	5.9	12.72	480.3	462.5	0.502	1490.9	120.8	75.2	0.128	382.5	31.1
02/22/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/23/22	7	7.0	11.57	628.5	661.8	0.702	818.2	158.1	70.2	0.128	153.6	29.0
02/24/22	10	6.1	13.06	509.1	468.9	0.534	1194.6	128.0	79.7	0.137	310.5	32.9
02/25/22	5	6.9	11.52	658.9	0.0	0.732	617.0	165.7	64.6	0.118	106.5	26.7
02/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/27/22	3	11.3	7.43	595.8	0.0	1.011	414.7	149.9	45.3	0.116	51.4	18.7
02/28/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	12.2857	5.3071	9.5689	441.4107	339.4071	0.4923	1585.4107	111.0250	55.2321	0.0992	347.7250	22.8286
Report Total:	344						44391.5				9736.3	

CO Daily Totals Daily Averages - 02/01/22 To 02/28/22

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 1

Period: 02/01/22 00:00:00 To 02/28/22 23:59:59; Records = 28

	Operating Hours				B1	B1	B1	B1	B1	B1	B1
	Boiler	On Gas	On	On Mix	UP Time	Gas On	Gas CO	Wood On	Wood CO	Mix On	Mix CO
Date	1		Wood		Minutes	Minutes	Daily #	Minutes	Daily #	Minutes	Daily #
02/01/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3447.5
02/02/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2790.0
02/03/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3049.9
02/04/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3076.6
02/05/22	24	0	1	24	1440	0	0.0	2	6.8	1436	2801.1
02/06/22	24	0	2	24	1440	0	0.0	70	304.5	1368	2834.0
02/07/22	24	0	5	21	1440	0	0.0	275	788.8	1163	2926.5
02/08/22	24	0	0	24	1440	0	0.0	0	0.0	1440	3546.0
02/09/22	24	0	13	12	1440	0	0.0	734	2383.5	705	1857.8
02/10/22	24	0	24	0	1440	0	0.0	1440	4525.5	0	0.0
02/11/22	24	0	21	5	1440	0	0.0	1223	3917.6	215	609.0
02/12/22	24	0	24	0	1440	0	0.0	1440	4390.9	0	0.0
02/13/22	24	0	22	4	1440	0	0.0	1274	3906.4	164	407.3
02/14/22	24	0	16	9	1440	0	0.0	954	2420.6	485	1211.2
02/15/22	24	0	17	12	1440	0	0.0	787	2363.2	650	1518.3
02/16/22	24	0	24	0	1440	0	0.0	1440	3793.7	0	0.0
02/17/22	24	0	9	16	1440	0	0.0	538	1438.8	902	2146.2
02/18/22	24	0	8	18	1440	0	0.0	413	1304.9	1026	2480.0
02/19/22	24	0	6	20	1440	0	0.0	272	781.1	1166	2359.0
02/20/22	24	2	5	21	1440	65	2.0	206	512.5	1167	2795.7
02/21/22	24	0	12	13	1440	0	0.0	700	1919.6	739	1490.9
02/22/22	24	0	24	0	1440	0	0.0	1440	3745.9	0	0.0
02/23/22	24	0	20	7	1440	0	0.0	1109	2970.1	327	818.2
02/24/22	24	0	15	10	1440	0	0.0	876	2403.8	563	1194.6
02/25/22	24	0	21	5	1440	0	0.0	1212	3384.9	226	617.0
02/26/22	24	0	24	0	1440	0	0.0	1440	3968.5	0	0.0
02/27/22	24	0	23	3	1440	0	0.0	1272	3608.0	168	414.7
02/28/22	24	0	24	0	1440	0	0.0	1440	4739.6	0	0.0

Daily Averages - 2/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
02/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/02/22	1	15.5	3.68	1518.8	0.0	3.721	2.4	141.5	30.4	100.8	0.122	0.1	4.7
02/03/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/13/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/14/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/16/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/17/22	2	14.7	3.46	59.6	0.0	0.127	6.0	5.6	21.9	63.1	0.077	3.4	3.4
02/18/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/19/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/20/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/21/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/22/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/24/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/25/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
02/28/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.1071	1.0786	0.2550	56.3714	0.0000	0.1374	0.3000	5.2536	1.8679	5.8536	0.0071	0.1250	0.2893
Report Total:	3						8.4					3.5	

Daily Averages - 2/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
02/01/22	5	8.1	11.93	677.6	0.0	0.822	602.3	171.3	60.3	0.120	93.3	25.1
02/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/03/22	5	7.6	12.65	697.5	0.0	0.815	774.4	176.4	57.2	0.109	102.6	23.8
02/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/05/22	6	7.8	12.52	600.3	582.1	0.719	740.8	151.8	55.0	0.107	117.2	22.8
02/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/09/22	12	6.5	13.56	509.4	453.0	0.550	1513.0	128.8	64.0	0.113	314.4	26.6
02/10/22	22	6.5	13.52	468.3	416.3	0.504	2461.8	118.4	62.8	0.111	545.2	26.1
02/11/22	24	7.1	12.77	495.7	466.6	0.560	3008.4	125.4	59.8	0.111	596.1	24.8
02/12/22	22	6.8	13.06	484.3	445.0	0.535	2536.3	122.5	61.3	0.111	531.2	25.5
02/13/22	24	7.4	12.56	475.9	455.1	0.546	2888.2	120.3	59.0	0.111	588.0	24.5
02/14/22	18	7.4	12.39	413.8	402.7	0.476	1726.1	104.6	58.3	0.110	412.3	24.2
02/15/22	24	7.1	12.61	447.4	425.3	0.503	2715.3	113.1	59.1	0.109	589.0	24.5
02/16/22	21	6.9	12.95	407.9	379.0	0.453	2003.6	103.1	60.7	0.111	498.9	25.2
02/17/22	20	7.8	12.23	488.3	485.9	0.584	2268.8	123.5	57.6	0.112	456.0	23.9
02/18/22	21	7.0	12.95	500.6	464.2	0.560	2615.4	126.6	61.3	0.112	526.1	25.4
02/19/22	24	6.5	13.28	499.1	451.5	0.540	3028.8	126.2	64.1	0.114	639.2	26.6
02/20/22	20	6.4	13.16	494.3	450.8	0.529	2453.0	125.0	64.0	0.113	522.8	26.6
02/21/22	24	6.3	13.27	468.8	424.2	0.497	2845.2	118.6	64.5	0.112	642.9	26.8
02/22/22	21	6.7	12.85	481.3	451.4	0.527	2298.3	121.7	62.6	0.112	507.4	26.0
02/23/22	12	6.6	13.20	528.3	479.4	0.572	1541.7	133.6	63.1	0.113	304.9	26.2
02/24/22	5	7.4	12.44	594.2	0.0	0.685	674.6	150.3	60.0	0.114	113.1	24.9
02/25/22	4	6.6	13.43	539.3	0.0	0.587	449.6	136.4	63.5	0.113	87.8	26.4
02/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/28/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	11.9286	5.0179	9.1904	366.8679	258.3036	0.4130	1398.0571	92.7714	43.5071	0.0799	292.4429	18.0679
Report Total:	334						39145.6				8188.4	

Daily Averages - 2/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
02/01/22	21	7.5	11.81	384.1	390.5	0.444	1966.2	97.1	66.6	0.126	561.9	27.7
02/02/22	24	7.6	11.70	350.3	384.0	0.424	2123.5	88.6	65.5	0.125	652.9	27.2
02/03/22	21	7.0	12.55	380.3	365.6	0.424	1861.1	96.2	67.8	0.124	504.7	28.2
02/04/22	24	7.7	11.94	413.7	422.8	0.493	2510.4	104.6	65.6	0.127	654.0	27.3
02/05/22	20	7.0	12.66	376.1	356.5	0.420	1792.0	95.1	69.5	0.127	546.3	28.9
02/06/22	24	6.8	12.76	403.7	381.6	0.445	2449.9	102.1	70.3	0.127	700.8	29.2
02/07/22	24	6.2	13.47	442.2	393.9	0.466	2683.7	111.8	73.4	0.127	731.6	30.5
02/08/22	24	6.1	13.43	438.2	402.0	0.456	2659.0	110.8	74.0	0.126	583.9	30.7
02/09/22	13	5.5	13.88	483.3	415.9	0.486	1514.3	122.2	76.5	0.127	388.7	31.8
02/10/22	4	6.7	12.41	339.3	0.0	0.369	260.7	85.8	69.3	0.124	87.2	28.8
02/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/12/22	4	6.9	12.22	349.8	0.0	0.385	263.4	88.5	69.6	0.126	87.4	29.0
02/13/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/14/22	8	6.5	12.43	399.6	0.0	0.436	267.0	101.1	60.0	0.106	72.4	24.9
02/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/16/22	5	7.2	11.72	286.1	0.0	0.324	308.8	72.3	68.6	0.127	121.9	28.5
02/17/22	6	12.1	6.83	288.6	497.9	0.481	309.5	73.0	37.2	0.104	63.2	15.5
02/18/22	5	7.1	12.28	526.6	0.0	0.578	373.8	133.1	68.0	0.125	91.1	28.3
02/19/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/20/22	6	10.3	8.72	395.1	830.1	0.746	469.6	99.9	49.8	0.116	80.9	20.7
02/21/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
02/22/22	5	6.8	11.68	416.2	0.0	0.452	497.0	105.3	66.4	0.120	129.5	27.6
02/23/22	14	6.1	13.10	352.4	322.3	0.370	1109.2	89.1	74.9	0.129	384.7	31.1
02/24/22	21	6.4	12.84	399.2	376.1	0.430	1964.6	100.9	73.1	0.129	601.3	30.4
02/25/22	22	6.3	13.07	332.7	305.8	0.353	1733.4	84.1	73.7	0.128	632.8	30.6
02/26/22	24	6.2	13.12	352.0	322.3	0.372	2136.3	89.0	74.2	0.129	740.2	30.8
02/27/22	24	5.8	13.60	407.5	359.2	0.419	2473.3	103.1	75.9	0.129	757.1	31.5
02/28/22	24	6.1	13.18	474.5	437.4	0.502	2880.1	120.0	74.4	0.128	742.0	30.9
Report Average:	13.1071	5.7821	10.0500	321.1250	248.7107	0.3670	1235.9571	81.2036	55.8679	0.1020	354.1607	23.2179
Report Total:	367						34606.8				9916.5	

CO Daily Totals Daily Averages - 02/01/22 To 02/28/22

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 2

Period: 02/01/22 00:00:00 To 02/28/22 23:59:59; Records = 28

	Operating Hours				B2	B2	B2	B2	B2	B2	B2
Date	Boiler 2	On Gas	On Wood	On Mix	UP Time Minutes	Gas On Minutes	Gas CO Daily #	Wood On Minutes	Wood CO Daily #	Mix On Minutes	Mix CO Daily #
02/01/22	24	0	5	21	1440	0	0.0	221	602.3	1218	1966.2
02/02/22	24	1	0	24	1440	1	2.4	0	0.0	1438	2123.5
02/03/22	24	0	5	21	1440	0	0.0	261	774.4	1177	1861.1
02/04/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2510.4
02/05/22	24	0	6	20	1440	0	0.0	302	740.8	1137	1792.0
02/06/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2449.9
02/07/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2683.7
02/08/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2659.0
02/09/22	24	0	12	13	1440	0	0.0	708	1513.0	731	1514.3
02/10/22	24	0	22	4	1440	0	0.0	1253	2461.8	185	260.7
02/11/22	24	0	24	0	1440	0	0.0	1440	3008.4	0	0.0
02/12/22	24	0	22	4	1440	0	0.0	1251	2536.3	187	263.4
02/13/22	24	0	24	0	1440	0	0.0	1440	2888.2	0	0.0
02/14/22	24	0	18	8	1440	0	0.0	1016	1726.1	422	267.0
02/15/22	24	0	24	0	1440	0	0.0	1440	2715.3	0	0.0
02/16/22	24	0	21	5	1440	0	0.0	1182	2003.6	256	308.8
02/17/22	24	2	20	6	1440	62	6.0	1135	2268.8	240	309.5
02/18/22	24	0	21	5	1440	0	0.0	1240	2615.4	199	373.8
02/19/22	24	0	24	0	1440	0	0.0	1440	3028.8	0	0.0
02/20/22	24	0	20	6	1440	0	0.0	1177	2453.0	262	469.6
02/21/22	24	0	24	0	1440	0	0.0	1440	2845.2	0	0.0
02/22/22	24	0	21	5	1440	0	0.0	1156	2298.3	282	497.0
02/23/22	24	0	12	14	1440	0	0.0	698	1541.7	739	1109.2
02/24/22	24	0	5	21	1440	0	0.0	271	674.6	1167	1964.6
02/25/22	24	0	4	22	1440	0	0.0	199	449.6	1239	1733.4
02/26/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2136.3
02/27/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2473.3
02/28/22	24	0	0	24	1440	0	0.0	0	0.0	1440	2880.1

April 21, 2022

Ms. Lindsey Welch
Senior Air Pollution Inspector
Shasta County Air Quality Management District
1855 Placer Street, Suite 101
Redding, CA 96001

Re: **Monthly Emission Report – March 2022**
Burney Forest Products

Dear Ms. Welch,

Pursuant to Title V Operating Permit 87-TV-27n, Condition 20, enclosed please find the March 2022 *Monthly Emissions Report* for Burney Forest Products (BFP).

If you have any questions or require additional information, please contact Josh Hirschi, EH&S Manager, at 530-335-5023 ext. 105.

Sincerely,

Bill Dillard
Plant Manager

Cc: John Christian (email)

File: 201-40-03

BURNEY FOREST PRODUCTS
Monthly Emissions Report
March 2022

EXCESS EMISSION SUMMARY			
Parameter	**Limit**	**Averaging Period**	**Excursions**
CO – Gas	400 ppm@3% O2	24-hr Block Avg (Calendar Day)	None
CO - Wood	1,200 ppm@12% CO2	24-hr Block Avg (Calendar Day)	None
NOx – Gas	70 ppm@3% O2	3-hr Block Avg	None
NOx – Gas	0.084 lb/mmBtu	3-hr Block Avg	None
NOx – Wood	0.12 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 1	0.145 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 2	0.146 lb/mmBtu	3-hr Block Avg	None
NOx – All Fuels	57.4 lb/hr (both boilers combined)	1-hr Total	None
NOx – All Fuels	250 ppm@12% CO2	1-hr Avg	None
Opacity	20%	6-min Avg	None
Opacity	40%	3-min aggr./hr	None

CEMS/COMS DOWNTIME PERIODS	
NOx	
Boiler 1	On 3/03/2022: Three (3) hours downtime for CEMS CGA.
Boiler 1	On 3/04/2022: One (1) hour downtime due to plant going offline for maintenance.
Boiler 2	On 3/03/2022: Two (2) hours downtime for CEMS CGA.
CO	
Boiler 1	On 3/03/2022: Three (3) hours downtime for CEMS CGA.
Boiler 1	On 3/04/2022: One (1) hour downtime due to plant going offline for maintenance.
Boiler 2	On 3/03/2022: Two (2) hours downtime for CEMS CGA.
CO2	
Boiler 1	On 3/03/2022: Three (3) hours downtime for CEMS CGA.
Boiler 1	On 3/04/2022: One (1) hour downtime due to plant going offline for maintenance.
Boiler 2	On 3/03/2022: Two (2) hours downtime for CEMS CGA.
O2	
Boiler 1	On 3/03/2022: Three (3) hours downtime for CEMS CGA.
Boiler 1	On 3/04/2022: One (1) hour downtime due to plant going offline for maintenance.
Boiler 2	On 3/03/2022: Two (2) hours downtime for CEMS CGA.

CEMS/COMS DOWNTIME PERIODS	
OPACITY	
Boiler 1	On 3/03/2022: Twenty-eight (28) six-minute periods downtime due to CEMS CGA.
Boiler 1	On 3/18/2022: Five (5) six-minute periods downtime due to COMS Audit.
Boiler 2	On 3/03/2022: Nineteen (19) six-minute periods downtime due to CEMS CGA.
Boiler 2	On 3/18/2022: Five (5) six-minute periods downtime due to COMS Audit.

OPERATING DATA	
Ammonia Usage (Pounds)	
Boiler 1	28,005
Boiler 2	31,709
Total Both Boilers	59,714
Boiler Operating Time (Hours)	
Boiler 1	500
Boiler 2	477

BOILER OFF LINE TIMES				
Boiler 1				
Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
3/04/2022	11:59	3/12/2022	19:10	Downtime due to maintenance outage
3/13/2022	00:19	3/13/2022	10:40	Downtime due to maintenance outage
3/23/2022	06:28	3/24/2022	14:38	Downtime due to turbine issue
3/24/2022	20:43	3/25/2022	00:30	Downtime due to turbine issue
Boiler 2				
Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
3/04/2022	12:03	3/14/2022	07:17	Downtime due to maintenance outage
3/14/2022	09:08	3/14/2022	14:05	Downtime due to maintenance outage
3/23/2022	06:14	3/24/2022	15:06	Downtime due to turbine issue

Note: Boiler Off Line Times are in DAHS time

CAM Plan Excursions	
Date	**Description**
	None

Burney Forest Products

Mar 2022

	#1 Boiler								#2 Boiler							
Day	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH
1	586.4	23.9	24.5	37%	366.7	15.3	268.2	169.0	614.0	24.0	25.6	37%	384.0	16.0	280.2	171.2
2	592.6	24.0	24.7	35%	382.8	16.0	279.1	170.6	577.0	24.0	24.1	35%	372.7	15.6	272.2	162.7
3	587.5	24.0	24.5	37%	370.5	15.5	270.5	167.6	614.1	24.0	25.6	37%	387.3	16.2	282.8	170.8
4	277.1	13.1	21.2	26%	206.3	15.7	275.6	160.0	274.3	13.1	20.9	26%	204.2	15.6	272.4	150.1
5	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0
12	0.0	4.5	0.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0
13	25.0	9.4	2.7	17%	20.6	2.2	38.4	42.8	7.1	0.0	0.0	17%	5.9	0.0	0.0	0.0
14	606.5	24.0	25.3	32%	412.6	17.2	301.0	174.3	320.8	16.7	19.2	32%	218.2	13.1	228.4	161.3
15	632.3	24.0	26.4	38%	390.5	16.3	285.1	171.5	635.0	24.0	26.5	38%	392.2	16.3	286.0	165.8
16	624.3	24.0	26.0	37%	395.7	16.5	288.5	174.5	640.0	24.0	26.7	37%	405.7	16.9	296.2	170.9
17	570.0	24.0	23.8	36%	363.1	15.2	265.2	163.0	600.0	24.0	25.0	36%	382.2	15.9	278.7	166.9
18	580.0	24.0	24.2	37%	365.0	15.2	266.5	161.7	610.0	24.0	25.5	37%	383.9	16.0	280.3	174.7
19	580.0	20.7	28.1	34%	380.1	18.4	321.9	158.1	610.0	24.0	25.4	34%	399.8	16.7	291.5	182.7
20	590.0	24.0	24.6	34%	389.5	16.2	284.0	169.2	624.2	24.0	26.0	34%	412.1	17.2	300.7	171.6
21	587.8	24.0	24.5	36%	376.0	15.7	274.6	173.2	610.0	24.0	25.4	36%	390.2	16.3	284.5	172.0
22	602.2	24.0	25.1	37%	379.2	15.8	276.9	169.4	615.0	24.0	25.7	37%	387.3	16.2	282.8	171.3
23	197.4	6.5	30.5	29%	141.0	21.8	381.6	176.2	226.7	6.2	36.4	29%	161.9	26.0	454.6	159.3
24	0.9	0.0	0.0	23%	0.7	0.0	0.0	0.0	43.3	2.9	15.0	23%	33.6	11.6	203.6	68.2
25	524.5	22.5	23.3	35%	340.7	15.1	264.8	164.5	614.0	24.0	25.6	35%	398.9	16.6	291.0	170.0
26	580.1	24.0	24.2	34%	382.8	15.9	279.1	171.7	639.4	24.0	26.6	34%	421.9	17.6	307.7	173.0
27	569.5	24.0	23.7	35%	369.7	15.4	269.6	169.8	634.0	24.0	26.4	35%	411.5	17.1	300.1	170.4
28	607.7	24.0	25.3	37%	384.8	16.0	280.6	170.0	623.0	24.0	26.0	37%	394.5	16.4	287.7	175.5
29	608.1	24.0	25.3	36%	389.7	16.2	284.2	172.6	615.0	24.0	25.6	36%	394.2	16.4	287.4	171.4
30	596.6	24.0	24.9	35%	388.0	16.2	283.0	176.1	612.0	24.0	25.5	35%	398.0	16.6	290.2	172.1
31	558.6	24.0	23.3	33%	371.6	15.5	271.0	170.0	626.0	24.0	26.1	33%	416.4	17.4	303.7	174.2
Total	**11,685**	**484**			**7,568**				**11,985**	**471**			**7,757**			
Average							**194**								**205**	

12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factor = 72%

12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factr = 74%

Burney Forest Products
Natural Gas Fuel: **Mar 2022**

	#1 Boiler						#2 Boiler						Plant
Day	Hours on Gas Fuel Only	Hours on Gas Fuel Co-Fire	Gas Usage MCF Day	Average Usage Rate MCF/hr	HHV Average Gas Heat Input Rate mmbtu/hr	HHV Gas Heat Input Day mmbtu	Hours on Gas Fuel Only	Hours on Gas Fuel Co-Fire	Gas Usage MCF Day	Average Usage Rate MCF/hr	HHV Average Gas Heat Input Rate mmbtu/hr	HHV Gas Heat Input Day mmbtu	Total Gas Usage MCF Day
1	0.02	2.48	113	45.2	45.9	114.7	0.00	19.38	427	22.0	22.4	433.3	540
2	0.00	0.00	0	0.0	0.0	0.0	0.00	18.02	445	24.7	25.1	452.0	445
3	0.00	2.95	111	37.5	38.1	112.4	0.00	18.78	449	23.9	24.3	456.0	560
4	0.00	4.20	231	55.1	55.9	234.7	0.00	13.12	377	28.7	29.2	382.7	608
5	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
6	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
7	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
8	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
9	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
10	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
11	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
12	0.32	4.50	119	24.8	25.1	121.0	0.00	0.00	0	0.0	0.0	0.0	119
13	4.18	9.40	337	24.8	25.2	341.8	0.00	0.00	0	0.0	0.0	0.0	337
14	0.00	7.50	343	45.7	46.4	348.3	0.23	6.77	192	27.4	27.8	194.8	535
15	0.00	2.88	103	35.8	36.3	104.7	0.00	0.00	0	0.0	0.0	0.0	103
16	0.00	0.00	0	0.0	0.0	0.0	0.00	2.48	87	35.1	35.7	88.6	87
17	0.00	8.65	224	25.9	26.3	227.3	0.00	0.00	0	0.0	0.0	0.0	224
18	0.00	18.27	444	24.3	24.7	451.0	0.00	2.85	73	25.7	26.1	74.5	518
19	3.23	11.98	703	46.2	46.9	713.3	0.00	0.00	0	0.0	0.0	0.0	703
20	0.00	0.00	0	0.0	0.0	0.0	0.00	1.78	61	34.3	34.8	62.1	61
21	0.00	4.85	150	31.0	31.5	152.7	0.00	0.00	0	0.0	0.0	0.0	150
22	0.00	2.35	101	42.9	43.5	102.3	0.00	1.75	57	32.4	32.9	57.6	157
23	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
24	6.08	0.00	179	29.4	29.8	181.5	6.00	2.88	264	29.8	30.2	268.4	443
25	0.93	1.33	121	53.4	54.2	122.8	0.00	0.22	29	133.4	135.4	29.3	150
26	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
27	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
28	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
29	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
30	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
31	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
Total	**14.77**	**81**	**3,279**			**3,328**	**6.23**	**88**	**2,462**			**2,499**	**5,742**
Average					**34.6**						**26.5**		

Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	1%	Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	1%
12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	3%	12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	4%
Flame Stablization MCF	2,775	Flame Stablization MCF	2,300
Other Gas Uses	504	Other Gas Uses	163
		Flame Stablization Total =	5,075
		Other Gas Uses Total =	667

Daily Averages - 3/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
03/01/22	1	13.5	4.59	643.4	0.0	1.150	1.1	67.0	37.6	91.0	0.110	0.1	6.4
03/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/03/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/12/22	1	19.0	1.20	69.5	0.0	0.484	2.3	7.2	4.4	41.5	0.050	0.3	0.8
03/13/22	5	18.7	1.45	93.6	0.0	0.577	40.8	9.8	1.3	9.2	0.011	1.0	0.2
03/14/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/16/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/17/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/18/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/19/22	5	15.6	2.99	38.2	0.0	0.095	12.2	4.0	18.0	60.4	0.073	9.9	3.1
03/20/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/21/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/22/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/24/22	7	16.3	2.67	59.7	273.1	0.202	35.8	6.2	9.1	32.4	0.039	10.1	1.6
03/25/22	2	17.4	2.12	48.4	0.0	0.205	4.7	5.1	7.1	32.5	0.040	1.1	1.2
03/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/28/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/29/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/30/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/31/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.6774	3.2419	0.4845	30.7355	8.8097	0.0875	3.1258	3.2032	2.5000	8.6129	0.0104	0.7258	0.4290
Report Total:	21						96.9					22.5	

Daily Averages - 3/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
03/01/22	22	6.0	13.59	776.4	686.1	0.831	4195.7	195.3	65.5	0.115	582.5	27.1
03/02/22	24	6.1	13.39	726.4	651.4	0.783	4384.6	182.7	65.1	0.115	645.6	26.9
03/03/22	22	6.6	13.26	821.4	748.3	0.929	4166.8	206.6	60.0	0.110	507.3	24.8
03/04/22	9	7.1	13.34	730.5	657.4	0.845	1635.5	183.7	54.8	0.104	201.7	22.7
03/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/13/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/14/22	17	7.0	13.68	686.6	603.8	0.791	2828.9	172.7	59.7	0.113	407.4	24.7
03/15/22	22	6.9	13.76	741.7	648.7	0.850	3885.7	186.5	60.1	0.113	525.5	24.8
03/16/22	24	7.1	13.66	690.3	604.3	0.793	4167.0	173.6	59.5	0.113	589.5	24.6
03/17/22	17	7.7	12.97	731.3	678.9	0.884	2784.0	183.9	56.7	0.112	363.2	23.5
03/18/22	6	10.0	10.57	852.9	991.2	1.267	1213.6	214.5	46.6	0.112	109.6	19.2
03/19/22	9	6.8	13.68	699.1	613.6	0.793	1523.6	175.8	60.4	0.112	217.1	24.9
03/20/22	24	7.5	13.24	657.1	596.1	0.782	3966.8	165.3	59.0	0.115	585.4	24.4
03/21/22	20	7.1	13.70	674.8	591.5	0.780	3224.6	169.7	60.1	0.114	478.1	24.8
03/22/22	23	7.5	13.27	704.3	645.5	0.846	3791.4	177.1	57.7	0.113	519.4	23.9
03/23/22	7	6.9	13.74	701.2	614.6	0.802	1147.1	176.4	60.3	0.113	162.7	24.9
03/24/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/25/22	22	7.6	12.88	700.7	662.8	0.855	3744.0	176.2	56.3	0.111	497.9	23.3
03/26/22	24	7.3	13.10	735.4	687.9	0.879	4438.9	185.0	58.5	0.113	579.4	24.1
03/27/22	24	7.1	13.13	769.4	711.8	0.897	4644.2	193.5	59.4	0.113	588.9	24.5
03/28/22	24	6.9	13.41	595.2	571.1	0.719	3592.9	149.7	60.1	0.112	595.9	24.8
03/29/22	24	7.0	13.57	555.2	502.2	0.650	3351.2	139.6	59.9	0.113	594.0	24.8
03/30/22	24	7.0	13.74	483.0	421.4	0.553	2915.3	121.5	59.8	0.113	592.9	24.7
03/31/22	24	7.4	13.23	529.8	493.8	0.641	3198.2	133.3	57.0	0.110	565.6	23.6
Report Average:	13.2903	4.8581	8.9971	469.7645	431.6903	0.5539	2219.3548	118.1484	39.8871	0.0761	319.6645	16.4839
Report Total:	412						68800.0				9909.6	

Daily Averages - 3/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
03/01/22	4	10.9	8.12	501.8	0.0	0.822	305.8	126.2	43.7	0.111	41.0	18.1
03/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/03/22	4	9.2	10.02	685.8	0.0	0.936	117.9	172.5	43.7	0.098	12.4	18.1
03/04/22	6	9.2	9.90	668.0	0.0	0.966	723.5	168.0	54.0	0.121	84.8	22.3
03/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/12/22	5	17.7	1.95	68.6	0.0	0.354	77.0	17.3	6.7	0.052	13.3	2.8
03/13/22	11	16.1	3.70	185.4	574.0	0.540	482.4	46.6	18.1	0.070	79.7	7.5
03/14/22	8	8.6	11.24	731.7	788.8	0.958	1389.5	184.1	62.0	0.132	190.9	25.6
03/15/22	4	9.0	10.86	754.1	0.0	1.015	586.9	189.6	58.1	0.128	68.7	24.0
03/16/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/17/22	10	8.7	11.11	634.6	708.8	0.856	1389.4	159.6	60.9	0.131	217.2	25.2
03/18/22	20	7.5	12.48	503.3	493.8	0.613	2207.2	126.6	66.9	0.131	510.7	27.6
03/19/22	14	8.8	10.75	413.1	431.4	0.507	1234.9	103.9	58.2	0.123	288.6	24.1
03/20/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/21/22	6	9.2	10.75	596.1	667.6	0.817	742.1	149.9	56.0	0.126	113.4	23.1
03/22/22	3	9.3	10.20	665.4	0.0	0.915	409.2	167.3	57.4	0.130	56.0	23.7
03/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/24/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/25/22	3	13.1	6.31	250.1	0.0	3.627	132.6	62.9	37.9	0.085	31.8	15.6
03/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/28/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/29/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/30/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/31/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	3.1613	4.4290	3.7868	214.7742	118.2065	0.4170	316.0774	54.0161	20.1161	0.0464	55.1129	8.3129
Report Total:	98						9798.4				1708.5	

CO Daily Totals Daily Averages - 03/01/22 To 03/31/22

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 1

Period: 03/01/22 00:00:00 To 03/31/22 23:59:59; Records = 31

	Operating Hours				B1	B1	B1	B1	B1	B1	B1
	Boiler	On Gas	On	On Mix	UP Time	Gas On	Gas CO	Wood On	Wood CO	Mix On	Mix CO
Date	1		Wood		Minutes	Minutes	Daily #	Minutes	Daily #	Minutes	Daily #
03/01/22	24	1	22	4	1440	1	1.1	1287	4195.7	149	305.8
03/02/22	24	0	24	0	1440	0	0.0	1440	4384.6	0	0.0
03/03/22	24	0	22	4	1440	0	0.0	1261	4166.8	177	117.9
03/04/22	14	0	9	6	787	0	0.0	534	1635.5	252	723.5
03/05/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/06/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/07/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/08/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/09/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/10/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/11/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/12/22	5	1	0	5	290	19	2.3	0	0.0	270	77.0
03/13/22	15	5	0	11	820	251	40.8	0	0.0	564	482.4
03/14/22	24	0	17	8	1440	0	0.0	989	2828.9	450	1389.5
03/15/22	24	0	22	4	1440	0	0.0	1265	3885.7	173	586.9
03/16/22	24	0	24	0	1440	0	0.0	1440	4167.0	0	0.0
03/17/22	24	0	17	10	1440	0	0.0	919	2784.0	519	1389.4
03/18/22	24	0	6	20	1440	0	0.0	342	1213.6	1096	2207.2
03/19/22	24	5	9	14	1440	194	12.2	521	1523.6	719	1234.9
03/20/22	24	0	24	0	1440	0	0.0	1440	3966.8	0	0.0
03/21/22	24	0	20	6	1440	0	0.0	1147	3224.6	291	742.1
03/22/22	24	0	23	3	1440	0	0.0	1297	3791.4	141	409.2
03/23/22	7	0	7	0	388	0	0.0	388	1147.1	0	0.0
03/24/22	7	7	0	0	365	365	35.8	0	0.0	0	0.0
03/25/22	24	2	22	3	1410	56	4.7	1271	3744.0	80	132.6
03/26/22	24	0	24	0	1440	0	0.0	1440	4438.9	0	0.0
03/27/22	24	0	24	0	1440	0	0.0	1440	4644.2	0	0.0
03/28/22	24	0	24	0	1440	0	0.0	1440	3592.9	0	0.0
03/29/22	24	0	24	0	1440	0	0.0	1440	3351.2	0	0.0
03/30/22	24	0	24	0	1440	0	0.0	1440	2915.3	0	0.0
03/31/22	24	0	24	0	1440	0	0.0	1440	3198.2	0	0.0

Daily Averages - 3/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
03/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/03/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/13/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/14/22	2	19.6	0.50	67.0	0.0	0.851	1.7	6.3	2.0	8.5	0.027	0.2	0.4
03/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/16/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/17/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/18/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/19/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/20/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/21/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/22/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/24/22	7	16.3	2.24	80.8	352.4	0.260	49.6	7.5	9.8	34.6	0.042	6.7	1.5
03/25/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/28/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/29/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/30/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
03/31/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.2903	1.1581	0.0884	4.7677	11.3677	0.0358	1.6548	0.4452	0.3806	1.3903	0.0022	0.2226	0.0613
Report Total:	9						51.3					6.9	

Daily Averages - 3/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
03/01/22	5	7.8	12.24	571.5	0.0	0.696	661.4	144.5	56.8	0.114	108.4	23.6
03/02/22	7	7.6	12.18	552.9	548.1	0.668	813.4	139.8	59.2	0.117	147.9	24.6
03/03/22	6	7.6	12.41	680.5	0.0	0.815	557.9	172.1	54.5	0.107	73.4	22.7
03/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/13/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/14/22	12	7.9	11.95	640.2	680.6	0.825	1525.2	161.9	55.0	0.111	231.9	22.9
03/15/22	24	7.2	12.75	574.1	538.5	0.666	3484.5	145.2	59.0	0.113	588.5	24.5
03/16/22	23	6.8	13.14	578.4	530.5	0.659	3110.0	146.3	60.3	0.113	542.6	25.1
03/17/22	24	7.0	12.94	589.4	548.0	0.677	3577.4	149.1	59.9	0.113	597.0	24.9
03/18/22	22	6.7	13.17	584.9	532.8	0.657	3113.3	147.9	61.1	0.113	537.3	25.4
03/19/22	24	6.5	13.23	558.4	506.6	0.621	3389.2	141.2	61.7	0.113	615.4	25.6
03/20/22	23	6.8	13.23	513.1	467.1	0.583	2827.2	129.7	60.9	0.114	561.6	25.3
03/21/22	24	6.8	13.40	505.2	449.2	0.567	3066.2	127.8	61.0	0.114	608.2	25.3
03/22/22	23	6.6	13.51	534.6	473.2	0.597	3018.5	135.2	60.8	0.112	564.0	25.3
03/23/22	7	6.5	13.53	582.0	523.2	0.653	895.5	147.2	60.6	0.110	162.0	25.2
03/24/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/25/22	24	6.7	13.26	556.0	504.9	0.625	3344.8	140.6	61.1	0.112	603.2	25.4
03/26/22	24	6.6	13.21	527.7	482.6	0.591	3202.7	133.4	61.5	0.113	613.1	25.5
03/27/22	24	6.4	13.13	552.1	509.2	0.615	3350.6	139.6	62.1	0.113	618.8	25.8
03/28/22	24	6.4	13.24	537.2	498.9	0.605	3260.7	135.9	62.1	0.113	619.5	25.8
03/29/22	24	6.8	13.13	517.2	476.6	0.588	3138.7	130.8	60.5	0.112	603.0	25.1
03/30/22	24	6.7	13.38	505.7	455.4	0.569	3069.3	127.9	61.0	0.113	608.1	25.3
03/31/22	24	6.8	13.25	443.3	400.2	0.499	2690.4	112.1	60.6	0.112	604.0	25.2
Report Average:	12.6452	4.4581	8.3961	358.2065	294.3742	0.4121	1680.5452	90.5871	38.7000	0.0726	309.9323	16.0806
Report Total:	392						52096.9				9607.9	

Daily Averages - 3/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
03/01/22	21	6.1	13.30	468.3	421.5	0.502	2338.3	118.4	75.1	0.133	610.8	31.2
03/02/22	19	6.9	12.21	423.6	436.9	0.498	1921.4	107.1	69.7	0.130	525.0	29.0
03/03/22	20	6.0	13.32	487.1	437.6	0.521	2259.0	123.2	74.6	0.131	594.2	31.0
03/04/22	14	8.3	11.06	376.0	473.0	0.509	1291.7	95.1	58.8	0.117	339.4	24.4
03/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/13/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/14/22	10	14.7	4.55	214.8	730.7	0.550	385.3	54.3	26.5	0.081	77.2	11.0
03/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/16/22	3	8.8	10.22	412.6	0.0	0.544	254.5	104.3	59.4	0.129	61.4	24.7
03/17/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/18/22	4	7.9	11.36	355.8	0.0	0.438	268.8	90.0	63.9	0.129	76.9	26.6
03/19/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/20/22	3	8.0	11.19	381.3	0.0	0.473	179.3	96.4	60.7	0.124	45.7	25.2
03/21/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/22/22	2	8.2	11.11	346.8	0.0	0.436	155.8	87.7	61.7	0.127	44.8	25.7
03/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/24/22	3	7.0	11.91	274.1	0.0	0.309	203.5	69.3	70.1	0.132	84.3	29.2
03/25/22	1	6.2	13.33	387.5	0.0	0.421	21.2	98.0	74.1	0.132	6.7	30.8
03/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/28/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/29/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/30/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
03/31/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	3.2258	2.8419	3.9858	133.1581	80.6355	0.1678	299.3161	33.6710	22.4065	0.0440	79.5613	9.3161
Report Total:	100						9278.8				2466.4	

CO Daily Totals Daily Averages - 03/01/22 To 03/31/22

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 2

Period: 03/01/22 00:00:00 To 03/31/22 23:59:59; Records = 31

	Operating Hours				B2	B2	B2	B2	B2	B2	B2
Date	Boiler 2	On Gas	On Wood	On Mix	UP Time Minutes	Gas On Minutes	Gas CO Daily #	Wood On Minutes	Wood CO Daily #	Mix On Minutes	Mix CO Daily #
03/01/22	24	0	5	21	1440	0	0.0	276	661.4	1163	2338.3
03/02/22	24	0	7	19	1440	0	0.0	357	813.4	1081	1921.4
03/03/22	24	0	6	20	1440	0	0.0	311	557.9	1127	2259.0
03/04/22	14	0	0	14	787	0	0.0	0	0.0	787	1291.7
03/05/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/06/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/07/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/08/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/09/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/10/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/11/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/12/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/13/22	0	0	0	0	0	0	0.0	0	0.0	0	0.0
03/14/22	20	2	12	10	1021	14	1.7	597	1525.2	406	385.3
03/15/22	24	0	24	0	1440	0	0.0	1440	3484.5	0	0.0
03/16/22	24	0	23	3	1440	0	0.0	1289	3110.0	149	254.5
03/17/22	24	0	24	0	1440	0	0.0	1440	3577.4	0	0.0
03/18/22	24	0	22	4	1440	0	0.0	1267	3113.3	171	268.8
03/19/22	24	0	24	0	1440	0	0.0	1440	3389.2	0	0.0
03/20/22	24	0	23	3	1440	0	0.0	1332	2827.2	107	179.3
03/21/22	24	0	24	0	1440	0	0.0	1440	3066.2	0	0.0
03/22/22	24	0	23	2	1440	0	0.0	1333	3018.5	105	155.8
03/23/22	7	0	7	0	374	0	0.0	374	895.5	0	0.0
03/24/22	9	7	0	3	534	360	49.6	0	0.0	173	203.5
03/25/22	24	0	24	1	1440	0	0.0	1426	3344.8	13	21.2
03/26/22	24	0	24	0	1440	0	0.0	1440	3202.7	0	0.0
03/27/22	24	0	24	0	1440	0	0.0	1440	3350.6	0	0.0
03/28/22	24	0	24	0	1440	0	0.0	1440	3260.7	0	0.0
03/29/22	24	0	24	0	1440	0	0.0	1440	3138.7	0	0.0
03/30/22	24	0	24	0	1440	0	0.0	1440	3069.3	0	0.0
03/31/22	24	0	24	0	1440	0	0.0	1440	2690.4	0	0.0

May 18, 2022

Ms. Lindsey Welch
Senior Air Pollution Inspector
Shasta County Air Quality Management District
1855 Placer Street, Suite 101
Redding, CA 96001

Re: **Monthly Emission Report – April 2022**
Burney Forest Products

Dear Ms. Welch,

Pursuant to Title V Operating Permit 87-TV-27n, Condition 20, enclosed please find the April 2022 *Monthly Emissions Report* for Burney Forest Products (BFP).

If you have any questions or require additional information, please contact Josh Hirschi, EH&S Manager, at 530-335-5023 ext. 105.

Sincerely,

Bill Dillard
Plant Manager

Cc: John Christian (email)

File: 201-40-03

BURNEY FOREST PRODUCTS
Monthly Emissions Report
April 2022

EXCESS EMISSION SUMMARY			
Parameter	**Limit**	**Averaging Period**	**Excursions**
CO – Gas	400 ppm@3% O2	24-hr Block Avg (Calendar Day)	None
CO - Wood	1,200 ppm@12% CO2	24-hr Block Avg (Calendar Day)	None
NOx – Gas	70 ppm@3% O2	3-hr Block Avg	None
NOx – Gas	0.084 lb/mmBtu	3-hr Block Avg	None
NOx – Wood	0.12 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 1	0.145 lb/mmBtu	3-hr Block Avg	None
NOx – Mixed Fuel – Boiler 2	0.146 lb/mmBtu	3-hr Block Avg	None
NOx – All Fuels	57.4 lb/hr (both boilers combined)	1-hr Total	None
NOx – All Fuels	250 ppm@12% CO2	1-hr Avg	None
Opacity	20%	6-min Avg	None
Opacity	40%	3-min aggr./hr	None

CEMS/COMS DOWNTIME PERIODS	
NOx	
Boiler 1	No periods of downtime during this reporting period
Boiler 2	On 4/28/2022: One (1) hour downtime for performing recalibration during startup
CO	
Boiler 1	No periods of downtime during this reporting period
Boiler 2	On 4/28/2022: One (1) hour downtime for performing recalibration during startup
CO2	
Boiler 1	No periods of downtime during this reporting period
Boiler 2	On 4/28/2022: One (1) hour downtime for performing recalibration during startup
O2	
Boiler 1	No periods of downtime during this reporting period
Boiler 2	On 4/28/2022: One (1) hour downtime for performing recalibration during startup
OPACITY	
Boiler 1	No Periods of Downtime.
Boiler 2	On 4/28/2022: Fifteen (15) six-minute periods downtime due to calibration issue during plant downtime.

OPERATING DATA	
Ammonia Usage (Pounds)	
Boiler 1	26,439
Boiler 2	35,911
Total Both Boilers	62,350
Boiler Operating Time (Hours)	
Boiler 1	696
Boiler 2	702

BOILER OFF LINE TIMES				
Boiler 1				
Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
3/04/2022	11:59	3/12/2022	19:10	Downtime due to maintenance outage
3/13/2022	00:19	3/13/2022	10:40	Downtime due to maintenance outage
3/23/2022	06:28	3/24/2022	14:38	Downtime due to turbine issue
3/24/2022	20:43	3/25/2022	00:30	Downtime due to turbine issue
Boiler 2				
Boiler Off line		Boiler On line		Cause
Date	Time off	Date	Time on	
3/04/2022	12:03	3/14/2022	07:17	Downtime due to maintenance outage
3/14/2022	09:08	3/14/2022	14:05	Downtime due to maintenance outage
3/23/2022	06:14	3/24/2022	15:06	Downtime due to turbine issue

Note: Boiler Off Line Times are in DAHS time

CAM Plan Excursions	
Date	**Description**
	None

Burney Forest Products

Apr 2022

	#1 Boiler								#2 Boiler							
Day	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH	Belt Scale Reading Total Green Tons	Hours on Wood Fuel	Average Green Tons/hr	Daily Moisture %	Bone Dry Tons Day	Average Bone Dry Tons Per Hour	Average Wood Heat Input mmbtu/hr	Average Daily Steam Flow KPPH
1	587.4	24.0	24.5	45%	323.3	13.5	235.7	175.2	600.0	24.0	25.0	45%	330.2	13.8	240.8	172.9
2	567.8	24.0	23.7	44%	316.6	13.2	230.9	167.2	610.0	24.0	25.4	44%	340.1	14.2	248.0	172.2
3	574.7	24.0	23.9	44%	322.1	13.4	234.9	171.3	605.0	24.0	25.2	44%	339.0	14.1	247.2	166.2
4	601.6	24.0	25.1	46%	327.5	13.6	238.8	169.7	615.0	24.0	25.6	46%	334.7	13.9	244.1	174.3
5	592.4	24.0	24.7	46%	320.4	13.3	233.6	174.8	612.0	24.0	25.5	46%	331.0	13.8	241.3	170.6
6	568.6	24.0	23.7	44%	320.0	13.3	233.3	168.6	614.0	24.0	25.6	44%	345.6	14.4	252.0	174.1
7	627.9	24.0	26.2	46%	341.8	14.2	249.2	174.3	546.1	21.7	25.1	46%	297.3	13.7	239.6	149.0
8	613.7	23.9	25.6	46%	332.9	13.9	243.4	164.9	620.0	24.0	25.9	46%	336.3	14.0	245.7	174.2
9	608.4	24.0	25.4	47%	325.0	13.5	237.0	177.0	615.0	24.0	25.7	47%	328.5	13.7	239.9	165.6
10	626.7	24.0	26.1	44%	348.0	14.5	253.8	174.7	616.0	24.0	25.7	44%	342.1	14.3	249.4	178.3
11	608.2	24.0	25.3	46%	328.1	13.7	239.2	169.4	615.0	24.0	25.7	46%	331.8	13.8	242.2	170.0
12	563.6	24.0	23.5	47%	299.6	12.5	218.7	170.1	600.0	24.0	25.0	47%	318.9	13.3	232.5	168.9
13	314.7	16.2	19.4	46%	171.3	10.6	185.0	152.7	450.0	21.3	21.2	46%	244.9	11.5	201.5	130.9
14	644.2	24.0	26.9	47%	344.6	14.4	251.8	166.1	589.7	23.9	24.7	47%	315.4	13.2	230.8	155.1
15	629.1	24.0	26.2	47%	330.4	13.8	241.2	167.3	630.0	24.0	26.3	47%	330.8	13.8	241.2	170.7
16	577.0	22.2	26.0	48%	298.8	13.5	235.7	148.7	600.0	24.0	25.0	48%	310.7	13.0	226.9	168.1
17	642.7	24.0	26.8	50%	321.7	13.4	234.8	156.4	640.0	24.0	26.7	50%	320.4	13.4	233.9	157.7
18	628.1	24.0	26.2	51%	310.0	12.9	226.2	164.1	630.0	24.0	26.3	51%	311.0	13.0	226.9	168.4
19	605.0	24.0	25.3	49%	306.5	12.8	224.0	163.7	610.0	24.0	25.4	49%	309.0	12.9	225.5	166.2
20	606.1	24.0	25.3	50%	301.4	12.6	220.1	164.3	615.0	24.0	25.6	50%	305.8	12.7	223.0	168.8
21	635.0	24.0	26.5	52%	307.3	12.8	224.4	171.0	625.0	24.0	26.1	52%	302.4	12.6	221.0	162.9
22	595.0	24.0	24.8	53%	281.3	11.7	205.4	154.9	610.0	23.9	25.5	53%	288.3	12.0	210.8	163.9
23	610.0	24.0	25.4	52%	294.5	12.3	214.9	156.2	625.0	24.0	26.1	52%	301.8	12.6	220.3	160.9
24	656.9	23.9	27.4	51%	320.8	13.4	234.6	164.8	655.0	24.0	27.3	51%	319.9	13.3	233.6	175.7
25	660.0	24.0	27.5	51%	326.2	13.6	238.2	177.4	650.0	24.0	27.1	51%	321.2	13.4	234.7	173.0
26	650.0	24.0	27.1	49%	331.6	13.8	241.8	168.3	660.0	24.0	27.5	49%	336.7	14.0	245.5	176.4
27	660.0	24.0	27.5	47%	351.6	14.6	256.4	176.7	630.0	24.0	26.3	47%	335.6	14.0	244.7	164.5
28	212.8	7.4	28.6	48%	110.9	14.9	261.1	172.1	233.4	9.2	25.3	48%	121.6	13.2	230.9	158.6
29	487.4	23.8	20.5	48%	255.0	10.7	187.5	146.9	519.0	23.2	22.4	48%	271.5	11.7	205.2	136.3
30	635.0	24.0	26.5	48%	328.2	13.7	239.5	171.0	620.0	24.0	25.9	48%	320.4	13.4	233.8	169.1
Total	**17,590**	**693**			**9,197**				**17,860**	**699**			**9,343**			
Average							**232**								**234**	

12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factor = 71%

12 Month Rolling Avg Wood/(Gas+Wood) "Db" Cap. Factr = 73%

Burney Forest Products
Natural Gas Fuel: **Apr 2022**

Day	#1 Boiler Hours on Gas Fuel Only	#1 Boiler Hours on Gas Fuel Co-Fire	#1 Boiler Gas Usage MCF Day	#1 Boiler Average Usage Rate MCF/hr	#1 Boiler HHV Average Gas Heat Input Rate mmbtu/hr	#1 Boiler HHV Gas Heat Input Day mmbtu	#2 Boiler Hours on Gas Fuel Only	#2 Boiler Hours on Gas Fuel Co-Fire	#2 Boiler Gas Usage MCF Day	#2 Boiler Average Usage Rate MCF/hr	#2 Boiler HHV Average Gas Heat Input Rate mmbtu/hr	#2 Boiler HHV Gas Heat Input Day mmbtu	Plant Total Gas Usage MCF Day
1	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
2	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
3	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
4	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
5	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
6	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
7	0.00	0.00	0	0.0	0.0	0.0	2.23	3.65	254	43.2	43.8	257.8	254
8	0.00	0.03	3	98.1	99.6	3.3	0.00	0.02	38	2307.2	2341.8	39.0	42
9	0.00	0.00	0	0.0	0.0	0.0	0.00	0.63	15	24.3	24.6	15.6	15
10	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
11	0.00	0.00	0	0.0	0.0	0.0	0.00	3.32	92	27.9	28.3	93.8	92
12	0.00	3.95	109	27.7	28.1	110.9	0.00	0.00	0	0.0	0.0	0.0	109
13	0.02	6.87	194	28.2	28.6	196.8	0.00	9.25	274	29.6	30.0	277.9	468
14	0.00	2.67	115	43.3	43.9	117.1	0.02	12.10	547	45.1	45.8	554.9	662
15	0.00	2.35	65	27.6	28.0	65.9	0.00	0.00	0	0.0	0.0	0.0	65
16	1.72	7.62	313	33.6	34.1	318.1	0.00	2.40	76	31.5	32.0	76.7	389
17	0.00	5.02	0	0.0	0.0	0.0	0.00	2.58	84	32.4	32.9	85.0	84
18	0.00	3.77	162	42.9	43.6	164.2	0.00	2.65	64	24.2	24.5	65.0	226
19	0.00	14.23	434	30.5	31.0	440.9	0.00	3.98	139	34.9	35.4	140.9	573
20	0.00	14.40	380	26.4	26.8	385.5	0.00	0.00	0	0.0	0.0	0.0	380
21	0.00	14.83	367	24.7	25.1	372.1	0.00	10.43	264	25.3	25.7	267.9	630
22	0.00	12.93	435	33.6	34.1	441.2	0.00	6.43	137	21.3	21.7	139.4	572
23	0.00	5.52	127	22.9	23.3	128.5	0.00	19.12	505	26.4	26.8	512.6	632
24	0.00	9.08	199	21.9	22.2	201.8	0.00	18.27	471	25.8	26.2	477.7	669
25	0.00	5.68	115	20.3	20.6	117.0	0.00	4.42	132	29.9	30.3	133.9	247
26	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
27	0.00	0.00	0	0.0	0.0	0.0	0.00	0.00	0	0.0	0.0	0.0	0
28	0.07	0.90	0	0.0	0.0	0.0	0.25	2.85	53	17.2	17.5	54.2	53
29	0.00	11.98	369	30.8	31.3	374.8	0.00	15.37	421	27.4	27.8	427.8	791
30	0.00	7.15	176	24.6	24.9	178.3	0.00	12.07	349	28.9	29.4	354.3	525
Total	**1.80**	**129**	**3,563**			**3,616**	**2.50**	**130**	**3,916**			**3,975**	**7,479**
Average					**27.7**						**30.1**		

Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	2%	Current Month, Gas/(Gas+Wood) "Db" Capacity Factor =	2%
12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	3%	12 Month Rolling Avg Gas/(Gas+Wood) "Db" Cap. Factor =	4%
Flame Stablization MCF	3,514	Flame Stablization MCF	3,842
Other Gas Uses	49	Other Gas Uses	74
		Flame Stablization Total =	7,356
		Other Gas Uses Total =	123

Daily Averages - 4/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
04/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/03/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/13/22	1	15.3	5.41	445.7	0.0	1.838	1.5	46.5	24.3	21.1	0.048	0.1	4.2
04/14/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/16/22	4	13.3	4.27	101.8	0.0	0.184	2.2	10.6	26.8	63.5	0.077	7.6	4.6
04/17/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/18/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/19/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/20/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/21/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/22/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/24/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/25/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/28/22	1	19.9	0.79	64.6	0.0	0.855	0.4	6.7	0.8	14.3	0.017	0.0	0.1
04/29/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/30/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.2000	1.6167	0.3490	20.4033	0.0000	0.0959	0.1367	2.1267	1.7300	3.2967	0.0047	0.2567	0.2967
Report Total:	6						4.1					7.7	

Daily Averages - 4/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
04/01/22	24	6.9	13.65	525.8	465.1	0.601	3173.7	132.2	60.3	0.113	598.5	24.9
04/02/22	24	7.0	13.65	652.8	600.3	0.781	3940.6	164.2	59.8	0.113	592.8	24.7
04/03/22	24	6.8	13.76	562.3	500.2	0.647	3394.9	141.5	60.7	0.113	602.2	25.1
04/04/22	24	7.0	13.42	603.5	559.2	0.718	3643.2	151.8	59.6	0.113	591.1	24.6
04/05/22	24	6.6	14.14	605.3	516.9	0.680	3653.5	152.2	61.3	0.113	608.3	25.3
04/06/22	24	6.9	13.86	583.3	527.1	0.693	3521.4	146.7	59.9	0.112	594.4	24.8
04/07/22	24	6.6	14.21	492.0	413.1	0.545	2970.0	123.8	61.6	0.113	610.8	25.5
04/08/22	24	7.5	13.13	523.3	499.3	0.649	3150.4	131.6	56.8	0.111	561.0	23.5
04/09/22	24	7.0	13.71	503.7	440.3	0.576	3040.7	126.7	60.0	0.113	595.6	24.8
04/10/22	24	6.9	13.59	560.9	513.7	0.661	3386.1	141.1	60.3	0.113	597.4	24.9
04/11/22	24	6.8	13.44	564.4	502.6	0.636	3407.0	142.0	60.8	0.113	602.6	25.1
04/12/22	21	6.7	13.79	570.6	504.9	0.652	2786.2	143.5	61.1	0.113	508.0	25.3
04/13/22	11	7.3	13.16	663.7	622.8	0.801	1543.4	166.9	57.7	0.111	223.4	23.8
04/14/22	23	6.9	13.48	528.3	468.6	0.599	2853.2	132.9	60.1	0.112	532.1	24.8
04/15/22	23	7.1	13.28	511.0	463.1	0.595	2773.7	128.5	58.9	0.112	530.9	24.3
04/16/22	16	7.4	12.95	541.4	500.2	0.638	1983.9	136.2	57.8	0.112	350.2	23.9
04/17/22	19	8.1	12.50	482.0	465.4	0.604	2299.2	121.2	55.0	0.113	431.1	22.7
04/18/22	21	7.4	13.03	501.1	462.9	0.593	2522.3	126.0	58.2	0.113	488.1	24.1
04/19/22	13	7.1	13.25	521.1	471.1	0.604	1288.4	131.1	58.6	0.112	238.7	24.2
04/20/22	11	7.5	12.90	553.2	514.7	0.658	1315.6	139.1	58.1	0.113	229.7	24.0
04/21/22	10	7.6	12.76	483.9	452.6	0.579	1115.2	121.7	56.7	0.112	215.2	23.4
04/22/22	12	6.6	13.88	621.7	538.0	0.696	1734.9	156.4	61.6	0.113	279.3	25.5
04/23/22	19	8.0	12.74	570.5	547.1	0.716	2633.9	143.5	55.5	0.113	425.0	22.9
04/24/22	16	7.0	13.62	537.8	472.4	0.617	2013.0	135.3	59.6	0.112	366.7	24.6
04/25/22	19	7.6	12.99	567.4	554.3	0.714	2626.9	142.7	57.0	0.112	430.8	23.5
04/26/22	24	7.4	13.07	616.2	608.5	0.778	3719.9	155.0	58.0	0.112	575.6	24.0
04/27/22	24	7.2	13.29	536.9	482.7	0.621	3241.0	135.0	59.0	0.113	585.2	24.4
04/28/22	7	7.1	13.26	559.9	507.1	0.649	927.7	140.8	59.1	0.113	161.0	24.4
04/29/22	13	7.5	13.23	630.1	962.8	1.348	1839.6	158.5	57.8	0.115	300.8	23.9
04/30/22	17	7.1	13.42	564.5	505.8	0.655	2391.9	142.0	59.1	0.112	410.9	24.4
Report Average:	19.4333	7.1533	13.3720	557.9533	521.4267	0.6768	2629.7133	140.3367	59.0000	0.1126	461.2467	24.3767
Report Total:	583						78891.4				13837.4	

Daily Averages - 4/2022

Facility Name: Burney Forest Power **Location:** **Source:** B1 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
04/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/03/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/07/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/08/22	1	8.4	12.36	311.4	0.0	0.398	2.6	78.3	53.4	0.112	0.7	22.1
04/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/12/22	5	9.7	10.01	762.7	0.0	1.100	788.3	191.8	53.5	0.125	89.1	22.1
04/13/22	8	10.3	9.51	492.7	709.9	0.767	796.7	123.9	50.1	0.109	140.4	20.7
04/14/22	3	8.4	10.91	649.9	0.0	0.856	434.7	163.5	59.2	0.125	64.4	24.5
04/15/22	3	10.0	9.66	640.1	0.0	0.942	378.1	161.0	53.1	0.128	51.7	21.9
04/16/22	10	9.3	10.26	467.5	531.6	0.622	967.2	117.6	52.1	0.116	167.9	21.5
04/17/22	6	6.7	13.93	510.5	439.9	0.573	645.9	128.4	61.0	0.112	127.1	25.2
04/18/22	4	9.5	9.83	486.0	0.0	0.685	466.5	122.3	56.1	0.129	87.2	23.2
04/19/22	17	7.6	12.12	445.9	452.5	0.540	1602.0	112.2	66.5	0.131	388.9	27.5
04/20/22	16	7.3	12.28	515.3	537.9	0.630	1872.0	129.6	67.6	0.130	403.5	27.9
04/21/22	17	6.5	13.33	362.7	326.7	0.402	1366.1	91.2	71.8	0.131	443.1	29.7
04/22/22	14	9.1	10.71	445.8	597.4	0.655	1451.0	112.1	57.9	0.125	302.1	23.9
04/23/22	7	6.9	13.19	403.0	377.9	0.471	546.5	101.4	68.5	0.128	161.1	28.3
04/24/22	12	7.9	12.22	510.3	517.1	0.641	1187.7	128.3	64.4	0.129	240.3	26.6
04/25/22	6	6.6	13.45	394.4	352.0	0.440	565.2	99.2	71.7	0.131	168.0	29.6
04/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/28/22	1	18.6	1.54	95.0	0.0	0.659	21.5	23.9	2.5	0.029	0.9	1.0
04/29/22	13	10.9	8.91	459.4	762.3	0.831	1359.8	115.5	45.7	0.113	227.0	18.9
04/30/22	8	6.2	13.59	462.9	408.5	0.504	833.7	116.4	72.2	0.129	216.3	29.8
Report Average:	5.0333	5.3300	6.5937	280.5167	200.4567	0.3905	509.5167	70.5533	34.2433	0.0711	109.3233	14.1467
Report Total:	151						15285.5				3279.7	

CO Daily Totals Daily Averages - 04/01/22 To 04/30/22

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 1

Period: 04/01/22 00:00:00 To 04/30/22 23:59:59; **Records** = 30

	Operating Hours				B1	B1	B1	B1	B1	B1	B1
	Boiler	On Gas	On	On Mix	UP Time	Gas On	Gas CO	Wood On	Wood CO	Mix On	Mix CO
Date	1		Wood		Minutes	Minutes	Daily #	Minutes	Daily #	Minutes	Daily #
04/01/22	24	0	24	0	1440	0	0.0	1440	3173.7	0	0.0
04/02/22	24	0	24	0	1440	0	0.0	1440	3940.6	0	0.0
04/03/22	24	0	24	0	1440	0	0.0	1440	3394.9	0	0.0
04/04/22	24	0	24	0	1440	0	0.0	1440	3643.2	0	0.0
04/05/22	24	0	24	0	1440	0	0.0	1440	3653.5	0	0.0
04/06/22	24	0	24	0	1440	0	0.0	1440	3521.4	0	0.0
04/07/22	24	0	24	0	1440	0	0.0	1440	2970.0	0	0.0
04/08/22	24	0	24	1	1440	0	0.0	1434	3150.4	2	2.6
04/09/22	24	0	24	0	1440	0	0.0	1440	3040.7	0	0.0
04/10/22	24	0	24	0	1440	0	0.0	1440	3386.1	0	0.0
04/11/22	24	0	24	0	1440	0	0.0	1440	3407.0	0	0.0
04/12/22	24	0	21	5	1440	0	0.0	1201	2786.2	237	788.3
04/13/22	17	1	11	8	976	1	1.5	560	1543.4	412	796.7
04/14/22	24	0	23	3	1440	0	0.0	1277	2853.2	160	434.7
04/15/22	24	0	23	3	1440	0	0.0	1297	2773.7	141	378.1
04/16/22	24	4	16	10	1440	103	2.2	874	1983.9	457	967.2
04/17/22	24	0	19	6	1440	0	0.0	1138	2299.2	301	645.9
04/18/22	24	0	21	4	1440	0	0.0	1213	2522.3	226	466.5
04/19/22	24	0	13	17	1440	0	0.0	583	1288.4	854	1602.0
04/20/22	24	0	11	16	1440	0	0.0	574	1315.6	864	1872.0
04/21/22	24	0	10	17	1440	0	0.0	548	1115.2	890	1366.1
04/22/22	24	0	12	14	1440	0	0.0	662	1734.9	776	1451.0
04/23/22	24	0	19	7	1440	0	0.0	1108	2633.9	331	546.5
04/24/22	24	0	16	12	1440	0	0.0	891	2013.0	545	1187.7
04/25/22	24	0	19	6	1440	0	0.0	1097	2626.9	341	565.2
04/26/22	24	0	24	0	1440	0	0.0	1440	3719.9	0	0.0
04/27/22	24	0	24	0	1440	0	0.0	1440	3241.0	0	0.0
04/28/22	8	1	7	1	451	4	0.4	392	927.7	54	21.5
04/29/22	24	0	13	13	1431	0	0.0	709	1839.6	719	1359.8
04/30/22	24	0	17	8	1440	0	0.0	1010	2391.9	429	833.7

Daily Averages - 4/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Gas

Date	Gas Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @3% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx @3% (PPMC)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
04/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/03/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/07/22	3	15.1	3.03	72.3	0.0	0.165	15.2	6.8	19.4	60.0	0.073	6.8	3.0
04/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/09/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/11/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/13/22	0	9.6	10.39	538.5	0.0	0.630	0.8	50.2	48.6	77.0	0.093	0.1	7.5
04/14/22	1	10.8	7.24	415.8	0.0	0.545	0.6	38.7	49.4	87.6	0.106	0.1	7.6
04/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/16/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/17/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/18/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/19/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/20/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/21/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/22/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/23/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/24/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/25/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/28/22	2	17.7	1.76	81.3	0.0	0.336	1.0	7.6	5.8	32.4	0.039	0.1	0.9
04/29/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
04/30/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.0	0.000	0.0	0.0
Report Average:	0.2000	1.7733	0.7473	36.9300	0.0000	0.0559	0.5867	3.4433	4.1067	8.5667	0.0104	0.2367	0.6333
Report Total:	6						17.6					7.1	

Daily Averages - 4/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Wood

Date	Wood Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
04/01/22	24	6.5	13.52	535.3	479.2	0.597	3248.8	135.4	61.8	0.112	616.8	25.7
04/02/22	24	6.3	13.82	547.0	473.9	0.597	3319.7	138.3	62.6	0.112	624.1	26.0
04/03/22	24	6.6	13.33	529.4	489.0	0.607	3212.8	133.9	61.0	0.112	608.3	25.3
04/04/22	24	6.5	13.44	530.4	470.7	0.586	3219.2	134.1	61.5	0.112	613.3	25.6
04/05/22	24	6.7	13.61	501.8	452.9	0.574	3045.5	126.9	61.0	0.112	608.2	25.3
04/06/22	24	6.3	14.08	458.4	389.9	0.500	2781.9	115.9	62.6	0.112	623.7	26.0
04/07/22	19	7.1	13.17	534.3	494.2	0.628	2343.5	135.1	59.0	0.112	443.5	24.5
04/08/22	24	6.5	13.74	503.0	436.4	0.554	3046.9	127.2	61.6	0.112	612.8	25.6
04/09/22	24	7.1	13.17	560.8	580.9	0.723	3214.7	141.8	59.7	0.114	582.4	24.8
04/10/22	24	6.4	13.64	635.5	554.7	0.695	3856.5	160.7	62.0	0.112	617.8	25.7
04/11/22	22	6.2	13.61	694.9	609.7	0.750	3690.0	175.7	62.7	0.112	543.6	26.1
04/12/22	24	6.5	13.64	581.6	507.4	0.639	3529.9	147.1	61.6	0.112	614.5	25.6
04/13/22	13	6.8	13.30	730.6	649.6	0.811	2184.6	184.8	59.8	0.111	300.0	24.8
04/14/22	13	6.7	13.23	606.6	544.2	0.674	1695.1	153.4	60.9	0.113	299.9	25.3
04/15/22	24	6.6	13.43	499.3	444.5	0.556	3030.2	126.3	61.1	0.112	609.0	25.4
04/16/22	23	6.6	13.46	529.6	471.4	0.588	2889.8	133.9	61.3	0.112	551.5	25.5
04/17/22	23	7.5	12.77	508.7	477.8	0.604	2754.1	128.6	57.8	0.113	515.3	24.0
04/18/22	23	7.1	12.89	478.9	444.0	0.552	2541.3	121.1	59.3	0.113	523.8	24.7
04/19/22	21	6.6	13.45	606.6	540.3	0.674	3086.3	153.4	61.3	0.112	510.8	25.5
04/20/22	24	6.9	13.02	568.5	520.8	0.644	3450.2	143.8	60.0	0.112	598.5	24.9
04/21/22	15	6.8	13.11	617.1	563.8	0.696	2161.3	156.0	60.2	0.112	340.7	25.0
04/22/22	19	7.1	13.06	648.3	596.0	0.750	2843.2	163.9	59.2	0.112	431.2	24.6
04/23/22	6	8.0	12.30	638.3	622.2	0.788	725.1	161.4	56.1	0.114	111.3	23.3
04/24/22	7	7.2	13.19	408.0	370.8	0.474	576.1	103.2	58.2	0.111	139.1	24.2
04/25/22	21	7.8	12.34	647.2	660.6	0.823	3126.5	163.6	56.1	0.112	457.0	23.3
04/26/22	24	6.9	13.24	552.0	498.6	0.627	3350.3	139.6	60.0	0.112	598.5	24.9
04/27/22	24	7.5	12.64	602.0	581.9	0.726	3653.3	152.2	57.6	0.112	574.1	23.9
04/28/22	7	7.1	12.89	605.7	580.9	0.719	936.1	153.2	59.2	0.113	159.5	24.6
04/29/22	10	7.9	12.44	592.0	586.8	0.738	1042.1	149.7	56.0	0.112	175.6	23.3
04/30/22	12	6.2	13.89	753.0	644.3	0.811	2274.3	190.4	63.2	0.113	312.8	26.2
Report Average:	19.6667	6.8667	13.2473	573.4933	524.5800	0.6568	2694.3100	145.0200	60.1467	0.1122	477.2533	24.9867
Report Total:	590						80829.3				14317.6	

Daily Averages - 4/2022

Facility Name: Burney Forest Power **Location:** **Source:** B2 Mix

Date	Mix Oper. Hours	O2 %	CO2 %	CO (PPM)	CO @12% (PPMC)	CO (lb/mmBtu)	CO (lbs)	CO (lbs/hr)	NOx (PPM)	NOx (lb/mmBtu)	NOx (lbs)	NOx (lbs/hr)
04/01/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/02/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/03/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/04/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/05/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/06/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/07/22	4	9.9	9.02	418.3	0.0	0.612	390.7	105.8	52.7	0.124	80.4	21.9
04/08/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/09/22	2	8.2	11.48	325.1	0.0	0.417	50.9	82.2	48.2	0.098	13.0	20.0
04/10/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/11/22	4	7.6	11.32	422.7	0.0	0.513	359.1	106.9	66.8	0.132	90.4	27.8
04/12/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/13/22	11	10.5	8.64	355.4	536.8	0.528	553.1	89.9	47.0	0.098	164.1	19.5
04/14/22	13	8.5	10.53	474.4	627.5	0.631	1360.7	120.0	59.4	0.118	296.1	24.7
04/15/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/16/22	3	8.2	10.83	370.3	0.0	0.467	220.2	93.6	63.2	0.131	63.3	26.2
04/17/22	3	8.5	10.92	341.5	0.0	0.439	219.1	86.4	60.1	0.127	64.3	25.0
04/18/22	3	5.8	13.53	410.4	0.0	0.434	271.9	103.8	74.7	0.130	82.2	31.0
04/19/22	5	7.5	11.68	262.3	0.0	0.311	269.1	66.3	66.5	0.130	108.0	27.6
04/20/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/21/22	13	7.5	11.85	388.4	406.3	0.471	1006.0	98.2	67.2	0.131	284.4	27.9
04/22/22	10	6.3	13.40	583.2	513.5	0.628	758.0	147.5	70.6	0.127	190.0	29.3
04/23/22	20	6.7	13.00	366.0	336.3	0.410	1765.6	92.5	70.1	0.129	560.0	29.1
04/24/22	19	6.2	13.53	467.5	414.1	0.505	2165.2	118.2	73.2	0.130	557.9	30.4
04/25/22	6	6.6	13.09	417.9	382.0	0.466	489.1	105.7	68.7	0.126	131.6	28.6
04/26/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/27/22	0	0.0	0.00	0.0	0.0	0.000	0.0	0.0	0.0	0.000	0.0	0.0
04/28/22	3	17.3	2.00	75.5	0.0	0.337	54.5	19.1	5.5	0.040	6.4	2.2
04/29/22	17	8.3	11.14	356.4	445.6	0.476	1393.5	90.1	60.8	0.120	398.5	25.2
04/30/22	13	6.5	12.99	450.5	424.4	0.502	1413.9	113.9	71.5	0.130	360.9	29.7
Report Average:	4.9667	4.6700	6.2983	216.1933	136.2167	0.2716	424.6867	54.6700	34.2067	0.0674	115.0500	14.2033
Report Total:	149						12740.6				3451.5	

CO Daily Totals Daily Averages - 04/01/22 To 04/30/22

Facility Name: Burney Forest Power **Location:** **Source:** Boiler 2

Period: 04/01/22 00:00:00 To 04/30/22 23:59:59; Records = 30

	Operating Hours				B2	B2	B2	B2	B2	B2	B2
Date	Boiler 2	On Gas	On Wood	On Mix	UP Time Minutes	Gas On Minutes	Gas CO Daily #	Wood On Minutes	Wood CO Daily #	Mix On Minutes	Mix CO Daily #
04/01/22	24	0	24	0	1440	0	0.0	1440	3248.8	0	0.0
04/02/22	24	0	24	0	1440	0	0.0	1440	3319.7	0	0.0
04/03/22	24	0	24	0	1440	0	0.0	1440	3212.8	0	0.0
04/04/22	24	0	24	0	1440	0	0.0	1440	3219.2	0	0.0
04/05/22	24	0	24	0	1440	0	0.0	1440	3045.5	0	0.0
04/06/22	24	0	24	0	1440	0	0.0	1440	2781.9	0	0.0
04/07/22	24	3	19	4	1440	134	15.2	1084	2343.5	219	390.7
04/08/22	24	0	24	0	1440	0	0.0	1436	3046.9	1	0.0
04/09/22	24	0	24	2	1440	0	0.0	1400	3214.7	38	50.9
04/10/22	24	0	24	0	1440	0	0.0	1440	3856.5	0	0.0
04/11/22	24	0	22	4	1440	0	0.0	1239	3690.0	199	359.1
04/12/22	24	0	24	0	1440	0	0.0	1440	3529.9	0	0.0
04/13/22	22	0	13	11	1277	0	0.8	721	2184.6	555	553.1
04/14/22	24	1	13	13	1440	1	0.6	709	1695.1	726	1360.7
04/15/22	24	0	24	0	1440	0	0.0	1440	3030.2	0	0.0
04/16/22	24	0	23	3	1440	0	0.0	1294	2889.8	144	220.2
04/17/22	24	0	23	3	1440	0	0.0	1283	2754.1	155	219.1
04/18/22	24	0	23	3	1440	0	0.0	1280	2541.3	159	271.9
04/19/22	24	0	21	5	1440	0	0.0	1200	3086.3	239	269.1
04/20/22	24	0	24	0	1440	0	0.0	1440	3450.2	0	0.0
04/21/22	24	0	15	13	1440	0	0.0	811	2161.3	626	1006.0
04/22/22	24	0	19	10	1440	0	0.0	1050	2843.2	386	758.0
04/23/22	24	0	6	20	1440	0	0.0	291	725.1	1147	1765.6
04/24/22	24	0	7	19	1440	0	0.0	342	576.1	1096	2165.2
04/25/22	24	0	21	6	1440	0	0.0	1172	3126.5	265	489.1
04/26/22	24	0	24	0	1440	0	0.0	1440	3350.3	0	0.0
04/27/22	24	0	24	0	1440	0	0.0	1440	3653.3	0	0.0
04/28/22	11	2	7	3	569	15	1.0	382	936.1	171	54.5
04/29/22	24	0	10	17	1391	0	0.0	467	1042.1	922	1393.5
04/30/22	24	0	12	13	1440	0	0.0	715	2274.3	724	1413.9

PACIFIC GAS AND ELECTRIC COMPANY

ATTACHMENT 5

Woodland Biomass Air Quality Attestation

Woodland Biomass Power, LLC

June 15, 2022

Via Electronic Submission

PG&E
Attn: Energy Contract Management & Settlements
77 Beale Street
San Francisco, CA 94105-1702

Subject: Bioenergy Renewable Auction Mechanism Power Purchase Agreement ("RAM PPA") by and between PG&E ("Buyer") and Woodland Biomass Power, LLC., a California limited liability company ("Seller"), dated September 20, 2021 – Seller's Air Quality Attestation

Dear Sir or Madam:

Pursuant to Section 3.11 of the RAM PPA, Seller attests that the Project is not in compliance with all applicable air pollution and control requirements for the period beginning December 1, 2021 and ending May 31, 2022. Seller hereby represents and warrants that:

1. This Air Quality Attestation is submitted on or prior to the semiannual air quality attestation due date as specified in Section 3.11.

2. Seller was not in compliance with all applicable air pollution control requirements for the period.

3. List of non-compliances: In December 2021 the CEMS was experiencing intermittent calibration issues for which breakdown reports were submitted for SO2 and O2. The CEMS was repaired and brought back into compliance on 12/30/21. A deviation report was also submitted regarding Q4 2021 Offsets. Offset fuel had been procured for the quarter, however very late into the quarter it was realized that one of the new vendors was outside of the air basin, therefore did not qualify for offset fuel. Wheat straw was purchased within the quarter to make up the offset shortage, however it was not until Q1 2022 that the fuel was brought across the scales. The final offset fuel for Q4 2021 came across the scales on March 14, 2022.

Compliance with the Project's applicable air quality and control requirements is documented in the attached Air Pollution Report. Buyer may request additional information to accommodate reporting and demonstrate Seller's compliance with air pollution and control requirements.

Capitalized terms used but not otherwise defined in this letter have the meanings set forth in the RAM PPA. Authorized signature from the Seller certifies that the Seller has the knowledge and authority to attest that the information on this form is true and correct.

Seller	**Woodland Biomass Power, LLC**
Print Name	**Justin Crook**
Signature	
Title	**Plant Manager**
Date	**6/13/2022**

PACIFIC GAS AND ELECTRIC COMPANY

ATTACHMENT 6

Woodland Biomass Certification, NOX,

Deviation and Breakdown Follow-up Reports

Woodland Biomass Power, LLC

January 28, 2022

Director, Air and Toxics Division
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Mr. Mat Ehrhardt, APCO
Yolo Solano AQMD
1947 Galileo Ct. Suite 103
Davis, CA 95616

Re: Title V Annual Compliance Certification Report for Woodland Biomass Power, LLC., 1786 East Kentucky Avenue, Woodland, CA 95776 / Permit F-00514-9

This compliance report is prepared in compliance with Condition E.1 of the permit which requires an annual compliance certification to be submitted. Our Title V renewal was issued on January 5, 2017. This compliance certification contains all required information of Rule 3.8 § 309 for the period from January 1, 2021 to December 31, 2021 and for ATC C-21-48 for the period August 26, 2021 to December 31, 2021.

The following table contains a summary of the applicable requirements and the compliance status and method of determination of compliance for each requirement. Permit sections that do not require monitoring or compliance certification are marked N/A (not applicable) in the compliance status column. The compliance status for each requirement is identified as continuous, intermittent, or non-compliance. The information was obtained by review of production and monitoring records and inspection of equipment.

Please do not hesitate to contact Mary Nydam at (734) 548-8150 or myself at (530) 661-6095 if you have any questions regarding this submittal.

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is submitted to the best of my knowledge and belief, true, accurate and complete.



Justin Crook
Plant Manager

Cc: Mary Nydam, DTE Energy Resources
Dionisio Araza, Woodland Biomass Power, LLC.

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Insignificant Emission Units	Continuous	Exempt Equipment List	IA	Facility-Wide	40 CFR Part 70
Significant Emission Units	Continuous	The equipment in use at the plant conforms to the units described in the permit.	IB	Facility-Wide	District Rule 3.1
Flyash out-loading opacity	Continuous	Daily during operation	II.A.1	P-91-89(t)	District Rule 3.4
Boiler VOC Emissions	Continuous	Annual source test, quarterly records and annual reporting to AQMD	II.A.2	P-105-90(t)	District Rule 3.4
Boiler CO Emissions	Continuous	Annual source test, CEM system, monthly records, annual reports to AQMD	II.A.3	P-105-90(t)	District Rule 3.4
Boiler NOx Emissions	Continuous	Annual source test, CEM system, monthly records, annual reports to AQMD	II.A.4	P-105-90(t)	District Rule 3.4
Boiler SOx Emissions	Continuous	Annual source test, CEM system, monthly records, annual reports to AQMD	II.A.5	P-105-90(t)	District Rule 3.4
Boiler PM10 Emissions	Continuous	Annual source test, quarterly records and annual reporting to AQMD	II.A.6	P-105-90(t)	District Rule 3.4
Boiler Source Test Compliance	Continuous	Annual source test	II.A.7	P-105-90(t)	District Rule 3.4, §409.1
VOC (as methane) 0.05 lb/MMBtu;	Continuous	Annual source test	II.A.7a	P-105-90(t)	District Rule 3.4, §409.1
CO 0.15 lb/MMBtu;	Continuous	Annual source test	II.A.7b	P-105-90(t)	District Rule 3.4, §409.1
NOx (as NO2) 0.08 lb/MMBtu;	Continuous	Annual source test	II.A.7c	P-105-90(t)	District Rule 3.4, §409.1
SOx (as SO2) 0.04 lb/MMBtu;	Continuous	Annual source test	II.A.7d	P-105-90(t)	District Rule 3.4, §409.1
PM10 (front and back half) 0.010 gr/dscf (referenced to 12% CO2);	Continuous	Annual source test	II.A.7e	P-105-90(t)	District Rule 3.4, §409.1
PM10 (front half) 0.007 gr/dscf (referenced to 12% CO2); and	Continuous	Annual source test	II.A.7f	P-105-90(t)	District Rule 3.4, §409.1
Ammonia slip 50 parts per million by volume dry (ppmvd).	Continuous	Annual source test	II.A.7g	P-105-90(t)	District Rule 3.4, §409.1
Boiler Source Test Compliance	Continuous	Annual source test	II.A.8	P-105-90(t)	District Rule 3.4, §409.1
VOC (as methane) 17.5 lb/hr;	Continuous	Annual source test	II.A.8a	P-105-90(t)	District Rule 3.4, §409.1
CO 49.5 lb/hr;	Continuous	Annual source test	II.A.8b	P-105-90(t)	District Rule 3.4, §409.1
NOx (as NO2) 26.3 lb/hr;	Continuous	Annual source test	II.A.8c	P-105-90(t)	District Rule 3.4, §409.1
SOx (as SO2) 13.2 lb/hr;	Continuous	Annual source test	II.A.8d	P-105-90(t)	District Rule 3.4, §409.1
PM10 (front and back half) 7.2 lb/hr; and	Continuous	Annual source test	II.A.8e	P-105-90(t)	District Rule 3.4, §409.1

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
PM10 (front half) 5.0 lb/hr.	Continuous	Annual source test	II.A.8f	P-105-90(t)	District Rule 3.4, §409.1
Boiler Opacity	Continuous	Continuous Opacity monitor, Quarterly reports to AQMD	II.A.9	P-105-90(t)	40 CFR 60.43b(f)
Boiler Visual Opacity Standards	Continuous	Visual Opacity monitoring	II.A.10	P-105-90(t)	40 CFR 60.43b(g)
Boiler NOx (as NO2) not to exceed 0.30 lb/MMBtu on a 30 day rolling average	Continuous	Monitored and recorded by DAHs system	II.A.11	P-105-90(t)	40 CFR 60.44b(d)
Boiler HCl not to exceed a limit of 2.0E-02 lb/mmBTU (or .27 lb/mw) not to include start up or shutdown.	Continuous	Annual source test	II.A.12	P-105-90(t)	40 CFR 63.7500(a)(1)
Boiler Mercury Emissions shall not exceed 5.7E-06 lb/mmBTU hear input or 7.3E-05 lb/MW not to include start up or shutdown	Continuous	Annual source test	II.A.13	P-105-90(t)	40 CFR 63.7500(a)(1)
Sand Screening PM10 Limits	Continuous	Documented throughput on quarterly records and annual reports to AQMD	II.A.14	P-31-94(t)	District Rule 3.4
Rice Hull PM10	Continuous	Documented throughput on quarterly and annual reports to AQMD	II.A.15	P-34-94(t)	District Rule 3.4
Hydrated Lime PM10	Continuous	Documented throughput on quarterly and annual reports to AQMD	II.A.16	P-50-94(t)	District Rule 3.4
VOC Emergency Generator	Continuous	Run time documented on quarterly records and annual reports to AQMD	II.A.17	P-51-94(t)	District Rule 3.4
CO Emergency Generator	Continuous	Run time documented on quarterly records and annual reports to AQMD	II.A.18	P-51-94(t)	District Rule 3.4
NOx Emergency Generator	Continuous	Run time documented on quarterly records and annual reports to AQMD	II.A.19	P-51-94(t)	District Rule 3.4
SOx Emergency Generator	Continuous	Run time documented on quarterly records and annual reports to AQMD	II.A.20	P-51-94(t)	District Rule 3.4
PM10 Emergency Generator	Continuous	Run time documented on quarterly records and annual reports to AQMD	II.A.21	P-51-94(t)	District Rule 3.4
VOC Emergency Fire Pump	Continuous	Run time documented on quarterly records and annual reports to AQMD	II.A.22	P-52-94(t)	District Rule 3.4
CO Emergency Fire Pump	Continuous	Run time documented on quarterly records and annual reports to AQMD	II.A.23	P-52-94(t)	District Rule 3.4

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
NOx Emergency Fire Pump	Continuous	Run time documented on quarterly records and annual reports to AQMD	II.A.24	P-52-94(t)	District Rule 3.4
SOx Emergency Fire Pump	Continuous	Run time documented on quarterly records and annual reports to AQMD	II.A.25	P-52-94(t)	District Rule 3.4
PM10 Emergency Fire Pump	Continuous	Run time documented on quarterly records and annual reports to AQMD	II.A.26	P-52-94(t)	District Rule 3.4
PM10 for Fuel Material Operations	Continuous	Documented throughput on quarterly records and annual reports to AQMD	II.A.27	P-61-89(a1)	District Rule 3.4
Opacity not to exceed for a period or periods aggregating more than 3 minutes in any hour which is darker in shade then #1 Ringelmann Chart or => than 20%	Continuous	Daily operations inspections and logs	II.A.28	P-12-11(a1) P-31-94(t) P-34-94(t) P-50-94(t) P-51-94(t) P-52-94(t) P-61-89(a1) P-74-94(t) P-90-89(t) P-92-89(t) P-93-89(t)	District Rule 2.3 and 3.4
Fuel Receiving, processing, grinding and storage Opacity	Continuous	Daily operations inspections and logs	II.A.29	P-61-89(a1)	District Rule 3.4
VOC Limited Use Engine	Continuous	Tier 2 Engine requirements, run time logs	II.A.30	P-12-11	District Rule 3.4
CO Limited Use Diesel Engine	Continuous	Tier 2 Engine requirements, run time logs	II.A.31	P-12-11	District Rule 3.4
NOx Limited Use Diesel Engine	Continuous	Tier 2 Engine requirements, run time logs	II.A.32	P-12-11	District Rule 3.4
SOx Limited Use Diesel Engine	Continuous	Tier 2 Engine requirements, run time logs	II.A.33	P-12-11	District Rules 2.11 and 3.4
PM10 Limited Use Diesel Engine	Continuous	Tier 2 Engine requirements, run time logs	II.A.34	P-12-11	District Rule 3.4
Particulate Exhaust Emission	Continuous	Daily and weekly operations logs	II.A.35	P-50-94(t) P-61-89(a1) P90-89(t) P-92-89(t) P-93-89(t)	District Rule 2.11
Visible Emissions beyond property Boundaries	Continuous	Daily and weekly operations logs	II.A.36	Facility-Wide	District Rule 3.4

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
PM10 Cooling Tower	Continuous	Documented throughput on quarterly records and annual reports to AQMD	II.A.37	P-74-94(t)	District Rule 3.4
PM10 Emission Hydrated Lime Receiving and Storage	Continuous	Documented throughput on quarterly records and annual reports to AQMD	II.A.38	P-90-89(t)	District Rule 3.4
PM10 Flyash Outloading and transfer	Continuous	Documented throughput on quarterly records and annual reports to AQMD	II.A.39	P-91-89(t)	District Rule 3.4
PM 10 Clay/Limestone Receiving and Storage	Continuous	Documented throughput on quarterly records and annual reports to AQMD	II.A.40	P-92-89(t)	District Rule 3.4
PM10 Sand Receiving and Storage	Continuous	Documented throughput on quarterly records and annual reports to AQMD	II.A.41	P-93-89(t)	District Rule 3.4
Emergency use engines must use CARB Diesel Fuel	Continuous	Operated only during the times outlined in the permit condition	II.B.1	P-51-94(t) P-52-94(t)	District Rule3.1, §400
Emergency Generator Maintenance and Testing Hour Limit	Continuous	IC Engine Operating log, Run time documented on annual reports to AQMD	II.B.2	P-51-94(t)	District Rule 3.4, §409.1
Emergency Generator Maintenance and Testing Hour Limit	Continuous	IC Engine Operating log, Run time documented on annual reports to AQMD	II.B.3	P-51-94(t)	District Rule 3.4, §409.2
Emergency Generator emergency operation	Continuous	System Design and Procedures	II.B.4	P-51-94(t)	District Rule 3.4
Emergency Generator NFPA 25 testing	Continuous	Fuel throughput documented on annual reports to AQMD	II.B.5	P-51-94(t)	District Rule 3.4
Emergency Fire Pump Limited to pumping water for fire fighting	Continuous	Fuel throughput documented on annual reports to AQMD	II.B.6	P-52-94(t)	District Rule 3.4
Emergency Use Engines shall not exceed 200 total hours per calendar year.	Continuous	IC Engine Operating log, Run time documented on annual reports to AQMD	II.B.7	P-51-94(t) P-52-94(t)	District Rule 3.4, §409.1
Emergency Generator not to be used to supply power to the utility	Continuous	Policy and Procedures	II.B.8	P-51-94(t)	District Rule 3.4
Emergency Generator Fuel Use limit	Continuous	IC Engine Operating log, Run time documented on annual reports to AQMD	II.B.9	P-51-94(t)	District Rule 3.4, §409.1
Emergency Generator Operate and Maintain consistent with safety and good air pollution control practices	Continuous	Semi-annual Inspection and Maintenance by an authorized vendor.	II.B.10	P-51-94(t)	40 CFR 63.6605

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Emergency Fire pump Fuel Use limit	Continuous	IC Engine Operating log, Run time documented on annual reports to AQMD	II.B.11	P-52-94(t)	District Rule 3.4
Emergency Fire pump oil, air, hoses and belt maintenance	Continuous	Semi-annual Inspection and Maintenance by an authorized vendor.	II.B.12	P-52-94(t)	40 CFR 63.6602
Emergency Fire Pump shall be maintained per manufactures' emission related written instructions	Continuous	Semi-annual Inspection and Maintenance by an authorized vendor.	II.B.13	P-52-94(t)	40 CFR 63.6625(e)
Emergency Fire Pump may utilized an oil analyses program	Continuous	Facility utilizes an oil analyses program, managed by an outside vendor.	II.B.14	P-52-94(t)	40 CFR 63.6625(i)
Startup/ Shutdown CFB	Continuous	Flue gas and combustion zone temperature gauges.	II.B.15	P-105-90(t)	District Rule 2.43, 302
Baghouse module DP	Continuous	Baghouse is equipped as required	II.B.16	P-105-90(t)	District Rule 3.1
Boiler VOC and facility PM10 quarterly offsets	Continuous	Fuel records and quarterly records	II.B.17	P-105-90(t)	District Rule 3.4, §409.1
Permissible biomass fuels and supplemental fuel	Continuous	Fuel records and quarterly records	II.B.18	P-105-90(t)	District Rule 3.4, §409.1
Boiler Natural Gas	Continuous	Natural gas consumption records	II.B.19	P-105-90(t)	District Rule 3.4, §409
Boiler CEM System	Continuous	Documented monthly records available to AQMD	II.B.20	P-105-90(t)	District Rule 3.4, §409
Offset credits Required	Continuous	Methodology adopted in Quarterly reporting	II.B.21	P-105-90(t)	District Rule 3.4, §409
Offset credits Generated	Continuous	Methodology adopted in Quarterly reporting	II.B.22	P-105-90(t)	District Rule 3.4, §409
Offset Distance Factor	Continuous	Methodology adopted in Quarterly reporting	II.B.23	P-105-90(t)	District Rule 3.4, §409
Emission Factors	Continuous	Methodology adopted in Quarterly reporting	II.B.24	P-105-90(t)	District Rule 3.4, §409
Qualified Ag Biomass	Continuous	Methodology adopted in Quarterly reporting	II.B.25	P-105-90(t)	District Rule 3.4, §409
Start up fuel - Natural gas or clean, dry biomass	Continuous	Policy and Procedures	II.B.26	P-105-90(t)	40 CFR 63.7500(a)(1)
Boiler Startup definition - Utilizes Definition 1	Continuous	Policy and Procedures	II.B.27	P-105-90(t)	40 CFR 63.7575
Boiler Emissions excluded during startup and shutdown	Continuous	DAHs	II.B.28	P-105-90(t)	40 CFR 63.7555
Boiler Operations of CEMS System	Continuous	Continuous CEMS system	II.B.29	P-105-90(t)	40 CFR 63.7500(a)(1)
Boiler Opacity	Continuous	Source test	II.B.30	P-105-90(t)	40 CFR 63.7500(a)(2)
Boiler Sorbent or carbon injection rate	Continuous	Daily operations inspections and logs	II.B.31	P-105-90(t)	40 CFR 63.7575

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
40 CFR 63 Subpart DDDDD using Source Testing	Continuous	Annual Source testing	II.B.32	P-105-90(t)	40 CFR 63.7500(a)(2)
Boiler HCI Emissions using SO2 Cems - 30 day average	Continuous	DAHS, quarterly reporting, Annual Source testing	II.B.33	P-105-90(t)	40 CFR 63.7500(a)(2)
Boiler - operate and maintain the boiler in a manner consistent with safety and good air pollution control practices.	Continuous	Work order system & maintenance records	II.B.34	P-105-90(t)	40 CFR 63.7500(a)(3)
Boiler emission limits, work practice standards and operating limits of 40 CFR 63 Subpart DDDDD	Continuous	Monitored and recorded by DAHs system	II.B.35	P-105-90(t)	40 CFR 63.7500(f)
SO2 CEMs operating limits per 40 CFR 63 Subpart DDDDD	Continuous	Annual Source test	II.B.36	P-105-90(t)	40 CFR 63.7530(i)
Energy Conservation Implementation Plan	N/A	Currently not seeking to utilize energy Conservations efficiency credits	II.B.37	Facility-Wide	40 CFR 63.7533(a)-(f)
Startup definition per 40 CFR 63.7575	N/A	The Facility is able to engage and operate PM Controls with 1 hour of the first firing of fuel	II.B.38	P-105-90(t)	40 CFR 63.7555(d)(13)
Sand Screening throughput Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.39	P-31-94(t)	District Rule 3.4
Rice Hull Receiving Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.40	P-34-94(t)	District Rule 3.4
Rice Hull Metering Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.41	P-34-94(t)	District Rule 3.4
Rice Hull Dust Suppression	Continuous	Daily and weekly operations logs	II.B.42	P-34-94(t)	District Rule 3.4
Rice Hull Fugitive Dust	Continuous	Daily and weekly operations logs	II.B.43	P-34-94(t)	District Rule 3.4
Hydrated Lime Blending Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.44	P-50-94(t)	District Rule 3.4
Hydrated Lime Loading Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.45	P-50-94(t)	District Rule 3.4
Fuel Handling Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.46	P-61-89(t)	District Rule 3.4
Fuel Grinding Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.47	P-61-89(t)	District Rule 3.4

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Fuel Handling Control Equipment	Continuous	Documented on daily logs	II.B.48	P-61-89(t)	District Rule 3.4
Fuel Handling Waste Material	Continuous	Daily operations inspections and logs	II.B.49	P-61-89(t)	District Rule 3.4
Fuel Grinding Dust Controls	Continuous	Daily operations inspections and logs	II.B.50	P-61-89(t)	District Rule 3.4
Biomass Offset Inventory	Continuous	Methodology adopted in Quarterly reporting	II.B.51	P-61-89(t)	
Limited Use Engine Throughput Limits	Continuous	Documented on quarterly records and annual reports to AQMD	II.B.52	p-12-11(a1)	District Rule 3.4
Portable Grinder Wood Limits	Continuous	Daily operations inspections and logs	II.B.53	p-12-11(a1)	District Rule 3.4 §409.1
Limited use Engine	Continuous	Documented on daily logs	II.B.54	p-12-11(a1)	District Rule 3.4
Limited use Engine/Grinder	Continuous	Documented on daily logs	II.B.55	p-12-11(a1)	District Rule 3.4
Rental Equipment shall not be located at the facility for more then 12 months	Continuous	Documented in IC Engine Log Book	II.B.56	p-12-11(a1)	District Rule 3.1 §402
Limited use Engine Notification	Continuous	Records of notification on file	II.B.57	p-12-11(a1)	District Rule 3.4
Limited use Engine Fuel	Continuous	Fuel Receipts	II.B.58	p-12-11(a1)	District Rule 3.1 §402
Air Toxics "Hot Spots" requirements	Continuous	All equipment meets requirements.	II.B.59	Plant wide	District Rule 3.4
Re-evaluation Rights	Continuous	The district has the right to request re-evaluation	II.B.60		District Rule 3.4
Cooling Tower water circulation limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.61	P-74-94(t)	District Rule 3.4
Cooling Tower water makeup limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.62	P-74-94(t)	District Rule 3.4
Cooling Tower Hexavalent Chromium	Continuous	Documented with chemical addition lists	II.B.63	P-74-94(t)	District Rule 3.4
Hydrated Lime Silo Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.64	P-90-89(t)	District Rule 3.4
Hydrated Lime Injection Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.65	P-90-89(t)	District Rule 3.4
Flyash Out-Loading Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.66	P-91-89(t)	District Rule 3.4
Flyash Offsets	Continuous	Methodology adopted in Quarterly reporting	II.B.67	P-91-89(t)	District Rule 3.1 §402
Flyash Mixer Operation	Continuous	Weekly site inspection	II.B.68	P-91-89(t)	District Rule 3.4
Flyash Operations	Continuous	Weekly site inspection	II.B.69	P-91-89(t)	District Rule 3.4
Limestone Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.70	P-92-89(t)	District Rule 3.4

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Sand Silo Limits	Continuous	Documented through quarterly records and annual reports to AQMD	II.B.71	P-93-89(t)	District Rule 3.4
Boiler & Emergency Engines shall not be operated in violation of the requirements of 40 CFR 63	Continuous	Facility Procedures	II.B.72	P-105-90(t) P-51-94(t) P-52-94(t)	40 CFR 63.4(a)
Compliance Assurance	Continuous	Adopted Compliance Assurance Monitoring Plan	II.B.73	Facility-Wide	40 CFR 64.7
Boiler CEM System	Continuous	System is in place, certified through annual RATA during source test, QA/QC Procedures	II.C.1	P-105-90(t)	District Rule 3.1 §402
CEM QA Plan	Continuous	QA/QC Plan Developed and Implemented	II.C.2	P-105-90(t)	District Rule 3.1 §402
Stack Testing Ports	Continuous	Stack test ports and platforms are in place	II.C.3	P-105-90(t)	District Rule 3.1 §303.2
Annual source testing Methods approval from District required	Continuous	Source Testing protocol submittal	II.C.4	P-105-90(t)	District Rule 3.4 §409.1
Annual source test	Continuous	Annual source test completed Dec 2021, per Compliance Agreement YS-21-0002	II.C.5	P-105-90(t)	District Rule 3.1 §402
Annual source test	Continuous	Source test protocol submitted to District prior to testing	II.C.6	P-105-90(t)	District Rule 3.1 §402
Source test notification	Continuous	Notification and reporting as per permit requirements	II.C.7	P-105-90(t)	District Rule 3.1 §402
Boiler Daily limit Notification	Continuous	Plant procedures, breakdown reports	II.C.8	P-105-90(t)	District Rule 3.1 §405.4
Boiler CEM System	Continuous	Plant procedures, QA/QC plan	II.C.9	P-105-90(t)	40 CFR 60.13(e)
Daily CEM Calibration	Continuous	CEM system configuration and procedures	II.C.10	P-105-90(t)	40 CFR 60.13(d)(1)
Daily Calibration Adjustments	Continuous	Plant procedures, QA/QC plan	II.C.11	P-105-90(t)	40 CFR 60.13(d)(1)
Boiler Opacity Span Between 60% & 80%	Continuous	CEM system configuration and procedures	II.C.12	P-105-90(t)	40 CFR 60.48b(e)(1)
Boiler Opacity Monitoring System	Continuous	CEM system configuration and procedures	II.C.13	P-105-90(t)	40 CFR 60.13(d)(2)
COMS (continued opacity monitoring system) Sampling Cycle	Continuous	COMS system configured as per permit	II.C.14	P-105-90(t)	40 CFR 60.13(e)(2)
CEM Sampling Cycle	Continuous	CEM system configured as per permit	II.C.15	P-105-90(t)	40 CFR 60.13(e)(2)
COMS System Averages	Continuous	COMS system configured as per permit	II.C.16	P-105-90(t)	40 CFR 60.13(h)(2)
CEM System Averages	Continuous	CEM system configured as per permit	II.C.17	P-105-90(t)	40 CFR 60.13(h)
Boiler NOx, PM and Opacity Conversion	Continuous	DAHS system configured as per permit	II.C.18	P-105-90(t)	40 CFR 60.46b(e)(3)

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
NOx 30 Day Rolling Avg	Continuous	CEM system configured as per permit, reported quarterly to AQMD	II.C.19	P-105-90(t)	40 CFR 60.48b(c)
NOx Data Recording	Continuous	CEM system configured as per permit	II.C.20	P-105-90(t)	40 CFR 60.48b(d)
NOx 1 hour averages	Continuous	CEM system configured as per permit	II.C.21	P-105-90(t)	40 CFR 60.48b(d)
NOx Span Values	Continuous	CEM system configured as per permit	II.C.22	P-105-90(t)	40 CFR 60, appendix B
Alternative NOx data	Continuous	Part of QA/QC plan	II.C.23	P-105-90(t)	40 CFR 60.48b(f)
CEM Zero/Span Drift	Continuous	Part of QA/QC plan	II.C.24	P-105-90(t)	40 CFR 60, Appendix F, Procedure 1, 4.3
CEM out of control	Continuous	QA/QC plan, CEM system configuration	II.C.25	P-105-90(t)	40 CFR 60, Appendix F, Procedure 1, 4.3.2
CEM Audit	Continuous	Quarterly calibration gas audits performed as per permit, QA/QC plan	II.C.26	P-105-90(t)	40 CFR 60, Appendix F, Procedure 1, 5.1
CEM RATA	Intermittent	Annual RATA performed Dec 2021, outside of the quarter that the unit started up, per Compliance Agreement YS-21-0002	II.C.27	P-105-90(t)	40 CFR 60, Appendix F, Procedure 1, 5.1.1
Excess CEM inaccuracies	Continuous	Part of QA/QC plan	II.C.28	P-105-90(t)	40 CFR 60, Appendix F, Procedure 1, 5.3
Opacity 3 hour average	Continuous	CEM system configured as per permit	II.C.29	P-105-90(t)	40 CFR 64.3
CEM availability	Continuous	CEM off time reported through breakdown reports and monthly reports, QC plan	II.C.30	P-105-90(t)	40 CFR 64.7(c)
Opacity excursion corrective actions	Continuous	Baghouse inspection procedure	II.C.31	P-105-90(t)	40 CFR 64.3
Opacity excursion, exceedance Limits	Continuous	Continuous Opacity Monitor	II.C.32	P-105-90(t)	40 CFR 64.1
Excursion/exceedance recovery	Continuous	Plant procedures	II.C.33	P-105-90(t)	40 CFR 64.7(d)
Quality Improvement Plan	Continuous	Quarterly report for NOx and Opacity	II.C.34	P-105-90(t)	40 CFR 64.8(a)
QIP Implementation	Continuous	Conditions to trigger the QIP not present during reporting period	II.C.35	P-105-90(t)	40 CFR 64.8(c)
Performance audits to determine compliance with requirements for 40 CFR 63 DDDDD	Continuous	Source testing	II.C.36	P-105-90(t)	40 CFR 63.7(c)

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Written startup, shutdown and malfunction plan for CEMS	Continuous	Plant Procedures	II.C.37	P-105-90(t)	40 CFR 63.8(c)
Boiler Continuous Monitoring system QC Plan	Continuous	Plan in Place	II.C.38	P-105-90(t)	40 CFR 63.8(d)
HCl, Mercury Compliance	Continuous	Source Test	II.C.39	P-105-90(t)	40 CFR 63.7505(c)
Monitoring Plan	Continuous	Plan on Site	II.C.40	P-105-90(t)	40 CFR 63.7505(d)(1)-(2) 40 CFR 63.7525(c)(5)
Performance evaluation of each CMS Per Monitor Plan	Continuous	Records on site	II.C.41	P-105-90(t)	40 CFR 63.7505 (d)(3)
Operate and maintain the CEMS in Continuous operation according to Monitoring Plan	Continuous	Per Monitoring Plan	II.C.42	P-105-90(t)	40 CFR 63.7505 (d)(4)
Conduct Boiler Tune up and Compliance Demonstration	Continuous	Completed 11/2021, due again 2026.	II.C.43	P-105-90(t)	40 CFR 63.7540 (a)(10)
Source Testing Annual decreased to 3 years	Continuous	Have not yet met the parameters to conduct source testing every 3 years	II.C.44	P-105-90(t)	40 CFR 63.7515(a)-(c)
Boiler Tuning Every Five Years	Continuous	Records on site, Boiler is equipped with an oxygen trim system that maintains an optimum air to fuel ratio.	II.C.45	P-105-90(t)	40 CFR 63.7515(d)
HCl Compliance based on Fuel Sample	N/A	HCl Compliance is based on Source testing	II.C.46	P-105-90(t)	40 CFR 63.7515(e)
Source Test Submittal	Continuous	Source test report submitted within 60 days	II.C.47	P-105-90(t)	40 CFR 63.7515(f)
Compliance Demonstration	Continuous	Have operated since the previous compliance demonstration	II.C.48	P-105-90(t)	40 CFR 63.7515(g)
Not Subject to Oxygen Concentration operating limits	Continuous	Facility has a CO CEMS	II.C.49	P-105-90(t)	40 CFR 63.7515(i)
Source Test Protocols	Continuous	Source test protocol submitted to District prior to testing	II.C.50	P-105-90(t)	
Detection Level	Continuous	Source test Report	II.C.51	P-105-90(t)	40 CFR 63.7520(f)
Fuel Analysis plan	N/A	Using Source Testing for Compliance with Chloride and Mercury	II.C.52	P-105-90(t)	
Fuel Analyses	Continuous	Source Testing Report	II.C.53	P-105-90(t)	
Fuel Analyses composite sample	Continuous	Fuel Sample procedure	II.C.54	P-105-90(t)	

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Conduct Fuel samples per Table 6 and equations 7,8 and 9 of 40 CFR 63 Subpart DDDDD.	Continuous	Records maintained on site	II.C.55	P-105-90(t)	40 CFR 63.7521(e)
CO and O2 CEMS Analyzers Probe	Continuous	Probe is located at the same outlet for both CO and O2	II.C.56	P-105-90(t)	40 CFR 63.7525(a)(1)
CO and O2 Cems Performance evaluations	Continuous	RATA Reports Submitted to district	II.C.57	P-105-90(t)	40 CFR 63.7525(a)(2)
CO and O2 CEMS Sampling	Continuous	Recorded by DAHs	II.C.58	P-105-90(t)	40 CFR 63.7525(a)(3)-(5)
CO Data Averages	Continuous	Recorded by DAHs	II.C.59	P-105-90(t)	40 CFR 63.7525(a)(6)
Oxygen Trim System Operations	Continuous	Records maintained on site	II.C.60	P-105-90(t)	40 CFR 63.7525(a)(7)
Continuous Opacity Monitoring System	Continuous	Installed	II.C.61	P-105-90(t)	40 CFR 63.7525(c)(1)-(4)
COMS Operate and maintain according to Monitoring Plan	Continuous	Monitoring Plan on Site	II.C.62	P-105-90(t)	40 CFR 63.7525(c)(6)-(7)
SO2 Sampling	Continuous	Recorded by DAHs	II.C.63	P-105-90(t)	40 CFR 63.7525(d)(1)-(5)
Flow Monitoring System Flow sensor - Conduct a flow monitoring system performance evaluation per site monitoring plan	Continuous	Records on Site, performed by Cisco	II.C.64	P-105-90(t)	40 CFR 63.7525(e)(1)-(4)
HCI - Wet Acid Gas scrubber	N/A	Using Source Testing for Compliance with SO2 CEMS Analyzer	II.C.65	P-105-90(t)	40 CFR 63.7525(d)(1)-(5) and (g)(1)-(4)
Sorbent Injection Rate	Continuous	Records maintained on site	II.C.66	P-105-90(t)	40 CFR 63.7525(j)(1)-(6)
Bag leak detection system	N/A	Not using a bag leak detection system	II.C.67	P-105-90(t)	40 CFR 63.7525(j)(1)-(6)
Mercury or HCI CEMS	N/A	Not demonstrating compliance with a Mercury or HCI CEMS	II.C.68	P-105-90(t)	40 CFR 63.7525(I)(1)-(7)
SO2 CEMS for HCI Compliance demonstrations	Continuous	Records maintained on site	II.C.69	P-105-90(t)	40 CFR 63.7525(I)(8)
Compliance with HCI Emission limit using SO2 CEMS	Continuous	Recorded by DAHs, logbook and PI Database	II.C.70	P-105-90(t)	40 CFR 63.7525(m)(1)-(6)
Compliance source Test	N/A	Completed 12/29/21-12/30/21	II.C.71	P-105-90(t)	40 CFR 63.7530(a)&(B)
Fuel Analysis Requirement for Chlorine	N/A	Not subject to fuel analysis Requirement	II.C.72	P-105-90(t)	40 CFR 63.7530(b)(1)
Fuel Analysis Requirement for mercury	N/A	Not subject to fuel analysis Requirement	II.C.73	P-105-90(t)	40 CFR 63.7530(b)(2)
Sorbent injection rate during three run source test for HCI Limit demonstration	Continuous	Source Test	II.C.74	P-105-90(t)	40 CFR 63.7530(b)(4)(v)

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Carbon Injection for Mercury Limit	N/A	Not utilizing	II.C.75	P-105-90(t)	40 CFR 63.7530(b)(4)(vi)
Fabric Filter bag leak detection	N/A	Not utilizing	II.C.76	P-105-90(t)	40 CFR 63.7530(b)(4)(vii)
Maximum SO2 Emission Rate	Continuous	Source Test	II.C.77	P-105-90(t)	40 CFR 63.7530(b)(4)(ix)
Fuel Analysis Compliance if burning more then one fuel type	N/A	one fuel type	II.C.78	P-105-90(t)	40 CFR 63.7530(c)(1)
Emission compliance through fuel analyses	N/A	Not using fuel analyses for Emission Compliance	II.C.79	P-105-90(t)	40 CFR 63.7530(c)(2)
HCI emission limit through fuel analysis	N/A	Not using fuel analyses for Emission Compliance	II.C.80	P-105-90(t)	40 CFR 63.7530(c)(3)
Mercury emission limit through fuel analysis	N/A	Not using fuel analyses for Emission Compliance	II.C.81	P-105-90(t)	40 CFR 63.7530(c)(4)
Submit Notification of Compliance Status	N/A	Completed	II.C.82	P-105-90(t)	40 CFR 63.7530(e)&(f)
Energy Conservation efficiency credits	N/A	Not utilizing	II.C.83	Facility-Wide	40 CFR 63.7533(g)
CEMS Monitoring and Collect Data during all required intervals at all times the boiler is operating	Continuous	Recorded by DAHS	II.C.84	P-105-90(t)	40 CFR 63.7535(b)
Data Averages not to include Startup, shutdown, malfunctions or out of control periods	Continuous	Recorded by DAHS	II.C.85	P-105-90(t)	40 CFR 63.7535(c) & (d)
HCI Compliance with Fuel analysis and new fuel type	N/A	Not utilizing	II.C.86	P-105-90(t)	40 CFR 63.7540(a)(3)
HCI Source Test and new fuel type	N/A	No new fuel type	II.C.87	P-105-90(t)	40 CFR 63.7540(a)(4)
Mercury Compliance with Fuel analysis and new fuel type	N/A	Not utilizing	II.C.88	P-105-90(t)	40 CFR 63.7540(a)(5)
Mercury Source Test and new fuel type	N/A	No new fuel type	II.C.89	P-105-90(t)	40 CFR 63.7540(a)(6)
Compliance with a fabric filter bag leak detection system	N/A	Not utilizing	II.C.90	P-105-90(t)	40 CFR 63.7540(a)(7)
Boiler Tune-up every 5 years	Continuous	Last one completed 11/2021	II.C.91	P-105-90(t)	40 CFR 63.7540(a)(12)
Boiler within 30 calendar days of startup if unit isn't operating on required date for tune up	N/A	Completed per requirement.	II.C.92	P-105-90(t)	40 CFR 63.7540(a)(13)
Mercury CEMS	N/A	Not utilizing a mercury CEMS	II.C.93	P-105-90(t)	40 CFR 63.7540(a)(14)

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
HCI CEMS	N/A	Not Utilizing a HCI CEMS	II.C.94	P-105-90(t)	40 CFR 63.7540(a)(15)
Deviation Report for applicable emission or operating limits not met	Continuous	Deviation reports sent to AQMD, Records maintained on site	II.C.95	P-105-90(t)	40 CFR 63.7540(b)
Source Test Notification	Continuous	Submitted as required.	II.C.96	P-105-90(t)	40 CFR 63.7545(d)
Source Test Results	Continuous	Not yet received from Dec 2021 testing. Previous test report submitted as required.	II.C.97	P-105-90(t)	40 CFR 63.7545(e)
Notice of commence or recommence combustion of solid waste	N/A	Combustion of solid waste was continuous	II.C.98	P-105-90(t)	40 CFR 63.7545(g)
Different subcategory for the boiler due to physical change or fuel switch	N/A	Not applicable	II.C.99	P-105-90(t)	40 CFR 63.7545(h)
Compliance Report	Continuous	Reports submitted to district	II.C.100	P-105-90(t)	40 CFR 63.7550(a) & (c)-(e)
Source tests and fuel analysis submit to district within 60 days.	Continuous	Reports submitted to district	II.C.101	P-105-90(t)	40 CFR 63.7550(h)(1)
CEMS Performance Evaluations submit to district within 60 days	Continuous	Reports submitted to district	II.C.102	P-105-90(t)	40 CFR 63.7550(h)(2)
Submit Semi-Annual Compliance Reports to district	Continuous	Reports submitted to district	II.C.103	P-105-90(t)	40 CFR 63.7550(h)(3)
Emergency Engines Non resettable hour meters with a minimum display of 9,999 hours	N/A	Installed	II.C.104	P-51-94(t) P-52-94(t)	District Rule 3.1
Sand Receiving and Storage throughput	Continuous	Weight tickets, quarterly offset report, annual throughput report	II.D.1	P-93-89(t)	District Rule 3.1
Rice Hull Throughput	Continuous	Weight tickets, quarterly offset report, annual throughput report	II.D.2	P-34-94(t)	District Rule 3.1
Clay/Limestone Throughput	Continuous	Weight tickets, quarterly offset report, annual throughput report	II.D.3	P-92-89(t)	District Rule 3.1
Emergency engine records	Continuous	Run time logs	II.D.4	P-51-94(t)	District Rule 3.1
Emergency engine records	Continuous	Run time logs	II.D.5	P-52-94(t)	District Rule 3.1
Emergency engine records Retention	Continuous	Run time logs	II.D.6	P-51-94(t) P-52-94(t)	District Rule 3.1, §402 District Rule 3.8, §302.6(b)
Emergency engine maintenance records	Continuous	Work order system & maintenance records	II.D.7	P-51-94(t) P-52-94(t)	40 CFR 63.6655
Cooling Tower records	Continuous	Annual throughput Report	II.D.8	P-74-94(t)	District Rule 3.1 §402

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Sand Receiving, hydrated lime & Clay/limestone Records	Continuous	Weight tickets, quarterly offset report, annual throughput report	II.D.9	P-90-89(t) P-92-89(t) P-93-89(t)	District Rule 3.1 §402
Flyash out-flow records	Continuous	Weight tickets, quarterly offset report, annual throughput report	II.D.10	P-91-89(t)	District Rule 3.1
Biomass in-flow records	Continuous	Weight tickets, quarterly offset report, annual throughput report	II.D.11	P-105-90(t)	District Rule 3.5, §501
Boiler Recordkeeping	Continuous	Records maintained on site	II.D.12	P-105-90(t)	District Rule 3.1 §402
Records retained for 5 years	Continuous	Records maintained on site	II.D.13	P-105-90(t)	District Rule 3.1 §402
Boiler Daily fuel consumption	Continuous	Records maintained on site	II.D.14	P-105-90(t)	40 CFR 60.49b(d)
Boiler Recordkeeping	Continuous	Records maintained on site	II.D.15	P-105-90(t)	District Rule 3.1 §402
Quarterly Reporting	Continuous	Reporting as required by permit	II.D.16	P-105-90(t)	40 CFR 60.7(a)(7)(c)
Boiler Daily fuel Records demonstrate HCI & Mercury	Continuous	Records maintained on site	II.D.17	P-105-90(t)	40 CFR 60.49b(d)
40 CFR 63 Subpart DDDDD Recordkeeping	Continuous	Records maintained on site	II.D.18	P-105-90(t)	41 CFR 63.7555(a)
Boiler CEMS Recordkeeping	Continuous	Records maintained on site	II.D.19	P-105-90(t)	
Boiler Emission Compliance Recordkeeping	Continuous	Records maintained on site	II.D.20	P-105-90(t)	
Boiler Fuel Compliance Recordkeeping	Continuous	Weight tickets, quarterly offset report, annual throughput report	II.D.21	P-105-90(t)	
Boiler Implementation Plan Recordkeeping	N/A	Not utilizing efficiency credits	II.D.22	P-105-90(t)	40 CFR 63.7533
Recordkeeping and retention for measurement, maintenance, corrective action, report or record.	Continuous	Records maintained on site	II.D.23	P-105-90(t)	40 CFR 63.7560
Limited IC engine Recordkeeping	Continuous	Records maintained on site	II.D.24	P-12-11(a1)	District Rule 3.1
Boiler Recordkeeping and reporting of 40 CFR part 64.9	Continuous	Records maintained on site	II.D.25	P-105-90(t)	40 CFR 64
Fuel material Receiving, Processing, grinding, and storage operations Recordkeeping	Continuous	Records maintained on site	II.D.26	P-61-89(a1)	District Rule 3.4
Facility wide opacity	Continuous	Weekly site inspection PM	III.A.1	Facility-Wide	District Rule 2.3

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Nuisance air discharge	Continuous	Weekly site inspection PM	III.B.1	Facility-Wide	District Rule 2.5 (local)
Circumvention	Continuous	Management of change process	III.C.1	Facility-Wide	District Rule 2.17
Authorization to Construct	Continuous	Management of change process	III.D.1	Facility-Wide	District Rule 3.1 § 301.1
Unauthorized use	Continuous	Management of change process	III.D.2	Facility-Wide	District Rule 3.1 § 302.2
New Permits	Continuous	Management of change process	III.D.3	Facility-Wide	District Rule 3.1 § 302.2
PTO Non Transferable from one location to another or from one piece of equipment to another.	Continuous	Management of change process	III.D.4	Facility Wide	District Rule 3.1 § 305
PTO Annual Renewed	Continuous	Payable system	III.D.5	Facility Wide	District Rule 3.1 and 4.1
PTO Acceptance	Continuous	N/A	III.D.6	Facility Wide	District Rule 3.1 § 402
Annual Throughput/Production Report	Continuous	Reports submitted annually	III.D.7	Facility Wide	District Rule 3.1 § 405.1
Breakdown Notification	Continuous	Plant procedures, breakdown reports. Reports submitted for 12/21/21, 12/22/21, 12/27/21 and 12/29/21 breakdowns.	III.D.8	Facility-Wide	District Rule 3.1 § 405.3
Excess Emissions Notification	Continuous	Excess Emissions Report sent to AQMD	III.D.9	Facility-Wide	District Rule 3.1 § 405.4
PTO to be Posted	Continuous	PTO Posted in the Control Building	III.D.10	Facility-Wide	District Rule 3.1 § 408
Right of Entry	Continuous	Entry authorized for regulatory officials	IV.A.1	Facility-Wide	District Rule 3.1 § 302.10
Title V Conditions	Continuous	Compliance verified on quarterly and annual reports to the AQMD	IV.B.1	Facility-Wide	Rule 3.8 § 302.11a
Property Rights	Continuous	The plant made no claims of exclusive privilege during reporting period.	IV.B.2	Facility-Wide	Rule 3.8 § 302.11b
Permit Non-Compliance	Continuous	No permits were terminated, revoked and reissued, or enforcement action this reporting period.	IV.B.3	Facility-Wide	Rule 3.8 § 302.11c
Defense for non-compliance	Continuous	No claims of “need to halt or reduce a permitted activity in order to maintain compliance” as a defense for non-compliance this reporting period.	IV.B.4	Facility-Wide	Rule 3.8 § 302.11d
Pending Permit action to stay a permit condition	Continuous	These conditions did not occur during the reporting period.	IV.B.5	Facility-Wide	Rule 3.8 § 302.11e
Reasonable time	Continuous	Facility will comply with all requests for data in a timely manner.	IV.B.6	Facility-Wide	Rule 3.8 § 302.11f

Woodland Biomass Power LLC
Compliance Certification

Reporting Period: **January 1, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Emergency Event	Continuous	As needed	IV.C.1	Facility-Wide	District Rule 3.8 § 302.12
Severability	Continuous	No parts of the permit were judged to be unconstitutional or invalid during this reporting period.	IV.D.1	Facility-Wide	Rule 3.8 § 302.13
Compliance Certification	Continuous	Annually submitted, this report	IV.E.1	Facility-Wide	Rule 3.8 § 302.14a
Compliance Certification	Continuous	This report format	IV.E.2	Facility-Wide	Rule 3.8 § 302.14b
Compliance Certification	Continuous	This report format	IV.E.3	Facility-Wide	Rule 3.8 § 302.14c
Compliance Certification	Continuous	As needed	IV.E.4	Facility-Wide	Rule 3.8 § 302.14d
Title V Expiration	Continuous	Current permit expired January 5, 2022. Renewal application submitted April 2021. Waiting on renewed Title V.	IV.F.1	Facility-Wide	Rule 3.8 § 302.15
Title V Permit Fees	Continuous	Permit fees paid as invoiced	IV.G.1	Facility-Wide	Rule 3.8 § 302.16
Permit Revision Exemption	Continuous	Plant did not participate in programs listed in the permit condition.	IV.H.1	Facility-Wide	40 CFR 70
Title V Renewal	Continuous	Submitted April 2021 as required.	IV.I.1	Facility-Wide	Rule 3.8 § 402.2
Significant Permit Modification	Continuous	Management of change process	IV.I.2	Facility-Wide	Rule 3.8 § 402.3
Minor Permit Modification	Continuous	Management of change process	IV.I.3	Facility-Wide	Rule 3.8 § 402.4
Permit Reopening	Continuous	Permit was not reopened during this reporting period.	IV.J.1	Facility-Wide	Rule 3.8 § 413.1
Recordkeeping	Continuous	Records retained on site	IV.K.1	Facility-Wide	District Rule 3.8 § 302.6a
5 Year Record Retention	Continuous	Records retained on site	IV.K.2	Facility-Wide	District Rule 3.8 § 302.6b
Deviation Reporting	Continuous	Plant procedures, breakdown reports. Reports submitted for 12/21/21, 12/22/21, 12/27/21 and 12/29/21 breakdowns. Deviation report submitted for RATA and Q4 offsets.	IV.L.1	Facility-Wide	Rule 3.8 § 302.7a
Monitoring Report	Continuous	Semi-annual Compliance Certification	IV.L.2	Facility-Wide	Rule 3.8 § 302.7b
Reports of Deviation	Continuous	AQMD Breakdown reports provide cause and corrective action information.	IV.L.3	Facility-Wide	Rule 3.8 § 302.7c
Report Certification	Continuous	Reports are certified by Responsible Official	IV.L.4	Facility-Wide	Rule 3.8 § 302.7e

Woodland Biomass Power LLC
Compliance Certification ATC C-21-48

Reporting Period: **August 26, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Permit Notification Card	Continuous	Submitted after receiving ATC	1	Facility-Wide	District Rule 3.1, §402
District Inspection	Continuous	District inspected facility for ATC	2	Facility-Wide	District Rule 3.1, §402
Construction in Effect until PTO	N/A	No construction required for ATC	3	Facility-Wide	District Rule 3.1, §407
Facility wide opacity	Continuous	Weekly site inspection PM	4	Facility-Wide	District Rule 2.3
In-Stack Opacity	Continuous	COMS system configured as per permit	5	P-105-90(t)	40 CFR60.43b(f) and (g)
Daily Opacity Block Average 10%	Continuous	COMS system configured as per permit	6	P-105-90(t)	41 CFR60.7500(a)(2)
Biomass Fuels	Continuous	Firing on fuels listed	7	P-105-90(t)	District Rule 3.1, §402
Natural gas supplementary fuel	Continuous	Natural gas consumption records	8	P-105-90(t)	District Rule 3.1, §402
Startup not to exceed 96 or 24 hours	Continuous	Records on file	9	P-105-90(t)	District Rule 2.43, §302
Startup requirements	Continuous	Records on file	10	P-105-90(t)	District Rule 3.1, §402
Meauring dp across baghouse	Continuous	PMs in place, records on file	11	P-105-90(t)	District Rule 3.1, §402
Operate CEMS	Continuous	CEMS maintained as required	12	P-105-90(t)	District Rule 3.1, §402
Monitor CO and O2 at outlet of boiler	Continuous	Analyzers installed where required	13	P-105-90(t)	40 CFR63.7525(a)(1)
Maintain CEMS	Continuous	CEMS maintained as required	14	P-105-90(t)	40 CFR63.7525(a)(2)
Maintain CO and O2 CEMS	Continuous	CEMS maintained as required	15	P-105-90(t)	40 CFR63.7525(a)(3-5)
Calculating CO averages for compliance	Continuous	CEMS configured for calculations	16	P-105-90(t)	40 CFR63.7525(a)(6)
Monitoring System in Operation	Continuous	CEMS in operation except as notes in condition	17	P-105-90(t)	40 CFR63.13(e)
Startup, Shutdown, Malfunction Plan	Continuous	Records on file	18	P-105-90(t)	40 CFR63.8(c)
QA Program and Test Plan	Continuous	Program in place	19	P-105-90(t)	40 CFR63.8(d)
QA/QC Plan	Continuous	QA/QC Plan in place	20	P-105-90(t)	District Rule 3.1, §402
Maintain boiler to minimize emissions	Continuous	Records on file, no excess emissions	21	P-105-90(t)	40 CFR63.7500(a)(3)
Exhaust stack emissions less than limits	Continuous	Records on file, no excess emissions	22	P-105-90(t)	District Rule 3.1, §402
Operate in compliance with 40 CFR 63	Continuous	Records on file, reports submitted as required	23	P-105-90(t)	40 CFR63.4(a)
Boiler Emissions lb/mmbtu	Continuous	Annual source test, quarterly records and annual reporting to AQMD	24	P-105-90(t)	District Rule 3.1, §402
Boiler Emissions lb/hr	Continuous	Annual source test, quarterly records and annual reporting to AQMD	25	P-105-90(t)	District Rule 3.1, §402
Boiler NOx Emissions	Continuous	Annual source test, quarterly records and annual reporting to AQMD	26	P-105-90(t)	40 CFR60.44b(d)

Woodland Biomass Power LLC
Compliance Certification ATC C-21-48

Reporting Period: **August 26, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Boiler NOx Emissions Calculation	Continuous	CEMS configured for calculations	27	P-105-90(t)	40 CFR60.46b(e)(3)
Startup and Shutdown Emissions	Continuous	Records on file	28	P-105-90(t)	40 CFR63.7500(a)(1)
5D Requirements	Continuous	Records on file and reported as required	29	P-105-90(t)	40 CFR63.7500(f)
Excursion Restoration	Continuous	None to report	30	P-105-90(t)	40 CFR64.7(d)
QIP Requirement	Continuous	No excursions to report requiring QIP	31	P-105-90(t)	40 CFR64.8(a)
QIP Development	N/A	Not required	32	P-105-90(t)	40 CFR64.8(c)
Boiler HCl Emissions lb/mmbtu	Continuous	Annual source test, quarterly records and annual reporting to AQMD	33	P-105-90(t)	40 CFR63.7500(a)(1)
Boiler Mercury Emissions lb/mmbtu	Continuous	Annual source test, quarterly records and annual reporting to AQMD	34	P-105-90(t)	40 CFR63.7500(a)(1)
Maintain sorbent injection rate	Continuous	Records on file to demonstrate	35	P-105-90(t)	40 CFR 63.7500(a)(2)
HCl limit with SO2 CEMS	Continuous	Records on file to demonstrate	36	P-105-90(t)	40 CFR 63.7500(a)(2)
Maintain SO2 CEMS	Continuous	Records on file	37	P-105-90(t)	40 CFR 63.7525(d)(1)-(5)
Operate CEMS during shutdown	Continuous	CEMS operational during shutdowns	38	P-105-90(t)	40 CFR 63.7500(a)(1)
Sorbent injection	Continuous	Records on file	39	P-105-90(t)	40 CFR 63.7525(d)(1)-(5) and (i)(1)-(2)
Minimum sorbent injection rate	Continuous	Maintaining rate, records on file	40	P-105-90(t)	40 CFR 63.7530(b)(4)(v)
DSI and SO2 CEMS	Continuous	Records on file	41	P-105-90(t)	40 CFR 63.7525(m)(1)-(6)
SO2 Determined during source test	Continuous	Determined during source test	42	P-105-90(t)	40 CFR 63.7530(b)(4)(ix)
Alternate SO2 CEMS	N/A	Not utilizing alternate SO2 demonstration	43	P-105-90(t)	40 CFR 63.7530(i)
VOC and PM10 offsets	Continuous	Calculated as required	44	Facility-Wide	District Rule 3.1, §402
Demonstrate complinace with offsets	Intermittent	Deviation report submitted for Q4 2021 offsets	45	Facility-Wide	District Rule 3.1, §402
Calculate required credits	Continuous	Calculated as required	46	Facility-Wide	District Rule 3.1, §402
Calculate credits generated	Continuous	Calculated as required	47	Facility-Wide	District Rule 3.1, §402
Distance Factors for Offsets	Continuous	Use applicable DF in calculations	48	Facility-Wide	District Rule 3.1, §402
Emission Factors for Offsets	Continuous	Use applicable EF in calculations	49	Facility-Wide	District Rule 3.1, §402
5 Year Tune Up	Continuous	Tune up completed in November 2021	50	P-105-90(t)	40 CFR 63.7515(d) and 63.7540(a)(12)
Tune up within 30 days of startup	N/A	Not required	51	P-105-90(t)	40 CFR 63.7540(a)(13)
Sampling facilities	Continuous	Sampling set up where required	52	P-105-90(t)	District Rule 3.1, §402

Woodland Biomass Power LLC
Compliance Certification ATC C-21-48

Reporting Period: **August 26, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Annual Source Test	Continuous	Annual source test, quarterly records and annual reporting to AQMD	53	P-105-90(t)	District Rule 3.1, §402
Source Test Methods	Continuous	Source test methods reported during test plan	54	P-105-90(t)	District Rule 3.1, §402
Source Test Notification	Continuous	Source test notification made	55	P-105-90(t)	District Rule 3.1, §402
5D Test Notification	Continuous	5D test notifcation made	56	P-105-90(t)	40 CFR 63.7545(d)
Report Test Results within 60 days	Continuous	Test results submitted within 60 days	57	P-105-90(t)	40 CFR 63.7550(h)(1)
Reduced Testing to 3 years	N/A	Have not met requirements for reduced testing	58	P-105-90(t)	40 CFR 63.7515(a)-(c)
Develop site specific test plan	Continuous	Test plan developed	59	P-105-90(t)	40 CFR 63.7500(a)(1) and 63.7520(a)-(e)
Method Detection levels	Continuous	MDLs identified	60	P-105-90(t)	40 CFR 63.7520(f)
Fuel Analysis	N/A	Not using Fuel Analysis Method for compliance	61	P-105-90(t)	40 CFR 63.7505(c)
Fuel analysis plan requirements	N/A	Not using Fuel Analysis Method for compliance	62	P-105-90(t)	40 CFR 63.7521(a) and (b)
Fuel analysis - each type burned	N/A	Not using Fuel Analysis Method for compliance	63	P-105-90(t)	40 CFR 63.7515(e)
Fuel analysis - fuel mix	N/A	Not using Fuel Analysis Method for compliance	64	P-105-90(t)	40 CFR 63.7530(c)(1)
Fuel analysis - 90% confidence	N/A	Not using Fuel Analysis Method for compliance	65	P-105-90(t)	40 CFR 63.7530(c)(2)
Fuel analysis - HCl compliance	N/A	Not using Fuel Analysis Method for compliance	66	P-105-90(t)	40 CFR 63.7530(c)(3)
Fuel analysis - Mercury compliance	N/A	Not using Fuel Analysis Method for compliance	67	P-105-90(t)	40 CFR 63.7530(c)(4)
Fuel analysis - chlorine input	N/A	Not using Fuel Analysis Method for compliance	68	P-105-90(t)	40 CFR 63.7530(b)(1)
Fuel analysis - mercury input	N/A	Not using Fuel Analysis Method for compliance	69	P-105-90(t)	40 CFR 63.7530(b)(2)
Fuel samples during testing	Continuous	Fuel samples taken as required	70	P-105-90(t)	40 CFR 63.7521(c)
Composite samples	Continuous	Fuel samples composited as required	71	P-105-90(t)	40 CFR 63.7521(d)
Fuel analysis - pollutant concentration	N/A	Not using Fuel Analysis Method for compliance	72	P-105-90(t)	40 CFR 63.7521(e)
Report Test Results within 60 days	Continuous	Test results submitted within 60 days	73	P-105-90(t)	40 CFR 63.7515(f)
Maintain 30 day rolling averages	Continuous	CEMS records maintained	74	P-105-90(t)	40 CFR 63.7500(a)(2)
Operate O2 trim system	Continuous	Operating O2 trim as required, records on file	75	P-105-90(t)	40 CFR 63.7525(a)(7)
Compliance demonstration 180 after startup	N/A	Compliance demonstration not required	76	P-105-90(t)	40 CFR 63.7515(g)
Test Methods during performance audits	Continuous	Test methods identified for performance audits	77	P-105-90(t)	40 CFR 63.7(c)
Operate and Maintain COMS	Continuous	Records on file	78	P-105-90(t)	40 CFR 63.7525(c)(6)-(7)

Woodland Biomass Power LLC
Compliance Certification ATC C-21-48

Reporting Period: **August 26, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
CEMS out of control periods	Continuous	CEMS configured for calculations	79	P-105-90(t)	40 CFR Part 60, Appendix F, Procedure 1, 4.3
CEMS out of control data	N/A	No out of control periods	80	P-105-90(t)	40 CFR Part 60 Appendix F, Procedure 1, 4.3.2
CEMS audits each calendar quarter	Continuous	Audits conducted as required	81	P-105-90(t)	40 CFR Part 60, Appendix F, Procedure 1, 5.1.1, 5.1
RATA every 4 quarters	Intermittent	RATA conducted outside of startup quarter, per Compliance Agreement YS-21-0002.	82	P-105-90(t)	40 CFR Part 60, Appendix F, Procedure 1, 5.1.1
CAM requirements	Continuous	Records on file	83	P-105-90(t)	40 CFR 64
Revise QA procedures	Continuous	Procedures will be revised if needed	84	P-105-90(t)	40 CFR Part 60, Appendix F, Procedure 1, 5.3
Monitor for NOx	Continuous	CEMS configured for calculations	85	P-105-90(t)	40 CFR 60.48b(c)
Conduct all monitoring during continuous operation	Continuous	CEMS records maintained	86	P-105-90(t)	40 CFR 64.7(c)
Data Collection	Continuous	CEMS records maintained	87	P-105-90(t)	40 CFR 63.7535(b)
Startup, shutdown, OOC period data	Continuous	CEMS records maintained	88	P-105-90(t)	40 CFR 63.7535(c) and (d)
1 hr average NOx emission rate	Continuous	CEMS records maintained	89	P-105-90(t)	40 CFR 60.48b(d)
Span between 60 and 80 percent	Continuous	CEMS maintained as required	90	P-105-90(t)	40 CFR 60.48b(e)(1)
COMS checks	Continuous	COMS maintained as required	91	P-105-90(t)	40 CFR 60.13(d)(2)
COMS sampling	Continuous	COMS maintained as required	92	P-105-90(t)	40 CFR 60.13(e)(1)
COMS 6 minute averages	Continuous	COMS configured for calculations	93	P-105-90(t)	40 CFR 60.13(h)(1)
COMS 6 minute, 3hr rolling average	Continuous	COMS configured for calculations	94	P-105-90(t)	40 CFR 64.3
CAM limit 10%, 3 hr rolling average	Continuous	COMS configured for calculations	95	P-105-90(t)	40 CFR 64.1
CAM limit exceedance, corrective actions	N/A	None to report	96	P-105-90(t)	40 CFR 64.3
CEMS cycles	Continuous	CEMS configured for calculations	97	P-105-90(t)	40 CFR 60.13(e)(2)
Span for measuring NOx	Continuous	CEMS maintained as required	98	P-105-90(t)	40 CFR 60.48b(e)(2)
Zero and span calibration checks	Continuous	CEMS maintained an required	99	P-105-90(t)	40 CFR 60.13(d)(1)
NOx calibration adjustments	Continuous	CEMS maintained an required	100	P-105-90(t)	40 CFR 60.13(d)(1)
Valid data calculations	Continuous	CEMS maintained an required	101	P-105-90(t)	40 CFR 60.13(h)(2)
NOx emission alternate calculations	N/A	Not utlizing alternate calculations for NOx emissions	102	P-105-90(t)	40 CFR 60.48b(f)

Woodland Biomass Power LLC
Compliance Certification ATC C-21-48

Reporting Period: **August 26, 2021 to December 31, 2021**

Applicable Federal Requirement	Compliance Status	Method of Determination / Explanation of Compliance Status if Intermittent	Condition	Unit	rule citation
Excess emissions converted to lb/mmbtu	Continuous	CEMS configured for calculations	103	P-105-90(t)	40 CFR 60.13(h)(3)
Record fuel and capacity factor	Continuous	Records on file	104	P-105-90(t)	40 CFR 60.49b(d)
Keep records of fuel type and amount	Continuous	Records on file	105	P-105-90(t)	40 CFR 63.7540(a)(2)
CMS records	Continuous	Records on file	106	P-105-90(t)	40 CFR 63.7555(b)
Operating records	Continuous	Records on file	107	P-105-90(t)	40 CFR 63.7555(c)
Fuel use records	Continuous	Records on file	108	P-105-90(t)	40 CFR 63.7555(d)(1)-(12)
Boiler emission calculation records	Continuous	Records on file	109	P-105-90(t)	District Rule 3.1, §402
Quarterly report submittals	Continuous	Reports submitted to District and EPA	110	P-105-90(t)	District Rule 3.1, §402
Biomass fuel log records	Continuous	Records on file	111	P-105-90(t)	District Rule 3.5 §501
Boiler operation records	Continuous	Records on file	112	P-105-90(t)	District Rule 3.1, §402
5D notification and report submittal records	Continuous	NOCS and Semi-Annual Reports submitted as required	113	P-105-90(t)	40 CFR 63.7555(a)
Record keeping requirements of 40 CFR 64.9	Continuous	Records on file	114	P-105-90(t)	District Rule 3.1, §402
5 year record retention	Continuous	Records kept for 5 years	115	Facility-Wide	District Rule 3.1, §402
Records available for review	Continuous	Records available for review	116	Facility-Wide	40 CFR 63.7560
Mass emission exceedance reported	Continuous	CEMS configured for calculations, none to report	117	P-105-90(t)	District Rule 3.1, §402
Report emission or operating limit	Continuous	CEMS and DAHS configured for limit alarms	118	P-105-90(t)	40 CFR 63.7540(b)
Submit semi-annual compliance reports	Continuous	Semi-Annual Compliance Reports submitted July 2021 and Jan 2022.	119	P-105-90(t)	40 CFR 63.7550(h)(3)
Compliance report information	Continuous	Reports contain required information	120	P-105-90(t)	40 CFR 63.7550(a) and (c)-(e)
30-day notification for combustion	N/A	No new combustion for notification	121	P-105-90(t)	40 CFR 63.7545(g)
Submit CEMS performance evaluations within 60 days.	Continuous	Evaluation reports submitted within 60 days.	122	P-105-90(t)	40 CFR 63.7550(h)(2)

DTE Energy Services, Inc.

January 26, 2022

Mr. Kyle Rohlfing
Yolo-Solano Air Quality Management District
1947 Galileo Court, Suite 103
Davis, CA 95616

RE: Woodland Biomass Power, LLC – Permit No. P-105-90(t)
Boiler MACT Semi-Annual Compliance Report

Dear Mr. Rohlfing,

Woodland Biomass Power, LLC (WBP) is submitting the semi-annual compliance report as required by 40 CFR Part 63 Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters. WBP operates one boiler that is subject to 40 CFR 63 Subpart DDDDD. The following information is required for the semi-annual compliance report related to the boiler, which demonstrates compliance through performance testing.

63.7550(c)(5)(i):

Woodland Biomass Power, LLC
1786 E. Kentucky Ave.
Woodland, CA 95776

63.7550(c)(5)(ii):

Table 1. MPCC Process Unit Information

Emission Unit ID	Emission Unit Description	Rated Heat Input Capacity (mmbtu/hr)	Fuels Used	Emission Limits	Operating Parameter Limitations
P-105-90(t)	Biomass/NG Circulating Fluidized Bed (CFB) Combustor	330 MMBtu/hr	Biomass Natural Gas	See Below	See Below

Table 2. CFB Performance Test Result Summary

Pollutant	Emission Limit	Performance Test Result	Meets Emission Limit?
Filterable PM*	0.11 lb/MMBtu	3.6E-03 lb/MMBtu	Yes
HCl†	2.2E-02 lb/MMBtu	1.3E-02 lb/MMBtu	Yes
Hg†	5.7E-06 lb/MMBtu	1.5E-06 lb/MMBtu	Yes

Table 3. CFB Operating Parameters

Operating Parameter	Parameter Limit	Averaging Period
Steam Flow	312,510 lb/hr	30-day rolling average
SO2	3.0 lb/hr	30-day rolling average
Opacity	<10%	Daily Block Average
CO	310ppmvd@3%O2	30-day rolling average

63.7550(c)(5)(iii):

Compliance Period: July 1, 2021 through December 31, 2021.

63.7550(c)(5)(v):

Table 4. CMS Information

Pollutant	Manufacturer	Model	Date of Last CMS Cert or Audit
CO	Thermo Environmental	48i	12/30/2021
Opacity	Durag	D-2 290AW	12/30/2021
O2	Thermox	WDG	12/30/2021
SO2	Thermo Environmental	43i	12/30/2021

63.7550(c)(5)(vi):

Table 5. CFB Fuel Inputs

Fuel Type	Fuel Determination	Amount Used
Natural Gas	NA	2,858,300 Mscf
Woody Biomass	40 CFR 241.2 and 241.4	28,085 tons

The fuels combusted in the CFB were reviewed and meet the definitions of traditional fuels, clean cellulosic biomass, or identified as a fuel in the NSHM Rule.

Natural gas is a fossil fuel that clearly meets the NHSM 40 CFR 241.2 definition of traditional fuels.
Green wood is listed both in the *traditional fuels* and the *clean cellulosic biomass* definition.
Pallets qualify as *clean cellulosic biomass* as long as they are from untreated wood.

63.7550(c)(5)(vii):

The most recent performance test was conducted on December 29-30, 2021. The results of the testing have not been received as of the date of this report. There have been no operational changes since the last performance test that would increase emissions.

63.7550(c)(5)(viii):

There have been no new fuels combusted in the CFB since the last performance test.

63.7550(c)(5)(ix):

There have been no new fuels combusted in the CFB since the last performance test.

63.7550(c)(5)(xi):

There were no deviations from the emission limits or the operating limits identified above in Table 3 during this reporting period.

63.7550(c)(5)(xii):

Periods during which the CMS were out of control during the reporting period have been reported during the quarterly emissions reports for Q3 and Q4 2021.

63.7550(c)(5)(xiii):

There were no malfunctions of the boilers, air pollution control or monitoring systems during the reporting period.

63.7550(c)(5)(xv):

WBP does not demonstrate compliance by emission averaging.

63.7550(c)(5)(xvi):

30 day rolling averages for SO2 are under the limit of 3.0 lb/hr.

63.7550(c)(5)(xvii):

See below for the certification statement.

63.7550(c)(5)(xviii):

Off-Line Date/Time	On-Line Date/Time	Hours Off-Line	Actions to Minimize Emissions	Corrective Actions to Restore to Normal Operations
2/29/2020 23:45	9/1/2021 00:00	13,176:15	Controlled shutdown, all control equipment operating properly	Performed startup activities as planned
10/1/2021 00:00	11/30/2021 07:00	3655:00	Controlled shutdown, all control equipment operating properly	None – planned outage
12/2/2021 08:11	12/2/2021 09:09	00:58	Turbine trip, all control equipment operating properly	Repaired feedwater to steam drum

All records required by the monitoring plan during startups and shutdowns are kept on site.

If you have any questions, please feel free to contact Mary Nydam at (734) 740-8152, mary.nydam@dteenergy.com or Dionisio Araza at Dionisio.Araza@dteenergy.com.

As a Responsible Official, I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate and complete.

SINCERELY,



Justin Crook
Plant Manager, Woodland Biomass Power

Attachments

cc: USEPA – Electronic submittal via CEDRI
Scott Klipa, DTE Energy Resources (electronic only)

Woodland Biomass Power, LLC

January 26, 2022

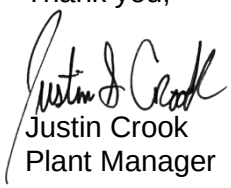
Director, Air and Toxics Division
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Re: Quarterly Opacity and NOx reporting

Attached are the 4th Quarter 2021 Excess Emissions Report and CMS Performance Summary for both NOx and Opacity. There have been no changes made which substantially affect the performance of the steam generating unit. The unit restarted operation on September 1, 2021 after a new Power Purchase Agreement was approved.

I certify that the information contained in this report is true, accurate, and complete.
If you have any questions, please contact me at 530-661-6095.

Thank you,



Justin Crook
Plant Manager

Cc: Jeff Pinnow, Compliance Manager, Y/S AQMD
Mary Nydam, DTEER
Dionisio Araza, Woodland Biomass Power

Woodland Biomass Power, LLC

SUMMARY REPORT for NOX

Table I for NOX reporting

Plant Description	
Pollutant:	Nox - 30 day rolling average is 0.07 lb./mmBTU
Reporting Period Dates:	1 October 2021 to 31 December 2021
Emissions Limitations:	631.2 lbs per day and 0.08 #/ mmBTU
Address:	1786 East Kentucky Avenue, Woodland CA.
Monitor Manufacturer and Model No:	Thermo Instruments Model 42i
Latest CMS Certification or Audit:	12/30/2021
Process Unit Description:	Circulating Fluidized Bed Boiler
Total source Operating Time in Reporting Period:	749 hours

Table II for NOX reporting

	Nox Incidents for the Reporting Period
Date:	Description
None to report	

Table III for NOX reporting

	Emission Data Summary	Incidents	Duration (hours)
	Total source operation time in reporting period		749
1	Duration of excess emissions in reporting period due to:		
	a. Start up / shutdown	0	0
	b. Control equipment problems	0	0
	c. Process Problems	0	0
	d. Other known causes	0	0
	e. Unknown causes	0	0
2	Total duration of excess emission	0	0
3	Total duration of excess emissions / (Total source operating time) x 100 = % excess emission		0.00%

Table IV for NOX reporting

	CMS Performance Summary	Incidents	Duration (hours)
	Total source operation time in reporting period		749
1	CMS downtime in reporting period due to:		
	a. Monitor equipment malfunctions (failed calibration)		0.00
	b. Non-monitor equipment malfunctions (noise)	2	0.17
	c. Quality assurance calibration (CGA)	0	0.00
	d. Other known causes (monitor maintenance)	16	14.83
	e. Unknown causes		0.00
2	Total CMS downtime		0.77
3	Total CMS downtime / (Total source operating time) x 100 = % CMS downtime		1.9%

Woodland Biomass Power, LLC

SUMMARY REPORT for Opacity

Table I for Opacity reporting

Plant Description	
Pollutant:	Opacity
Reporting Period Dates:	1 October 2021 to 31 December 2021
Emissions Limitations:	20% for 6 minutes except one 6 minute period an hour <27%
Address:	1786 East Kentucky Avenue, Woodland CA.
Monitor Manufacturer and Model No:	Durag D-R 290AW
Latest CMS Certification or Audit:	12/30/2021
Process Unit Description:	Circulating Fluidized Bed Boiler
Total source Operating Time in Reporting Period:	749 hours

Table II for Opacity reporting

	Opacity Incidents for the Reporting Period
Date:	Description
None to Report	

Table III for Opacity reporting

	Emission Data Summary	Incidents	Duration (hours)
	Total source operation time in reporting period		749
1	Duration of excess emissions in reporting period due to:		
	a. Start up / shutdown	0	0
	b. Control equipment problems	0	0
	c. Process Problems	0	0
	d. Other known causes	0	0
	e. Unknown causes	0	0
2	Total duration of excess emission	0	0
3	Total duration of excess emissions / (Total source operating time) x 100 = % excess emission		0.00%

Table IV for Opacity reporting

	CMS Performance Summary	Incidents	Duration (hours)
	Total source operation time in reporting period		749
1	CMS downtime in reporting period due to:		
	a. Monitor equipment malfunctions		0.00
	b. Non-monitor equipment malfunctions (noise)	0	0.00
	c. Quality assurance calibration		0.00
	d. Other known causes (monitor maintenance)	2	1.00
	e. Unknown causes		0.00
2	Total CMS downtime		1.00
3	Total CMS downtime / (Total source operating time) x 100 = % CMS downtime		0.13 %

Woodland Biomass Power Ltd.

Excess Emissions Report

Created on : Jan 20, 2022 07:17:36

Woodland, CA

10/1/2021 - 12/31/2021

Boiler # 1

Timestamp	OPACITY, % 6-Min Block Avg Limit Based Hi Hi	Limit	Reason Code	Comments
12/29/2021 9:53	38.10	20.00	10	Montrose installing rata equipment
12/29/2021 10:35	28.90	20.00	9	
12/29/2021 10:41	85.90	20.00	9	
12/29/2021 10:47	85.90	20.00	9	
12/29/2021 10:53	21.70	20.00	9	
12/29/2021 15:17	37.90	20.00	9	
12/29/2021 15:23	47.10	20.00	9	
12/30/2021 13:47	23.00	20.00	9	

8

Reason Code Definitions

10 = Reason in Comment Section9 = Unknown

Excess Emissions Report

Timestamp	OPACITY, % 1-Hr Block Avg Limit Based Hi Hi	Limit	Reason Code	Comments
12/29/2021 10:00	23.30	20.00	9	

1

Reason Code Definitions

9 = Unknown

Excess Emissions Report

Timestamp	OPACITY, % 24-Hr Block Avg Limit Based Hi Hi	Limit	Reason Code	Comments

There were no periods in excess of standard.

0

Reason Code Definitions

Excess Emissions Report

Timestamp	NOX, LB/HR 24-Hr Block Avg Limit Based Hi Hi	Limit	Reason Code	Comments

There were no periods in excess of standard.

0

Reason Code Definitions

Availability Report

Start Time	End Time	OPACITY, %	Reason Code	Comments
10/11/2021 10:06	10/11/2021 10:15	IOS		Plant Offline - Outage
10/22/2021 18:32	10/23/2021 3:12	COS		Plant Offline - Outage
11/30/2021 1:00	11/30/2021 1:02	COS		Plant Offline - Outage
12/10/2021 8:27	12/10/2021 8:32	COS		
12/26/2021 8:35	12/26/2021 9:40	COS		

Reason Code Definitions

OPACITY, %

I/O SYS OUT <IOS>	for	0 hours 10 minutes (0.01%)
CEMDAS OUT OF SERVICE <COS>	for	9 hours 56 minutes (0.45%)
MONITOR OUT OF SERVICE <MOS>	for	0 hours 0 minutes (0.00%)
MONITOR OUT OF CONTROL <MOC>	for	0 hours 0 minutes (0.00%)
MONITOR FAULT <FLT>	for	0 hours 0 minutes (0.00%)
MONITOR AVAILABLE		2197 hours 54 minutes(99.54%)

Reason Code Definitions

Availability Report

Start Time	End Time	NOX, PPM	Reason Code	Comments
10/3/2021 6:34	10/4/2021 5:59	MOC		Plant Offline - Outage
10/4/2021 6:35	10/5/2021 5:59	MOC		Plant Offline - Outage
10/5/2021 6:34	10/6/2021 5:59	MOC		Plant Offline - Outage
10/6/2021 6:34	10/7/2021 5:59	MOC		Plant Offline - Outage
10/7/2021 6:34	10/8/2021 5:59	MOC		Plant Offline - Outage
10/8/2021 6:34	10/9/2021 5:59	MOC		Plant Offline - Outage
10/9/2021 6:34	10/10/2021 5:59	MOC		Plant Offline - Outage
10/10/2021 6:35	10/11/2021 5:59	MOC		Plant Offline - Outage
10/11/2021 6:34	10/11/2021 10:04	MOC		Plant Offline - Outage
10/11/2021 10:05	10/11/2021 10:05	COS		Plant Offline - Outage
10/11/2021 10:06	10/11/2021 10:15	IOS		Plant Offline - Outage
10/11/2021 10:16	10/12/2021 5:59	MOC		Plant Offline - Outage
10/12/2021 6:35	10/13/2021 5:59	MOC		Plant Offline - Outage
10/13/2021 6:34	10/14/2021 5:59	MOC		Plant Offline - Outage
10/14/2021 6:35	10/15/2021 5:59	MOC		Plant Offline - Outage
10/15/2021 6:34	10/16/2021 5:59	MOC		Plant Offline - Outage
10/16/2021 6:34	10/17/2021 5:59	MOC		Plant Offline - Outage
10/17/2021 6:34	10/18/2021 5:59	MOC		Plant Offline - Outage
10/18/2021 6:34	10/19/2021 5:59	MOC		Plant Offline - Outage
10/19/2021 6:34	10/20/2021 5:59	MOC		Plant Offline - Outage
10/20/2021 6:34	10/21/2021 5:59	MOC		Plant Offline - Outage

Reason Code Definitions

Availability Report

Start Time	End Time	NOX, PPM	Reason Code	Comments
10/21/2021 6:34	10/22/2021 5:59	MOC		Plant Offline - Outage
10/22/2021 6:34	10/22/2021 18:31	MOC		Plant Offline - Outage
10/22/2021 18:32	10/23/2021 3:12	COS		Plant Offline - Outage
10/23/2021 3:13	10/23/2021 5:59	MOC		Plant Offline - Outage
10/23/2021 6:34	10/24/2021 5:59	MOC		Plant Offline - Outage
10/24/2021 6:35	10/25/2021 5:59	MOC		Plant Offline - Outage
10/25/2021 6:34	10/26/2021 5:59	MOC		Plant Offline - Outage
10/26/2021 6:35	10/27/2021 5:59	MOC		Plant Offline - Outage
10/27/2021 6:34	10/28/2021 5:59	MOC		Plant Offline - Outage
10/28/2021 6:35	10/29/2021 5:59	MOC		Plant Offline - Outage
10/29/2021 6:34	10/30/2021 5:59	MOC		Plant Offline - Outage
10/30/2021 6:34	10/31/2021 5:59	MOC		Plant Offline - Outage
10/31/2021 6:34	11/1/2021 5:59	MOC		Plant Offline - Outage
11/1/2021 6:34	11/2/2021 5:59	MOC		Plant Offline - Outage
11/2/2021 6:34	11/3/2021 5:59	MOC		Plant Offline - Outage
11/3/2021 6:34	11/4/2021 5:59	MOC		Plant Offline - Outage
11/4/2021 6:34	11/5/2021 5:59	MOC		Plant Offline - Outage
11/5/2021 6:34	11/6/2021 5:59	MOC		Plant Offline - Outage
11/6/2021 6:35	11/7/2021 5:59	MOC		Plant Offline - Outage
11/7/2021 6:34	11/8/2021 5:59	MOC		Plant Offline - Outage
11/8/2021 6:35	11/9/2021 5:59	MOC		Plant Offline - Outage

Reason Code Definitions

Availability Report

Start Time	End Time	NOX, PPM	Reason Code	Comments
11/9/2021 6:34	11/10/2021 5:59	MOC		Plant Offline - Outage
11/10/2021 6:35	11/11/2021 5:59	MOC		Plant Offline - Outage
11/11/2021 6:34	11/12/2021 5:59	MOC		Plant Offline - Outage
11/12/2021 6:34	11/13/2021 5:59	MOC		Plant Offline - Outage
11/13/2021 6:34	11/14/2021 5:59	MOC		Plant Offline - Outage
11/14/2021 6:34	11/15/2021 5:59	MOC		Plant Offline - Outage
11/15/2021 6:34	11/16/2021 5:59	MOC		Plant Offline - Outage
11/16/2021 6:34	11/17/2021 5:59	MOC		Plant Offline - Outage
11/17/2021 6:34	11/18/2021 5:59	MOC		Plant Offline - Outage
11/18/2021 6:34	11/19/2021 5:59	MOC		Plant Offline - Outage
11/19/2021 6:34	11/20/2021 5:59	MOC		Plant Offline - Outage
11/20/2021 6:34	11/21/2021 5:59	MOC		Plant Offline - Outage
11/21/2021 6:35	11/22/2021 5:59	MOC		Plant Offline - Outage
11/22/2021 6:34	11/23/2021 5:59	MOC		Plant Offline - Outage
11/23/2021 6:35	11/24/2021 5:59	MOC		Plant Offline - Outage
11/24/2021 6:34	11/25/2021 5:59	MOC		Plant Offline - Outage
11/25/2021 6:35	11/25/2021 21:56	MOC		Plant Offline - Outage
11/25/2021 21:57	11/26/2021 1:53	MOS		Plant Offline - Outage
11/26/2021 1:56	11/26/2021 5:59	MOC		Plant Offline - Outage
11/30/2021 1:00	11/30/2021 1:02	COS		Plant Offline - Outage
12/10/2021 8:27	12/10/2021 8:32	COS		

Reason Code Definitions

Availability Report

Start Time	End Time	NOX, PPM	Reason Code	Comments
12/18/2021 11:57	12/18/2021 12:36	MOS		
12/18/2021 13:11	12/18/2021 13:12	MOS		
12/21/2021 7:47	12/21/2021 10:11	MOS		
12/22/2021 10:24	12/22/2021 12:27	MOS		
12/22/2021 13:37	12/22/2021 14:13	MOS		
12/26/2021 8:35	12/26/2021 9:40	COS		
12/26/2021 9:44	12/26/2021 12:16	MOS		
12/27/2021 9:29	12/27/2021 11:24	MOS		
12/29/2021 7:00	12/29/2021 8:36	MOS		
12/29/2021 14:50	12/29/2021 14:57	MOS		
12/29/2021 20:37	12/29/2021 20:37	=E16		
12/29/2021 20:42	12/29/2021 20:42	MOS		
12/29/2021 22:21	12/29/2021 22:48	MOS		
12/30/2021 6:59	12/30/2021 8:44	MOS		RATA Testing
12/30/2021 10:08	12/30/2021 10:20	MOS		RATA Testing
12/30/2021 19:15	12/30/2021 19:15	MOS		RATA Testing
12/31/2021 4:55	12/31/2021 5:48	MOS		

Reason Code Definitions

NOX, PPM

MONITOR OUT OF CONTROL <MOC>	for	1252 hours 20 minutes (56.72%)
CEMDAS OUT OF SERVICE <COS>	for	9 hours 57 minutes (0.45%)
I/O SYS OUT <IOS>	for	0 hours 10 minutes (0.01%)
MONITOR OUT OF SERVICE <MOS>	for	19 hours 23 minutes (0.88%)
MONITOR FAULT <FLT>	for	0 hours 0 minutes (0.00%)
MONITOR AVAILABLE		926 hours 10 minutes(41.95%)

Reason Code Definitions

Woodland Biomass Power, LLC

April 26, 2022

Director, Air and Toxics Division
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Re: Quarterly Opacity and NOx reporting

Attached are the 1st Quarter 2022 Excess Emissions Report and CMS Performance Summary for both NOx and Opacity. There have been no changes made which substantially affect the performance of the steam generating unit. The unit restarted operation on September 1, 2021 after a new Power Purchase Agreement was approved.

I certify that the information contained in this report is true, accurate, and complete.
If you have any questions, please contact Dionisio Araza at (510) 396-3529 or dionisio.araza@dteenergy.com, or myself at (530) 661-6095 or justin.crook@dteenergy.com.

Sincerely,

Justin Crook
Plant Manager

Cc: Jeff Pinnow, Compliance Manager, Y/S AQMD
Mary Nydam, DTEER
Dionisio Araza, Woodland Biomass Power

Woodland Biomass Power, LLC

SUMMARY REPORT for Opacity

Table I for Opacity reporting

Plant Description	
Pollutant:	Opacity
Reporting Period Dates:	1 January 2022 to 31 March 2022
Emissions Limitations:	20% for 6 minutes except one 6 minute period an hour <27%
Address:	1786 East Kentucky Avenue, Woodland CA.
Monitor Manufacturer and Model No:	Durag D-R 290AW
Latest CMS Certification or Audit:	03/29/2022
Process Unit Description:	Circulating Fluidized Bed Boiler
Total source Operating Time in Reporting Period:	1861 hours

Table II for Opacity reporting

	Opacity Incidents for the Reporting Period
Date:	Description
None to Report	

Table III for Opacity reporting

	Emission Data Summary	Incidents	Duration (hours)
	Total source operation time in reporting period		1861
1	Duration of excess emissions in reporting period due to:		
	a. Start up / shutdown	0	0
	b. Control equipment problems	0	0
	c. Process Problems	0	0
	d. Other known causes	0	0
	e. Unknown causes	0	0
2	Total duration of excess emission	0	0
3	Total duration of excess emissions / (Total source operating time) x 100 = % excess emission		0.00%

Table IV for Opacity reporting

	CMS Performance Summary	Incidents	Duration (hours)
	Total source operation time in reporting period		1861
1	CMS downtime in reporting period due to:		
	a. Monitor equipment malfunctions	0	0.00
	b. Non-monitor equipment malfunctions (noise)	6	0.73
	c. Quality assurance calibration	1	2.3
	d. Other known causes (monitor maintenance)	3	2.2
	e. Unknown causes	0	0.00
2	Total CMS downtime	10	5.23
3	Total CMS downtime / (Total source operating time) x 100 = % CMS downtime		0.28 %

Woodland Biomass Power, LLC

SUMMARY REPORT for NOX

Table I for NOX reporting

Plant Description	
Pollutant:	Nox - 30 day rolling average is 0.07 lb./mmBTU
Reporting Period Dates:	1 January 2022 to 31 March 2022
Emissions Limitations:	631.2 lbs per day and 0.08 #/ mmBTU
Address:	1786 East Kentucky Avenue, Woodland CA.
Monitor Manufacturer and Model No:	Thermo Instruments Model 42i
Latest CMS Certification or Audit:	03/30/2022
Process Unit Description:	Circulating Fluidized Bed Boiler
Total source Operating Time in Reporting Period:	1861 hours

Table II for NOX reporting

	Nox Incidents for the Reporting Period
Date:	Description
3/27/2022	NOx analyzer span failed calibration

Table III for NOX reporting

	Emission Data Summary	Incidents	Duration (hours)
	Total source operation time in reporting period		1861
1	Duration of excess emissions in reporting period due to:		
	a. Start up / shutdown	0	0
	b. Control equipment problems	0	0
	c. Process Problems	0	0
	d. Other known causes	0	0
	e. Unknown causes	0	0
2	Total duration of excess emission	0	0
3	Total duration of excess emissions / (Total source operating time) x 100 = % excess emission		0.00%

Table IV for NOX reporting

	CMS Performance Summary	Incidents	Duration (hours)
	Total source operation time in reporting period		1861
1	CMS downtime in reporting period due to:		
	a. Monitor equipment malfunctions (failed calibration)	1	2.92
	b. Non-monitor equipment malfunctions (noise)	83	41.23
	c. Quality assurance calibration (CGA)	1	2.3
	d. Other known causes (monitor maintenance)	13	6.95
	e. Unknown causes	0	0.00
2	Total CMS downtime	98	53.4
3	Total CMS downtime / (Total source operating time) x 100 = % CMS downtime		2.87%

Woodland Biomass Power Ltd.

Woodland, CA

Excess Emissions Report

1/1/2022 - 3/31/2022

Created on : Apr 14, 2022 07:11:08

Boiler # 1

Timestamp	OPACITY, % 6-Min Block Avg Limit Based Hi Hi	Limit	Reason Code	Comments
3/8/2022 12:23	30.40	20.00	9	Plant offline-Outage. Lens of Opacity monitor was dirty. Lens was cleaned.

1

Reason Code Definitions

9 = Unknown

Timestamp	OPACITY, % 1-Hr Block Avg Limit Based Hi Hi	Limit	Reason Code	Comments

There were no periods in excess of standard.

0

Reason Code Definitions

Timestamp	OPACITY, % 24-Hr Block Avg Limit Based Hi Hi	Limit	Reason Code	Comments

There were no periods in excess of standard.

0

Reason Code Definitions

Excess Emissions Report

Timestamp	NOX, LB/HR 24-Hr Block Avg Limit Based Hi Hi	Limit	Reason Code	Comments

There were no periods in excess of standard.

0

Reason Code Definitions

Woodland Biomass Power Ltd.

Woodland, CA

Availability Report

1/1/2022 - 3/31/2022

Created on : Apr 21, 2022 13:09:52

Boiler # 1

Start Time	End Time	OPACITY, %	Reason Code	Comments
1/1/2022 8:42	1/1/2022 9:09	COS		
1/11/2022 5:45	1/11/2022 5:47	COS		
1/26/2022 8:16	1/26/2022 8:17	COS		
2/25/2022 10:03	2/25/2022 10:05	COS		
3/3/2022 8:41	3/3/2022 8:55	MOS		Plant Offline-Outage
3/3/2022 8:56	3/3/2022 14:12	COS		Plant Offline-Outage
3/3/2022 14:13	3/3/2022 14:13	MOS		Plant Offline-Outage
3/4/2022 14:54	3/4/2022 18:59	IOS		Plant Offline-Outage
3/11/2022 15:07	3/11/2022 15:10	COS		Plant Offline-Outage
3/11/2022 16:04	3/11/2022 16:06	COS		Plant Offline-Outage
3/13/2022 8:24	3/13/2022 8:27	COS		
3/13/2022 10:17	3/13/2022 10:19	COS		
3/24/2022 8:15	3/24/2022 8:58	MOS		
3/24/2022 9:14	3/24/2022 10:43	MOS		
3/29/2022 7:25	3/29/2022 9:45	MOS		
3/30/2022 10:52	3/30/2022 10:55	COS		
3/30/2022 11:08	3/30/2022 11:17	COS		
3/30/2022 12:12	3/30/2022 12:12	MOS		

Reason Code Definitions

Availability Report

1/1/2022 - 3/31/2022

OPACITY, %

CEMDAS OUT OF SERVICE <COS>for	6 hours 21 minutes	(0.29%)
MONITOR OUT OF SERVICE <MOS>for	4 hours 52 minutes	(0.23%)
I/O SYS OUT <IOS> for	4 hours 6 minutes	(0.19%)
MONITOR OUT OF CONTROL <MOC>for	0 hours 0 minutes	(0.00%)
MONITOR FAULT <FLT> for	0 hours 0 minutes	(0.00%)
MONITOR AVAILABLE	2144 hours 41 minutes	(99.29%)

Reason Code Definitions

Availability Report

1/1/2022 - 3/31/2022

Start Time	End Time	NOX, PPM	Reason Code	Comments
1/1/2022 4:59	1/1/2022 5:48	MOS		
1/1/2022 8:42	1/1/2022 9:09	COS		
1/1/2022 9:13	1/1/2022 10:23	MOS		
1/1/2022 12:35	1/1/2022 13:02	MOS		
1/1/2022 13:09	1/1/2022 13:26	MOC		
1/1/2022 13:27	1/1/2022 14:23	MOS		
1/1/2022 14:26	1/1/2022 14:27	MOC		
1/2/2022 4:59	1/2/2022 5:49	MOS		
1/3/2022 4:59	1/3/2022 5:51	MOS		
1/4/2022 4:59	1/4/2022 5:49	MOS		
1/5/2022 4:59	1/5/2022 5:49	MOS		
1/6/2022 4:59	1/6/2022 5:49	MOS		
1/8/2022 9:27	1/8/2022 10:18	MOS		
1/9/2022 8:11	1/9/2022 8:45	MOS		
1/10/2022 6:39	1/10/2022 7:17	MOS		
1/10/2022 8:24	1/10/2022 8:30	MOS		
1/11/2022 5:45	1/11/2022 5:47	COS		
1/11/2022 5:53	1/11/2022 5:56	MOS		
1/12/2022 5:52	1/12/2022 5:56	MOS		
1/12/2022 12:09	1/12/2022 12:22	MOS		
1/13/2022 5:52	1/13/2022 5:56	MOS		

Reason Code Definitions

Start Time	End Time	NOX, PPM	Reason Code	Comments
1/14/2022 5:52	1/14/2022 5:57	MOS		
1/15/2022 5:26	1/15/2022 5:48	MOS		
1/15/2022 9:02	1/15/2022 9:12	MOS		
1/15/2022 10:34	1/15/2022 10:50	MOS		
1/16/2022 5:29	1/16/2022 5:50	MOS		
1/17/2022 5:27	1/17/2022 5:49	MOS		
1/18/2022 5:29	1/18/2022 5:53	MOS		
1/18/2022 6:31	1/18/2022 6:48	MOS		
1/19/2022 5:29	1/19/2022 5:45	MOS		
1/20/2022 5:36	1/20/2022 5:49	MOS		
1/20/2022 7:00	1/20/2022 7:10	MOS		
1/21/2022 5:27	1/21/2022 5:50	MOS		
1/21/2022 12:43	1/21/2022 13:49	MOS		
1/22/2022 5:26	1/22/2022 5:48	MOS		
1/22/2022 6:58	1/22/2022 7:19	MOS		
1/23/2022 5:24	1/23/2022 5:47	MOS		
1/24/2022 5:26	1/24/2022 5:48	MOS		
1/25/2022 5:21	1/25/2022 5:48	MOS		
1/26/2022 5:22	1/26/2022 5:41	MOS		
1/26/2022 8:16	1/26/2022 8:17	COS		
1/27/2022 5:23	1/27/2022 5:48	MOS		

Reason Code Definitions

Availability Report

Start Time	End Time	NOX, PPM	Reason Code	Comments
1/28/2022 5:24	1/28/2022 5:50	MOS		
1/29/2022 5:23	1/29/2022 5:50	MOS		
1/30/2022 5:23	1/30/2022 5:49	MOS		
1/31/2022 5:21	1/31/2022 5:47	MOS		
2/1/2022 5:27	2/1/2022 5:47	MOS		
2/2/2022 5:25	2/2/2022 5:47	MOS		
2/3/2022 5:28	2/3/2022 5:47	MOS		
2/4/2022 5:29	2/4/2022 5:48	MOS		
2/5/2022 5:25	2/5/2022 5:44	MOS		
2/6/2022 5:25	2/6/2022 5:44	MOS		
2/7/2022 5:26	2/7/2022 5:47	MOS		
2/8/2022 5:24	2/8/2022 5:44	MOS		
2/9/2022 5:25	2/9/2022 5:46	MOS		
2/10/2022 5:26	2/10/2022 5:44	MOS		
2/11/2022 5:24	2/11/2022 5:45	MOS		
2/11/2022 13:10	2/11/2022 13:18	MOS		
2/12/2022 5:25	2/12/2022 5:44	MOS		
2/13/2022 5:26	2/13/2022 5:44	MOS		
2/14/2022 5:29	2/14/2022 5:46	MOS		
2/15/2022 5:22	2/15/2022 5:48	MOS		
2/16/2022 5:23	2/16/2022 5:44	MOS		

Reason Code Definitions

Start Time	End Time	NOX, PPM	Reason Code	Comments
2/17/2022 5:20	2/17/2022 5:48	MOS		
2/18/2022 5:34	2/18/2022 5:47	MOS		
2/19/2022 5:22	2/19/2022 5:44	MOS		
2/20/2022 5:27	2/20/2022 5:46	MOS		
2/21/2022 5:23	2/21/2022 5:43	MOS		
2/22/2022 5:23	2/22/2022 5:46	MOS		
2/23/2022 5:25	2/23/2022 5:47	MOS		
2/24/2022 5:24	2/24/2022 5:45	MOS		
2/25/2022 5:27	2/25/2022 5:47	MOS		
2/25/2022 10:03	2/25/2022 10:05	COS		
2/26/2022 5:25	2/26/2022 5:45	MOS		
2/27/2022 5:25	2/27/2022 5:45	MOS		
2/28/2022 5:26	2/28/2022 5:42	MOS		
3/1/2022 5:22	3/1/2022 5:45	MOS		Plant Offline-Outage
3/1/2022 12:56	3/1/2022 15:47	MOS		Plant Offline-Outage
3/2/2022 9:19	3/2/2022 14:15	MOS		Plant Offline-Outage
3/3/2022 5:41	3/3/2022 6:24	MOS		Plant Offline-Outage
3/3/2022 8:41	3/3/2022 8:55	MOS		Plant Offline-Outage
3/3/2022 8:56	3/3/2022 14:12	COS		Plant Offline-Outage
3/3/2022 14:13	3/3/2022 14:14	MOS		Plant Offline-Outage
3/3/2022 16:06	3/3/2022 16:08	MOS		Plant Offline-Outage

Reason Code Definitions

Availability Report

1/1/2022 - 3/31/2022

Start Time	End Time	NOX, PPM	Reason Code	Comments
3/3/2022 17:54	3/3/2022 18:03	MOS		Plant Offline-Outage
3/4/2022 6:59	3/4/2022 14:19	MOS		Plant Offline-Outage
3/4/2022 14:54	3/4/2022 18:58	IOS		Plant Offline-Outage
3/5/2022 5:42	3/5/2022 5:43	MOS		Plant Offline-Outage
3/5/2022 6:34	3/5/2022 6:36	MOC		Plant Offline-Outage
3/5/2022 6:37	3/10/2022 14:58	MOS		Plant Offline-Outage
3/10/2022 15:01	3/10/2022 15:06	MOC		Plant Offline-Outage
3/11/2022 13:53	3/11/2022 14:02	MOS		Plant Offline-Outage
3/11/2022 15:07	3/11/2022 15:10	COS		Plant Offline-Outage
3/11/2022 16:04	3/11/2022 16:06	COS		Plant Offline-Outage
3/13/2022 8:24	3/13/2022 8:27	COS		
3/13/2022 10:17	3/13/2022 10:19	COS		
3/19/2022 8:26	3/19/2022 8:41	MOS		
3/19/2022 10:45	3/19/2022 11:33	MOS		
3/21/2022 7:11	3/21/2022 8:54	MOS		
3/21/2022 9:29	3/21/2022 9:29	MOS		
3/21/2022 9:33	3/21/2022 9:34	MOS		
3/21/2022 9:44	3/21/2022 13:56	MOS		
3/26/2022 6:35	3/26/2022 6:55	MOS		
3/26/2022 7:31	3/26/2022 11:30	MOC		
3/26/2022 12:06	3/26/2022 13:55	MOC		

Reason Code Definitions

Start Time	End Time	NOX, PPM	Reason Code	Comments
3/26/2022 13:56	3/29/2022 11:57	MOS		NOx analyzer span failed calibration; replaced analyzer pump.
3/29/2022 12:00	3/29/2022 12:02	MOC		
3/29/2022 12:53	3/29/2022 14:08	MOS		
3/30/2022 7:36	3/30/2022 10:51	MOS		CGA Linearity test
3/30/2022 10:52	3/30/2022 10:55	COS		
3/30/2022 10:56	3/30/2022 11:07	MOS		
3/30/2022 11:08	3/30/2022 11:17	COS		
3/30/2022 11:18	3/30/2022 11:43	MOS		
3/31/2022 6:50	3/31/2022 7:34	MOS		

Reason Code Definitions

Availability Report

NOX, PPM

MONITOR OUT OF SERVICE <MOS>	for	258 hours 23 minutes (11.96%)
CEMDAS OUT OF SERVICE <COS>	for	6 hours 21 minutes (0.29%)
MONITOR OUT OF CONTROL <MOC>	for	6 hours 22 minutes (0.29%)
I/O SYS OUT <IOS>	for	4 hours 5 minutes (0.19%)
MONITOR FAULT <FLT>	for	0 hours 0 minutes (0.00%)
MONITOR AVAILABLE		1884 hours 49 minutes(87.26%)

Reason Code Definitions

SOURCE TEST REPORT
2021 ANNUAL COMPLIANCE/RATA/MACT TESTING
WOODLAND BIOMASS POWER, LLC
BED BOILER EXHAUST
WOODLAND, CALIFORNIA

Prepared For:

Woodland Biomass Power, LLC
1786 East Kentucky Avenue
Woodland, California 95776

For Submittal To:

Yolo-Solano Air Quality Management District
1947 Galileo Court, Suite 103
Davis, California 95618

Prepared By:

Montrose Air Quality Services, LLC
2825 Verne Roberts Circle
Antioch, California 94509

Document Number:	**W005AS-003071-RT-1942**
Test Dates:	**December 29-30, 2021**
Submittal Date:	**February 22, 2022**

REVIEW AND CERTIFICATION

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

Signature:  Date: 02 / 22 / 2022

Name: Robert Odell Title: VP, Technical

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: Dan Duncan Date: 02 / 22 / 2022

Name: Dan Duncan Title: Reporting Hub Manager

TABLE OF CONTENTS

SECTION **PAGE**

1.0 INTRODUCTION 6
1.1 SUMMARY OF TEST PROGRAM 6
1.2 KEY PERSONNEL 9
2.0 PLANT AND SAMPLING LOCATION DESCRIPTIONS 11
2.1 PROCESS DESCRIPTION, OPERATION, AND CONTROL EQUIPMENT 11
2.2 FLUE GAS SAMPLING LOCATION 11
2.3 OPERATING CONDITIONS AND PROCESS DATA 11
3.0 SAMPLING AND ANALYTICAL PROCEDURES 12
3.1 TEST METHODS 12
3.1.1 EPA Method 1 12
3.1.2 EPA Method 2 12
3.1.3 EPA Methods 3A, 7E, and 10 12
3.1.4 EPA Method 4 13
3.1.5 EPA Method 5 14
3.1.6 EPA Method 6 15
3.1.7 EPA Method 18 16
3.1.8 EPA Method 26A 17
3.1.9 EPA Method 30B 17
3.1.10 EPA Method 201A 18
3.1.11 EPA Method 202 19
3.1.12 Bay Area AQMD Method ST-1B 20
3.1.13 ASTM D2015 21
3.1.14 EPA Method ALT-009 22
3.1.15 EPA Method ALT-011 22
3.2 PROCESS TEST METHODS 22
4.0 TEST DISCUSSION AND RESULTS 23
4.1 FIELD TEST DEVIATIONS AND EXCEPTIONS 23
4.2 PRESENTATION OF RESULTS 23
5.0 INTERNAL QA/QC ACTIVITIES 35
5.1 QA/QC AUDITS 35
5.2 QA/QC DISCUSSION 35
5.3 QUALITY STATEMENT 35

LIST OF APPENDICES

A FIELD DATA AND CALCULATIONS 37
A.1 Sampling Locations 38
A.2 Ammonia Data Sheets 41

A.3 PM_{10} Data Sheets 46
A.4 Filterable PM / HCl Data Sheets 51
A.5 SO_2 / Flow Data Sheets 56
A.6 Hg Data Sheets 69
A.7 Instrumental Test Method Data 73
A.8 PM Calculations/Results 109
A.9 HCl Calculations/Results 112
A.10 Gaseous Calculations/Results 114
A.11 Ammonia Calculations/Results 116
A.12 Mercury Calculations/Results 118
A.13 RATA Calculations/Results 121
A.14 Example Calculations 131
A.15 General Equations 144
B FACILITY CEMS AND PROCESS DATA 150
C LABORATORY ANALYSIS DATA 191
C.1 PM Analyses 192
C.2 Ammonia Analyses 204
C.3 SO_2 Analysis 209
C.4 HCl Analysis 214
C.5 Mercury Analysis 222
C.6 VOC Analysis 262
C.7 Fuel Analysis 271
D QUALITY ASSURANCE/QUALITY CONTROL 275
D.1 Units and Abbreviations 276
D.2 Manual Test Method QA/QC Data 284
D.3 Instrumental Test Method QA/QC Data 295
D.4 Accreditation Information/Certifications 307
D.5 Quality Assurance Program Summary and Equipment Calibration Schedule 313
E REGULATORY INFORMATION 318
E.1 Permit Excerpts 319

LIST OF TABLES

1-1 SUMMARY OF TEST PROGRAM 6
1-2 SUMMARY OF AVERAGE COMPLIANCE RESULTS - BED BOILER EXHAUST 7
1-3 SUMMARY OF AVERAGE MACT RESULTS - BED BOILER EXHAUST 8
1-4 SUMMARY OF PART 60 RA TEST RESULTS - BED BOILER EXHAUST 8
1-5 TEST PERSONNEL AND OBSERVERS 10
2-1 SAMPLING LOCATION 11

4-1 SO_2, NO_X, CO, AND VOC EMISSIONS RESULTS - BED BOILER EXHAUST 24
4-2 NH_3 EMISSIONS RESULTS - BED BOILER EXHAUST 25
4-3 FILTERABLE PM / HCl EMISSIONS RESULTS - BED BOILER EXHAUST 25
4-4 PM_{10} EMISSIONS RESULTS - BED BOILER EXHAUST 26
4-5 MERCURY EMISSIONS RESULTS - BED BOILER EXHAUST 26
4-6 O_2, % VOLUME WET RATA RESULTS - BED BOILER EXHAUST 27
4-7 CO, LB/HR RATA RESULTS - BED BOILER EXHAUST 28
4-8 CO, LB/MMBTU RATA RESULTS - BED BOILER EXHAUST 29
4-9 NO_X, LB/HR RATA RESULTS - BED BOILER EXHAUST 30
4-10 NO_X, LB/MMBTU RATA RESULTS - BED BOILER EXHAUST 31
4-11 SO_2, LB/HR RATA RESULTS - BED BOILER EXHAUST 32
4-12 SO_2, LB/MMBTU RATA RESULTS - BED BOILER EXHAUST 33
4-13 STACK FLOW, WSCFM RATA RESULTS - BED BOILER EXHAUST 34

LIST OF FIGURES

3-1 EPA METHODS 3A (O_2/CO_2), 7E, 10 SAMPLING TRAIN 13
3-2 EPA METHOD 5 (DETACHED) SAMPLING TRAIN 15
3-3 EPA METHOD 6 DETACHED SAMPLING TRAIN 16
3-4 EPA METHOD 30B SAMPLING TRAIN 18
3-5 EPA METHOD 201A (PM10) SAMPLING TRAIN 19
3-6 BAAQMD ST-1B SAMPLING TRAIN 21

1.0 INTRODUCTION

1.1 SUMMARY OF TEST PROGRAM

Woodland Biomass Power, LLC (Woodland) contracted Montrose Air Quality Services, LLC (Montrose) to perform a compliance emissions test program on the Bed Boiler at the facility located in Woodland, California. The tests were conducted to determine compliance with the source testing limitations of the Yolo-Solano Air Quality Management District (YSAQMD) Permit to Operate (PTO) F-00514-11 and 40 CFR Part 63 Subpart DDDDD (aka Boiler MACT).

The specific objectives were to:

- Determine compliance with the applicable conditions of the permit and 40 CFR 63 Subpart DDDDD
- Audit the performance of the CEM systems under 40 CFR Part 60.
- 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 Date(s)	Unit ID/ Source Name	Activity/ Parameters	Test Methods	No. of Runs	Duration (Minutes)
12/29/21 Wednesday	Bed Boiler Exhaust	Volumetric flow rate	EPA 1 & 2	3	60
		O_2, CO_2	EPA 3A	3	60
		Moisture content	EPA 4	w/PM	60
		FPM	EPA 5	3	120
		PM_{10}	EPA 201A/202	3	120
		HCl	EPA 26a	3	120
		Fuel sample	ASTM D2015	1	Grab
12/30/21 Thursday	Bed Boiler Exhaust	Volumetric flow rate	EPA 1 & 2	10	21
		O_2, CO_2	EPA 3A	10	21
		Moisture content	EPA 4	10	21
		SO_2	EPA 6	10	30
		NO_x	EPA 7E	10	21
		CO	EPA 10	10	21
		VOC	EPA 18	3	30
		Hg	EPA 30B	3	30
		NH_3	BAAQMD ST-1B	3	30
		Fuel sample	ASTM D2015	1	Grab

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 Tables 1-2 and 1-3. The RA test results are summarized in

Table 1-4. 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 1-5. The tests were conducted according to the test plan (protocol) dated December 17, 2021 that was submitted to YSAQMD.

TABLE 1-2
SUMMARY OF AVERAGE COMPLIANCE RESULTS -
BED BOILER EXHAUST
DECEMBER 29-30, 2021

Parameter/Units	Average Results	Emission Limits
Filterable Particulate Matter (PM)		
gr/dscf	0.0007	--
gr/dscf @ 12% CO_2	0.0007	0.007
lb/hr	0.7	5.0
Particulate Matter (PM_{10})		
gr/dscf	0.007	--
gr/dscf @ 12% CO_2	0.007	0.010
lb/hr	6.8	7.2
lb/day	162.3	172.8
Carbon Monoxide (CO)		
ppmvw	6.6	--
lb/hr	4.0	49.5
lb/day	95.0	1188.0
lb/MMBtu	0.009	0.15
Nitrogen Oxides (NO_x as NO_2)		
ppmvw	25.8	--
lb/hr	25.5	26.3
lb/day	613	631.2
lb/MMBtu	0.06	0.08
Sulfur Dioxide (SO_2)		
ppmvd	0.8	--
lb/hr	0.9	13.2
lb/day	21.0	316.8
lb/MMBtu	0.002	0.04
Total Non-Methane/Non-Ethane Hydrocarbons, as Methane (VOC)		
ppmvd	0.6	--
lb/hr	0.2	17.5
lb/day	4.0	420.0
lb/MMBtu	0.0003	0.05
Ammonia (NH_3)		
ppmvd	13	50

TABLE 1-3
SUMMARY OF AVERAGE MACT RESULTS -
BED BOILER EXHAUST
DECEMBER 29-30, 2021

Parameter/Units	Average Results	Emission Limits
Filterable Particulate Matter (PM)		
gr/dscf	0.0007	--
lb/MMBtu	1.7E-03	1.1E-01
HCl		
ppmvd	2.3	--
lb/MMBtu	3.6E-03	2.2E-02
Mercury (Hg)		
µg/dscm	0.3	--
lb/MMBtu	3.4E-07	5.7E-06

TABLE 1-4
SUMMARY OF PART 60 RA TEST RESULTS -
BED BOILER EXHAUST
JANUARY 30, 2021

Parameter/Units	Regulatory Reference	RA	Allowable
Part 60			
Oxygen (O_2)			
% volume dry	PS-3	0.2	≤ 0.7% O_2
Volumetric Flow			
wscfm	PS-6	10.3	≤ 20% of RM
Sulfur Dioxide (SO_2)			
lb/hr	PS-2	6.5	≤ 10.0% of AS
lb/MMBtu (≤ 0.20)	PS-2	5.1	≤ 20.0% of AS
Nitrogen Oxides (NO_x as NO_2)			
lb/hr	PS-2	7.6	≤ 20.0% of RM
lb/MMBtu	PS-2	7.3	≤ 20.0% of RM
Carbon Monoxide (CO)			
lb/hr	PS-6	3.4	≤ 10.0% of AS
lb/MMBtu	PS-4	2.1	≤ 5% of AS

1.2 KEY PERSONNEL

A list of project participants is included below:

Facility Information

Source Location:	Woodland Biomass Power, LLC Woodland Facility 1786 East Kentucky Avenue Woodland, CA 95776	
Project Contact:	Mary Nydam	Dionisio Araza
Company:	DTE Energy Resources	DTE Energy Services, Inc.
Telephone:	(734) 740-8152	(510) 396-3529
Email:	mary.nydam@dteenergy.com	dionisio.araza@dteenergy.com

Agency Information

Regulatory Agency:	Yolo-Solano Air Quality Management District
Agency Contact:	Kyle Rohlfing
Telephone:	(530) 757-3672
Email:	krohlfing@ysaqmd.org

Testing Company Information

Testing Firm:	Montrose Air Quality Services, LLC (Montrose)
Contact:	Robert Odell
Title:	VP, Technical
Telephone:	(925) 642-2776
Email:	rodell@montrose-env.com

Laboratory Information

Laboratory:	Enthalpy
City, State:	Orange, CA
Method:	EPA 18 (modified)
Laboratory:	MAQS – Antioch
City, State:	Antioch, CA
Method:	EPA 5 (FPM); EPA 201A/202 (PM_{10}), EPA 6 (SO_2), BAAQMD ST-1B (NH_3)
Laboratory:	Chester LabNet
City, State:	Tigard, OR
Method:	EPA 26A (HCl)
Laboratory:	Hazen Research, Inc.
City, State:	Golden, CO
Method:	ASTM D-2015

Test personnel and observers are summarized in Table 1-5.

TABLE 1-5
TEST PERSONNEL AND OBSERVERS

Name	Affiliation	Role/Responsibility
Robert Odell	Montrose	Project Manager/ Qualified Individual (QI)/Trailer operator
Edward Hernandez Nicholas Vandahey	Montrose	Field Technician/Sample recovery/Sample train operator
Esha Chetty	Montrose	Laboratory Manager/Sample recovery
Katie Resch	Montrose	Calculations and report preparation
Richard Root David Martin	Woodland Biomass	Test Coordinator
Mary Nydam	DTE Energy Resources	Consultant
Andres Perez	Yolo-Solano AQMD	Observer

2.0 PLANT AND SAMPLING LOCATION DESCRIPTIONS

2.1 PROCESS DESCRIPTION, OPERATION, AND CONTROL EQUIPMENT

Woodland Biomass Power operates a cogeneration facility located at 1786 East Kentucky Avenue in Woodland, California. The plant burns biomass materials and produces electrical power and has been in business since 1989.

The cogeneration unit is a Gotaverken circulating fluidized bed combustor rated at 330 MMBTU/hr. The unit burns biomass material to produce steam to drive an electrical generator. Limestone is added to the bed material for control of SO_2 emissions and anhydrous ammonia is injected into the hot exhaust gases for selective non-catalytic reduction (SNCR) of NO_X emissions. HCl emissions are controlled through the use of dry sorbent injection (DSI) system. The emissions of particulate matter are controlled by a baghouse, which exhausts through a vertical, cylindrical stack.

2.2 FLUE GAS SAMPLING LOCATION

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

TABLE 2-1
SAMPLING LOCATION

Sampling Location	Stack Inside Diameter (in.)	Distance from Nearest Disturbance		Number of Traverse Points
		Downstream EPA "B" (in./dia.)	Upstream EPA "A" (in./dia.)	
Bed Boiler Exhaust	90	780/8.7	300/3.3	Isokinetic: 12 (6/port); Flow: 8 (4/port); Gaseous: 3 point

The sample location was 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 are performed while the source/units and air pollution control devices are operating at the conditions required by the permit. Tests are performed when the unit is operating at normal full load conditions.

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

- Facility CEMS data

3.0 SAMPLING AND ANALYTICAL PROCEDURES

3.1 TEST METHODS

The test methods for this test program were presented previously 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: N/A
- Method Exceptions: N/A

3.1.2 EPA Method 2, Determination of Stack 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:
  - o S-type pitot tube coefficient is 0.84
- Method Exceptions: N/A

3.1.3 EPA Methods 3A, 7E, and 10, Determination of Oxygen, Carbon Dioxide, Nitrogen Oxides, and Carbon Monoxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedures)

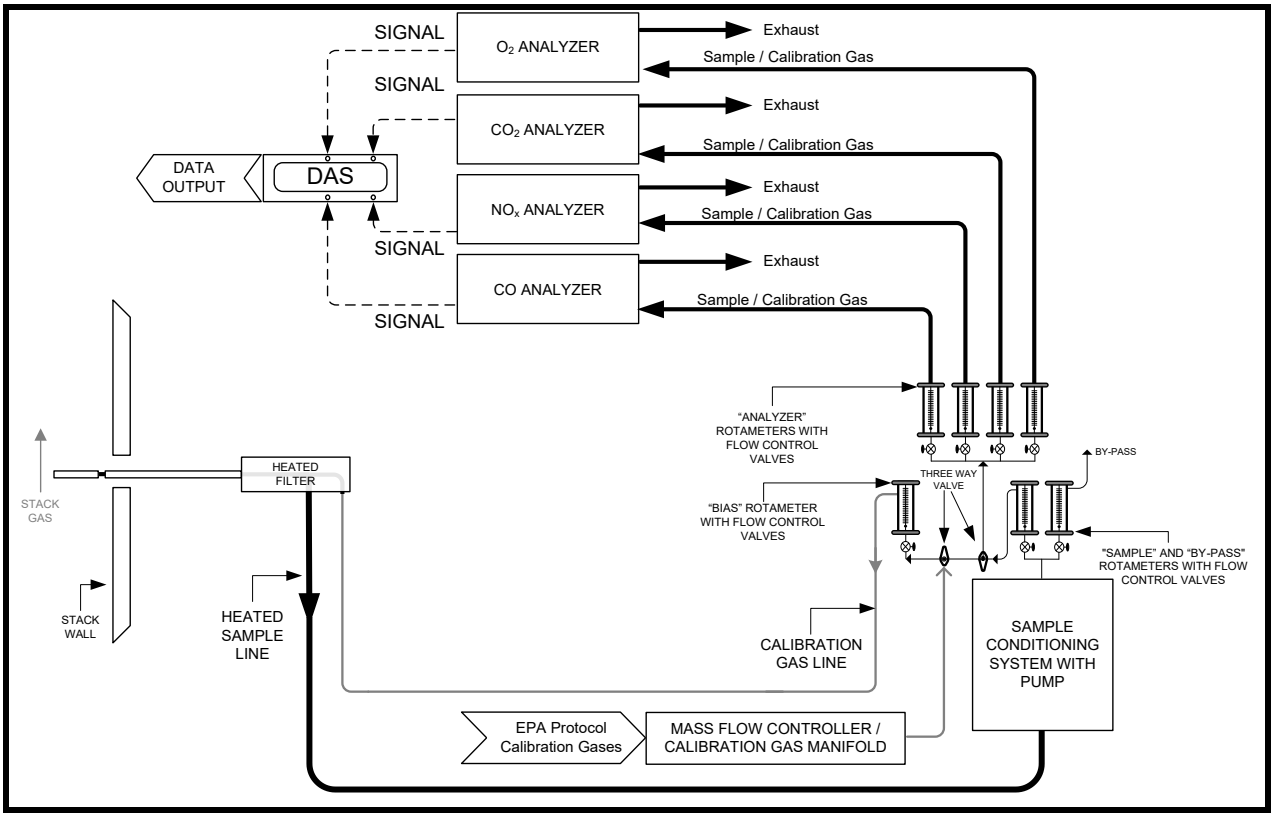
Concentrations of O_2, CO_2, NO_x, and CO are measured simultaneously using EPA Methods 3A, 7E, and 10, which are instrumental test methods. Conditioned gas is sent to a series of analyzers to measure the gaseous emission concentrations. The performance requirements of the method must be met to validate 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
  - A paramagnetic analyzer is used to measure O_2
  - A nondispersive infrared analyzer is used to measure CO_2
  - A chemiluminescent analyzer is used to measure NO_x
  - A gas filter correlation nondispersive infrared analyzer is used to measure CO
- Method Exceptions: N/A
- Minimum Required Sample Duration: 21 minutes

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

FIGURE 3-1
EPA METHODS 3A (O_2/CO_2), 7E, 10 SAMPLING TRAIN



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:
  - Condensed water is measured gravimetrically
  - Moisture sampling is performed as part of the pollutant sample trains
  - Since it is theoretically impossible for measured moisture to be higher than psychrometric moisture, the psychrometric moisture is also calculated, and the lower moisture value is used in the calculations
- Method Exceptions:
  - If moisture sampling is performed as a stand-alone method, it is performed at a single point in the centroid of the stack without the probe and filter heaters.
- Target Sample Duration: 30 minutes
- Target Sample Volume: 21 scf

3.1.5 EPA Method 5, Determination of Particulate Matter from Stationary Sources

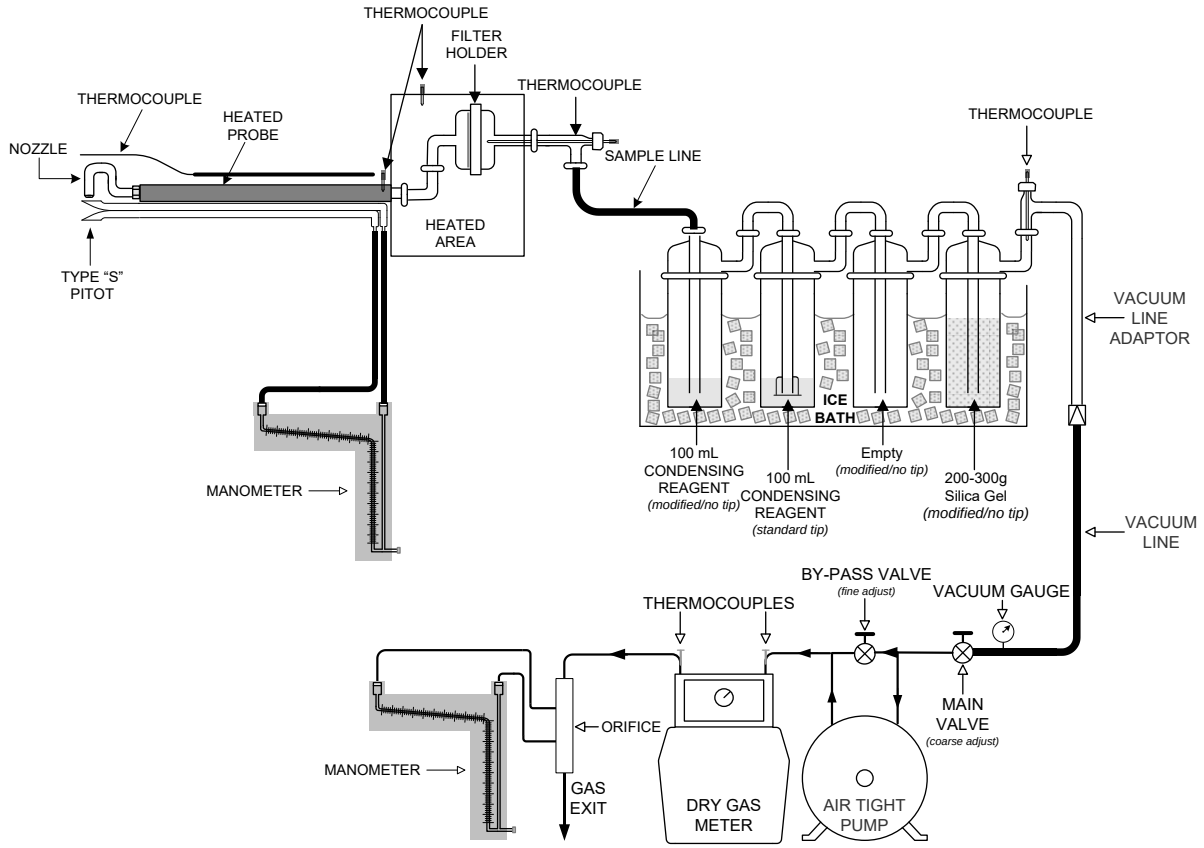
EPA Method 5 is a manual, isokinetic method used to measure FPM emissions. The samples are analyzed gravimetrically. This method is performed in conjunction with EPA Methods 1 through 4. The stack gas is sampled through a nozzle, probe, filter, and impinger train. FPM results are reported in emission concentration and emission rate units.

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

- Method Options:
  - Condensed water is measured gravimetrically
- Method Exceptions:
  - A heated flexible probe extension is used to connect the sample probe to the impinger box
  - Oven box temperature will be used as filter exit temperature
- Target Sample Duration: 60 minutes
- Minimum Required Sample Volume: 35.3 dscf (1 dscm)
- Analytical Laboratory: MAQS Antioch – Antioch, CA

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

FIGURE 3-2
EPA METHOD 5 (DETACHED) SAMPLING TRAIN



3.1.6 EPA Method 6, Determinations of Sulfur Dioxide Emissions from Stationary Sources

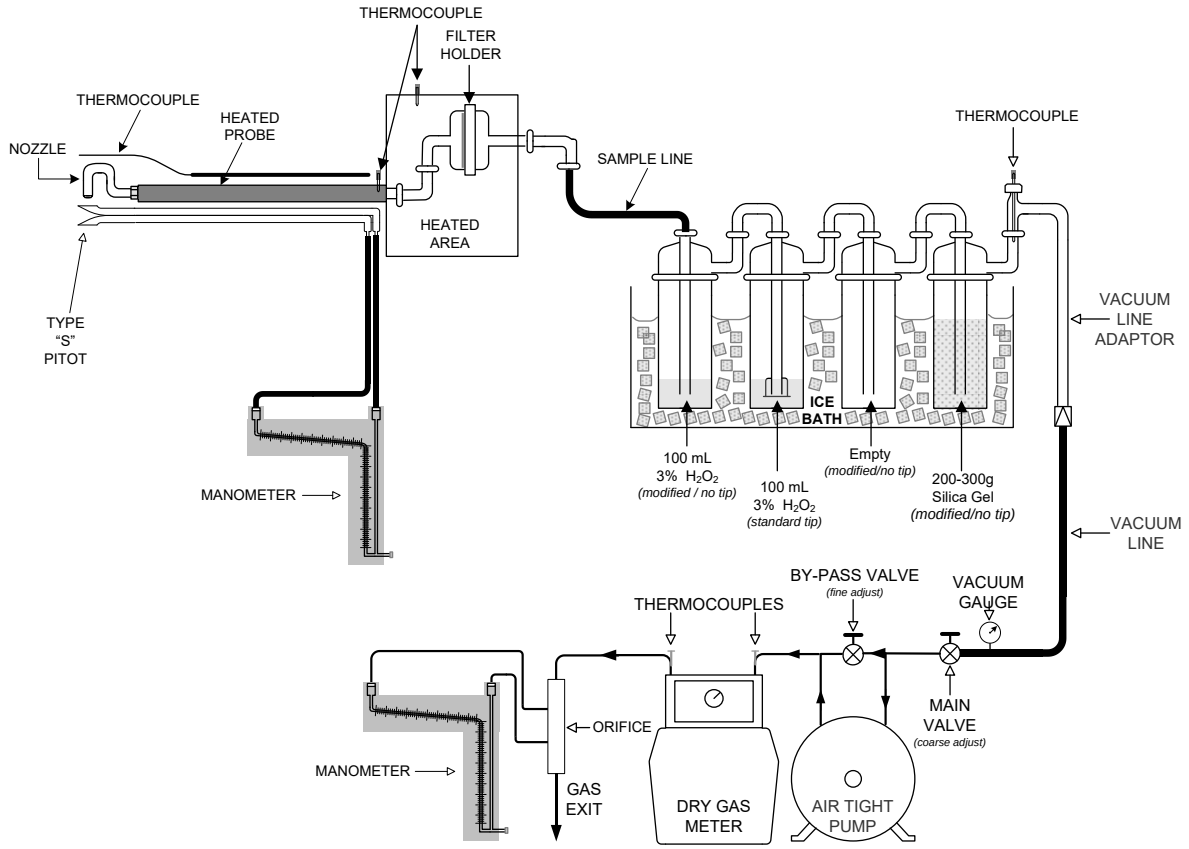
EPA Method 6 is a manual, non-isokinetic method used to measure SO_2 emissions. A gas sample is extracted from the sampling point in the stack. The SO_2 and the sulfur trioxide, including those fractions in any sulfur acid mist, are not separated. The SO_2 fraction is measured by the barium-thorin titration method.

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

- Method Options:
  - The sampling system consisting of midget impingers is replaced with full-sized impingers.
  - Sampling system does not contain a nozzle, heated probe, or filter.
- Method Exceptions: N/A
- Minimum Required Sample Duration: 30 minutes
- Target Sample Volume: 21 dscf
- Analytical Laboratory: Montrose Antioch, Antioch, CA

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

FIGURE 3-3
EPA METHOD 6 DETACHED SAMPLING TRAIN



3.1.7 EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography

EPA Method 18 is used to measure gaseous organic compounds from stationary sources. The major organic components of a gas mixture are separated by gas chromatography (GC) and are individually quantified using a flame ionization detector (FID), photoionization detector (PID), electron capture detector (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:

  - Integrated tedlar bag sampling and analysis is performed
- Method Exceptions:
  - No pre-survey samples are collected since the expected ranges of concentrations of the samples have been determined
- Target Analytes: Total non-methane, non-ethane hydrocarbons excluding exempt compounds as defined by YSAQMD
- Target Sample Duration: 30 minutes
- Analytical Laboratory: Enthalpy, Inc., Orange, CA

3.1.8 EPA Method 26A, Determination of Hydrogen Chloride

Concentrations of hydrogen chloride (HCl) are measured by ion chromatography of sample gas collected per EPA Method 26A. Pertinent information regarding the performance of the method is presented below:

- Method Deviations: None
- Method Options: Only the sample fractions used to determine HCl are analyzed; the sample fractions used to determine halogen concentrations are not analyzed
- Target Sample Duration: 60 minutes
- Minimum Required Sample Volume: 35.3 dscf (1 dscm)
- Detection Limit: 0.1 ppmvd
- Analytical Laboratory: Chester LabNet – Tigard, OR

3.1.9 EPA Method 30B, Determination of Total Vapor Phase Mercury Emissions from Coal-Fired Combustion Sources Using Carbon Sorbent Traps

EPA Method 30B is a manual test method for measuring total vapor phase mercury (Hg) emissions from coal-fired combustion sources using sorbent trap sampling and an extractive or thermal analytical technique. The method includes sampling into duplicate sorbent traps, which are analyzed using a sorbent trap mercury analyzer. This type of analyzer uses thermal desorption with ultraviolet atomic absorption (UV AA) or ultraviolet atomic fluorescent (UV AF) cold vapor analysis. Each trap consists of two equal-mass sections of iodinated activated charcoal (Section 1 and 2). The results for Section 1 and Section 2 of each tube are reported in nanograms (ng) of Hg per section, and then they are summed. The charcoal sorbent is pre-checked to certify that mercury background levels are below the detection limit of the laboratory instrument. Each trap is uniquely numbered, and the sorbent batch number is printed on the outside of the glass tubes. One trap per run is pre-spiked in the first sorbent section with a known quantity of elemental mercury, using a proprietary gas-phase bulk spiking procedure. Each run includes two samples (A and B) collected concurrently from a single representative sampling point in the exhaust stack using a dual probe. Samples are drawn through the sorbent traps into a moisture knockout loaded with desiccant, and then through a sampling orifice.

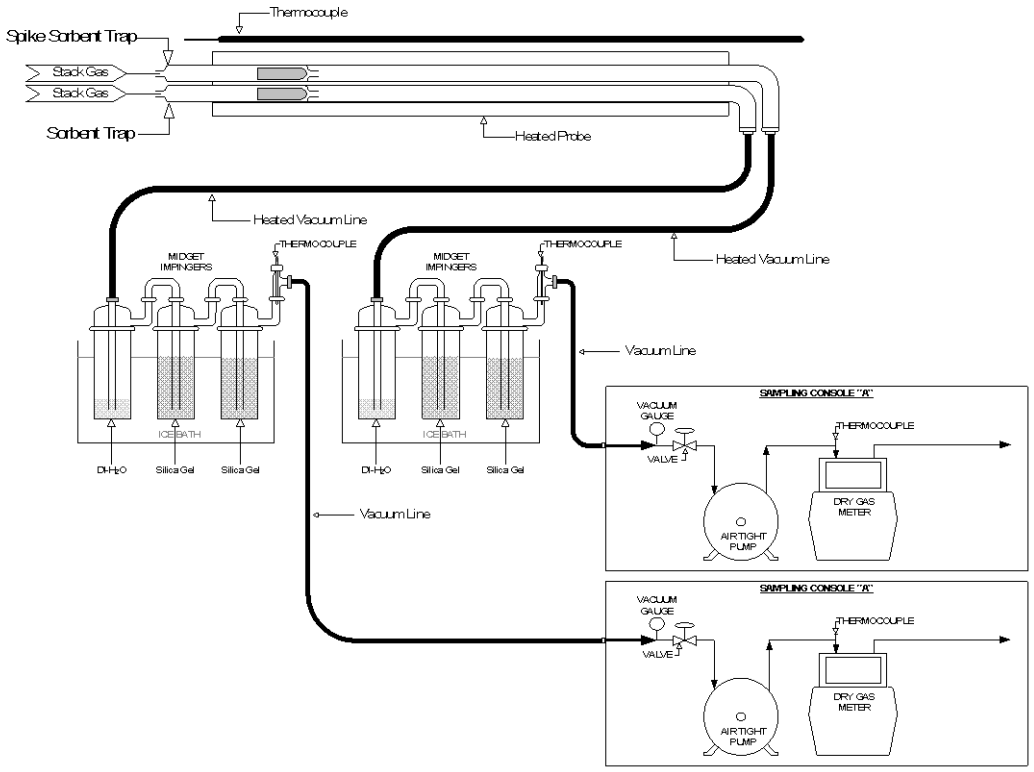
Pertinent information regarding the performance of the method is presented below:

- Method Options:
  - Since the source is a hot, dry source, the sorbent tubes were located at the probe tip

  - No presurvey samples were taken; QA spikes determined from historical data
- Method Exceptions: N/A
- Target Sample Duration: 30 minutes
- Target Sample Volume: 30 liters
- Analytical Laboratory: MAQS – Elk Grove Village, IL

The typical sampling system is detailed in Figure 3-4.

FIGURE 3-4
EPA METHOD 30B SAMPLING TRAIN



3.1.10 EPA Method 201A, Determination of PM10 Emissions from Stationary Sources (Constant Sampling Rate Procedure)

To measure PM_{10}, extract a sample of gas at a predetermined constant flow rate through an in-stack sizing device. The particle-sizing device separates particles with nominal aerodynamic diameters of 10 micrometers. To minimize variations in the isokinetic sampling conditions, you must establish well-defined limits. After a sample is obtained, remove uncombined water from the particulate, then use gravimetric analysis to determine the particulate mass for each size fraction.

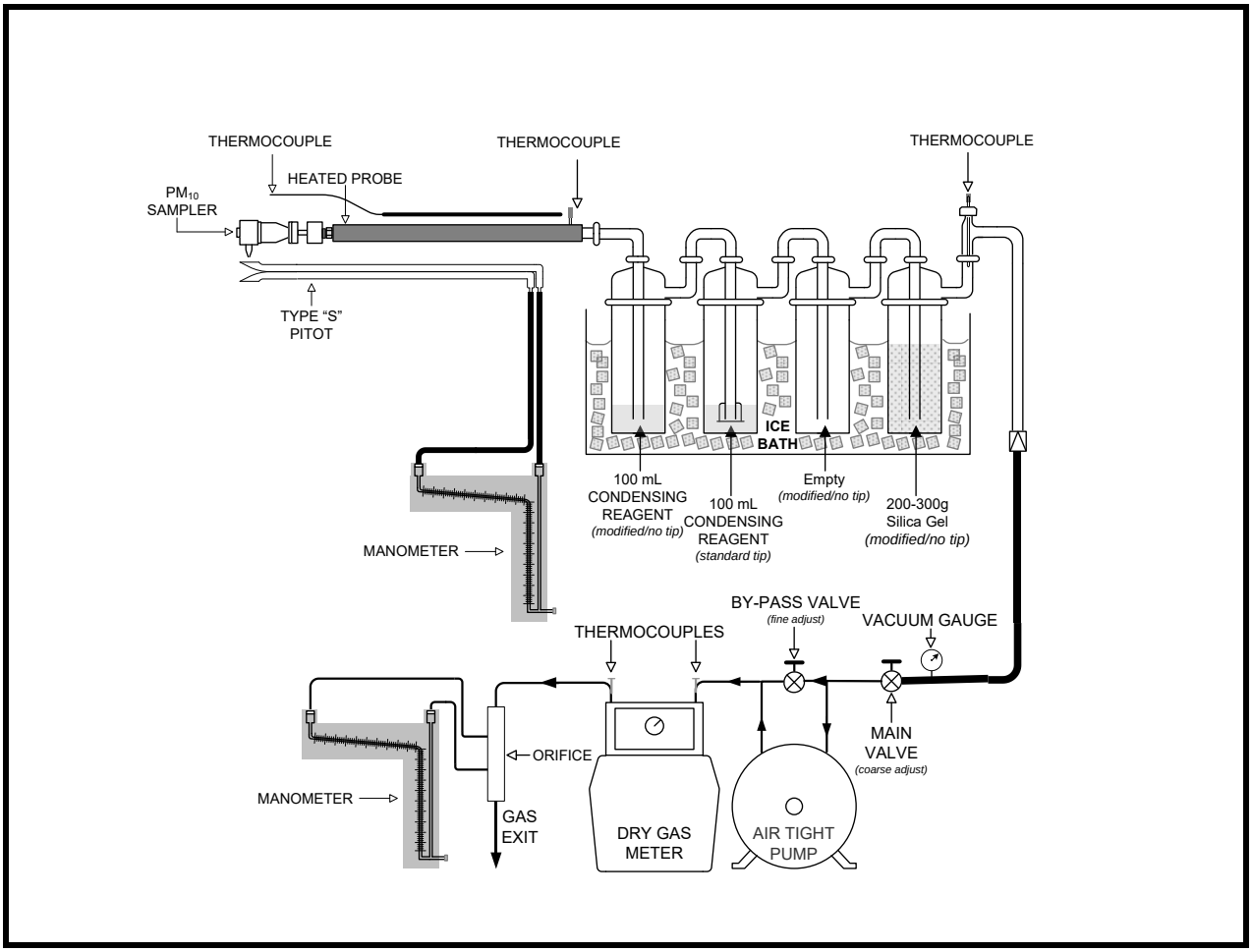
Pertinent information regarding the performance of the method is presented below:

- Method Options:
  - Sampling system is used in conjunction with EPA Method 202

- Method Exceptions: N/A
- Target Sample Duration: 120 minutes
- Target Sample Volume: 62 dscf
- Analytical Laboratory: Montrose- Antioch, Antioch, CA

The typical sampling system is detailed in Figure 3-5.

FIGURE 3-5
EPA METHOD 201A (PM10) SAMPLING TRAIN



3.1.11 EPA Method 202, Dry Impinger Method for Determining Condensable Particulate Emissions from Stationary Sources

The CPM is collected in dry impingers after filterable PM has been collected on a filter maintained as specified in either Method 5 of Appendix A-3 to 40 CFR 60, Method 17 of Appendix A-6 to 40 CFR 60, or Method 201A of Appendix M to 40 CFR 51. The organic and aqueous fractions of the impingers and an out-of-stack CPM filter are then taken to dryness and weighed. The total of the impinger fractions and the CPM filter represents the CPM. Compared to the version of Method 202 that was promulgated on December 17, 1991, this method eliminates the use of water as the collection media in impingers and includes the addition of a condenser followed by a water dropout

impinger immediately after the final in-stack or heated filter. This method also includes the addition of one modified Greenburg Smith impinger (backup impinger) and a CPM filter following the water dropout impinger.

CPM is collected in the water dropout impinger, the modified Greenburg Smith impinger, and the CPM filter of the sampling train as described in this method. The impinger contents are purged with nitrogen immediately after sample collection to remove dissolved SO_2 gases from the impinger. The CPM filter is extracted with water and hexane. The impinger solution is then extracted with hexane. The organic and aqueous fractions are dried and the residues are weighed. The total of the aqueous and organic fractions represents the CPM.

The potential artifacts from SO_2 are reduced using a condenser and water dropout impinger to separate CPM from reactive gases. No water is added to the impingers prior to the start of sampling. To improve the collection efficiency of CPM, an additional filter (the “CPM filter”) is placed between the second and third impingers

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

- Method Options:
  - Sampling system is used in conjunction with EPA Method 201A
  - As an alternative to baking glassware, a field train proof blank sample is recovered
  - If no water is collected before the CPM filter, the post-test nitrogen purge is omitted
  - The post-test nitrogen purge is performed by passing nitrogen through the train under pressure
- Method Exceptions:
  - N/A
  - Target Sample Duration: 120 minutes
  - Target Sample Volume: 62 dscf
  - Analytical Laboratory: Montrose - Antioch, Antioch, CA

3.1.12 Bay Area AQMD Method ST-1B, Ammonia Integrated Sampling

BAAQMD ST-1B is a manual, non-isokinetic method used to measure ammonia emissions. This method is performed in conjunction with EPA Methods 1 through 4. The stack gas is sampled through a glass probe and a Greenberg-Smith impinger train consisting of four impingers. The first two impingers are filled with a solution of 0.1 normal (0.1N) hydrochloric acid which absorbs the ammonia. The third impinger is empty. A final impinger contains silica gel to ensure the stack gas is dry before entering the test meter. The method specifies the use of an ion selective electrode (ISE) to detect ammonia in the samples.

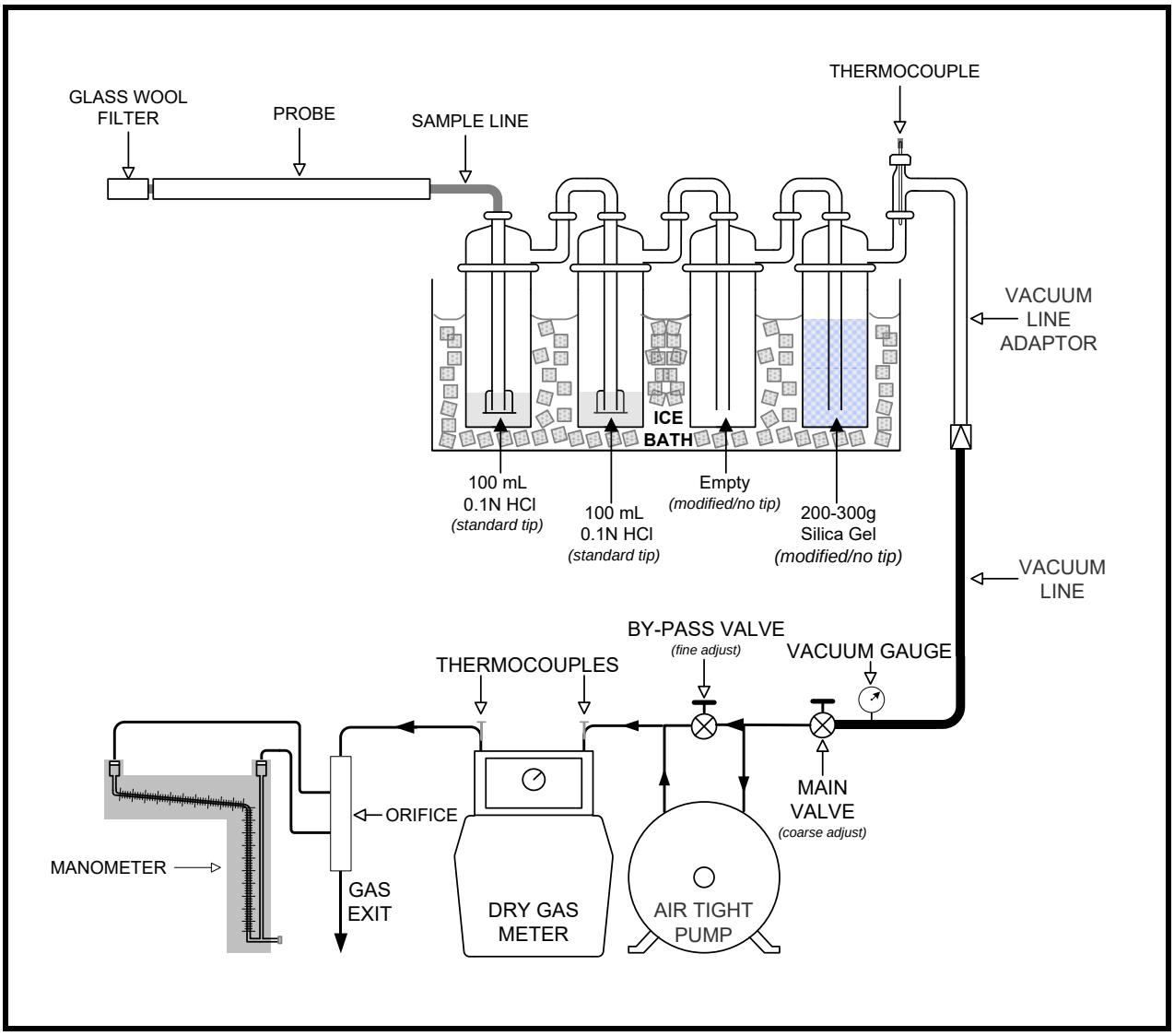
Pertinent information regarding the performance of the method is presented below:

- Method Options: N/A
- Method Exceptions: N/A
- Target and/or Minimum Required Sample Duration: 30 minutes

- Target Sample Rate: 0.5-0.75 cfm
- Analytical Laboratory: Montrose - Antioch, Antioch, CA

The typical sampling system is detailed in Figure 3-6.

FIGURE 3-6
BAAQMD ST-1B SAMPLING TRAIN



3.1.13 ASTM D2015, Standard Test Method for Gross Calorific Value of Coal and Coke by the Adiabatic Bomb Calorimeter

ASTM Method D2015 is an instrumental method used to measure the chemical composition of solid fuels which can be applied to wood biomass mixtures. This test method is used to calculate the physical properties of a sample, such as heating values, relative density, and fuel factors.

Sample is typically collected in a bag and then shipped to a laboratory where it is analyzed using gas chromatography and appropriate detectors.

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

- Method Options:
  - A composite sample is collected.
- Method Exceptions:
  - None.
- Analytical Laboratory: Hazen Research, Inc., Golden, CO

3.1.14 EPA Method ALT-009, Alternative Method 5 Post-Test Calibration

EPA Approved Alternative Method 009 (ALT-009) is used as an alternative to a two-point post-test meter box calibration. This procedure uses a calculation to check the meter box calibration factor rather than requiring a physical post-test meter box calibration using a standard dry gas meter. The average calculated meter box percent (%) error must result in a percent error within ±5% of Y. If not, a full calibration is performed, and the results are presented using the Y factor that yields the highest emissions.

3.1.15 EPA Method ALT-011, Alternative Method 2 Thermocouple Calibration

EPA Approved Alternative Method 011 (ALT-011) is used as an alternative to the EPA Method 2 two-point thermocouple calibration. This procedure involves a single-point in-field check using a reference thermometer to confirm that the thermocouple system is operating properly. The temperatures of the thermocouple and reference thermometers shall agree to within ±2 °F.

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 Tables 1-2 and 1-3. The results of individual compliance test runs performed are presented in Tables 4-1 through 4-5. The RA results are compared to the regulatory requirements in Table 1-4. The results of individual RATA test runs performed are presented in Tables 4-6 through 4-13. 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
SO_2, NO_X, CO, AND VOC EMISSIONS RESULTS -
BED BOILER EXHAUST

Run Number	Comp Run 1	Comp Run 2	Comp Run 3	Average
Date	12/30/21	12/30/21	12/30/21	--
Time	1024-1207	1224-1346	1407-1519	--
Sampling & Flue Gas Parameters				
O_2, % volume dry	8.6	8.5	8.4	8.5
CO_2, % volume dry	11.7	11.9	11.9	11.8
flue gas temperature, °F	300.2	299.7	299.9	299.9
moisture content, % volume	17.9	18.8	18.5	18.4
volumetric flow rate, dscfm	113,689	112,149	112,380	112,739
Sulfur Dioxide (SO_2)				
ppmvd	1.5	0.4	0.4	0.8
lb/hr	1.7	0.4	0.5	0.9
lb/day	41.7	10.4	11.0	21.0
lb/MMBtu	0.0042	0.0010	0.0011	0.0021
Carbon Monoxide (CO)				
ppmvd	3.2	12.8	8.2	8.1
ppmvw	2.6	10.4	6.7	6.6
lb/hr	1.6	6.3	4.0	4.0
lb/day	38.1	151	96.1	95.0
lb/MMBtu	0.0038	0.0150	0.0095	0.0094
Nitrogen Oxides (NO_x as NO_2)				
ppmvd	30.9	32.1	31.8	31.6
ppmvw	25.4	26.1	25.9	25.8
lb/hr	25.2	25.8	25.6	25.5
lb/day	605	620	615	613
lb/MMBtu	0.0602	0.0619	0.0610	0.0610
Date	12/30/21	12/30/21	12/30/21	--
Time	1316-1346	1407-1437	1449-1519	--
Total Non-Methane/Non-Ethane Hydrocarbons, as Methane (VOC)				
ppmvd	< *0.5*	0.8	< *0.5*	0.6
lb/hr	< 0.1	0.2	< 0.1	0.2
lb/day	< 3.4	5.2	< 3.4	4.0
lb/MMBtu	< 0.0003	0.0004	< 0.0003	0.0003

Note: Results presented with '<' were found below the detection limit (DL) and are therefore reported at the DL.

TABLE 4-2
NH_3 EMISSIONS RESULTS -
BED BOILER EXHAUST

Run Number	1-NH3	2-NH3	3-NH3	Average
Date	12/30/21	12/30/21	12/30/21	--
Time	1024-1054	1137-1207	1223-1253	--
Process Data				
Fuel Flow, scfh	124,800	125,100	124,400	124,767
Sampling & Flue Gas Parameters				
O_2, % volume dry	8.7	8.6	8.5	8.6
CO_2, % volume dry	11.7	11.8	11.9	11.8
moisture content, % volume	18.4	18.8	18.9	18.7
Ammonia (NH_3)				
ppmvd	12.7	11.5	13.3	12.5

TABLE 4-3
FILTERABLE PM / HCl EMISSIONS RESULTS -
BED BOILER EXHAUST

Run Number	1-PM/HCl	2-PM/HCl	3-PM/HCl	Average
Date	12/29/21	12/29/21	12/29/21	--
Time	1052-1312	1407-1619	1701-1907	--
Sampling & Flue Gas Parameters				
O_2, % volume dry	8.6	8.7	8.7	8.7
CO_2, % volume dry	11.9	11.7	11.7	11.8
flue gas temperature, °F	301.0	296.8	299.1	299.0
moisture content, % volume	17.3	17.0	17.8	17.4
volumetric flow rate, dscfm	116,726	117,068	116,747	116,847
Hydrochloric Acid (HCl)				
ppmvd	1.9	2.8	2.2	2.3
lb/MMBtu	2.9E-03	4.4E-03	3.4E-03	3.6E-03
Filterable Particulate Matter (PM)				
gr/dscf	0.0006	0.0010	0.0007	0.0007
gr/dscf @ 12% CO_2	0.0006	0.0010	0.0007	0.0007
lb/hr	0.58	0.96	0.65	0.73
lb/MMBtu	1.3E-03	2.2E-03	1.5E-03	1.7E-03

TABLE 4-4
PM_{10} EMISSIONS RESULTS -
BED BOILER EXHAUST

Run Number	1-PM	2-PM	3-PM	Average
Date	12/29/21	12/29/21	12/29/21	--
Time	1052-1310	1407-1624	1701-1911	--
Sampling & Flue Gas Parameters				
O_2, % volume dry	8.6	8.7	8.7	8.7
CO_2, % volume dry	11.9	11.7	11.7	11.8
flue gas temperature, °F	304.9	304.9	304.0	304.6
moisture content, % volume	17.8	14.9	17.2	16.6
volumetric flow rate, dscfm	116,289	118,458	116,249	116,998
Filterable PM_{10}				
gr/dscf	0.0013	0.0010	0.0011	0.0011
gr/dscf @ 12% CO_2	0.0013	0.0010	0.0012	0.0012
lb/hr	1.28	1.00	1.14	1.14
Condensable PM_{10}				
gr/dscf	0.006	0.006	0.005	0.006
gr/dscf @ 12% CO_2	0.006	0.006	0.005	0.006
lb/hr	5.52	6.20	5.14	5.62
Total PM_{10}				
gr/dscf	0.007	0.007	0.006	0.007
gr/dscf @ 12% CO_2	0.007	0.007	0.006	0.007
lb/hr	6.80	7.20	6.28	6.76
lb/day	163.3	172.9	150.7	162.3

TABLE 4-5
MERCURY EMISSIONS RESULTS -
BED BOILER EXHAUST

Run Number	1-Hg	2-Hg	3-Hg	Average
Date	12/30/21	12/30/21	12/30/21	--
Time	1449-1519	1530-1600	1609-1639	--
Sampling & Flue Gas Parameters				
O_2, % volume dry	8.5	8.2	8.2	8.4
Mercury				
µg/dscm	0.3	0.4	0.3	0.3
lb/MMBtu	2.7E-07	4.4E-07	3.3E-07	3.4E-07

TABLE 4-6
O_2, % VOLUME WET RATA RESULTS -
BED BOILER EXHAUST

Run #	Date	Time	RM	CEMS	Difference	Run Used (Y or N)
~~Run 1~~	~~12/30/21~~	~~1024-1105~~	~~7.11~~	~~7.50~~	~~-0.39~~	N
Run 2	12/30/21	1137-1207	7.05	7.30	-0.25	Y
Run 3	12/30/21	1224-1254	6.89	7.20	-0.31	Y
Run 4	12/30/21	1316-1346	6.92	7.10	-0.18	Y
Run 5	12/30/21	1407-1437	6.84	7.10	-0.26	Y
Run 6	12/30/21	1449-1519	6.91	7.10	-0.19	Y
Run 7	12/30/21	1530-1600	6.99	7.10	-0.11	Y
Run 8	12/30/21	1609-1639	6.64	6.80	-0.16	Y
Run 9	12/30/21	1652-1722	6.77	6.90	-0.13	Y
Run 10	12/30/21	1730-1800	6.74	6.90	-0.16	Y
Averages			6.86	7.06	-0.19	

Standard Deviation	0.066	
Confidence Coefficient (CC)	0.051	
RA based on absolute difference	0.2	%

TABLE 4-7
CO, LB/HR RATA RESULTS -
BED BOILER EXHAUST

Run #	Date	Time	RM	CEMS	Difference	Run Used (Y or N)
Run 1	12/30/21	1024-1105	2.92	3.30	-0.38	Y
Run 2	12/30/21	1137-1207	0.26	0.80	-0.54	Y
Run 3	12/30/21	1224-1254	12.00	7.50	4.50	Y
Run 4	12/30/21	1316-1346	0.56	0.90	-0.34	Y
Run 5	12/30/21	1407-1437	1.32	1.50	-0.18	Y
Run 6	12/30/21	1449-1519	6.69	6.40	0.29	Y
~~Run 7~~	~~12/30/21~~	~~1530-1600~~	~~16.12~~	~~11.00~~	~~5.12~~	N
Run 8	12/30/21	1609-1639	6.70	7.80	-1.10	Y
Run 9	12/30/21	1652-1722	1.40	2.10	-0.70	Y
Run 10	12/30/21	1730-1800	7.80	6.30	1.50	Y
Averages			4.40	4.07	0.34	

Applicable Standard (AS)	49.5	lb/hr
Standard Deviation	1.727	
Confidence Coefficient (CC)	1.327	
RA based on AS	3.4	%

TABLE 4-8
CO, LB/MMBTU RATA RESULTS -
BED BOILER EXHAUST

Run #	Date	Time	RM	CEMS	Difference	Run Used (Y or N)
Run 1	12/30/21	1024-1105	0.0070	0.0090	-0.0020	Y
Run 2	12/30/21	1137-1207	0.0006	0.0020	-0.0014	Y
~~Run 3~~	~~12/30/21~~	~~1224-1254~~	~~0.0287~~	~~0.0200~~	~~0.0087~~	N
Run 4	12/30/21	1316-1346	0.0013	0.0020	-0.0007	Y
Run 5	12/30/21	1407-1437	0.0032	0.0040	-0.0008	Y
Run 6	12/30/21	1449-1519	0.0159	0.0170	-0.0011	Y
Run 7	12/30/21	1530-1600	0.0380	0.0300	0.0080	Y
Run 8	12/30/21	1609-1639	0.0157	0.0210	-0.0053	Y
Run 9	12/30/21	1652-1722	0.0033	0.0050	-0.0017	Y
Run 10	12/30/21	1730-1800	0.0182	0.0170	0.0012	Y
Averages			0.0115	0.0119	-0.0004	

Applicable Standard (AS)	0.15	lb/MMBtu
Standard Deviation	0.0038	
Confidence Coefficient (CC)	0.0030	
RA based on AS	2.1	%

TABLE 4-9
NO_X, LB/HR RATA RESULTS -
BED BOILER EXHAUST

Run #	Date	Time	RM	CEMS	Difference	Run Used (Y or N)
Run 1	12/30/21	1024-1105	25.1	23.6	1.5	Y
Run 2	12/30/21	1137-1207	25.3	23.6	1.7	Y
Run 3	12/30/21	1224-1254	26.1	24.2	1.9	Y
Run 4	12/30/21	1316-1346	25.5	23.6	1.9	Y
Run 5	12/30/21	1407-1437	26.2	24.0	2.2	Y
Run 6	12/30/21	1449-1519	25.0	23.2	1.8	Y
~~Run 7~~	~~12/30/21~~	~~1530-1600~~	~~26.2~~	~~23.7~~	~~2.5~~	N
Run 8	12/30/21	1609-1639	25.7	23.9	1.8	Y
Run 9	12/30/21	1652-1722	25.0	23.7	1.3	Y
Run 10	12/30/21	1730-1800	25.8	24.3	1.5	Y
Averages			25.5	23.8	1.7	

Applicable Standard (AS)	26.3	lb/hr
Standard Deviation	0.273	
Confidence Coefficient (CC)	0.210	
RA based on mean RM value	7.6	%

TABLE 4-10
NO_X, LB/MMBTU RATA RESULTS -
BED BOILER EXHAUST

Run #	Date	Time	RM	CEMS	Difference	Run Used (Y or N)
~~Run 1~~	~~12/30/21~~	~~1024-1105~~	~~0.0599~~	~~0.0660~~	~~-0.0061~~	N
Run 2	12/30/21	1137-1207	0.0606	0.0650	-0.0044	Y
Run 3	12/30/21	1224-1254	0.0625	0.0670	-0.0045	Y
Run 4	12/30/21	1316-1346	0.0612	0.0660	-0.0048	Y
Run 5	12/30/21	1407-1437	0.0626	0.0670	-0.0044	Y
Run 6	12/30/21	1449-1519	0.0594	0.0630	-0.0036	Y
Run 7	12/30/21	1530-1600	0.0617	0.0650	-0.0033	Y
Run 8	12/30/21	1609-1639	0.0604	0.0640	-0.0036	Y
Run 9	12/30/21	1652-1722	0.0597	0.0620	-0.0023	Y
Run 10	12/30/21	1730-1800	0.0603	0.0640	-0.0037	Y
Averages			0.0609	0.0648	-0.0038	

Applicable Standard (AS)	0.080	lb/MMBtu
Standard Deviation	0.0008	
Confidence Coefficient (CC)	0.0006	
RA based on mean RM value	7.3	%

TABLE 4-11
SO_2, LB/HR RATA RESULTS -
BED BOILER EXHAUST

Run #	Date	Time	RM	CEMS	Difference	Run Used (Y or N)
Run 1	12/30/21	1024-1105	1.6	0.0	1.6	Y
~~Run 2~~	~~12/30/21~~	~~1137-1207~~	~~1.9~~	~~0.0~~	~~1.9~~	N
Run 3	12/30/21	1224-1254	0.4	0.0	0.4	Y
Run 4	12/30/21	1316-1346	0.4	0.0	0.4	Y
Run 5	12/30/21	1407-1437	0.5	0.0	0.5	Y
Run 6	12/30/21	1449-1519	0.5	0.0	0.5	Y
Run 7	12/30/21	1530-1600	0.5	0.0	0.5	Y
Run 8	12/30/21	1609-1639	0.5	0.0	0.5	Y
Run 9	12/30/21	1652-1722	0.5	0.0	0.5	Y
Run 10	12/30/21	1730-1800	0.5	0.0	0.5	Y
Averages			0.6	0.0	0.6	

Applicable Standard (AS)	13.2	lb/hr
Standard Deviation	0.370	
Confidence Coefficient (CC)	0.284	
RA based on AS	6.5	%

TABLE 4-12
SO_2, LB/MMBTU RATA RESULTS -
BED BOILER EXHAUST

Run #	Date	Time	RM	CEMS	Difference	Run Used (Y or N)
Run 1	12/30/21	1024-1105	0.004	0.000	0.004	Y
~~Run 2~~	~~12/30/21~~	~~1137-1207~~	~~0.005~~	~~0.000~~	~~0.005~~	N
Run 3	12/30/21	1224-1254	0.001	0.000	0.001	Y
Run 4	12/30/21	1316-1346	0.001	0.000	0.001	Y
Run 5	12/30/21	1407-1437	0.001	0.000	0.001	Y
Run 6	12/30/21	1449-1519	0.001	0.000	0.001	Y
Run 7	12/30/21	1530-1600	0.001	0.000	0.001	Y
Run 8	12/30/21	1609-1639	0.001	0.000	0.001	Y
Run 9	12/30/21	1652-1722	0.001	0.000	0.001	Y
Run 10	12/30/21	1730-1800	0.001	0.000	0.001	Y
Averages			0.0014	0.0000	0.001	

Applicable Standard (AS)	0.040	lb/MMBtu
Standard Deviation	0.0009	
Confidence Coefficient (CC)	0.0007	
RA based on AS	5.1	%

TABLE 4-13
STACK FLOW, WSCFM RATA RESULTS -
BED BOILER EXHAUST

Run #	Date	Time	RM	CEMS	Difference	Run Used (Y or N)
~~Run 1~~	~~12/30/21~~	~~1024-1105~~	~~139,358~~	~~124,800~~	~~14,558~~	N
Run 2	12/30/21	1137-1207	137,699	125,100	12,599	Y
Run 3	12/30/21	1224-1254	138,595	124,400	14,195	Y
Run 4	12/30/21	1316-1346	137,467	123,000	14,467	Y
Run 5	12/30/21	1407-1437	137,946	123,400	14,546	Y
Run 6	12/30/21	1449-1519	137,929	125,100	12,829	Y
Run 7	12/30/21	1530-1600	138,651	124,300	14,351	Y
Run 8	12/30/21	1609-1639	137,985	125,700	12,285	Y
Run 9	12/30/21	1652-1722	136,986	128,000	8,986	Y
Run 10	12/30/21	1730-1800	138,351	128,100	10,251	Y
Averages			137,957	125,233	12,723	

Standard Deviation	1983.8	
Confidence Coefficient (CC)	1524.9	
RA based on mean RM value	10.3	%

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, 7E, and 10 calibration audits were all within the measurement system performance specifications for the calibration drift checks, system calibration bias checks, and calibration error checks.

The NO_2 to NO converter efficiency check of the analyzer was conducted per the procedures in EPA Method 7E, Section 8.2.4. The conversion efficiency met the criteria.

EPA Method 30B QA/QC acceptance and performance criteria for breakthrough, paired sorbent trap agreement, relative deviation, and spike recovery results for all runs met the requirements outlined in Table 9-1 of the method.

EPA Method 201A QA/QC for $\triangle$Ps and aerodynamic cut sizes (D_{50}) met the criteria specified in Section 8.5 of the method.

EPA Method 5 analytical QA/QC results are included in the laboratory report. The method QA/QC criteria were met. An EPA Method 5 reagent blank was analyzed. The maximum allowable amount that can be subtracted is 0.001% of the weight of the acetone blank. The blank exceeded the maximum residue allowed.

EPA Method 202 analytical QA/QC results are included in the laboratory report. The method QA/QC criteria were met. An EPA Method 202 Field Train Recovery Blank (FTRB) was performed for each source category. The maximum allowable amount that can be subtracted is 0.002 g (2.0 mg).

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

EPA Method 26A analytical QA/QC results are included in the laboratory report. The method QA/QC criteria were met.

ASTM D2015 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).

APPENDIX A
FIELD DATA AND CALCULATIONS

Appendix A.1
Sampling Locations

MONTROSE AIR QUALITY SERVICES

EPA METHOD 1 FIELD DATA

Project Information

Client / Facility	Woodland Biomass	Date	12/28/21
Source / Location	MAIN STACK	Data taken by	EH & NV

Circular/Elliptical Duct Measurements

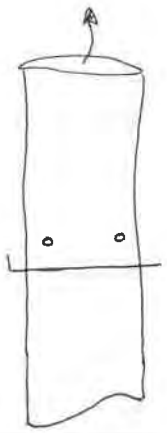
	Port 1	Port 2	Port 3	Port 4
Far wall to outside of port distance, in.:	107	107		
Port length, in. (confirm flush with inside wall):	90	90		
Duct inner diameter, in.:	17	17		
Port diameter, in.:	6	6		
Upstream distance (A), in.:	300			
Downstream distance (B), in.:	780			
Number of ports (must be 90° to each other):	2			

Duct Parameters

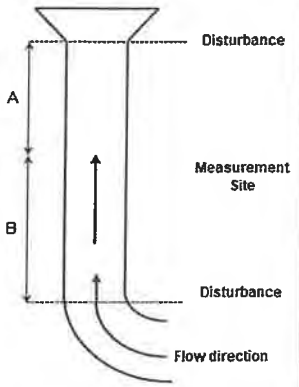
Material (steel, fiberglass, PVC)	Steel	Cyclonic flow expected?	
Type of port (flange, npt nipple, etc.)	nipple	Pitot ID	
Orientation (vertical, horizontal, if diagonal specify angle)	Vertical	Manometer ID	
Elevation of ports above ground, ft.	~100	Angle finder / protractor ID	

Traverse point	Outside port distance, in.	Null angle, α	
1	21.0	2	4
2	30.1	4	7
3	43.6	6	9
4	80.4	-6	-7
5	93.9	-3	-5
6	103.0	-1	-3
Average of absolute α		4.75	

Diagram of duct and sampling location

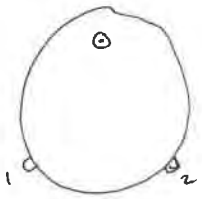


Example:

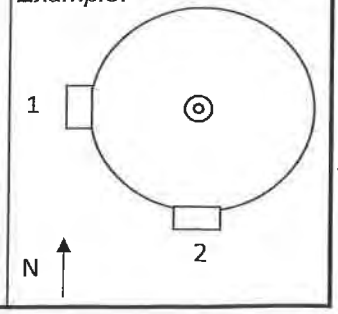


Cross-section sketch showing port locations and numbering

Label the following: port number 1, 2, etc.
north direction or other landmark
flow direction - ⊗ into page ⊙ out of page



Example:

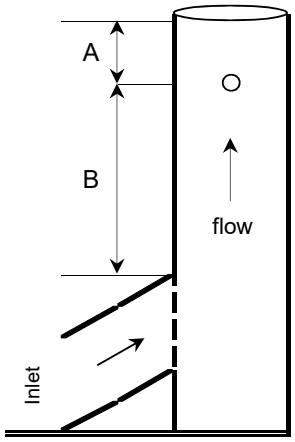


*For stacks having diameters greater than 24 in., no traverse points shall be within 1.00 in. of the stack walls; and for stack diameters equal to or less than 24 in., no traverse points shall be located within 0.50 in. - EPA Method 1 section 11.3.1 & 11.3.2

**If schematics are unavailable, internal width can be estimated by measuring the portion of the port length not visible on the outside of the duct, which would be an estimate of the insulation thickness. Double this distance and subtract it from the outside width.

Woodland Biomass / Exhaust Stack
TRAVERSE POINT LAYOUT (PARTICULATE)
CIRCULAR STACKS OVER 24 INCHES

Stack diameter:	**90.0**	***inches***
Upstream diameter (A):	**300.0**	***inches***
Downstream diameter (B):	**780.0**	***inches***
Port length:	**17.00**	***inches***
Number of ports being used:	**2**	***see note***
Equivalent upstream diameter (A):	**3.333**	***Pass***
Equivalent downstream diameter (B):	**8.667**	***Pass***
All points at least 1.0" from stack wall:	**3.960**	***Pass***
Total points:	**12**	
Points per port:	**6**	

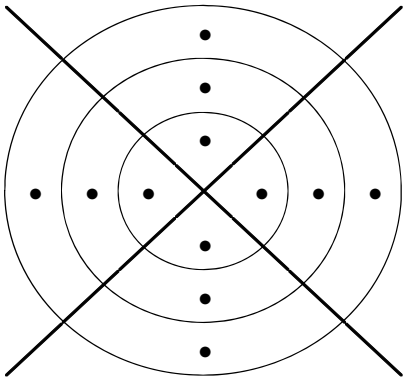


Typical vertical exhaust stack

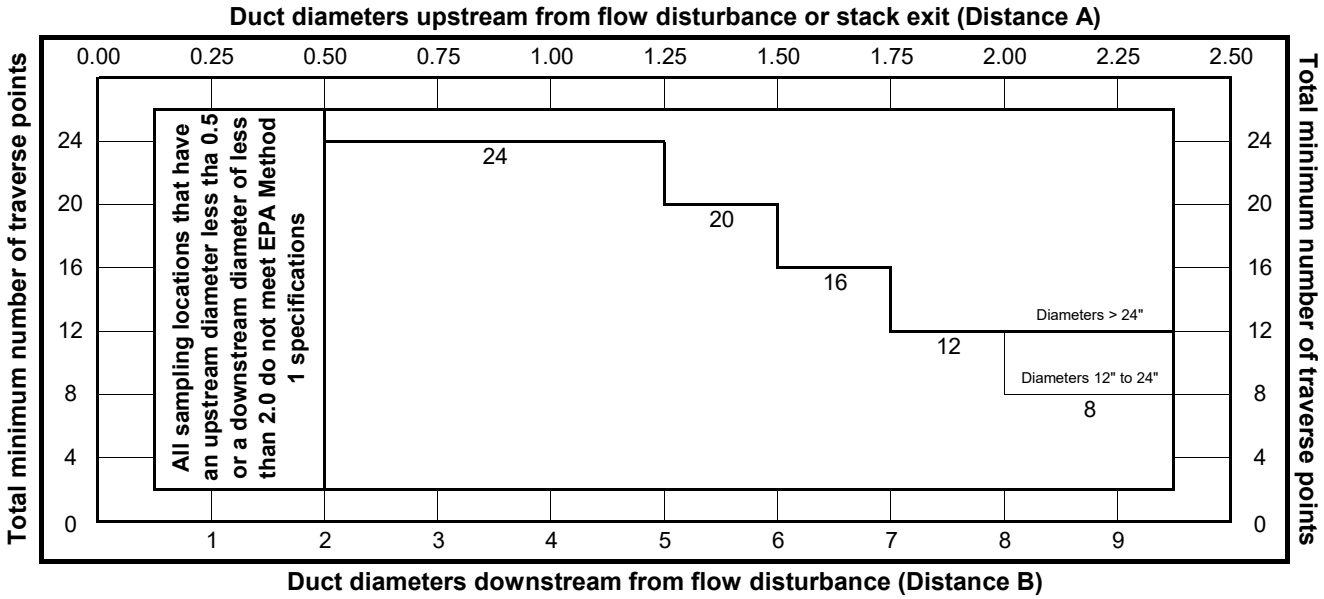
Point	% Diameter	Inside wall Distance (in)	Outside port Distance (in)
1	**4.4**	**4.0**	**21.0**
2	**14.6**	**13.1**	**30.1**
3	**29.6**	**26.6**	**43.6**
4	**70.4**	**63.4**	**80.4**
5	**85.4**	**76.9**	**93.9**
6	**95.6**	**86.0**	**103.0**
N/A	**#N/A**	**#N/A**	**#N/A**
N/A	**#N/A**	**#N/A**	**#N/A**
N/A	**#N/A**	**#N/A**	**#N/A**
N/A	**#N/A**	**#N/A**	**#N/A**
N/A	**#N/A**	**#N/A**	**#N/A**
N/A	**#N/A**	**#N/A**	**#N/A**

Note: No traverse point shall be within 1.0" of the stack walls (see Sections 11.3.1)

DUCT AREA = 44.179 ft^2



Example: Location of 12 points



Appendix A.2
Ammonia Data Sheets

MONTROSE AIR QUALITY SERVICES

Sample Recovery & Calibration Check Datasheet

Page 1 of 1

Project Information

Date 12/28/2021 Project # PROJ-003071

Customer / Facility Woodland Biomass

Unit ID / Sample Location

Run # 1-3 ST. 1B Operator

Equipment Identification

Ref. Thermometer Tala 9

Hygrometer –

Field Balance 6-AB-OAK

Check Weights W-4

Calipers ANT-CAL 6

Balance Audit (Field balance must be within 0.5g of check weight mass)

Date	12/28/21	12/30/21	
Standard mass, g	500.	500	
Field balance mass, g	499.6	499.7	

Ambient Conditions (Mobile Lab)

Relative humidity, % –

Temperature, °F –

Mobile lab # Trailer 9

Moisture Determination

		Run1			Run 2			Run 3		
	Contents	Initial	Final	Net	Initial	Final	Net	Initial	Final	Net
Knockout										
Impinger 1	100ml HCl	719.9	838.5	118.6	640.0	757.0	117.0	636.1	754.8	118.7
Impinger 2	100ml HCl	654.3	655.7	1.4	661.7	663.9	2.2	667.6	668.8	1.2
Impinger 3	Empty	615.4	616.4	1.0	608.0	609.3	1.3	612.3	613.6	1.3
Impinger 4										
Impinger 5										
Impinger 6										
Impinger 7										
Impinger 8										
Silica Gel	S.G.	903.2	909.6	~~-20~~ 6.4 (12/30)	924.6	932.7	8.1	930.9	939.1	8.2
Line Rinse				-20			-20.1			-20.1
Train Net Gain (Vlc)				107.4			108.5			109.3

Nozzle Measurements (Difference between any two measurements must not be more than 0.004 in (0.1 mm))

Nozzle 1 diameters ____ D1 ____ D2 ____ D3 ____ Average

Nozzle 2 diameters ____ D1 ____ D2 ____ D3 ____ Average

Nozzle 3 diameters ____ D1 ____ D2 ____ D3 ____ Average

Nozzle Material ☐ quartz ☐ glass ☒ steel ☐ titanium ☐ inconel ☐ other ____

Probe Type ☐ heated ☒ unheated ☐ air-cooled ☐ water-cooled ☐ other ____

Probe Liner ☐ quartz ☐ glass ☐ steel ☐ Teflon ☒ other titanium

Filter Information

Front Half: ☐ quartz fiber ☒ glass fiber ☐ Teflon ☐ Teflon/quartz ☐ other ____

Filter Number: Run 1: ____ Run 2: ____ Run 3: ____ Run ____

Back Half: ☐ quartz fiber ☒ glass fiber ☐ Teflon ☐ Teflon/quartz ☐ other ____

Reagent Information

Type	Lot Number
0.1N HCl	HCl: Q000545 H_2O: DI000229

Sample Observations

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____

Checked by: ____ Team Leader: ____

001AS-QMS-FM-226

MONTROSE AIR QUALITY SERVICES

BAAQMD Method ST-1B Field Datasheet (Isokinetic)

Page 1 of 3

Project Information

Date 12/30/21 Project # Proj-3071

Customer/Facility DTE - Woodland Biomass

Unit ID/Sample Location Main Stack

Run # 1 - Nitty Operator NV

Sampling Conditions

Static Pressure, in. H_2O —

Ambient Temp, °F 46

Barometric Pressure, in. Hg 29.88

Ref. Barometer ID —

Wind Speed / Direction 0-5 mph SE

Precipitation, Y / (N) type —

Probe / Filter Temp Range, °F

Sampling Equipment IDs

Meterbox ID CB-15

Umbilical ID —

Nozzle ID —

Pitot / Probe ID —

Manometer ID CB-15

Sensitivity 0.001

Calibration

Meterbox Y 1.020

Meterbox ΔH@, in. H_2O 1.910

Nozzle diameter, Dn, in. —

Pitot coefficient, Cp —

Manometer zero and level ☑ yes

K-Factor —

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	[illegible]	☐ @	[illegible]
Pitot (-), pass @ in. H_2O	[illegible]	☐ @	[illegible]
Pitot visual inspection	[illegible]	☐ pass	[illegible]
Nozzle visual inspection	[illegible]	☐ pass	[illegible]
Meter, cfm @ in. Hg	0.001 @ 15	@	0.001 @ 15

Intermediate leak check volume, ft^3 / /

ALT 011

TC ID:	Ambient °F	Ref. °F
Stack		
Probe		
Filter Box	See	
Filter Exit	Final	
Meter outlet	Run	
Impinger Exit		
Other		

Ref. Thermometer ID —

Continuity Check ☐ Continuity w/ Proper Polarity

Notes: —

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
B1	0	10:24	121.490		1.9	1.9					43		48	1	3
	10	10:34	128.57		↓	↓					43		49		3
	20	10:44	135.48								44		50		3
End	30	10:54	142.594												
Averages			21.104			1.9							49.0		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By _____ Team Leader _____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

~~BAAQMD~~ Method ST-1B Field Datasheet (Isokinetic)

Project Information
Date 12/30/21 Project # Proj-3071
Customer/Facility DTE-Woodland Biomass
Unit ID/Sample Location main stack
Run # 2-NH3 Operator NV

Sampling Conditions
Static Pressure, in. H_2O —
Ambient Temp, °F 47
Barometric Pressure, in. Hg 29.86
Ref. Barometer ID: UCAL
Wind Speed / Direction 0-5mph SE
Precipitation, Y/N; type
Probe / Filter Temp Range, °F

Sampling Equipment IDs
Meterbox ID CB-15
Umbilical ID —
Nozzle ID —
Pitot / Probe ID —
Manometer ID CB-15
Sensitivity 0.001

Calibration
Meterbox Y 1.020
Meterbox ΔH@, in. H_2O 1.910
Nozzle diameter, Dn, in. —
Pitot coefficient, Cp —
Manometer zero and level ☑ yes
K-Factor —

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☐ @	☐ @	☐ @
Pitot (-), pass @ in. H_2O	☐ @	☐ @	☐ @
Pitot visual inspection	☐ pass	☐ pass	☐ pass
Nozzle visual inspection	☐ pass	☑ pass	☐ pass
Meter, cfm @ in. Hg	0.001 @ 10	@	0.001 @ 10
Intermediate leak check volume, ft^3	/	/	/

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack		
Probe	see final run	
Filter Box		
Filter Exit		
Meter outlet		
Impinger Exit		
Other		

Ref. Thermometer ID
Continuity Check ☐ Continuity w/ Proper Polarity
Notes:

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
BE	0	11:37	144.952		1.9	1.9					42		52		4
	10	11:47	152.18		↓	↓					43		53		4
	20	11:57	158.98								47		55		3
End	30	12:07	165.947												
Averages			20.99			1.9							53.3		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By _____ Team Leader _____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

BAAQMD Method 5T-1B Field Datasheet (Isokinetic)

Project Information
Date 12/30/21 Project # RQ-3071
Customer/Facility DTE - Woodland Biomass
Unit ID/Sample Location main stack
Run # 3 - NH3 Operator NV

Sampling Conditions
Static Pressure, in. H_2O —
Barometric Pressure, in. Hg 29.86
Wind Speed / Direction 0-5 mph S
Probe / Filter Temp Range, °F
Ambient Temp, °F 50
Ref. Barometer ID
Precipitation, Y / (N) type

Sampling Equipment IDs
Meterbox ID CB-15
Umbilical ID —
Nozzle ID —
Pitot / Probe ID —
Manometer ID CB-15
Sensitivity 0.001

Calibration
Meterbox Y 1.020
Meterbox ΔH@, in. H_2O 1.910
Nozzle diameter, Dn, in. —
Pitot coefficient, Cp —
Manometer zero and level ☑ yes
K-Factor —

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☐ @	☐ @	☐ @
Pitot (-), pass @ in. H_2O	☐ @	☐ @	☐ @
Pitot visual inspection	☐ pass	☐ pass	☑ pass
Nozzle visual inspection	☐ pass	☑ pass	☐ pass
Meter, cfm @ in. Hg	0.001 @ 15	@	0.001 @ 10
Intermediate leak check volume, ft^3			

ALT 011

TC ID:	Ambient °F	Ref. °F
Stack		
Probe		
Filter Box		
Filter Exit		
Meter outlet CB-15	49	50.0
Impinger Exit GSN-7	49	49.4
Other		

Ref. Thermometer ID Trailer 9
Continuity Check ☑ Continuity w/ Proper Polarity
Notes:

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
B1	0	12:23	167.080		1.9	1.9					43		53		3
	10	12:33	173.58								43		55		3
	20	12:43	180.86								45		56		3
End	30	12:53	188.095												
Averages			21.015			1.9							54.67		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

Appendix A.3
PM_{10} Data Sheets

MONTROSE AIR QUALITY SERVICES

Sample Recovery & Calibration Check Datasheet

Page 1 of 1

Project Information

Date 12/28/2021 Project # PROJ-003071

Customer / Facility Woodland Biomass

Unit ID / Sample Location Woodland

Run # 1-3 EPA202 Operator

Equipment Identification

Ref. Thermometer Trailer 9

Hygrometer —

Field Balance 6-AB-OAK

Check Weights W-4

Calipers ANT-CAL 6

Balance Audit (Field balance must be within 0.5g of check weight mass)

Date	12/28/21	12/29/21	
Standard mass, g	500.0	500	
Field balance mass, g	499.6	499.9	

Ambient Conditions (Mobile Lab)

Relative humidity, % —

Temperature, °F —

Mobile lab # Trailer 9

Moisture Determination

	Contents	Run1 Initial	Run1 Final	Run1 Net	~~Run 2~~ cc 12/29 Run 3 Initial	Run 3 Final	Run 3 Net	~~Run 3~~ cc 12/29 Run 2 Initial	Run 2 Final	Run 2 Net
Knockout	Empty	364.1	567.8	203.7	367.5	565.8	198.3	357.2	530.8	173.6
Impinger 1	Empty	556.9	558.0	1.1	554.0	553.9	-0.1	553.4	553.2	-0.2
Impinger 2	100ml H_2O	645.9	648.2	2.3	644.2	646.9	2.7	639.2	640.1	0.9
Impinger 3										
Impinger 4										
Impinger 5										
Impinger 6										
Impinger 7										
Impinger 8										
Silica Gel	S.G	899.8	914.4	14.6	921.8	934.8	13.0	959.5	970.2	10.7
Line Rinse				-20		-20 ~~-20.1~~				-20.1
Train Net Gain (Vlc)				201.7			193.9			164.9

Nozzle Measurements (Difference between any two measurements must not be more than 0.004 in (0.1 mm))

Nozzle 1 diameters	0.154	D1	0.159	D2	0.156	D3	0.156	Average E3
Nozzle 2 diameters	0.160	D1	0.162	D2	0.158	D3	0.160	Average I3
Nozzle 3 diameters		D1		D2		D3		Average

Nozzle Material ☐ quartz ☐ glass ☒ steel ☐ titanium ☐ inconel ☐ other

Probe Type ☒ heated ☐ unheated ☐ air-cooled ☐ water-cooled ☐ other

Probe Liner ☐ quartz ☐ glass ☐ steel ☒ Teflon ☐ other

Filter Information

Front Half: ☐ quartz fiber ☑ glass fiber ☐ Teflon ☐ Teflon/quartz ☐ other

Filter Number: Run 1: 2148 Run 2: 2154 Run 3: 2161 Run FB: 2158

Back Half: ☐ quartz fiber ☐ glass fiber ☐ Teflon ☐ Teflon/quartz ☐ other

Reagent Information

Type	Lot Number
Hexanes	R000588
Acetone	R000589
Type 1 H_2O	R000583

Sample Observations

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____

Checked by: Team Leader:

001AS-QMS-FM-226

MONTROSE AIR QUALITY SERVICES

EPA Method 201a/202 Field Datasheet (Isokinetic)

Project Information
Date 12/29/21 Project # 003071
Customer/Facility DTE Woodland
Unit ID/Sample Location Stack
Run # 1-PM10 Operator EH

Sampling Conditions
Static Pressure, in. H_2O -.95 Ambient Temp, °F 48
Barometric Pressure, in. Hg 29.7 Ref. Barometer ID local
Wind Speed / Direction 5-10mph SE Precipitation (Y) N_i type Rain
Probe / Filter Temp Range, °F

Sampling Equipment IDs
Meterbox ID CB-15
Umbilical ID U-207
Nozzle ID G3
Pitot / Probe ID 202-TP-16
Manometer ID CB-15
Sensitivity 0.01

Calibration
Meterbox Y 1.020
Meterbox ΔH@, in. H_2O 1.910
Nozzle diameter, Dn, in. 0.156
Pitot coefficient, Cp .84
Manometer zero and level ☑ yes
K-Factor 9.13 DH 0.41

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 3	☐ @	☑ @ 3
Pitot (-), pass @ in. H_2O	☑ @ 3	☐ @	☑ @ 3
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.002 @ 10	@	0.002 @ 10
Intermediate leak check volume, ft^3			

ALT 011 TC ID:	Ambient °F	Ref. °F
Stack	50	
Probe		
Filter Box	Pass	
Filter Exit		
Meter outlet		
Impinger Exit		
Other		

Ref. Thermometer ID
Continuity Check ☐ Continuity w/ Proper Polarity
Notes:

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet	ΔP/M	Pump Vacuum, in. Hg
6	4:15	10:52	989.479	1.5	.41	.41	307	250			48		54	76	1.6
5	11:25	11:03:15	993.93	1.5			307	248			54		55	76	1.6
4	11:15	11:14:30	997.66	1.5			305	247			52		52	70	1.6
3	11:15	11:25:45	1001.37	1.4			305	250			56		52	71	1.6
2	10:46	11:36:30	1005.00	1.4			305	250			50		52	71	1.6
1	10:45	11:47:15	1008.47	1.2			305	250			50		51	71	1.6
PC	10:00	10:57:15	1011.764												
6	9:30	12:11:00	1011.764	1.1	.41	.41	303	245			48		50	70	1.0
5	9:30	12:20:30	1015.11	1.1			303	247			48		50	70	1.0
4	9:30	12:30:00	1018.24	1.2			305	245			49		49	69	1.0
3	10:00	12:40:30	1021.56	1.2			305	244			49		48	69	1.0
2	10:00	12:50:00	1024.91	1.2			305	241			49		49	69	1.0
1	10:00	13:00:00	1028.24	1.1			304	242			48		49	69	1.0
END	9:30	13:09:30	1031.463												
Averages	125.0		41.984	1.2786		0.41	304.92						50.92		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

EPA Method 201a/202 Field Datasheet (Isokinetic)

Page 1 of 1

Project Information
Date 12/29/21 Project # 003071
Customer/Facility DTE Woodland
Unit ID/Sample Location Main Stack
Run # 2-PM10 Operator EM

Sampling Conditions
Static Pressure, in. H_2O -.94 Ambient Temp, °F 42
Barometric Pressure, in. Hg 29.2 Ref. Barometer ID local
Wind Speed / Direction 10 mph SE Precipitation, (Y) N, type Rain
Probe / Filter Temp Range, °F

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack		
Probe	250	
Filter Box	250	
Filter Exit	250	
Meter outlet		
Impinger Exit		
Other		

Ref. Thermometer ID
Continuity Check ☐ Continuity w/ Proper Polarity
Notes:

Sampling Equipment IDs
Meterbox ID CB-15
Umbilical ID UL-207
Nozzle ID T3
Pitot / Probe ID 202-T215
Manometer ID CB-15
Sensitivity 0.01

Calibration
Meterbox Y 1.020
Meterbox ΔH@, in. H_2O 1.910
Nozzle diameter, Dn, in. 0.160
Pitot coefficient, Cp .84
Manometer zero and level ☑ yes
K-Factor 9.13

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 3	☐ @	☑ @ 3
Pitot (-), pass @ in. H_2O	☑ @ 3	☐ @	☑ @ 3
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.002 @ 10	@	0.002 @ 10
Intermediate leak check volume, ft^3	/	/	/

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet	CP/M	Pump Vacuum, in. Hg
6	~~0:45~~	14:07	033.596	1.0	.41	~~.41~~ .41	305	249	—	—	48	—	46	71	1.0
5	9:15	14:16:15	037.34	1.2			305	245	—	—	47	—	46	70	1.0
4	10:00	14:26:15	041.43	1.3			306	243	—	—	46	—	48	70	1.0
3	10:30	14:36:45	044.98	1.1			305	241	—	—	45	—	50	72	1.0
2	9:30	14:46:15	047.75	1.1			305	243	—	—	44	—	50	71	1.0
1	9:30	14:55:45	051.15	1.1	↓	↓	305	241	—	—	46	—	50	71	1.0
P/C	9:30	15:05:15	054.155												
6	0	15:14	054.155	1.5	.41	.41	306	241	—	—	46	—	50	70	1.5
5	11:15	15:30:15	058.08	1.5			306	240	—	—	47	—	50	71	1.0
4	11:15	15:41:30	061.64	1.4			304	241	—	—	46	—	50	72	1.0
3	10:45	15:52:15	065.23	1.3			304	244	—	—	46	—	50	70	1.0
2	10:30	16:02:45	068.74	1.3			305	244	—	—	47	—	50	70	1.0
1	10:30	16:13:15	071.98	1.3	↓	↓	302	248	—	—	48	—	51	69	1.0
END	10:30	16:23:45	075.780												
Averages		123.0	42.164	1.2535		0.41	304.92						49.25		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

CPM Method 202/201 Field Datasheet (Isokinetic)

Page 1 of 1

Project Information

Date 12/29/24 Project # 003071

Customer/Facility DTE Woodland

Unit ID/Sample Location

Run # 3-TP10 Operator EH

Sampling Conditions

Static Pressure, in. H_2O -.95 Ambient Temp, °F 45

Barometric Pressure, in. Hg 29.7 Ref. Barometer ID Inch

Wind Speed / Direction LO mph SE Precipitation? Y / N, type LIGHT

Probe / Filter Temp Range, °F

Sampling Equipment IDs

Meterbox ID CB-15

Umbilical ID UL-307

Nozzle ID E3

Pitot / Probe ID 202-TP-10

Manometer ID CB-15

Sensitivity 0.01

Calibration

Meterbox Y 1.020

Meterbox ΔH@, in. H_2O 1.90

Nozzle diameter, Dn, in. 0.156

Pitot coefficient, Cp .84

Manometer zero and level ☑ yes

K-Factor 9.13

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 3	☐ @	☑ @ 3
Pitot (-), pass @ in. H_2O	☑ @ 3	☐ @	☑ @ 3
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.002@ 10	@	0.002@ 10
Intermediate leak check volume, ft^3	/	/	/

ALT 011

TC ID:	Ambient °F	Ref. °F
Stack 202-TP10	44	44.2
Probe 202-TP10	44	44.2
Filter Box		44.2
Filter Exit		
Meter outlet CD-15	44	44.1
Impinger Exit GSM7	44	44.1
Other TC-4	44	44.1

Ref. Thermometer ID Trailer 9

Continuity Check ☑ Continuity w/ Proper Polarity

Notes:

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet	CPM	Pump Vacuum, in. Hg
6	11.45	17:01	077.563	1.5	.41	.41	306	250	—	—	47	—	48	70	1.0
5	11.15	17:12:15	021.73	1.5			304	251	—	—	46	—	49	71	1.0
4	11.15	17:23:30	085.42	1.5			304	250	—	—	46	—	50	70	1.0
3	11.15	17:34:45	089.16	1.3			304	240	—	—	47	—	50	70	1.0
2	10:30	17:45:45	092.68	1.3			304	240	—	—	47	—	49	69	1.0
1	10:30	17:55:45	096.19	1.3			302	241	—	—	47	—	50	69	1.0
PC	10:30	18:06:15	099.970												
6	0	18:12	099.970	1.0	.41	.41	305	250	—	—	48	—	50	70	1.0
5	9:15	18:24:15	103.21	1.0			305	246	—	—	48	—	50	70	1.0
4	9:15	18:30:30	106.12	1.2			305	240	—	—	47	—	51	69	1.0
3	10.00	18:40:30	109.42	1.2			303	240	—	—	45	—	51	69	1.0
2	10.00	18:50:30	112.81	1.2			303	242	—	—	46	—	51	69	1.0
1	10.06	19:00:30	116.04	1.2			303	240	—	—	48	—	51	69	1.0
END	10.00	19:10:36	119.416												
Averages	123.75		41.853	1.2612		0.41	304.7						50.0		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

Appendix A.4
Filterable PM / HCl Data Sheets

MONTROSE AIR QUALITY SERVICES

Sample Recovery & Calibration Check Datasheet

Page 1 of 1

Project Information

Date 12/29/21 Project # PROJ-003071

Customer / Facility Woodland Biomass

Unit ID / Sample Location Main Stack

Run # 1-3 EPA 5/26A Operator

Equipment Identification

Ref. Thermometer Trailer 9

Hygrometer —

Field Balance 6-AB-OAK

Check Weights W-4

Calipers ANT-CAL 6

Balance Audit (Field balance must be within 0.5g of check weight mass)

Date 12/29/21

Standard mass, g 500

Field balance mass, g 499.9

Ambient Conditions (Mobile Lab)

Relative humidity, % —

Temperature, °F —

Mobile lab # Trailer 9

Moisture Determination

		Run1			Run 2			Run 3		
	Contents	Initial	Final	Net	Initial	Final	Net	Initial	Final	Net
Knockout										
Impinger 1	0.1N H_2SO_4	651.8	973.6	321.8	669.1	999.0	329.9	667.1	1007.5	340.4
Impinger 2	0.1N H_2SO_4	657.5	675.6	18.1	651.3	652.2	0.9	662.1	674.4	12.3
Impinger 3	Empty	555.9	558.6	2.7	551.2	554.8	3.6	542.0	544.9	2.9
Impinger 4										
Impinger 5										
Impinger 6										
Impinger 7										
Impinger 8										
Silica Gel	S.G	902.3	925.6	23.3	913.3	933.6	20.3	904.6	923.5	18.9
Line Rinse				-20			-20.1			-20.1
Train Net Gain (Vlc)				345.9			334.6			354.4

Nozzle Measurements (Difference between any two measurements must not be more than 0.004 in (0.1 mm))

Nozzle 1 diameters 0.210 D1 0.211 D2 0.210 D3 0.210 Average 350-210-A

Nozzle 2 diameters D1 D2 D3 Average

Nozzle 3 diameters D1 D2 D3 Average

Nozzle Material ☐ quartz ☒ glass ☐ steel ☐ titanium ☐ inconel ☐ other

Probe Type ☒ heated ☐ unheated ☐ air-cooled ☐ water-cooled ☐ other

Probe Liner ☐ quartz ☒ glass ☐ steel Teflon ☐ other

Filter Information

Front Half: ☐ quartz fiber ☑ glass fiber ☐ Teflon ☐ Teflon/quartz ☐ other

Filter Number: Run 1: 2182 Run 2: 1879 Run 3: 1855 Run FB: 1379

Back Half: ☐ quartz fiber ☐ glass fiber ☐ Teflon ☐ Teflon/quartz ☐ other

Reagent Information

Type	Lot Number
Acetone	R000589
0.1N H_2SO_4	H_2SO_4: R000535 H_2O: DI0102
Type I H_2O	R000583

Sample Observations

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____

Checked by: Team Leader:

001AS-QMS-FM-226

MONTROSE AIR QUALITY SERVICES

GPM Method 5/26 Field Datasheet (Isokinetic) Page 1 of 1

Project Information
Date 12/29/21 Project #
Customer/Facility DTE - Woodland Biomass
Unit ID/Sample Location Stack
Run # 1-PM/HCl Operator NV

Sampling Conditions
Static Pressure, in. H_2O 0.95 Ambient Temp, °F —
Barometric Pressure, in. Hg 29.7 Ref. Barometer ID local
Wind Speed / Direction 0-10 mph SE Precipitation (Y) N, type Rain
Probe / Filter Temp Range, °F

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack		
Probe	250	
Filter Box		
Filter Exit	run	
Meter outlet		
Impinger Exit	run	
Other		

Ref. Thermometer ID
Continuity Check ☐ Continuity w/ Proper Polarity
Notes:

Sampling Equipment IDs
Meterbox ID CB-19
Umbilical ID 11403
Nozzle ID 350-216-A
Pitot / Probe ID 154-NP-16
Manometer ID CB-19
Sensitivity 0.001

Calibration
Meterbox Y 0.987
Meterbox ΔH@, in. H_2O 1.851
Nozzle diameter, Dn, in. 0.210
Pitot coefficient, Cp 0.84
Manometer zero and level ☑ Yes
K-Factor 1.05

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 4.3	☐ @	☑ @ 3.9
Pitot (-), pass @ in. H_2O	☑ @ 4.6	☐ @	☑ @ 4.7
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.004 @ 15	@	0.001 @ 10
Intermediate leak check volume, ft^3			

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
6	0	10:52	989.678	1.0	1.05	1.1	300	251		260	49		52		4.5
5	10	11:02	995.44	1.2	1.26	1.3	299	251		262	48		53		4.5
4	20	11:12	1001.59	1.2	1.26	1.4	300	251		261	51		54		4.5
3	30	11:22	1007.91	1.1	1.16	1.2	302	250		260	55		55		5
2	40	11:32	1014.09	1.2	1.26	1.3	302	253		263	57		56		5
1	50	11:42	1020.42	1.1	1.16	1.2	302	251		262	57		57		5
PC	60	11:52	1026.476												
6	60	11:52/12:12	1026.476	1.5	1.58	1.6	302	236		264	57		55		6.5
5	70	12:22	1033.42	1.5	1.58	1.6	301	241		260	61		55		6.5
4	80	12:32	1040.49	1.4	1.47	1.5	301	240		266	62		55		6
3	90	12:42	1047.05	1.4	1.47	1.5	301	242		260	60		55		6
2	100	12:52	1053.75	1.4	1.47	1.5	302	242		261	62		56		6
1	110	13:02	1060.43	1.3	1.37	1.4	300	240		258	63		57		6
End	120	13:12	1066.905												
Averages			77.227	1.2760		1.375	301.0						55.0		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

[illegible] Method 5/26 Field Datasheet (Isokinetic)

Page 2 of 3

Project Information

Date 12/29/21 Project # 8165-003671

Customer/Facility DTE - Midland Biomass

Unit ID/Sample Location

Run # 2-PM/HCl Operator NV

Sampling Conditions

Static Pressure, in. H_2O 0.95 Ambient Temp, °F —

Barometric Pressure, in. Hg 29.7 Ref. Barometer ID local

Wind Speed / Direction — Precipitation Y / N, type RAIN

Probe / Filter Temp Range, °F

Sampling Equipment IDs

Meterbox ID CB-19

Umbilical ID UL-403

Nozzle ID 350-210-74

Pitot / Probe ID 154-NP-10

Manometer ID 013-19

Sensitivity [illegible]

Calibration

Meterbox Y 0.987

Meterbox ΔH@, in. H_2O 1.851

Nozzle diameter, Dn, in. 0.210

Pitot coefficient, Cp 0.84

Manometer zero and level ☑ yes

K-Factor 1.05

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 4.6	☐ @	☑ @ 4.5
Pitot (-), pass @ in. H_2O	☑ @ 4.4	☐ @	☑ @ 4.3
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.01 @ 15	@	0.01 @ 10
Intermediate leak check volume, ft^3	/	/	/

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack		
Probe		
Filter Box	52	
Filter Exit	[illegible]	
Meter outlet	[illegible]	
Impinger Exit	[illegible]	
Other		

Ref. Thermometer ID

Continuity Check ☐ Continuity w/ Proper Polarity

Notes:

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
B-6	0	14:07	1067.394	1.5	1.57	1.6	299	242		257	60		50		6
5	10	14:17	1074.24	1.4	1.47	1.5	298	241		259	57		51		6
4	20	14:27	1081.04	1.5	1.57	1.6	298	244		260	61		53		6
3	30	14:37	1087.98	1.4	1.47	1.5	297	244		261	62		55		6
2	40	14:47	1094.79	1.3	1.37	1.4	297	243		258	62		57		6
1	50	14:57	1101.30	1.8	1.27	1.4	298	242		262	57		59		6
PT	60	15:07	1107.818												
A-6	60	15:07/15:[illegible]	1107.818	1.1	1.16	1.2	298	246		259	46		59		5
5	70	15:29	1113.860	1.2	1.26	1.3	297	250		256	47		58		5
4	80	15:39	1119.94	1.2	1.26	1.3	295	251		261	48		58		5
3	90	15:49	1126.12	1.2	1.26	1.3	295	251		263	46		58		5
2	100	15:59	1132.27	1.1	1.16	1.2	295	249		260	47		58		5
1	110	16:09	1138.23	1.0	1.05	1.1	295	252		261	47		59		5
END	120	16:19	1143.884												
Averages			76.490	1.2619		1.367	296.8						56.3		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

EPA Method 5/26 Field Datasheet (Isokinetic)

Page 3 of 8

Project Information
Date 12/29/21 Project # PRS-00
Customer/Facility DTE - Woodland Biomass
Unit ID/Sample Location
Run # 3 - PM/HC Operator NV

Sampling Conditions
Static Pressure, in. H_2O -.45 Ambient Temp, °F 45
Barometric Pressure, in. Hg 29.3 Ref. Barometer ID Inst
Wind Speed / Direction 10 mph SE Precipitation, (Y) N, type
Probe / Filter Temp Range, °F

Sampling Equipment IDs
Meterbox ID CB-19
Umbilical ID UL-403
Nozzle ID —
Pitot / Probe ID 154-NP-10
Manometer ID CB-19
Sensitivity 0.001

Calibration
Meterbox Y 0.987
Meterbox ΔH@, in. H_2O 1.851
Nozzle diameter, Dn, in. —
Pitot coefficient, Cp 0.84
Manometer zero and level ☑ yes
K-Factor 1.05

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 4.7	☐ @	☑ @ 4.3
Pitot (-), pass @ in. H_2O	☑ @ 4.5	☐ @	☑ @ 3.8
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☑ pass	☑ pass
Meter, cfm @ in. Hg	0.001 @ 15	@	0.001 @ 10
Intermediate leak check volume, ft^3	/	/	

ALT 011

TC ID:	Ambient °F	Ref. °F
Stack 154-NP-10	44	44.1
Probe 154-NP-10	44	45.0
Filter Box		
Filter Exit OB-4	44	44.2
Meter outlet CB-19	44	44.2
Impinger Exit GSN-4	44	45.0
Other		

Ref. Thermometer ID Trailer 9
Continuity Check ☑ Continuity w/ Proper Polarity
Notes: 12/29

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
A-6	0	17:01	144.256	1.4	1.16	1.2	299	249		260	46		53		4.5
5	10	17:11	150.22	1.0	1.05	1.1	298	249		263	46		53		4.5
4	20	17:21	155.99	1.2	1.27	1.3	297	250		262	50		54		5
3	30	17:31	162.31	1.2	1.27	1.3	298	251		262	48		55		5
2	40	17:41	168.62	1.3	1.37	1.4	297	249		263	50		57		5
1	50	17:51	175.03	1.1	1.16	1.2	298	249		260	52		58		4.5
PC	60	18:01	181.038	—											
B-6	60	18:01/18:01	181.038	1.5	1.58	1.6	299	241		257	53		57		5.5
5	70	18:17	188.05	1.6	1.68	1.7	300	242		258	52		58		6
4	80	18:27	195.05	1.4	1.47	1.5	302	242		259	54		58		5.5
3	90	18:37	201.67	1.4	1.47	1.5	301	244		263	48		59		5.5
2	100	18:47	208.24	1.3	1.37	1.4	299	243		256	49		60		5
1	110	18:57	214.86	1.3	1.37	1.4	301	241		259	51		61		5
End	120	19:07	221.186	—											
Averages			76.930	1.2779		1.383	299.1						56.9		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

Appendix A.5
SO_2 / Flow Data Sheets

MONTROSE AIR QUALITY SERVICES

Sample Recovery & Calibration Check Datasheet

Project Information

Date 12/30/21 Project # PROJ-003071

Customer / Facility Woodland Biomass

Unit ID / Sample Location

Run # R1-6 EPA 6 Operator

Equipment Identification

Ref. Thermometer Trailer 9

Hygrometer –

Field Balance 6-AB-OAK

Check Weights W4

Calipers ANT-CAL 6

Balance Audit (Field balance must be within 0.5g of check weight mass)

Date 12/30/21

Standard mass, g 500

Field balance mass, g 499.7

Ambient Conditions (Mobile Lab)

Relative humidity, % –

Temperature, °F –

Mobile lab # Trailer 9

Moisture Determination

	Contents	Run1 Initial	Run1 Final	Run1 Net	Run 2 Initial	Run 2 Final	Run 2 Net	Run 3 Initial	Run 3 Final	Run 3 Net
Knockout	3% H_2O_2	641.2	750.0	108.8	658.4	763.2	104.8	641.7	765.7	153.0 111.3
Impinger 1	3% H_2O_2	652.6	658.2	5.6	656.6	663.7	7.1	655.7	662.3 (GL 12/30)	6.6
Impinger 2	mt	542.6 (GL 12/30)	544.3	1.7	614.3	617.0	2.7	520.3	522.5	2.2
Impinger 3	Sil	542.6 (GL 12/30)	933.6	7.2	903.5	913.7	10.2	902.0	910.1	8.1
Impinger 4	LR	926.4 (GL 12/30)		-20			-20.0			-20.1
Impinger 5			RUN 4	103.3		RUN 5	104.8		RUN 6	108.1
Impinger 6	3% H_2O_2	642.0	751.2	109.2	662.2	776.0	113.8	644.1	755.6	111.5
Impinger 7	3% H_2O_2	651.8	657.8	6.0	657.7	661.1	3.4	655.7	658.3	2.6
Impinger 8	mt	545.8	549.0	3.2	615.1	616.0	0.9	521.3	522.3	1.0
Silica Gel	Sil	933.7	941.2	7.5	913.1	918.4	5.3	910.0	915.9	5.9
Line Rinse	LR			-20.2			-20.0			-20.0
Train Net Gain (Vlc)				105.7			107.4			101.0

Nozzle Measurements (Difference between any two measurements must not be more than 0.004 in (0.1 mm))

Nozzle 1 diameters ____ D1 ____ D2 ____ D3 ____ Average

Nozzle 2 diameters ____ D1 ____ D2 ____ D3 ____ Average

Nozzle 3 diameters ____ D1 ____ D2 ____ D3 ____ Average

Nozzle Material ☐ quartz ☐ glass ☐ steel ☐ titanium ☐ inconel ☐ other ____

Probe Type ☐ heated ☒ unheated ☐ air-cooled ☐ water-cooled ☐ other ____

Probe Liner ☐ quartz ☐ glass ☐ steel Teflon ☒ other Titanium

Filter Information

Front Half: ☐ quartz fiber ☐ glass fiber ☐ Teflon ☐ Teflon/quartz ☐ other ____

Filter Number: Run 1: ____ Run 2: ____ Run 3: ____ Run ____: ____

Back Half: ☐ quartz fiber ☐ glass fiber ☐ Teflon ☐ Teflon/quartz ☐ other ____

Reagent Information

Type	Lot Number
3% H_2O_2	30% H_2O_2: R000538 H_2O: DI000233

Sample Observations

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____

Checked by: ____ Team Leader: ____

MONTROSE AIR QUALITY SERVICES

Sample Recovery & Calibration Check Datasheet

Project Information

Date 12/30/21 Project # PROJ-003071

Customer / Facility Woodland Biomass

Unit ID / Sample Location

Run # 7-10 EPA 6 Operator

Equipment Identification

Ref. Thermometer Trailer 9

Hygrometer –

Field Balance 6-AB-OAK

Check Weights W4

Calipers ANT-CAL6

Balance Audit (Field balance must be within 0.5g of check weight mass)

Date 12/30/21

Standard mass, g 500

Field balance mass, g 499.7

Ambient Conditions (Mobile Lab)

Relative humidity, % –

Temperature, °F –

Mobile lab # Trailer 9

Moisture Determination

	Contents	Run 7 Initial	Run 7 Final	Run 7 Net	Run 8 Initial	Run 8 Final	Run 8 Net	Run 9 Initial	Run 9 Final	Run 9 Net
Knockout	3% H_2O_2	642.0	750.6	108.6	661.5	~~661.5~~ 779.6	118.1	643.5	757.7	114.2
Impinger 1	3% H_2O_2	653.1	656.1	3.0	657.4	661.4	4.0	655.0	659.4	4.4
Impinger 2	MT	546.0	547.6	1.6	615.2	616.3	1.1	522.1	522.7	0.6
Impinger 3	S-G	941.2	946.2	5.0	918.3	923.9	5.6	915.8	920.5	4.7
Impinger 4	LR			-20.0			-20.1			-20.0
Impinger 5			Run 10	98.2		Run 11	107.2		Run 12	103.9
Impinger 6	3% H_2O_2	642.2	755.4	113.2	659.1					
Impinger 7	3% H_2O_2	653.4	654.7	1.3	655.7					
Impinger 8	MT	545.9	546.2	0.3	651.2					
Silica Gel	S-G	946.0	952.7	6.7	923.6					
Line Rinse	L-R			-20.0	EL 12/30					
Train Net Gain (Vlc)				101.5						

Nozzle Measurements (Difference between any two measurements must not be more than 0.004 in (0.1 mm))

Nozzle 1 diameters ____ D1 ____ D2 ____ D3 ____ Average

Nozzle 2 diameters ____ D1 ____ D2 ____ D3 ____ Average

Nozzle 3 diameters ____ D1 ____ D2 ____ D3 ____ Average

Nozzle Material ☐ quartz ☐ glass ☐ steel ☐ titanium ☐ inconel ☐ other ____

Probe Type ☐ heated ☒ unheated ☐ air-cooled ☐ water-cooled ☐ other ____

Probe Liner ☐ quartz ☐ glass ☐ steel Teflon ☒ other Titanium

Filter Information

Front Half: ☐ quartz fiber ☐ glass fiber ☐ Teflon ☐ Teflon/quartz ☐ other ____

Filter Number: Run 1: ____ Run 2: ____ Run 3: ____ Run ___: ____

Back Half: ☐ quartz fiber ☐ glass fiber ☐ Teflon ☐ Teflon/quartz ☐ other ____

Reagent Information

Type	Lot Number
3% H_2O_2	30% H_2O_2: 2000538
	H_2O: DI000233

Sample Observations

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____

Checked by: ____ Team Leader: ____

001AS-QMS-FM-226

MONTROSE AIR QUALITY SERVICES

EPA Method 2/6 Field Datasheet (Isokinetic)

Page 1 of 1

Project Information
Date 12/30/21 Project # 003071
Customer/Facility Woodland Biomass
Unit ID/Sample Location Exhaust
Run # 1-SW Operator EH

Sampling Conditions
Static Pressure, in. H_2O +0.99 Ambient Temp, °F 46
Barometric Pressure, in. Hg 29.08 Ref. Barometer ID
Wind Speed / Direction 3 mph SE Precipitation, Y (N) type
Probe / Filter Temp Range, °F

Sampling Equipment IDs
Meterbox ID CB-19
Umbilical ID UL-257
Nozzle ID —
Pitot / Probe ID 153-NP-10
Manometer ID CB-19
Sensitivity 0.001

Calibration
Meterbox Y 0.987
Meterbox ΔH@, in. H_2O 1.851
Nozzle diameter, Dn, in. —
Pitot coefficient, Cp 0.84
Manometer zero and level ☑ yes
K-Factor —

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 4.3	☐ @	☐ @ 4.2
Pitot (-), pass @ in. H_2O	☑ @ 4.5	☐ @	☐ @ 4.4
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☐ pass	☑ pass	☐ pass
Meter, cfm @ in. Hg	0.001 @ 15	@	0.001 @ 15
Intermediate leak check volume, ft^3	/	/	/

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack		
Probe		
Filter Box	see final	
Filter Exit		
Meter outlet		
Impinger Exit	run	
Other		

Ref. Thermometer ID
Continuity Check ☐ Continuity w/ Proper Polarity
Notes:

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
3	0	1024	221.734		1.8	1.8					50		55		3.0
2	10	1034	229.51								50		58		3.0
1	20	1044	237.93								50		59		3.0
END	30	1054	243.842												
A 6		1027		1.1			299								
5				1.2			299								
4				1.2			299								
3				1.3			300								
2				1.1			299								
1				1.2			299								
B 6				1.4			292								
5				1.4			299								
4				1.4			300								
3				1.2			300								
2				1.1			300								
1		1046		1.1			300								
Averages			22.108	1.2223		1.8	298.8						57.3		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

EPA Method 2/6 Field Datasheet (Isokinetic)

Page 1 of 1

Project Information

Date 12/30/21 Project # 003071

Customer/Facility Woodland Biomass

Unit ID/Sample Location Exhaust

Run # 2 - Sec Operator EH

Sampling Conditions

Static Pressure, in. H_2O +1.0 Ambient Temp, °F 47

Barometric Pressure, in. Hg 29.86 Ref. Barometer ID Lab

Wind Speed / Direction 3 mph SE Precipitation, Y / (N) type

Probe / Filter Temp Range, °F

Sampling Equipment IDs

Meterbox ID CB-19

Umbilical ID UL-207

Nozzle ID

Pitot / Probe ID 253-NP-10

Manometer ID CB-19

Sensitivity 0.01

Calibration

Meterbox Y 0.987

Meterbox ΔH@, in. H_2O 1.851

Nozzle diameter, Dn, in.

Pitot coefficient, Cp .84

Manometer zero and level ☑ yes

K-Factor ΔH@ 1.8

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 3	☐ @	☑ @ 3
Pitot (-), pass @ in. H_2O	☑ @ 3	☐ @	☑ @ 3
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.002@10	@	0.002@10
Intermediate leak check volume, ft^3	/	/	/

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack	50	
Probe		
Filter Box	Run	
Filter Exit		
Meter outlet		
Impinger Exit		
Other		

Ref. Thermometer ID

Continuity Check ☐ Continuity w/ Proper Polarity

Notes:

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet	Pump Vacuum, in. Hg
3	0	1137	244.270		1.8	1.8					52		60	3.0
2	10	1147	251.93								51		64	3.0
1	20	1157	259.44								51		66	3.0
END	30	1207	266.863											
A 6		1140		1.1			299							
5				1.2			300							
4				1.2			299							
3				1.3			302							
2				1.2			303							
1				1.2			303							
B 6				1.4			299							
5				1.3			302							
4				1.3			303							
3				1.1			303							
2				1.1			303							
1		1148		1.0			303							
Averages			22.593	1.1976		1.8	301.6						63.3	

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

EPA Method 2/6 Field Datasheet (Isokinetic)

Project Information

Date 12/30/21 Project # 003071

Customer/Facility Woodland Biomass

Unit ID/Sample Location Exhaust

Run # 3 - 5m Operator #14

Sampling Conditions

Static Pressure, in. H_2O -.97 Ambient Temp, °F 50

Barometric Pressure, in. Hg 29.86 Ref. Barometer ID Unit

Wind Speed / Direction 3 mph SE Precipitation, Y / (N) type

Probe / Filter Temp Range, °F

ALT 011

TC ID:	Ambient °F	Ref. °F
Stack	50	
Probe	250	
Filter Box		
Filter Exit	250	
Meter outlet		
Impinger Exit		
Other		

Ref. Thermometer ID

Continuity Check ☐ Continuity w/ Proper Polarity

Notes:

Sampling Equipment IDs

Meterbox ID CB-19

Umbilical ID UL-207

Nozzle ID

Pitot / Probe ID 253-NP-10

Manometer ID CB-19

Sensitivity 0.01

Calibration

Meterbox Y 0.987

Meterbox ΔH@, in. H_2O 1.85

Nozzle diameter, Dn, in.

Pitot coefficient, Cp .84

Manometer zero and level ☑ yes

K-Factor 4H@ 1.8

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 3	☐ @	☑ @ 3
Pitot (-), pass @ in. H_2O	☑ @ 3	☐ @	☑ @ 3
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.002@10	@	0.002@10
Intermediate leak check volume, ft^3	/	/	/

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
3	0	1223	267.713		1.8	1.8					50		64		3.0
2	10	1233	275.39		1						50		64		3.0
1	20	1243	282.93								51		65		3.0
END	30	1253	289.613												
A 6		1225		1.2			299								
5				1.1			305								
4				1.2			300								
3				1.1			300								
2				1.1			299								
1				1.0			299								
B 6				1.4			294								
5				1.4			294								
4				1.3			300								
3				1.3			300								
2				1.3			299								
1		1240		1.1			299								
Averages			21.902	1.2057		1.8	299.4						64.3		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

EPA Method 2/6 Field Datasheet (Isokinetic)

Page 1 of 1

Project Information

Date 12/30/21 Project # 003671

Customer/Facility Woodland Biomass

Unit ID/Sample Location Exhaust

Run # 1 - Sor Operator NV

Sampling Conditions

Static Pressure, in. H_2O +0.99 Ambient Temp, °F 51

Barometric Pressure, in. Hg 29.88 Ref. Barometer ID Lab

Wind Speed / Direction 0-5 mph SW Precipitation, Y (N), type

Probe / Filter Temp Range, °F

Sampling Equipment IDs

Meterbox ID CB-19

Umbilical ID UL-207

Nozzle ID —

Pitot / Probe ID 153-NP-1

Manometer ID CB-19

Sensitivity 0.001

Calibration

Meterbox Y 0.987

Meterbox ΔH@, in. H_2O 1.851

Nozzle diameter, Dn, in. —

Pitot coefficient, Cp 0.84

Manometer zero and level ☑ yes

K-Factor —

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @3	☐ @	☑ @ 4.2
Pitot (-), pass @ in. H_2O	☑ @3	☐ @	☑ @ 3.7
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.052 @10	@	0.052 @10
Intermediate leak check volume, ft^3	/	/	

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack		
Probe		
Filter Box	252	
Filter Exit	Final	
Meter outlet		
Impinger Exit	Final	
Other		

Ref. Thermometer ID

Continuity Check ☐ Continuity w/ Proper Polarity

Notes:

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
3	0	13:16	290.039		1.8	1.8					49		63		3
2	10	13:21	297.34								50		65		3
1	20	13:36	304.59								51		66		3
END	30	13:46	311.965												
A 6				1.1			299								
5				1.2			302								
4				1.2			300								
3				1.0			301								
2				1.3			301								
1				1.1			300								
B 6				1.4			295								
5				1.4			300								
4				1.2			299								
3				1.3			299								
2				1.1			301								
1				1.0			299								
Averages			11.926	1.185		1.8	299						64.7		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By _____ Team Leader _____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

EPA Method 2/6 Field Datasheet (Isokinetic)

Page 1 of 1

Project Information

Date 12/30/21 Project # 003071

Customer/Facility Woodland Biomass

Unit ID/Sample Location Exhaust

Run # 5 - SM Operator NV

Sampling Conditions

Static Pressure, in. H_2O -0.97 Ambient Temp, °F 52

Barometric Pressure, in. Hg 29.68 Ref. Barometer ID Lab

Wind Speed / Direction 0-5mph NW Precipitation, Y / N, type

Probe / Filter Temp Range, °F

Sampling Equipment IDs

Meterbox ID CB-19

Umbilical ID UL-207

Nozzle ID —

Pitot / Probe ID 153-NP-10

Manometer ID CB-19

Sensitivity 0.001

Calibration

Meterbox Y 0.987

Meterbox ΔH@, in. H_2O 1.851

Nozzle diameter, Dn, in. —

Pitot coefficient, Cp 0.84

Manometer zero and level ☑ yes

K-Factor —

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 4.2	☐ @	☑ @ 4.3
Pitot (-), pass @ in. H_2O	☑ @ 4.0	☐ @	☑ @ 4.3
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☑ pass	☑ pass
Meter, cfm @ in. Hg	0.001 @ 15	@	0.001 @ 10
Intermediate leak check volume, ft^3	/	/	

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack		
Probe		
Filter Box	see	
Filter Exit		
Meter outlet	final	
Impinger Exit		
Other	run	

Ref. Thermometer ID

Continuity Check ☐ Continuity w/ Proper Polarity

Notes:

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
	0	14:07	312.742		1.8	1.8					53		63	1	3
	10	14:17	319.88		↓	↓					47		64		3
	20	14:27	327.26								48		64	1	3
End	30	14:37	333.750												
B-6				1.5			300								
5				1.4			299								
4				1.4			301								
3				1.2			299								
2				1.0			302								
1				1.1			300								
A-6				1.0			298								
5				1.2			300								
4				1.2			299								
3				1.1			301								
2				1.2			300								
1				1.1			300								
Averages			21.008	1.1953		1.8	299.5						63.7		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

EPA Method 2/6 Field Datasheet (Isokinetic)

Project Information
Date 12/30/21 Project # 003071
Customer/Facility Woodland Biomass
Unit ID/Sample Location Exhaust
Run # 6-502 Operator NV

Sampling Conditions
Static Pressure, in. H_2O +0.98 Ambient Temp, °F 53
Barometric Pressure, in. Hg 29.86 Ref. Barometer ID leak
Wind Speed / Direction 0-5 mph NW Precipitation, Y / (N) type
Probe / Filter Temp Range, °F

Sampling Equipment IDs
Meterbox ID CD-19
Umbilical ID UL-207
Nozzle ID —
Pitot / Probe ID 163-NP-10
Manometer ID CB-19
Sensitivity 0.001

Calibration
Meterbox Y 0.987
Meterbox ΔH@, in. H_2O 1.851
Nozzle diameter, Dn, in. —
Pitot coefficient, Cp 0.84
Manometer zero and level ☑ yes
K-Factor —

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 4.2	☐ @	☑ @ 4.5
Pitot (-), pass @ in. H_2O	☑ @ 4.1	☐ @	☑ @ 4.5
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.001 @ 10	@	0.001 @ 10
Intermediate leak check volume, ft^3	/	/	

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack		
Probe		
Filter Box	See	
Filter Exit	Final	
Meter outlet		
Impinger Exit	run	
Other		

Ref. Thermometer ID
Continuity Check ☐ Continuity w/ Proper Polarity
Notes:

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
	0	14:49	334.517		1.9	1.8					52		62		3
	10	14:59	341.46		↓	↓					53		62		3
	20	15:09	348.98								52		62		3
End	30	15:19	355.898												
A-6				1.1			298								
5				1.2			300								
4				1.2			300								
3				1.1			301								
2				1.3			300								
1				1.2			299								
B 6				1.3			298								
5				1.4			299								
4				1.2			301								
3				1.2			301								
2				1.1			302								
1				1.1			300								
Averages			21.381	1.1983		1.8	299.9						62		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

EPA Method 2/6 Field Datasheet (Isokinetic)

Project Information
Date 12/30/21 Project # 003071
Customer/Facility Woodland Biomass
Unit ID/Sample Location Exhaust
Run # 7 - SO2 Operator NV

Sampling Conditions
Static Pressure, in. H_2O +1.0 Ambient Temp, °F 53
Barometric Pressure, in. Hg 24.88 Ref. Barometer ID local
Wind Speed / Direction 0-5 mph NW Precipitation, Y / (N) type
Probe / Filter Temp Range, °F

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack		
Probe		
Filter Box	see final run	
Filter Exit		
Meter outlet		
Impinger Exit		
Other		

Ref. Thermometer ID
Continuity Check ☐ Continuity w/ Proper Polarity
Notes:

Sampling Equipment IDs
Meterbox ID CB-19
Umbilical ID UL-207
Nozzle ID —
Pitot / Probe ID 153-NP-10
Manometer ID CB-19
Sensitivity 0.001

Calibration
Meterbox Y 0.987
Meterbox ΔH@, in. H_2O 1.881
Nozzle diameter, Dn, in. —
Pitot coefficient, Cp 0.84
Manometer zero and level ☑ yes
K-Factor —

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 3.8	☐ @	☑ @ 4.9
Pitot (-), pass @ in. H_2O	☑ @ 4.6	☐ @	☑ @ 4.8
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.001 @ 10	@	0.004 @ 10
Intermediate leak check volume, ft³	/	/	

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft³	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
	0	15:30	356.708		1.8	1.8					56		62		3
	10	15:40	363.92		↓	↓					57		62		3
	20	15:50	371.14								56		63		3
End	30	16:00	378.411												
B-6				1.2			300								
5				1.2			300								
4				1.1			301								
3				1.1			300								
2				1.2			301								
1				1.1			299								
A-6				1.4			298								
5				1.5			300								
4				1.3			299								
3				1.3			300								
2				1.2			302								
1				1.0			300								
Averages			21.492	1.217		1.8	300.0					62.3			

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

EPA Method 2/6 Field Datasheet (Isokinetic)

Project Information
Date 12/30/21 Project # 003071
Customer/Facility Woodland Biomass
Unit ID/Sample Location Exhaust
Run # 8-Sov Operator NV

Sampling Conditions
Static Pressure, in. H_2O -1.0 Ambient Temp, °F 53
Barometric Pressure, in. Hg 29.66 Ref. Barometer ID Local
Wind Speed / Direction 0-5 mph NW Precipitation, Y / (N) type
Probe / Filter Temp Range, °F

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack		
Probe		
Filter Box	see Final run	
Filter Exit		
Meter outlet		
Impinger Exit		
Other		

Ref. Thermometer ID
Continuity Check ☐ Continuity w/ Proper Polarity
Notes:

Sampling Equipment IDs
Meterbox ID CB-19
Umbilical ID UL-207
Nozzle ID —
Pitot / Probe ID 153-NP-10
Manometer ID CB-19
Sensitivity 0.001

Calibration
Meterbox Y 0.987
Meterbox ΔH@, in. H_2O 1.851
Nozzle diameter, Dn, in. —
Pitot coefficient, Cp 0.84
Manometer zero and level ☑ yes
K-Factor —

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 3.8	☐ @	☑ @ 3.9
Pitot (-), pass @ in. H_2O	☑ @ 4.2	☐ @	☑ @ 4.6
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.004 @ 10	@	0.004 @ 10
Intermediate leak check volume, ft^3	/	/	/

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
	0	16:09	378.759		1.8	1.8					54		61	1	3
	10	16:19	386.08								55		61		3
	20	16:29	393.24								53		62		3
End	30	16:39	400.347												
A-6		1.1		300											
5		1.2		299											
4		1.1		301											
3		1.0		300											
2		1.3		301											
1		1.1		299											
B-6		1.4		297											
5		1.4		299											
4		1.3		300											
3		1.3		301											
2		1.2		301											
1		1.0		300											
Averages			21.588	1.1962		1.8	298						61.3		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

EPA Method 2/6 Field Datasheet (Isokinetic)

Page 1 of 1

Project Information

Date 12/30/21 Project # 003071

Customer/Facility Woodland Biomass

Unit ID/Sample Location Exhaust

Run # 9-Sou Operator NV

Sampling Conditions

Static Pressure, in. H_2O +0.98 Ambient Temp, °F 50

Barometric Pressure, in. Hg 29.88 Ref. Barometer ID Local

Wind Speed / Direction 0-5mph NW Precipitation, Y / N, type

Probe / Filter Temp Range, °F

Sampling Equipment IDs

Meterbox ID CB-19

Umbilical ID UL-207

Nozzle ID —

Pitot / Probe ID 153-NP-10

Manometer ID CB-19

Sensitivity 0.001

Calibration

Meterbox Y 0.987

Meterbox ΔH@, in. H_2O 1.851

Nozzle diameter, Dn, in. —

Pitot coefficient, Cp 0.84

Manometer zero and level ☑ yes

K-Factor —

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 4.1	☐ @	☑ @ 3.9
Pitot (-), pass @ in. H_2O	☑ @ 3.8	☐ @	☑ @ 4.0
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☐ pass	☑ pass
Meter, cfm @ in. Hg	0.001 @10	@	0.001 @ 10
Intermediate leak check volume, ft^3	/	/	/

ALT 011 TC ID:

	Ambient °F	Ref. °F
Stack		
Probe		
Filter Box	see	
Filter Exit	final	
Meter outlet	run	
Impinger Exit		
Other		

Ref. Thermometer ID

Continuity Check ☐ Continuity w/ Proper Polarity

Notes:

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
	0	16:52	401.412		1.8	1.8					51		60	1	3
	10	17:02	408.51		↓	↓					51		62		3
	20	17:12	415.56								50		63		3
End	30	17:22	422.547												
B-6				1.5			299								
5				1.4			300								
4				1.2			298								
3				1.2			299								
2				1.2			301								
1				1.0			300								
A-6				1.2			298								
5				1.2			299								
4				1.2			299								
3				1.6			301								
2				1.1			300								
1				1.0			300								
Averages			21.135	1.1769		1.8	299.5						61.7		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

MONTROSE AIR QUALITY SERVICES

EPA Method 2/6 Field Datasheet (Isokinetic)

Page 1 of 1

Project Information
Date 12/30/21 Project # 003071
Customer/Facility Woodland Biomass
Unit ID/Sample Location Exhaust
Run # 10-Sam Operator NV

Sampling Conditions
Static Pressure, in. H_2O +0.99 Ambient Temp, °F 48
Barometric Pressure, in. Hg 29.88 Ref. Barometer ID local
Wind Speed / Direction 0-5mph NW Precipitation, Y / (N) type
Probe / Filter Temp Range, °F

Sampling Equipment IDs
Meterbox ID CB-19
Umbilical ID UL-207
Nozzle ID —
Pitot / Probe ID 153-NP-10
Manometer ID CB-19
Sensitivity 0.001

Calibration
Meterbox Y 0.987
Meterbox ΔH@, in. H_2O 1.851
Nozzle diameter, Dn, in. —
Pitot coefficient, Cp 0.84
Manometer zero and level ☑ yes
K-Factor —

Equipment Checks

	Pre	Mid	Post
Pitot (+), pass @ in. H_2O	☑ @ 4.5	☐ @	☑ @ 4.1
Pitot (-), pass @ in. H_2O	☑ @ 3.8	☐ @	☑ @ 3.8
Pitot visual inspection	☑ pass	☐ pass	☑ pass
Nozzle visual inspection	☑ pass	☑ pass	☑ pass
Meter, cfm @ in. Hg	0.001 @ 10	@	0.001 @ 10
Intermediate leak check volume, ft^3	/	/	/

ALT 011 TC ID:

		Ambient °F	Ref. °F
Stack	153-NP-10		
Probe	*	48	47.6
Filter Box			
Filter Exit			
Meter outlet	CB-19	48	48.4
Impinger Exit	UL-207	48	49.1
Other			

Ref. Thermometer ID Trailer 4
Continuity Check ☑ Continuity w/ Proper Polarity
Notes: *NV 12/30

Traverse Point #	Elapsed Time	Clock Time 24hr	DGM Reading, Vm, ft^3	Velocity Head, ΔP in H_2O	Orifice Pressure Differential, ΔH Target	Orifice Pressure Differential, ΔH Actual	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F Box	Filter Temp, °F Exit	Impinger Exit Temp, °F	Dry Gas Meter Temperature, °F Inlet	Dry Gas Meter Temperature, °F Outlet		Pump Vacuum, in. Hg
	0	17:30	423.230		1.8	1.8					55		61	1	3
	10	17:40	430.36								52		61	1	3
	20	17:50	437.38								51		61	1	3
End	30	18:00	444.376										61		
A-6				1.0			299								
5				1.1			301								
4				1.2			300								
3				1.2			301								
2				1.3			301								
1				1.1			300								
B-6				1.4			299								
5				1.4			300								
4				1.3			248								
3				1.2			299								
2				1.2			301								
1				1.1			300								
Averages			21.146	1.2054		1.8	299.92						61.0		

QA/QC Check: Completeness ____ Legibility ____ Accuracy ____ Specifications ____ Checked By ____ Team Leader ____

001AS-QMS-FM-225

Appendix A.6
Hg Data Sheets

MONTROSE AIR QUALITY SERVICES

LOW-FLOW OR CRITICAL ORIFICE SAMPLE TRAIN DATA

Project Information

Client / Facility: DTE Woodland
Source / Location: MAIN STACK
Run no.: 1 - HG
Page: 1 of 1
Method: 30B
Date: 12/30/21 Operator / Assistant: EH
Project No.: 003071

Equipment Identification

Meter console ID: LFCB-03
Critical orifice ID:
Rotameter ID:
Stack TC ID:
Filter TC ID:
Micromanometer ID:
Sensitivity, in. H_2O:

Calibration

Side A Meter Yd: 1.00
Side B Meter Yd: 1.00
Orifice choked flow rate:

ALT-011 TC Check

Std. TC ID:
Std. TC temp., °F:
Stack TC temp., °F:
Continuity check + or -:

Pre-Test Equipment Checks - fill in only those required by the test method being performed

Meter leak check: liter @ in. Hg: Side A 0 @ 3 Side B 0 @ 3
Canister/orifice: 2 minutes, in. Hg before/after: Side A / Side B / can /
Sample flow rate check, cc/min: 1 2 3 4 5 Avg

Post-Test Equipment Checks - fill in only those required by the test method being performed

Meter leak check: liter @ in. Hg: Side A 0 @ 5 Side B 0 @ 5
Canister/orifice: 2 minutes, in. Hg before/after: Side A / Side B /
Sample flow rate check, cc/min: 1 2 3 4 5 Avg
Other:

Test / Sampling Parameters

Run duration, min.: 30
No. of traverse pts.:
Time per point, min.: 10
Probe/filter range, °F:
Imp. outlet max., °F:
Sample rate, cc/min: 1000

Ambient / Stack Gas Conditions

Baro. press., in. Hg: 29.87
Ambient temp., °F:
Static (P_g), in. H_2O:
Dry bulb temp., °F:
Wet bulb temp., °F:

Comments:

Trap A - 0LC124701
Trap B - 0L595687

Impingers

Impingers	Initial, g	Final, g	Difference
Tared Line Rinse			
Total impinger weight gain, g			

			Side A					Side B / Canister							
Traverse pt. number	Sample or dwell time (Δt), min.	Clock time (24 hr)	Meter Reading (Vm), L	Meter temp., °F inlet	Meter temp., °F outlet	Sample rate cc/min	System or orifice Δ vac., in. Hg	Meter Reading (Vm), L	Meter/can temp., °F inlet	Meter/can temp., °F outlet	Sample rate cc/min	System or orifice Δ vac., in. Hg	Stack temp. °F	Probe temp °F	Filter temp. °F
3	0	1449	0.0		56	1000	3.0	0.0		56	1000	3.0			
2	10	1459	10.21		55	1000	3.0	10.18		55	1000	3.0			
1	20	1509	20.14		55	1000	3.0	20.12		55	1000	3.0			
END	30	1519	30.097		55	1000	3.0	30.118		55	1000	3.0			
			30.097		55.2			30.118		55.4					

MONTROSE AIR QUALITY SERVICES

LOW-FLOW OR CRITICAL ORIFICE SAMPLE TRAIN DATA

Project Information

Client / Facility: DTE Woodland
Source / Location: MAIN STACK
Run no.: 2 - 1Hr
Page: 1 of 1
Method: 3-B
Date: 12/30/21 Operator / Assistant: EH
Project No.: W3571

Equipment Identification

Meter console ID: L FCB-03
Critical orifice ID: /
Rotameter ID: /
Stack TC ID:
Filter TC ID: /
Micromanometer ID:
Sensitivity, in. H_2O:

Calibration

Side A Meter Yd: 1.00
Side B Meter Yd: 1.00
Orifice choked flow rate:

ALT-011 TC Check

Std. TC ID: /
Std. TC temp., °F:
Stack TC temp., °F:
Continuity check + or -:

Test / Sampling Parameters

Run duration, min.: 30
No. of traverse pts.:
Time per point, min.: 10
Probe/filter range, °F:
Imp. outlet max., °F:
Sample rate, cc/min: 1000

Ambient / Stack Gas Conditions

Baro. press., in. Hg: 29.88
Ambient temp., °F:
Static (P_g), in. H_2O:
Dry bulb temp., °F:
Wet bulb temp., °F:

Pre-Test Equipment Checks - fill in only those required by the test method being performed

Meter leak check: liter @ in. Hg — Side A: 0 @ 4 — Side B: 0 @ 4
Canister/orifice: 2 minutes, in. Hg before/after — Side A: / — Side B / can: /
Sample flow rate check, cc/min — 1: 2: 3: 4: 5: Avg:

Post-Test Equipment Checks - fill in only those required by the test method being performed

Meter leak check: liter @ in. Hg — Side A: 0 @ 5 — Side B: 0 @ 5
Canister/orifice: 2 minutes, in. Hg before/after — Side A: / — Side B: /
Sample flow rate check, cc/min — 1: 2: 3: 4: 5: Avg:
Other:

Comments:

A - 01C12504O
B - 01C14991 2

Impingers	Initial, g	Final, g	Difference
Tared Line Rinse			
Total impinger weight gain, g			

			Side A					Side B / Canister								
Traverse pt. number	Sample or dwell time (Δt), min.	Clock time (24 hr)	Meter Reading (Vm), L	Meter temp., °F inlet	Meter temp., °F outlet	Sample rate cc/min	System or orifice Δ vac., in. Hg	Meter Reading (Vm), L	Meter/can temp., °F inlet	Meter/can temp., °F outlet	Sample rate cc/min	System or orifice Δ vac., in. Hg	Stack temp. °F	Probe temp. °F	Filter temp. °F	
3	10	1537	0.0		55	1000	3.0	0.0		55	1000	3.0				
2	10	1540	10.25		55	1000	3.0	10.05		55	1000	3.0				
1	20	1550	20.55		55	1000	3.0	20.31		55	1000	3.0				
END	30	1600	30.025		55	1000	3.0	30.013		55	1000	3.0				
			30.025		55			30.013		55						

MONTROSE AIR QUALITY SERVICES

LOW-FLOW OR CRITICAL ORIFICE SAMPLE TRAIN DATA

Project Information

Client / Facility: DTE Woodland
Source / Location: MAW STACK
Run no.: 3 - Hg
Page: 1 of 1
Method: 30B
Date: 12/30/21 Operator / Assistant: EH
Project No.: 003071

Equipment Identification

Meter console ID: LFCB-03
Critical orifice ID:
Rotameter ID:
Stack TC ID:
Filter TC ID:
Micromanometer ID:
Sensitivity, in. H_2O:

Calibration

Side A Meter Yd: 1.0
Side B Meter Yd: 1.0
Orifice choked flow rate:

ALT-011 TC Check

Std. TC ID:
Std. TC temp., °F:
Stack TC temp., °F:
Continuity check + or -:

Pre-Test Equipment Checks - fill in only those required by the test method being performed

Meter leak check: liter @ in. Hg — Side A: 0 @ 5 — Side B: 0 @ 5
Canister/orifice: 2 minutes, in. Hg before/after — Side A: / — Side B / can: /
Sample flow rate check, cc/min 1: 2: 3: 4: 5: Avg:

Post-Test Equipment Checks - fill in only those required by the test method being performed

Meter leak check: liter @ in. Hg — Side A: 0 @ 5 — Side B: 0 @ 5
Canister/orifice: 2 minutes, in. Hg before/after — Side A: / — Side B: /
Sample flow rate check, cc/min 1: 2: 3: 4: 5: Avg:
Other:

Test / Sampling Parameters

Run duration, min.: 30
No. of traverse pts.: 3
Time per point, min.: 10
Probe/filter range, °F:
Imp. outlet max., °F:
Sample rate, cc/min: 1000

Ambient / Stack Gas Conditions

Baro. press., in. Hg: 29.80
Ambient temp., °F:
Static (P_g), in. H_2O:
Dry bulb temp., °F:
Wet bulb temp., °F:

Comments:

A - OLC125168
B - OL595552

Impingers

Impingers	Initial, g	Final, g	Difference
Tared Line Rinse			
Total impinger weight gain, g			

			Side A					Side B / Canister								
Traverse pt. number	Sample or dwell time (Δt), min.	Clock time (24 hr)	Meter Reading (Vm), L	Meter temp., °F inlet	Meter temp., °F outlet	Sample rate cc/min	System or orifice Δ vac., in. Hg	Meter Reading (Vm), L	Meter/can temp., °F inlet	Meter/can temp., °F outlet	Sample rate cc/min	System or orifice Δ vac., in. Hg	Stack temp. °F	Probe temp. °F	Filter temp. °F	
3	0	1609	0.0		54	1000	3.0	0.0		54	1000	3.0				
2	10	1619	10.35		54	1000	3.0	10.26		54	1000	3.0				
1	20	1629	20.03		54	1000	3.0	19.97		54	1000	3.0				
END	30	1639	30.506		54	1000	3.0	30.463		54	1000	3.0				
			30.506		54			30.463		54						

Appendix A.7
Instrumental Test Method Data

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Initial bias

	Name:	O2 (OX-8)	CO2 (CD-9)						
	Make/Model:								
	25A or 7E:	7E	7E						

Cylinder Concentrations									
	Zero:	0.000	0.000						
	Low:								
	Mid:	10.01	9.914						
	High:	23.07	22.74						

Calibration Readings									
	Zero reading:	0.034	-0.018						
	Low reading:	0.000	0.000						
	Mid reading:	10.01	10.24						
	High reading:	22.97	22.75						

EPA Method 7E Error Calculations									
Zero %Err:	**<2.0**	0.147	-0.079						
Mid %Err:	**<2.0**	0.000	1.434						
High %Err:	**<2.0**	-0.433	0.044						

Initial Bias Data									
	Zero reading:	0.127	-0.031						
	Span reading:	9.972	10.12						
Zero % bias:	**<5.0**	0.403	-0.057						
Span % bias:	**<5.0**	-0.165	-0.528						

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Run 1 Average Results - RUN 1 O2.CO2

10:53:00 - 12:53:00

	Name:	O2 (OX-8)	CO2 (CD-9)						
	Make/Model:								
Dec 29 2021	10:54:00	8.710	12.12						
Dec 29 2021	10:55:00	9.443	11.41						
Dec 29 2021	10:56:00	9.724	11.01						
Dec 29 2021	10:57:00	9.312	11.44						
Dec 29 2021	10:58:00	8.791	11.94						
Dec 29 2021	10:59:00	8.785	11.99						
Dec 29 2021	11:00:00	8.767	11.96						
Dec 29 2021	11:01:00	8.221	12.51						
Dec 29 2021	11:02:00	8.738	12.02						
Dec 29 2021	11:03:00	8.403	12.31						
Dec 29 2021	11:04:00	9.070	11.73						
Dec 29 2021	11:05:00	8.232	12.46						
Dec 29 2021	11:06:00	8.325	12.40						
Dec 29 2021	11:07:00	8.752	12.02						
Dec 29 2021	11:08:00	8.387	12.34						
Dec 29 2021	11:09:00	8.554	12.23						
Dec 29 2021	11:10:00	8.602	12.08						
Dec 29 2021	11:11:00	8.066	12.65						
Dec 29 2021	11:12:00	8.017	12.70						
Dec 29 2021	11:13:00	8.892	11.92						
Dec 29 2021	11:14:00	8.715	11.95						
Dec 29 2021	11:15:00	8.777	12.01						
Dec 29 2021	11:16:00	8.731	11.91						
Dec 29 2021	11:17:00	8.688	12.12						
Dec 29 2021	11:18:00	7.776	12.91						
Dec 29 2021	11:19:00	8.257	12.45						
Dec 29 2021	11:20:00	8.668	12.15						
Dec 29 2021	11:21:00	8.460	12.30						
Dec 29 2021	11:22:00	8.772	12.00						
Dec 29 2021	11:23:00	8.314	12.40						
Dec 29 2021	11:24:00	8.339	12.43						
Dec 29 2021	11:25:00	8.180	12.61						
Dec 29 2021	11:26:00	8.548	12.16						
Dec 29 2021	11:27:00	8.664	12.12						
Dec 29 2021	11:28:00	8.688	12.08						
Dec 29 2021	11:29:00	8.520	12.31						
Dec 29 2021	11:30:00	8.424	12.31						
Dec 29 2021	11:31:00	8.592	12.23						
Dec 29 2021	11:32:00	8.352	12.41						
Dec 29 2021	11:33:00	8.436	12.29						
Dec 29 2021	11:34:00	7.879	12.89						
Dec 29 2021	11:35:00	8.518	12.33						
Dec 29 2021	11:36:00	8.348	12.36						
Dec 29 2021	11:37:00	8.827	11.97						
Dec 29 2021	11:38:00	8.659	12.10						
Dec 29 2021	11:39:00	8.953	11.88						
Dec 29 2021	11:40:00	8.547	12.16						



MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Dec 29 2021	11:41:00	7.905	12.94						
Dec 29 2021	11:42:00	8.955	11.87						
Dec 29 2021	11:43:00	8.577	12.12						
Dec 29 2021	11:44:00	8.864	11.96						
Dec 29 2021	11:45:00	8.179	12.52						
Dec 29 2021	11:46:00	8.582	12.24						
Dec 29 2021	11:47:00	8.594	12.24						
Dec 29 2021	11:48:00	8.921	11.90						
Dec 29 2021	11:49:00	8.393	12.24						
Dec 29 2021	11:50:00	8.657	12.19						
Dec 29 2021	11:51:00	8.191	12.49						
Dec 29 2021	11:52:00	8.377	12.37						
Dec 29 2021	11:53:00	8.403	12.38						
Dec 29 2021	11:54:00	8.711	12.07						
Dec 29 2021	11:55:00	7.877	12.84						
Dec 29 2021	11:56:00	8.288	12.57						
Dec 29 2021	11:57:00	8.776	11.99						
Dec 29 2021	11:58:00	8.637	12.22						
Dec 29 2021	11:59:00	8.967	11.81						
Dec 29 2021	12:00:00	8.512	12.27						
Dec 29 2021	12:01:00	8.729	12.09						
Dec 29 2021	12:02:00	8.545	12.21						
Dec 29 2021	12:03:00	8.160	12.63						
Dec 29 2021	12:04:00	8.927	11.93						
Dec 29 2021	12:05:00	8.322	12.44						
Dec 29 2021	12:06:00	8.916	11.94						
Dec 29 2021	12:07:00	8.610	12.16						
Dec 29 2021	12:08:00	8.661	12.13						
Dec 29 2021	12:09:00	9.087	11.79						
Dec 29 2021	12:10:00	9.070	11.69						
Dec 29 2021	12:11:00	8.481	12.21						
Dec 29 2021	12:12:00	8.199	12.61						
Dec 29 2021	12:13:00	8.583	12.18						
Dec 29 2021	12:14:00	8.529	12.20						
Dec 29 2021	12:15:00	8.500	12.35						
Dec 29 2021	12:16:00	8.263	12.52						
Dec 29 2021	12:17:00	9.049	11.73						
Dec 29 2021	12:18:00	8.904	11.89						
Dec 29 2021	12:19:00	8.338	12.40						
Dec 29 2021	12:20:00	8.726	12.13						
Dec 29 2021	12:21:00	8.568	12.17						
Dec 29 2021	12:22:00	8.614	12.18						
Dec 29 2021	12:23:00	8.508	12.34						
Dec 29 2021	12:24:00	8.961	11.82						
Dec 29 2021	12:25:00	9.302	11.51						
Dec 29 2021	12:26:00	8.645	12.09						
Dec 29 2021	12:27:00	8.592	12.23						
Dec 29 2021	12:28:00	8.594	12.17						
Dec 29 2021	12:29:00	8.195	12.59						
Dec 29 2021	12:30:00	8.656	12.15						
Dec 29 2021	12:31:00	8.516	12.28						
Dec 29 2021	12:32:00	8.783	11.98						

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Dec 29 2021	12:33:00	8.430	12.34						
Dec 29 2021	12:34:00	8.598	12.20						
Dec 29 2021	12:35:00	8.613	12.16						
Dec 29 2021	12:36:00	7.734	12.98						
Dec 29 2021	12:37:00	8.553	12.27						
Dec 29 2021	12:38:00	8.288	12.52						
Dec 29 2021	12:39:00	8.708	12.09						
Dec 29 2021	12:40:00	8.906	11.94						
Dec 29 2021	12:41:00	8.289	12.46						
Dec 29 2021	12:42:00	8.798	12.00						
Dec 29 2021	12:43:00	8.840	12.00						
Dec 29 2021	12:44:00	9.133	11.69						
Dec 29 2021	12:45:00	8.382	12.31						
Dec 29 2021	12:46:00	8.203	12.62						
Dec 29 2021	12:47:00	8.128	12.63						
Dec 29 2021	12:48:00	8.872	11.93						
Dec 29 2021	12:49:00	8.635	12.16						
Dec 29 2021	12:50:00	8.321	12.45						
Dec 29 2021	12:51:00	9.049	11.88						
Dec 29 2021	12:52:00	9.289	11.46						
Dec 29 2021	12:53:00	8.690	12.10						

	Average:	8.590	12.19						
	Max:	9.724	12.98						
	Min:	7.734	11.01						

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Run 1 Post run bias - RUN 1 O2.CO2

10:53:00 - 12:53:00

	Name:	O2 (OX-8)	CO2 (CD-9)
	Make/Model:		
	25A or 7E:	7E	7E

Run summary data

	Raw Avg:	8.590	12.19
	Max:	9.724	12.98
	Min:	7.734	11.01

Cylinder Concentrations

	Zero:	0.000	0.000
	Low:		
	Mid:	10.01	9.914
	High:	23.07	22.74

Calibration Readings

	Zero reading:	0.034	-0.018
	Low reading:		
	Mid reading:	10.01	10.24
	High reading:	22.97	22.75

EPA Method 7E Error Calculations

Zero %Err:	**<2.0**	0.147	-0.079
Mid %Err:	**<2.0**	0.000	1.434
High %Err:	**<2.0**	-0.433	0.044

Initial Bias Data

	Zero reading:	0.127	-0.031
	Span reading:	9.972	10.12
Zero % bias:	**<5.0**	0.403	-0.057
Span % bias:	**<5.0**	-0.165	-0.528

Final Bias Data

	Zero reading:	0.110	0.083
	Span reading:	9.989	10.21
Zero % bias:	**<5.0**	0.329	0.444
Span % bias:	**<5.0**	-0.091	-0.132
Zero % drift:	**<3.0**	0.074	0.501
Span % drift:	**<3.0**	0.074	0.396

Bias Corrected Averages

	Cor Avg:	8.599	11.89

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Run 2 Average Results - RUN 2 O2.CO2

14:08:00 - 16:08:00

	Name:	O2 (OX-8)	CO2 (CD-9)						
	Make/Model:								
Dec 29 2021	14:09:00	8.332	12.44						
Dec 29 2021	14:10:00	7.967	12.87						
Dec 29 2021	14:11:00	8.881	11.96						
Dec 29 2021	14:12:00	8.909	11.81						
Dec 29 2021	14:13:00	8.079	12.70						
Dec 29 2021	14:14:00	8.703	12.12						
Dec 29 2021	14:15:00	8.686	12.11						
Dec 29 2021	14:16:00	8.878	11.90						
Dec 29 2021	14:17:00	8.876	11.97						
Dec 29 2021	14:18:00	9.161	11.66						
Dec 29 2021	14:19:00	8.989	11.79						
Dec 29 2021	14:20:00	8.927	11.88						
Dec 29 2021	14:21:00	8.699	12.08						
Dec 29 2021	14:22:00	8.863	11.90						
Dec 29 2021	14:23:00	8.130	12.63						
Dec 29 2021	14:24:00	8.128	12.71						
Dec 29 2021	14:25:00	8.953	11.88						
Dec 29 2021	14:26:00	8.472	12.34						
Dec 29 2021	14:27:00	8.127	12.60						
Dec 29 2021	14:28:00	8.750	12.06						
Dec 29 2021	14:29:00	8.291	12.55						
Dec 29 2021	14:30:00	10.17	10.71						
Dec 29 2021	14:31:00	8.660	12.06						
Dec 29 2021	14:32:00	8.488	12.27						
Dec 29 2021	14:33:00	9.177	11.63						
Dec 29 2021	14:34:00	8.533	12.23						
Dec 29 2021	14:35:00	8.644	12.19						
Dec 29 2021	14:36:00	8.967	11.82						
Dec 29 2021	14:37:00	8.551	12.22						
Dec 29 2021	14:38:00	8.122	12.51						
Dec 29 2021	14:39:00	8.382	12.56						
Dec 29 2021	14:40:00	9.250	11.54						
Dec 29 2021	14:41:00	8.883	11.91						
Dec 29 2021	14:42:00	8.446	12.31						
Dec 29 2021	14:43:00	8.673	12.13						
Dec 29 2021	14:44:00	8.317	12.50						
Dec 29 2021	14:45:00	8.584	12.17						
Dec 29 2021	14:46:00	8.647	12.17						
Dec 29 2021	14:47:00	8.437	12.30						
Dec 29 2021	14:48:00	9.046	11.78						
Dec 29 2021	14:49:00	8.390	12.32						
Dec 29 2021	14:50:00	9.072	11.73						
Dec 29 2021	14:51:00	8.539	12.18						
Dec 29 2021	14:52:00	8.581	12.23						
Dec 29 2021	14:53:00	9.077	11.66						
Dec 29 2021	14:54:00	8.722	11.98						
Dec 29 2021	14:55:00	7.620	13.04						

Dec 29 2021	14:56:00	8.099	12.72						
Dec 29 2021	14:57:00	8.329	12.34						
Dec 29 2021	14:58:00	7.764	12.98						
Dec 29 2021	14:59:00	8.851	11.94						
Dec 29 2021	15:00:00	8.085	12.63						
Dec 29 2021	15:01:00	8.322	12.48						
Dec 29 2021	15:02:00	8.291	12.36						
Dec 29 2021	15:03:00	8.122	12.62						
Dec 29 2021	15:04:00	8.379	12.36						
Dec 29 2021	15:05:00	8.237	12.40						
Dec 29 2021	15:06:00	7.884	12.89						
Dec 29 2021	15:07:00	8.350	12.39						
Dec 29 2021	15:08:00	7.909	12.82						
Dec 29 2021	15:09:00	8.701	12.09						
Dec 29 2021	15:10:00	8.759	11.96						
Dec 29 2021	15:11:00	8.675	12.03						
Dec 29 2021	15:12:00	8.455	12.31						
Dec 29 2021	15:13:00	7.859	12.89						
Dec 29 2021	15:14:00	8.599	12.22						
Dec 29 2021	15:15:00	8.293	12.42						
Dec 29 2021	15:16:00	8.661	12.09						
Dec 29 2021	15:17:00	8.587	12.15						
Dec 29 2021	15:18:00	8.555	12.21						
Dec 29 2021	15:19:00	9.465	11.34						
Dec 29 2021	15:20:00	8.503	12.16						
Dec 29 2021	15:21:00	8.467	12.33						
Dec 29 2021	15:22:00	8.646	12.09						
Dec 29 2021	15:23:00	8.734	11.99						
Dec 29 2021	15:24:00	8.478	12.25						
Dec 29 2021	15:25:00	8.844	11.91						
Dec 29 2021	15:26:00	9.233	11.60						
Dec 29 2021	15:27:00	9.113	11.55						
Dec 29 2021	15:28:00	8.899	11.81						
Dec 29 2021	15:29:00	9.267	11.50						
Dec 29 2021	15:30:00	8.901	11.84						
Dec 29 2021	15:31:00	8.838	11.77						
Dec 29 2021	15:32:00	8.916	11.79						
Dec 29 2021	15:33:00	9.124	11.64						
Dec 29 2021	15:34:00	8.730	12.00						
Dec 29 2021	15:35:00	7.858	12.74						
Dec 29 2021	15:36:00	8.767	12.01						
Dec 29 2021	15:37:00	8.882	11.83						
Dec 29 2021	15:38:00	8.713	11.97						
Dec 29 2021	15:39:00	8.934	11.88						
Dec 29 2021	15:40:00	8.922	11.77						
Dec 29 2021	15:41:00	8.838	11.89						
Dec 29 2021	15:42:00	9.222	11.52						
Dec 29 2021	15:43:00	9.548	11.22						
Dec 29 2021	15:44:00	9.350	11.26						
Dec 29 2021	15:45:00	7.797	12.90						
Dec 29 2021	15:46:00	8.087	12.59						
Dec 29 2021	15:47:00	9.123	11.65						

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Dec 29 2021	15:48:00	8.260	12.44						
Dec 29 2021	15:49:00	8.775	11.83						
Dec 29 2021	15:50:00	8.984	11.72						
Dec 29 2021	15:51:00	9.059	11.75						
Dec 29 2021	15:52:00	8.915	11.65						
Dec 29 2021	15:53:00	8.432	12.33						
Dec 29 2021	15:54:00	8.716	12.06						
Dec 29 2021	15:55:00	8.891	11.79						
Dec 29 2021	15:56:00	8.613	12.16						
Dec 29 2021	15:57:00	8.856	11.90						
Dec 29 2021	15:58:00	8.671	12.12						
Dec 29 2021	15:59:00	9.549	11.22						
Dec 29 2021	16:00:00	9.398	11.32						
Dec 29 2021	16:01:00	8.808	11.94						
Dec 29 2021	16:02:00	9.112	11.65						
Dec 29 2021	16:03:00	9.058	11.64						
Dec 29 2021	16:04:00	8.430	12.36						
Dec 29 2021	16:05:00	8.319	12.41						
Dec 29 2021	16:06:00	8.790	12.01						
Dec 29 2021	16:07:00	8.572	12.17						
Dec 29 2021	16:08:00	8.330	12.35						

	Average:	8.661	12.09						
	Max:	10.17	13.04						
	Min:	7.620	10.71						

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Run 2 Post run bias - RUN 2 O2.CO2

14:08:00 - 16:08:00

	Name:	O2 (OX-8)	CO2 (CD-9)						
	Make/Model:								
	25A or 7E:	7E	7E						

Run summary data									
	Raw Avg:	8.661	12.09						
	Max:	10.17	13.04						
	Min:	7.620	10.71						

Cylinder Concentrations									
	Zero:	0.000	0.000						
	Low:								
	Mid:	10.01	9.914						
	High:	23.07	22.74						

Calibration Readings									
	Zero reading:	0.034	-0.018						
	Low reading:								
	Mid reading:	10.01	10.24						
	High reading:	22.97	22.75						

EPA Method 7E Error Calculations									
Zero %Err:	**<2.0**	0.147	-0.079						
Mid %Err:	**<2.0**	0.000	1.434						
High %Err:	**<2.0**	-0.433	0.044						

Initial Bias Data									
	Zero reading:	0.110	0.083						
	Span reading:	9.989	10.21						
Zero % bias:	**<5.0**	0.329	0.444						
Span % bias:	**<5.0**	-0.091	-0.132						

Final Bias Data									
	Zero reading:	0.077	0.015						
	Span reading:	9.988	10.28						
Zero % bias:	**<5.0**	0.186	0.145						
Span % bias:	**<5.0**	-0.095	0.176						
Zero % drift:	**<3.0**	0.143	0.299						
Span % drift:	**<3.0**	0.004	0.308						

Bias Corrected Averages									
	Cor Avg:	8.667	11.71						

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Run 3 Average Results - RUN 3 O2.CO2

17:18:00 - 19:12:00

	Name:	O2 (OX-8)	CO2 (CD-9)						
	Make/Model:								
Dec 29 2021	17:19:00	8.513	12.35						
Dec 29 2021	17:20:00	9.050	11.83						
Dec 29 2021	17:21:00	8.715	12.00						
Dec 29 2021	17:22:00	8.522	12.25						
Dec 29 2021	17:23:00	8.076	12.76						
Dec 29 2021	17:24:00	8.911	11.83						
Dec 29 2021	17:25:00	8.763	12.05						
Dec 29 2021	17:26:00	8.703	12.07						
Dec 29 2021	17:27:00	8.765	12.05						
Dec 29 2021	17:28:00	8.476	12.23						
Dec 29 2021	17:29:00	9.107	11.77						
Dec 29 2021	17:30:00	9.206	11.51						
Dec 29 2021	17:31:00	8.881	11.82						
Dec 29 2021	17:32:00	9.154	11.64						
Dec 29 2021	17:33:00	8.479	12.23						
Dec 29 2021	17:34:00	8.536	12.24						
Dec 29 2021	17:35:00	9.035	11.80						
Dec 29 2021	17:36:00	8.666	12.08						
Dec 29 2021	17:37:00	8.862	12.02						
Dec 29 2021	17:38:00	9.032	11.75						
Dec 29 2021	17:39:00	8.880	11.85						
Dec 29 2021	17:40:00	8.635	12.20						
Dec 29 2021	17:41:00	8.774	11.97						
Dec 29 2021	17:42:00	8.429	12.43						
Dec 29 2021	17:43:00	8.468	12.32						
Dec 29 2021	17:44:00	9.193	11.66						
Dec 29 2021	17:45:00	8.761	12.07						
Dec 29 2021	17:46:00	8.920	11.89						
Dec 29 2021	17:47:00	8.822	11.96						
Dec 29 2021	17:48:00	8.904	11.89						
Dec 29 2021	17:49:00	9.093	11.77						
Dec 29 2021	17:50:00	8.246	12.50						
Dec 29 2021	17:51:00	8.384	12.43						
Dec 29 2021	17:52:00	8.763	12.05						
Dec 29 2021	17:53:00	8.208	12.59						
Dec 29 2021	17:54:00	8.386	12.38						
Dec 29 2021	17:55:00	8.937	11.96						
Dec 29 2021	17:56:00	8.682	12.09						
Dec 29 2021	17:57:00	8.516	12.26						
Dec 29 2021	17:58:00	8.710	12.11						
Dec 29 2021	17:59:00	8.862	11.89						
Dec 29 2021	18:00:00	7.756	13.02						
Dec 29 2021	18:01:00	8.569	12.29						
Dec 29 2021	18:02:00	8.898	11.91						
Dec 29 2021	18:03:00	8.593	12.19						
Dec 29 2021	18:04:00	8.674	12.16						
Dec 29 2021	18:05:00	8.268	12.44						



MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Dec 29 2021	18:06:00	8.153	12.65						
Dec 29 2021	18:07:00	9.147	11.76						
Dec 29 2021	18:08:00	9.441	11.28						
Dec 29 2021	18:09:00	8.145	12.71						
Dec 29 2021	18:10:00	8.618	12.20						
Dec 29 2021	18:11:00	8.929	11.85						
Dec 29 2021	18:12:00	8.973	11.89						
Dec 29 2021	18:13:00	9.264	11.52						
Dec 29 2021	18:14:00	9.023	11.85						
Dec 29 2021	18:15:00	9.073	11.81						
Dec 29 2021	18:16:00	8.696	12.07						
Dec 29 2021	18:17:00	8.855	11.90						
Dec 29 2021	18:18:00	9.126	11.75						
Dec 29 2021	18:19:00	8.863	11.92						
Dec 29 2021	18:20:00	8.757	12.11						
Dec 29 2021	18:21:00	9.458	11.39						
Dec 29 2021	18:22:00	8.486	12.33						
Dec 29 2021	18:23:00	8.944	11.80						
Dec 29 2021	18:24:00	8.073	12.68						
Dec 29 2021	18:25:00	8.139	12.75						
Dec 29 2021	18:26:00	8.568	12.27						
Dec 29 2021	18:27:00	8.708	12.15						
Dec 29 2021	18:28:00	9.147	11.70						
Dec 29 2021	18:29:00	9.142	11.73						
Dec 29 2021	18:30:00	8.409	12.32						
Dec 29 2021	18:31:00	8.474	12.41						
Dec 29 2021	18:32:00	9.006	11.81						
Dec 29 2021	18:33:00	8.452	12.32						
Dec 29 2021	18:34:00	8.954	11.86						
Dec 29 2021	18:35:00	7.894	12.91						
Dec 29 2021	18:36:00	8.748	12.10						
Dec 29 2021	18:37:00	8.701	12.14						
Dec 29 2021	18:38:00	8.940	11.95						
Dec 29 2021	18:39:00	8.903	11.88						
Dec 29 2021	18:40:00	8.838	11.96						
Dec 29 2021	18:41:00	8.661	12.17						
Dec 29 2021	18:42:00	8.865	11.92						
Dec 29 2021	18:43:00	8.170	12.63						
Dec 29 2021	18:44:00	8.286	12.48						
Dec 29 2021	18:45:00	8.459	12.39						
Dec 29 2021	18:46:00	7.941	12.88						
Dec 29 2021	18:47:00	9.063	11.82						
Dec 29 2021	18:48:00	8.907	11.93						
Dec 29 2021	18:49:00	8.229	12.55						
Dec 29 2021	18:50:00	8.250	12.57						
Dec 29 2021	18:51:00	8.643	12.21						
Dec 29 2021	18:52:00	8.379	12.41						
Dec 29 2021	18:53:00	8.065	12.70						
Dec 29 2021	18:54:00	8.744	12.10						
Dec 29 2021	18:55:00	8.520	12.27						
Dec 29 2021	18:56:00	8.836	12.05						
Dec 29 2021	18:57:00	9.428	11.41						

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Dec 29 2021	18:58:00	8.719	12.00						
Dec 29 2021	18:59:00	8.305	12.57						
Dec 29 2021	19:00:00	8.806	11.98						
Dec 29 2021	19:01:00	8.778	12.06						
Dec 29 2021	19:02:00	8.450	12.38						
Dec 29 2021	19:03:00	8.961	11.89						
Dec 29 2021	19:04:00	9.190	11.63						
Dec 29 2021	19:05:00	9.022	11.84						
Dec 29 2021	19:06:00	8.523	12.24						
Dec 29 2021	19:07:00	8.706	12.18						
Dec 29 2021	19:08:00	8.848	12.00						
Dec 29 2021	19:09:00	8.150	12.56						
Dec 29 2021	19:10:00	8.342	12.53						
Dec 29 2021	19:11:00	8.810	12.05						
Dec 29 2021	19:12:00	8.746	12.05						

	Average:	8.699	12.11						
	Max:	9.458	13.02						
	Min:	7.756	11.28						

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Run 3 Post run bias - RUN 3 O2.CO2

17:18:00 - 19:12:00

	Name:	O2 (OX-8)	CO2 (CD-9)						
	Make/Model:								
	25A or 7E:	7E	7E						

Run summary data									
	Raw Avg:	8.699	12.11						
	Max:	9.458	13.02						
	Min:	7.756	11.28						

Cylinder Concentrations									
	Zero:	0.000	0.000						
	Low:								
	Mid:	10.01	9.914						
	High:	23.07	22.74						

Calibration Readings									
	Zero reading:	0.034	-0.018						
	Low reading:								
	Mid reading:	10.01	10.24						
	High reading:	22.97	22.75						

EPA Method 7E Error Calculations									
Zero %Err:	**<2.0**	0.147	-0.079						
Mid %Err:	**<2.0**	0.000	1.434						
High %Err:	**<2.0**	-0.433	0.044						

Initial Bias Data									
	Zero reading:	0.077	0.015						
	Span reading:	9.988	10.28						
Zero % bias:	**<5.0**	0.186	0.145						
Span % bias:	**<5.0**	-0.095	0.176						

Final Bias Data									
	Zero reading:	0.105	0.083						
	Span reading:	9.997	10.28						
Zero % bias:	**<5.0**	0.308	0.444						
Span % bias:	**<5.0**	-0.056	0.176						
Zero % drift:	**<3.0**	0.122	0.299						
Span % drift:	**<3.0**	0.039	0.000						

Bias Corrected Averages									
	Cor Avg:	8.702	11.69						

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 36	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 2	Points per port: 6	DAQ Device: DT9803(00)

Initial bias									
	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			

Cylinder Concentrations									
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			

Calibration Readings									
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:	0.000	0.000	0.000	0.000	0.000			
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			

EPA Method 7E Error Calculations									
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			

Initial Bias Data									
	Zero reading:	0.108	-0.002	1.144	-0.009	1.650			
	Span reading:	9.988	10.10	56.99	55.12	470.9			
Zero % bias:	**<5.0**	0.251	-0.018	-0.107	-0.009	-0.032			
Span % bias:	**<5.0**	-0.225	-0.572	0.718	-0.877	0.540			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 36	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 2	Points per port: 6	DAQ Device: DT9803(00)

Run 1 Average Results - R1

10:24:00 - 11:05:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
Dec 30 2021	10:25:00	8.896	11.71	1.243	27.00	1.740			
Dec 30 2021	10:26:00	9.284	11.35	1.220	29.48	1.626			
Dec 30 2021	10:27:00	9.682	10.99	1.156	29.58	1.695			
End of port 1 point 1									
Dec 30 2021	10:28:00	9.118	11.46	1.122	27.78	1.633			
Dec 30 2021	10:29:00	9.063	11.49	1.301	27.77	1.634			
Dec 30 2021	10:30:00	8.913	11.66	1.391	29.71	1.649			
End of port 1 point 2									
Dec 30 2021	10:31:00	8.649	11.88	1.496	28.91	1.810			
Dec 30 2021	10:32:00	8.862	11.65	1.411	28.13	1.674			
Dec 30 2021	10:33:00	8.852	11.73	1.527	28.17	2.083			
End of port 1 point 3									
Dec 30 2021	10:34:00	8.883	11.68	1.424	28.09	1.675			
Dec 30 2021	10:35:00	8.834	11.78	1.557	28.56	2.119			
Dec 30 2021	10:36:00	8.589	11.91	1.607	28.15	2.625			
End of port 1 point 4									
Dec 30 2021	10:37:00	8.757	11.92	1.735	28.30	2.359			
Dec 30 2021	10:38:00	8.821	11.71	1.533	29.69	1.885			
Dec 30 2021	10:39:00	7.716	12.75	22.18	30.45	55.89			
End of port 1 point 5									
Dec 30 2021	10:40:00	8.150	12.59	59.11	36.72	147.4			
Dec 30 2021	10:41:00	8.851	11.71	2.181	28.88	2.985			
Dec 30 2021	10:42:00	8.481	12.07	1.730	25.96	2.720			
End of port 1 point 6									
Dec 30 2021	10:48:00	8.149	12.55	1.804	35.32	2.709			
Dec 30 2021	10:49:00	8.945	11.62	1.398	31.84	1.783			
Dec 30 2021	10:50:00	8.092	12.46	1.712	32.24	2.588			
End of port 2 point 1									
Dec 30 2021	10:51:00	7.562	13.05	2.462	43.32	3.036			
Dec 30 2021	10:52:00	8.239	12.44	2.019	31.60	2.551			
Dec 30 2021	10:53:00	8.117	12.45	1.661	29.87	2.317			
End of port 2 point 2									
Dec 30 2021	10:54:00	8.481	12.21	1.558	29.59	2.147			
Dec 30 2021	10:55:00	8.886	11.77	1.345	29.76	1.632			
Dec 30 2021	10:56:00	8.509	12.05	1.347	29.88	1.646			
End of port 2 point 3									
Dec 30 2021	10:57:00	8.622	12.07	1.437	28.78	1.747			
Dec 30 2021	10:58:00	8.594	12.01	1.394	29.66	1.679			
Dec 30 2021	10:59:00	8.303	12.31	1.551	32.32	2.045			
End of port 2 point 4									
Dec 30 2021	11:00:00	8.633	11.91	1.422	29.64	1.815			
Dec 30 2021	11:01:00	8.331	12.26	1.599	30.89	2.386			
Dec 30 2021	11:02:00	8.579	12.11	1.505	29.33	2.112			
End of port 2 point 5									
Dec 30 2021	11:03:00	8.622	11.94	1.369	30.15	1.670			
Dec 30 2021	11:04:00	9.153	11.52	1.308	30.16	1.667			
Dec 30 2021	11:05:00	8.492	12.12	1.419	30.00	2.025			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 36	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 2	Points per port: 6	DAQ Device: DT9803(00)

End of port 2 point 6

	Average:	8.631	11.97	3.701	30.16	7.577			
	Max:	9.682	13.05	59.11	43.32	147.4			
	Min:	7.562	10.99	1.122	25.96	1.626			

Stratification Results

Port	**Point**	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
1	1	9.397	11.15	1.158	28.26	1.680			
1	2	8.964	11.59	1.370	28.06	1.607			
1	3	8.730	11.78	1.433	27.79	1.587			
1	4	8.587	12.06	1.561	27.73	2.443			
1	5	8.160	12.58	34.40	31.12	118.7			
1	6	8.754	11.80	2.589	29.87	3.693			
2	1	8.305	12.41	1.725	33.51	2.383			
2	2	8.245	12.46	1.956	30.88	2.657			
2	3	8.802	11.80	1.360	29.48	1.610			
2	4	8.923	11.89	1.494	34.76	1.963			
2	5	8.159	12.30	1.459	29.50	1.630			
2	6	8.585	12.15	1.492	29.34	2.037			
	Strat diff:	0.763	0.582	30.07	4.735	106.9			
	Strat %:	8.834	7.064	73.28	7.644	903.2			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 1 Post run bias - R1

10:24:00 - 11:05:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			
	Run summary data								
	Raw Avg:	8.631	11.97	3.701	30.16	7.577			
	Max:	9.682	13.05	59.11	43.32	147.4			
	Min:	7.562	10.99	1.122	25.96	1.626			
	Cylinder Concentrations								
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			
	Calibration Readings								
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:								
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			
	EPA Method 7E Error Calculations								
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			
	Initial Bias Data								
	Zero reading:	0.108	-0.002	1.144	-0.009	1.650			
	Span reading:	9.988	10.10	56.99	55.12	470.9			
Zero % bias:	**<5.0**	0.251	-0.018	-0.107	-0.009	-0.032			
Span % bias:	**<5.0**	-0.225	-0.572	0.718	-0.877	0.540			
	Final Bias Data								
	Zero reading:	0.101	0.063	0.769	-0.003	1.770			
	Span reading:	9.926	10.17	55.09	54.62	478.0			
Zero % bias:	**<5.0**	0.221	0.268	-0.502	-0.003	-0.019			
Span % bias:	**<5.0**	-0.494	-0.264	-1.287	-1.400	1.292			
Zero % drift:	**<3.0**	0.030	0.286	0.395	0.006	0.013			
Span % drift:	**<3.0**	0.269	0.308	2.005	0.522	0.752			
	Bias Corrected Averages								
	Cor Avg:	8.663	11.71	2.768	30.66	5.850			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 2 Average Results - R2

11:37:00 - 12:07:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
Dec 30 2021	11:38:00	8.229	12.30	1.558	32.47	2.081			
Dec 30 2021	11:39:00	8.214	12.38	1.794	31.95	2.709			
Dec 30 2021	11:40:00	8.300	12.30	1.726	26.55	2.680			
Dec 30 2021	11:41:00	8.164	12.51	1.714	28.42	2.717			
Dec 30 2021	11:42:00	8.468	12.09	1.561	31.73	2.183			
Dec 30 2021	11:43:00	8.126	12.45	1.634	31.26	2.534			
Dec 30 2021	11:44:00	8.676	12.00	1.539	28.92	2.248			
Dec 30 2021	11:45:00	8.566	11.99	1.411	29.32	1.725			
Dec 30 2021	11:46:00	8.504	12.08	1.522	30.14	2.051			
Dec 30 2021	11:47:00	8.585	12.02	1.433	29.72	1.641			
End of port 1 point 1									
Dec 30 2021	11:48:00	8.170	12.36	1.499	29.20	2.079			
Dec 30 2021	11:49:00	8.089	12.47	1.506	31.61	2.171			
Dec 30 2021	11:50:00	8.369	12.27	1.599	31.06	2.235			
Dec 30 2021	11:51:00	8.636	11.96	1.403	29.88	1.677			
Dec 30 2021	11:52:00	8.725	11.86	1.330	30.92	1.628			
Dec 30 2021	11:53:00	8.275	12.28	1.510	31.25	2.052			
Dec 30 2021	11:54:00	8.178	12.40	1.682	31.02	2.651			
Dec 30 2021	11:55:00	9.051	11.54	1.357	30.83	1.823			
Dec 30 2021	11:56:00	8.459	12.16	1.393	29.10	1.939			
Dec 30 2021	11:57:00	8.503	12.05	1.481	31.47	2.012			
End of port 1 point 2									
Dec 30 2021	11:58:00	8.419	12.16	1.363	30.37	1.795			
Dec 30 2021	11:59:00	8.542	12.08	1.464	30.11	1.793			
Dec 30 2021	12:00:00	8.933	11.67	1.280	31.11	1.708			
Dec 30 2021	12:01:00	8.769	11.87	1.438	34.29	2.103			
Dec 30 2021	12:02:00	8.973	11.59	1.333	30.95	1.908			
Dec 30 2021	12:03:00	8.843	11.77	1.227	27.09	1.731			
Dec 30 2021	12:04:00	8.487	12.06	1.452	32.98	2.143			
Dec 30 2021	12:05:00	8.878	11.75	1.377	32.24	1.805			
Dec 30 2021	12:06:00	8.722	11.82	1.313	28.91	1.740			
Dec 30 2021	12:07:00	8.670	11.92	1.436	29.28	1.997			
End of port 1 point 3									
	Average:	8.517	12.07	1.478	30.47	2.052			
	Max:	9.051	12.51	1.794	34.29	2.717			
	Min:	8.089	11.54	1.227	26.55	1.628			

Stratification Results

Port	**Point**	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
1	1	8.420	12.21	1.579	30.31	2.394			
1	2	8.454	12.16	1.501	29.04	2.230			
1	3	8.734	11.88	1.393	29.31	2.033			
	Strat diff:	0.198	0.127	0.088	0.757	0.175			
	Strat %:	2.320	1.683	6.573	2.560	8.382			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 2 Post run bias - R2

11:37:00 - 12:07:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			
	Run summary data								
	Raw Avg:	8.517	12.07	1.478	30.47	2.052			
	Max:	9.051	12.51	1.794	34.29	2.717			
	Min:	8.089	11.54	1.227	26.55	1.628			
	Cylinder Concentrations								
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			
	Calibration Readings								
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:								
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			
	EPA Method 7E Error Calculations								
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			
	Initial Bias Data								
	Zero reading:	0.101	0.063	0.769	-0.003	1.770			
	Span reading:	9.926	10.17	55.09	54.62	478.0			
Zero % bias:	**<5.0**	0.221	0.268	-0.502	-0.003	-0.019			
Span % bias:	**<5.0**	-0.494	-0.264	-1.287	-1.400	1.292			
	Final Bias Data								
	Zero reading:	0.088	0.039	1.172	-0.006	1.680			
	Span reading:	9.884	10.18	55.69	54.30	481.7			
Zero % bias:	**<5.0**	0.165	0.163	-0.077	-0.006	-0.029			
Span % bias:	**<5.0**	-0.676	-0.220	-0.654	-1.734	1.683			
Zero % drift:	**<3.0**	0.056	0.105	0.425	0.003	0.010			
Span % drift:	**<3.0**	0.182	0.044	0.633	0.335	0.391			
	Bias Corrected Averages								
	Cor Avg:	8.594	11.77	0.518	31.21	0.322			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 3 Average Results - R3

12:23:06 - 12:53:06

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
Dec 30 2021	12:24:06	8.489	11.99	1.861	33.46	2.661			
Dec 30 2021	12:25:06	8.982	11.59	1.490	28.19	1.810			
Dec 30 2021	12:26:06	8.632	11.89	1.574	29.70	2.222			
Dec 30 2021	12:27:06	8.693	11.92	1.670	29.22	2.268			
Dec 30 2021	12:28:06	8.626	11.98	1.693	32.59	2.362			
Dec 30 2021	12:29:06	8.665	11.87	1.636	29.89	2.512			
Dec 30 2021	12:30:06	8.649	11.87	1.488	27.93	1.814			
Dec 30 2021	12:31:06	8.192	12.37	1.789	31.46	2.470			
Dec 30 2021	12:32:06	8.775	11.85	1.550	30.73	2.120			
Dec 30 2021	12:33:06	8.870	11.61	1.400	31.95	1.655			
End of port 1 point 1									
Dec 30 2021	12:34:06	8.346	12.20	1.752	31.49	2.688			
Dec 30 2021	12:35:06	8.085	12.51	2.144	31.75	2.627			
Dec 30 2021	12:36:06	8.040	12.48	1.971	31.69	2.723			
Dec 30 2021	12:37:06	10.44	10.36	1.498	36.30	2.154			
Dec 30 2021	12:38:06	9.122	11.28	1.186	32.30	1.768			
Dec 30 2021	12:39:06	6.725	13.76	80.65	34.79	577.9			
Dec 30 2021	12:40:06	8.269	12.34	23.38	30.18	26.39			
Dec 30 2021	12:41:06	7.884	12.68	3.036	32.21	3.736			
Dec 30 2021	12:42:06	8.249	12.29	2.282	31.59	2.882			
Dec 30 2021	12:43:06	8.502	12.09	2.035	29.84	2.676			
End of port 1 point 2									
Dec 30 2021	12:44:06	8.625	11.93	1.616	27.35	2.566			
Dec 30 2021	12:45:06	8.385	12.18	1.741	31.15	2.714			
Dec 30 2021	12:46:06	8.346	12.13	1.706	31.09	2.741			
Dec 30 2021	12:47:06	8.100	12.42	1.718	31.00	2.562			
Dec 30 2021	12:48:06	8.064	12.51	1.844	32.74	2.697			
Dec 30 2021	12:49:06	8.308	12.18	1.592	32.98	2.303			
Dec 30 2021	12:50:06	7.603	12.80	13.37	35.51	16.25			
Dec 30 2021	12:51:06	7.328	13.27	58.09	40.68	89.95			
Dec 30 2021	12:52:06	8.176	12.43	8.001	30.84	8.600			
Dec 30 2021	12:53:06	8.973	11.58	1.392	25.93	1.847			
End of port 1 point 3									
	Average:	8.405	12.15	7.572	31.55	25.99			
	Max:	10.44	13.76	80.65	40.68	577.9			
	Min:	6.725	10.36	1.186	25.93	1.655			

Stratification Results

Port	**Point**	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
1	1	8.632	12.02	1.617	30.45	2.090			
1	2	8.207	12.28	11.89	33.67	29.15			
1	3	8.189	12.29	11.77	32.64	14.89			
	Strat diff:	0.289	0.093	3.464	1.417	13.77			
	Strat %:	3.468	1.448	80.81	5.591	89.57			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 3 Post run bias - R3

12:23:06 - 12:53:06

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			
	Run summary data								
	Raw Avg:	8.405	12.15	7.572	31.55	25.99			
	Max:	10.44	13.76	80.65	40.68	577.9			
	Min:	6.725	10.36	1.186	25.93	1.655			
	Cylinder Concentrations								
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			
	Calibration Readings								
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:								
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			
	EPA Method 7E Error Calculations								
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			
	Initial Bias Data								
	Zero reading:	0.088	0.039	1.172	-0.006	1.680			
	Span reading:	9.884	10.18	55.69	54.30	481.7			
Zero % bias:	**<5.0**	0.165	0.163	-0.077	-0.006	-0.029			
Span % bias:	**<5.0**	-0.676	-0.220	-0.654	-1.734	1.683			
	Final Bias Data								
	Zero reading:	0.115	0.095	0.375	0.003	0.640			
	Span reading:	9.879	10.18	54.52	54.15	476.7			
Zero % bias:	**<5.0**	0.282	0.409	-0.918	0.003	-0.139			
Span % bias:	**<5.0**	-0.698	-0.220	-1.889	-1.890	1.154			
Zero % drift:	**<3.0**	0.117	0.246	0.841	0.009	0.110			
Span % drift:	**<3.0**	0.022	0.000	1.235	0.156	0.529			
	Bias Corrected Averages								
	Cor Avg:	8.499	11.85	6.952	32.46	24.49			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 4 Average Results - R4

13:16:00 - 13:46:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
Dec 30 2021	13:17:00	8.728	11.73	1.244	26.78	1.704			
Dec 30 2021	13:18:00	8.279	12.24	1.399	29.59	1.785			
Dec 30 2021	13:19:00	8.298	12.26	1.531	32.30	1.954			
Dec 30 2021	13:20:00	8.359	12.16	1.332	32.79	1.700			
Dec 30 2021	13:21:00	8.454	12.09	1.349	31.08	1.734			
Dec 30 2021	13:22:00	8.547	12.00	1.374	28.70	1.686			
Dec 30 2021	13:23:00	8.382	12.08	1.231	29.09	1.680			
Dec 30 2021	13:24:00	7.983	12.51	1.528	30.33	2.086			
Dec 30 2021	13:25:00	8.067	12.45	1.485	32.00	1.899			
Dec 30 2021	13:26:00	7.459	13.00	2.208	37.72	3.023			
End of port 1 point 1									
Dec 30 2021	13:27:00	8.211	12.41	2.415	32.01	3.238			
Dec 30 2021	13:28:00	8.746	11.81	1.405	29.76	1.755			
Dec 30 2021	13:29:00	8.541	11.92	1.269	30.53	1.787			
Dec 30 2021	13:30:00	8.119	12.46	1.756	30.17	2.689			
Dec 30 2021	13:31:00	8.344	12.18	1.728	30.04	2.651			
Dec 30 2021	13:32:00	8.174	12.35	1.616	31.69	2.519			
Dec 30 2021	13:33:00	7.831	12.63	1.779	37.18	2.469			
Dec 30 2021	13:34:00	8.468	12.07	1.636	31.17	2.281			
Dec 30 2021	13:35:00	8.468	12.12	1.495	30.15	2.042			
Dec 30 2021	13:36:00	8.357	12.10	1.578	31.12	2.181			
End of port 1 point 2									
Dec 30 2021	13:37:00	8.816	11.75	1.399	29.38	1.710			
Dec 30 2021	13:38:00	8.133	12.32	1.682	35.42	2.293			
Dec 30 2021	13:39:00	8.298	12.22	2.055	33.35	2.836			
Dec 30 2021	13:40:00	8.613	11.93	1.843	31.96	2.497			
Dec 30 2021	13:41:00	8.425	12.08	1.726	27.23	2.546			
Dec 30 2021	13:42:00	8.866	11.66	1.294	29.52	1.713			
Dec 30 2021	13:43:00	8.622	11.86	1.264	28.76	1.639			
Dec 30 2021	13:44:00	8.841	11.75	1.193	28.85	1.662			
Dec 30 2021	13:45:00	8.970	11.53	1.164	29.45	1.698			
Dec 30 2021	13:46:00	8.170	12.30	1.432	28.79	1.954			
End of port 1 point 3									
	Average:	8.386	12.13	1.547	30.90	2.114			
	Max:	8.970	13.00	2.415	37.72	3.238			
	Min:	7.459	11.53	1.164	26.78	1.639			

Stratification Results

Port	**Point**	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
1	1	8.135	12.40	1.645	30.25	2.220			
1	2	8.490	12.17	1.623	31.26	2.415			
1	3	8.636	11.84	1.621	30.12	2.150			
	Strat diff:	0.216	0.263	0.015	0.717	0.153			
	Strat %:	3.389	2.444	0.941	2.346	6.780			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 4 Post run bias - R4

13:16:00 - 13:46:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			
	Run summary data								
	Raw Avg:	8.386	12.13	1.547	30.90	2.114			
	Max:	8.970	13.00	2.415	37.72	3.238			
	Min:	7.459	11.53	1.164	26.78	1.639			
	Cylinder Concentrations								
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			
	Calibration Readings								
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:								
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			
	EPA Method 7E Error Calculations								
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			
	Initial Bias Data								
	Zero reading:	0.115	0.095	0.375	0.003	0.640			
	Span reading:	9.879	10.18	54.52	54.15	476.7			
Zero % bias:	**<5.0**	0.282	0.409	-0.918	0.003	-0.139			
Span % bias:	**<5.0**	-0.698	-0.220	-1.889	-1.890	1.154			
	Final Bias Data								
	Zero reading:	0.090	0.051	0.461	0.180	0.790			
	Span reading:	9.847	10.16	55.40	54.15	471.7			
Zero % bias:	**<5.0**	0.173	0.216	-0.827	0.188	-0.123			
Span % bias:	**<5.0**	-0.837	-0.308	-0.960	-1.890	0.625			
Zero % drift:	**<3.0**	0.109	0.194	0.091	0.185	0.016			
Span % drift:	**<3.0**	0.139	0.088	0.929	0.000	0.529			
	Bias Corrected Averages								
	Cor Avg:	8.495	11.84	1.150	31.79	1.393			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 5 Average Results - R5

14:07:00 - 14:37:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
Dec 30 2021	14:08:00	8.484	12.02	1.581	35.14	2.497			
Dec 30 2021	14:09:00	8.664	11.88	1.209	31.56	1.692			
Dec 30 2021	14:10:00	7.982	12.50	1.507	32.02	2.177			
Dec 30 2021	14:11:00	8.567	11.96	1.501	30.65	2.200			
Dec 30 2021	14:12:00	8.774	11.77	1.177	30.67	1.736			
Dec 30 2021	14:13:00	8.743	11.78	1.234	30.91	1.725			
Dec 30 2021	14:14:00	8.568	11.99	1.292	32.42	1.750			
Dec 30 2021	14:15:00	8.102	12.32	1.590	32.22	2.320			
Dec 30 2021	14:16:00	7.924	12.58	33.09	30.36	33.74			
Dec 30 2021	14:17:00	8.799	11.76	2.712	31.36	3.211			
End of port 1 point 1									
Dec 30 2021	14:18:00	7.371	13.04	4.042	34.35	4.717			
Dec 30 2021	14:19:00	7.970	12.62	4.152	32.44	4.786			
Dec 30 2021	14:20:00	8.690	11.77	1.444	31.66	1.930			
Dec 30 2021	14:21:00	7.975	12.51	5.521	30.81	6.429			
Dec 30 2021	14:22:00	8.809	11.75	2.959	32.15	3.680			
Dec 30 2021	14:23:00	8.246	12.15	1.934	32.42	2.395			
Dec 30 2021	14:24:00	8.698	11.92	1.664	30.49	2.437			
Dec 30 2021	14:25:00	8.559	11.95	1.606	28.71	2.066			
Dec 30 2021	14:26:00	8.519	11.88	1.575	29.76	2.289			
Dec 30 2021	14:27:00	8.132	12.31	1.885	34.79	2.724			
End of port 1 point 2									
Dec 30 2021	14:28:00	8.546	12.00	1.948	35.46	2.336			
Dec 30 2021	14:29:00	8.179	12.39	2.124	26.42	2.719			
Dec 30 2021	14:30:00	8.116	12.31	1.711	27.77	2.529			
Dec 30 2021	14:31:00	7.844	12.65	1.910	35.25	2.717			
Dec 30 2021	14:32:00	8.233	12.24	1.602	31.77	2.368			
Dec 30 2021	14:33:00	8.140	12.41	1.726	30.74	2.625			
Dec 30 2021	14:34:00	7.794	12.64	2.723	37.04	3.361			
Dec 30 2021	14:35:00	8.257	12.23	1.732	30.40	2.730			
Dec 30 2021	14:36:00	8.020	12.44	1.747	28.41	2.681			
Dec 30 2021	14:37:00	8.244	12.36	1.822	31.36	2.690			
End of port 1 point 3									
	Average:	8.298	12.20	3.091	31.65	3.775			
	Max:	8.809	13.04	33.09	37.04	33.74			
	Min:	7.371	11.75	1.177	26.42	1.692			

Stratification Results

Port	**Point**	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
1	1	8.466	11.96	3.213	33.52	3.791			
1	2	8.307	12.19	3.268	30.81	3.921			
1	3	8.233	12.31	1.788	31.86	2.585			
	Strat diff:	0.131	0.157	0.512	1.457	0.489			
	Strat %:	1.568	1.591	35.13	4.543	24.69			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 5 Post run bias - R5

14:07:00 - 14:37:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			
	Run summary data								
	Raw Avg:	8.298	12.20	3.091	31.65	3.775			
	Max:	8.809	13.04	33.09	37.04	33.74			
	Min:	7.371	11.75	1.177	26.42	1.692			
	Cylinder Concentrations								
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			
	Calibration Readings								
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:								
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			
	EPA Method 7E Error Calculations								
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			
	Initial Bias Data								
	Zero reading:	0.090	0.051	0.461	0.180	0.790			
	Span reading:	9.847	10.16	55.40	54.15	471.7			
Zero % bias:	**<5.0**	0.173	0.216	-0.827	0.188	-0.123			
Span % bias:	**<5.0**	-0.837	-0.308	-0.960	-1.890	0.625			
	Final Bias Data								
	Zero reading:	0.099	0.090	0.360	0.003	0.850			
	Span reading:	9.837	10.14	55.32	53.71	471.6			
Zero % bias:	**<5.0**	0.212	0.387	-0.934	0.003	-0.117			
Span % bias:	**<5.0**	-0.880	-0.396	-1.045	-2.350	0.614			
Zero % drift:	**<3.0**	0.039	0.172	0.107	0.185	0.007			
Span % drift:	**<3.0**	0.043	0.088	0.085	0.460	0.011			
	Bias Corrected Averages								
	Cor Avg:	8.424	11.93	2.710	32.70	2.959			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 6 Average Results - R6

14:49:00 - 15:19:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
Dec 30 2021	14:50:00	8.556	12.01	1.867	29.98	2.744			
Dec 30 2021	14:51:00	7.502	12.92	43.32	33.01	151.3			
Dec 30 2021	14:52:00	8.133	12.34	41.59	29.03	83.18			
Dec 30 2021	14:53:00	8.101	12.39	2.523	33.94	3.291			
Dec 30 2021	14:54:00	7.821	12.62	43.23	32.30	43.94			
Dec 30 2021	14:55:00	7.610	12.83	11.50	31.29	12.20			
Dec 30 2021	14:56:00	7.942	12.52	2.102	30.65	2.647			
Dec 30 2021	14:57:00	7.529	12.96	25.52	33.13	31.38			
Dec 30 2021	14:58:00	7.915	12.54	41.23	33.22	48.79			
Dec 30 2021	14:59:00	8.242	12.27	11.41	29.47	12.18			
End of port 1 point 1									
Dec 30 2021	15:00:00	8.991	11.48	1.293	26.77	1.780			
Dec 30 2021	15:01:00	8.919	11.58	1.221	26.34	1.731			
Dec 30 2021	15:02:00	8.674	11.86	1.558	29.90	2.116			
Dec 30 2021	15:03:00	8.765	11.69	1.250	29.97	1.698			
Dec 30 2021	15:04:00	8.652	11.78	1.497	30.54	1.887			
Dec 30 2021	15:05:00	9.276	11.32	1.255	27.90	1.734			
Dec 30 2021	15:06:00	8.263	12.15	1.413	26.18	1.965			
Dec 30 2021	15:07:00	8.350	12.14	1.680	27.94	2.422			
Dec 30 2021	15:08:00	8.329	12.12	1.448	28.41	1.900			
Dec 30 2021	15:09:00	7.848	12.58	1.885	30.76	2.732			
End of port 1 point 2									
Dec 30 2021	15:10:00	8.387	12.11	1.560	27.77	2.075			
Dec 30 2021	15:11:00	8.433	12.14	1.532	28.15	2.201			
Dec 30 2021	15:12:00	8.898	11.56	1.253	31.52	1.705			
Dec 30 2021	15:13:00	8.691	11.78	1.268	29.04	1.632			
Dec 30 2021	15:14:00	8.587	11.88	1.448	29.01	1.985			
Dec 30 2021	15:15:00	8.611	11.89	1.431	29.15	1.893			
Dec 30 2021	15:16:00	8.001	12.44	1.649	30.55	2.448			
Dec 30 2021	15:17:00	8.069	12.41	1.700	30.34	2.443			
Dec 30 2021	15:18:00	8.095	12.36	1.725	28.29	2.650			
Dec 30 2021	15:19:00	8.444	12.08	1.736	32.38	2.586			
End of port 1 point 3									
	Average:	8.321	12.16	8.470	29.90	14.44			
	Max:	9.276	12.96	43.32	33.94	151.3			
	Min:	7.502	11.32	1.221	26.18	1.632			

Stratification Results

Port	**Point**	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
1	1	7.958	12.60	29.58	30.09	66.41			
1	2	8.590	11.92	1.478	27.56	1.995			
1	3	8.532	11.98	1.586	30.86	2.191			
	Strat diff:	0.230	0.433	18.70	1.357	42.88			
	Strat %:	4.809	3.562	86.42	6.587	91.52			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 6 Post run bias - R6

14:49:00 - 15:19:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			
	Run summary data								
	Raw Avg:	8.321	12.16	8.470	29.90	14.44			
	Max:	9.276	12.96	43.32	33.94	151.3			
	Min:	7.502	11.32	1.221	26.18	1.632			
	Cylinder Concentrations								
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			
	Calibration Readings								
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:								
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			
	EPA Method 7E Error Calculations								
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			
	Initial Bias Data								
	Zero reading:	0.099	0.090	0.360	0.003	0.850			
	Span reading:	9.837	10.14	55.32	53.71	471.6			
Zero % bias:	**<5.0**	0.212	0.387	-0.934	0.003	-0.117			
Span % bias:	**<5.0**	-0.880	-0.396	-1.045	-2.350	0.614			
	Final Bias Data								
	Zero reading:	0.099	0.078	0.473	0.000	0.760			
	Span reading:	9.841	10.15	55.59	54.11	475.6			
Zero % bias:	**<5.0**	0.212	0.334	-0.815	0.000	-0.126			
Span % bias:	**<5.0**	-0.863	-0.352	-0.760	-1.932	1.038			
Zero % drift:	**<3.0**	0.000	0.053	0.119	0.003	0.010			
Span % drift:	**<3.0**	0.017	0.044	0.285	0.418	0.423			
	Bias Corrected Averages								
	Cor Avg:	8.450	11.90	8.130	30.94	13.59			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 7 Average Results - R7

15:30:00 - 16:00:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
Dec 30 2021	15:31:00	8.102	12.41	53.30	31.46	149.9			
Dec 30 2021	15:32:00	7.870	12.64	26.79	35.69	34.15			
Dec 30 2021	15:33:00	8.141	12.24	12.99	32.98	18.69			
Dec 30 2021	15:34:00	7.335	13.21	100.0	29.84	644.3			
Dec 30 2021	15:35:00	8.553	12.01	39.34	29.79	88.31			
Dec 30 2021	15:36:00	9.699	10.88	2.298	33.57	3.102			
Dec 30 2021	15:37:00	8.637	11.83	1.765	29.62	2.553			
Dec 30 2021	15:38:00	8.824	11.65	1.575	31.05	2.748			
Dec 30 2021	15:39:00	8.510	12.11	1.828	30.77	2.696			
Dec 30 2021	15:40:00	8.213	12.20	1.731	28.24	2.694			
End of port 1 point 1									
Dec 30 2021	15:41:00	8.526	12.07	1.744	32.50	2.607			
Dec 30 2021	15:42:00	9.065	11.46	1.310	31.34	1.743			
Dec 30 2021	15:43:00	8.850	11.70	1.409	28.49	1.622			
Dec 30 2021	15:44:00	9.330	11.18	1.255	31.28	1.667			
Dec 30 2021	15:45:00	8.734	11.84	1.477	27.41	1.816			
Dec 30 2021	15:46:00	8.812	11.64	1.334	29.61	1.689			
Dec 30 2021	15:47:00	8.007	12.46	1.881	29.40	2.729			
Dec 30 2021	15:48:00	7.861	12.70	25.50	34.20	25.91			
Dec 30 2021	15:49:00	8.145	12.38	2.075	30.72	2.747			
Dec 30 2021	15:50:00	8.319	12.11	1.630	26.63	2.399			
End of port 1 point 2									
Dec 30 2021	15:51:00	8.425	12.15	1.675	28.72	2.500			
Dec 30 2021	15:52:00	8.264	12.22	1.528	30.61	2.092			
Dec 30 2021	15:53:00	8.371	12.15	1.397	31.15	1.643			
Dec 30 2021	15:54:00	8.102	12.37	1.554	30.44	2.126			
Dec 30 2021	15:55:00	8.262	12.23	1.573	32.89	2.321			
Dec 30 2021	15:56:00	8.025	12.46	1.828	38.85	2.667			
Dec 30 2021	15:57:00	8.227	12.37	1.666	31.10	2.679			
Dec 30 2021	15:58:00	8.367	12.06	1.500	32.85	1.954			
Dec 30 2021	15:59:00	7.785	12.75	2.130	32.58	2.711			
Dec 30 2021	16:00:00	8.130	12.31	1.633	31.62	2.198			
End of port 1 point 3									

	Average:	8.383	12.13	9.924	31.18	33.90			
	Max:	9.699	13.21	100.0	38.85	644.3			
	Min:	7.335	10.88	1.255	26.63	1.622			

Stratification Results

Port	**Point**	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
1	1	8.397	12.17	31.73	30.47	138.5			
1	2	8.545	12.06	1.831	28.34	2.411			
1	3	8.218	12.30	1.669	32.27	2.348			
	Strat diff:	0.158	0.123	19.99	1.910	90.75			
	Strat %:	2.011	1.013	85.79	6.653	95.08			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 7 Post run bias - R7

15:30:00 - 16:00:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			
	Run summary data								
	Raw Avg:	8.383	12.13	9.924	31.18	33.90			
	Max:	9.699	13.21	100.0	38.85	644.3			
	Min:	7.335	10.88	1.255	26.63	1.622			
	Cylinder Concentrations								
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			
	Calibration Readings								
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:								
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			
	EPA Method 7E Error Calculations								
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			
	Initial Bias Data								
	Zero reading:	0.099	0.078	0.473	0.000	0.760			
	Span reading:	9.841	10.15	55.59	54.11	475.6			
Zero % bias:	**<5.0**	0.212	0.334	-0.815	0.000	-0.126			
Span % bias:	**<5.0**	-0.863	-0.352	-0.760	-1.932	1.038			
	Final Bias Data								
	Zero reading:	0.111	0.099	1.059	-0.006	1.740			
	Span reading:	9.866	10.16	54.70	54.45	476.6			
Zero % bias:	**<5.0**	0.264	0.427	-0.196	-0.006	-0.022			
Span % bias:	**<5.0**	-0.754	-0.308	-1.699	-1.577	1.143			
Zero % drift:	**<3.0**	0.052	0.093	0.619	0.006	0.104			
Span % drift:	**<3.0**	0.109	0.044	0.939	0.355	0.106			
	Bias Corrected Averages								
	Cor Avg:	8.500	11.86	9.357	32.04	32.41			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 8 Average Results - R8

16:09:00 - 16:39:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
Dec 30 2021	16:10:00	8.458	12.07	1.840	29.98	2.637			
Dec 30 2021	16:11:00	7.318	13.12	2.637	30.70	3.182			
Dec 30 2021	16:12:00	7.622	12.89	7.881	33.13	8.690			
Dec 30 2021	16:13:00	7.440	13.04	5.401	34.27	5.748			
Dec 30 2021	16:14:00	8.168	12.46	2.929	32.24	3.435			
Dec 30 2021	16:15:00	8.792	11.78	1.702	30.60	2.627			
Dec 30 2021	16:16:00	8.460	11.99	1.810	31.57	2.618			
Dec 30 2021	16:17:00	8.462	12.07	1.730	29.30	2.727			
Dec 30 2021	16:18:00	8.391	12.11	1.798	31.45	2.706			
Dec 30 2021	16:19:00	8.031	12.52	2.126	31.71	2.767			
End of port 1 point 1									
Dec 30 2021	16:20:00	8.206	12.28	1.978	31.09	2.635			
Dec 30 2021	16:21:00	7.599	12.93	2.491	29.17	3.005			
Dec 30 2021	16:22:00	7.601	12.89	3.162	32.16	4.003			
Dec 30 2021	16:23:00	8.394	12.16	2.003	31.53	2.671			
Dec 30 2021	16:24:00	8.478	12.10	1.874	31.06	2.693			
Dec 30 2021	16:25:00	7.601	12.88	14.27	32.90	14.86			
Dec 30 2021	16:26:00	8.043	12.50	13.45	30.39	14.06			
Dec 30 2021	16:27:00	8.225	12.29	2.158	29.63	2.693			
Dec 30 2021	16:28:00	7.468	13.09	35.09	31.33	35.75			
Dec 30 2021	16:29:00	8.132	12.43	2.968	33.49	3.565			
End of port 1 point 2									
Dec 30 2021	16:30:00	8.075	12.40	68.06	31.85	130.1			
Dec 30 2021	16:31:00	8.333	12.30	7.042	31.86	7.500			
Dec 30 2021	16:32:00	8.405	12.16	2.084	29.33	2.622			
Dec 30 2021	16:33:00	7.911	12.59	2.368	29.17	3.212			
Dec 30 2021	16:34:00	7.930	12.56	2.482	31.00	3.149			
Dec 30 2021	16:35:00	7.164	13.40	42.80	31.41	108.8			
Dec 30 2021	16:36:00	8.688	11.89	38.21	31.11	64.36			
Dec 30 2021	16:37:00	8.332	12.18	2.325	33.15	2.753			
Dec 30 2021	16:38:00	8.926	11.76	2.066	31.22	2.699			
Dec 30 2021	16:39:00	8.707	11.84	17.33	32.26	17.84			
End of port 1 point 3									

	Average:	8.112	12.42	9.802	31.34	15.54			
	Max:	8.926	13.40	68.06	34.27	130.1			
	Min:	7.164	11.76	1.702	29.17	2.618			

Stratification Results

Port	**Point**	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
1	1	8.064	12.45	2.328	31.61	2.957			
1	2	7.972	12.56	7.588	30.12	8.159			
1	3	8.372	12.09	18.20	33.02	39.43			
	Strat diff:	0.236	0.193	8.828	1.437	22.58			
	Strat %:	2.901	2.237	94.20	4.633	82.45			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 8 Post run bias - R8

16:09:00 - 16:39:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			
	Run summary data								
	Raw Avg:	8.112	12.42	9.802	31.34	15.54			
	Max:	8.926	13.40	68.06	34.27	130.1			
	Min:	7.164	11.76	1.702	29.17	2.618			
	Cylinder Concentrations								
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			
	Calibration Readings								
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:								
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			
	EPA Method 7E Error Calculations								
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			
	Initial Bias Data								
	Zero reading:	0.111	0.099	1.059	-0.006	1.740			
	Span reading:	9.866	10.16	54.70	54.45	476.6			
Zero % bias:	**<5.0**	0.264	0.427	-0.196	-0.006	-0.022			
Span % bias:	**<5.0**	-0.754	-0.308	-1.699	-1.577	1.143			
	Final Bias Data								
	Zero reading:	0.118	0.084	1.459	0.000	1.560			
	Span reading:	9.897	10.17	55.39	54.45	477.7			
Zero % bias:	**<5.0**	0.295	0.361	0.226	0.000	-0.041			
Span % bias:	**<5.0**	-0.620	-0.264	-0.971	-1.577	1.260			
Zero % drift:	**<3.0**	0.031	0.066	0.422	0.006	0.019			
Span % drift:	**<3.0**	0.134	0.044	0.728	0.000	0.117			
	Bias Corrected Averages								
	Cor Avg:	8.196	12.13	8.825	32.11	13.77			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 9 Average Results - R9

16:52:00 - 17:22:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
Dec 30 2021	16:53:00	8.231	12.34	2.379	31.79	2.944			
Dec 30 2021	16:54:00	8.157	12.45	2.228	30.09	2.633			
Dec 30 2021	16:55:00	8.104	12.47	2.289	29.58	2.740			
Dec 30 2021	16:56:00	8.793	11.79	1.860	32.97	2.691			
Dec 30 2021	16:57:00	8.673	11.92	1.820	31.49	2.645			
Dec 30 2021	16:58:00	8.260	12.31	2.103	30.35	2.624			
Dec 30 2021	16:59:00	7.498	13.03	2.910	31.25	3.495			
Dec 30 2021	17:00:00	7.736	12.83	2.684	30.08	3.691			
Dec 30 2021	17:01:00	8.720	11.97	2.247	35.28	3.121			
Dec 30 2021	17:02:00	8.226	12.30	1.899	29.93	2.757			
End of port 1 point 1									
Dec 30 2021	17:03:00	8.036	12.56	2.256	28.57	2.678			
Dec 30 2021	17:04:00	8.329	12.29	2.230	31.78	2.665			
Dec 30 2021	17:05:00	8.574	12.02	1.910	31.15	2.631			
Dec 30 2021	17:06:00	8.537	12.09	1.945	30.91	2.683			
Dec 30 2021	17:07:00	8.313	12.26	2.021	30.68	2.651			
Dec 30 2021	17:08:00	7.899	12.65	2.330	29.44	2.904			
Dec 30 2021	17:09:00	8.942	11.80	2.040	31.18	2.725			
Dec 30 2021	17:10:00	8.374	12.04	19.45	34.13	21.09			
Dec 30 2021	17:11:00	7.615	13.00	39.11	28.34	41.85			
Dec 30 2021	17:12:00	8.242	12.41	2.459	32.18	2.983			
End of port 1 point 2									
Dec 30 2021	17:13:00	8.421	12.11	1.936	30.36	2.621			
Dec 30 2021	17:14:00	8.258	12.43	2.337	27.74	2.726			
Dec 30 2021	17:15:00	8.283	12.28	2.126	29.98	2.621			
Dec 30 2021	17:16:00	8.145	12.41	2.562	28.70	3.266			
Dec 30 2021	17:17:00	8.866	11.84	3.171	31.69	3.822			
Dec 30 2021	17:18:00	7.912	12.56	1.983	30.67	2.743			
Dec 30 2021	17:19:00	8.462	12.20	2.844	32.79	3.497			
Dec 30 2021	17:20:00	8.132	12.41	2.089	28.38	2.618			
Dec 30 2021	17:21:00	7.719	12.92	2.740	28.49	3.738			
Dec 30 2021	17:22:00	8.404	12.22	2.162	30.41	2.727			
End of port 1 point 3									
	Average:	8.262	12.33	4.071	30.68	4.819			
	Max:	8.942	13.03	39.11	35.28	41.85			
	Min:	7.498	11.79	1.820	27.74	2.618			

Stratification Results

Port	**Point**	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
1	1	8.194	12.38	2.201	29.84	2.883			
1	2	8.300	12.36	11.99	29.72	13.83			
1	3	8.213	12.42	2.532	29.72	3.196			
	Strat diff:	0.064	0.033	6.416	0.080	7.194			
	Strat %:	0.781	0.269	60.52	0.269	56.56			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 9 Post run bias - R9

16:52:00 - 17:22:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			
	Run summary data								
	Raw Avg:	8.262	12.33	4.071	30.68	4.819			
	Max:	8.942	13.03	39.11	35.28	41.85			
	Min:	7.498	11.79	1.820	27.74	2.618			
	Cylinder Concentrations								
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			
	Calibration Readings								
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:								
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			
	EPA Method 7E Error Calculations								
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			
	Initial Bias Data								
	Zero reading:	0.118	0.084	1.459	0.000	1.560			
	Span reading:	9.897	10.17	55.39	54.45	477.7			
Zero % bias:	**<5.0**	0.295	0.361	0.226	0.000	-0.041			
Span % bias:	**<5.0**	-0.620	-0.264	-0.971	-1.577	1.260			
	Final Bias Data								
	Zero reading:	0.119	0.102	1.038	0.000	1.650			
	Span reading:	9.903	10.16	55.90	54.60	478.0			
Zero % bias:	**<5.0**	0.299	0.440	-0.218	0.000	-0.032			
Span % bias:	**<5.0**	-0.594	-0.308	-0.433	-1.420	1.292			
Zero % drift:	**<3.0**	0.004	0.079	0.444	0.000	0.009			
Span % drift:	**<3.0**	0.026	0.044	0.538	0.157	0.032			
	Bias Corrected Averages								
	Cor Avg:	8.334	12.05	2.883	31.39	3.181			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 10 Average Results - R10

17:30:00 - 18:00:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
Dec 30 2021	17:31:00	7.864	12.68	6.383	30.68	7.084			
Dec 30 2021	17:32:00	8.052	12.56	2.423	34.02	2.968			
Dec 30 2021	17:33:00	8.628	12.03	1.948	32.20	2.647			
Dec 30 2021	17:34:00	8.940	11.60	1.456	29.67	1.772			
Dec 30 2021	17:35:00	7.974	12.59	1.999	27.04	2.677			
Dec 30 2021	17:36:00	7.521	13.01	3.816	32.96	4.413			
Dec 30 2021	17:37:00	8.415	12.23	2.033	31.37	2.728			
Dec 30 2021	17:38:00	8.188	12.39	1.776	31.10	2.734			
Dec 30 2021	17:39:00	7.664	12.93	2.594	38.01	3.291			
Dec 30 2021	17:40:00	7.975	12.56	2.223	31.46	2.838			
End of port 1 point 1									
Dec 30 2021	17:41:00	8.502	12.17	1.783	27.61	2.640			
Dec 30 2021	17:42:00	8.815	11.79	1.488	29.47	1.846			
Dec 30 2021	17:43:00	8.698	11.95	1.559	29.88	2.327			
Dec 30 2021	17:44:00	8.322	12.14	1.534	33.28	2.129			
Dec 30 2021	17:45:00	8.130	12.50	1.961	30.23	2.604			
Dec 30 2021	17:46:00	8.233	12.38	2.021	32.05	2.635			
Dec 30 2021	17:47:00	8.081	12.41	7.014	32.29	7.697			
Dec 30 2021	17:48:00	8.177	12.43	3.116	29.50	3.728			
Dec 30 2021	17:49:00	8.968	11.68	1.559	31.07	2.058			
Dec 30 2021	17:50:00	7.949	12.55	1.976	34.82	2.608			
End of port 1 point 2									
Dec 30 2021	17:51:00	7.614	12.95	21.79	31.15	22.24			
Dec 30 2021	17:52:00	8.425	12.11	2.322	31.96	2.990			
Dec 30 2021	17:53:00	8.012	12.60	1.995	29.02	2.661			
Dec 30 2021	17:54:00	7.898	12.69	2.116	28.58	2.768			
Dec 30 2021	17:55:00	8.503	12.07	1.901	30.95	2.673			
Dec 30 2021	17:56:00	7.898	12.64	22.35	31.03	23.04			
Dec 30 2021	17:57:00	7.162	13.43	55.67	37.13	321.6			
Dec 30 2021	17:58:00	8.013	12.54	39.74	30.89	77.25			
Dec 30 2021	17:59:00	8.500	12.14	2.316	27.32	2.844			
Dec 30 2021	18:00:00	8.707	11.92	1.757	29.48	2.615			
End of port 1 point 3									
	Average:	8.194	12.39	6.754	31.21	17.47			
	Max:	8.968	13.43	55.67	38.01	321.6			
	Min:	7.162	11.60	1.456	27.04	1.772			

Stratification Results

Port	**Point**	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
1	1	8.204	12.30	2.484	30.12	3.262			
1	2	8.489	12.18	2.122	31.29	2.735			
1	3	8.217	12.44	15.13	28.91	65.34			
	Strat diff:	0.186	0.133	8.551	1.183	41.56			
	Strat %:	2.236	1.083	67.74	3.975	88.50			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 30	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 1	Points per port: 3	DAQ Device: DT9803(00)

Run 10 Post run bias - R10

17:30:00 - 18:00:00

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			
	Run summary data								
	Raw Avg:	8.194	12.39	6.754	31.21	17.47			
	Max:	8.968	13.43	55.67	38.01	321.6			
	Min:	7.162	11.60	1.456	27.04	1.772			
	Cylinder Concentrations								
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			
	Calibration Readings								
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:								
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			
	EPA Method 7E Error Calculations								
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			
	Initial Bias Data								
	Zero reading:	0.119	0.102	1.038	0.000	1.650			
	Span reading:	9.903	10.16	55.90	54.60	478.0			
Zero % bias:	**<5.0**	0.299	0.440	-0.218	0.000	-0.032			
Span % bias:	**<5.0**	-0.594	-0.308	-0.433	-1.420	1.292			
	Final Bias Data								
	Zero reading:	0.098	0.057	0.760	0.000	1.680			
	Span reading:	9.912	10.16	56.60	54.62	465.8			
Zero % bias:	**<5.0**	0.208	0.242	-0.512	0.000	-0.029			
Span % bias:	**<5.0**	-0.555	-0.308	0.306	-1.400	0.000			
Zero % drift:	**<3.0**	0.091	0.198	0.294	0.000	0.003			
Span % drift:	**<3.0**	0.039	0.000	0.739	0.021	1.292			
	Bias Corrected Averages								
	Cor Avg:	8.260	12.11	5.877	31.88	15.84			

Appendix A.8
PM Calculations/Results

SOURCE TEST DATA SUMMARY

Client	Woodland Biomass
Unit / Location	Boiler
A (stack area), ft^2	44.179
T_{ref} (reference temperature), °F	68
F_d (fuel "F" factor @ 68°F), dscf/MMBtu	9,543
F_d (fuel "F" factor @ T_{ref}), dscf/MMBtu	9,543

	1-PM	2-PM	3-PM	Average
Test number	1-PM	2-PM	3-PM	Average
Date	12/29/21	12/29/21	12/29/21	--
Start / Stop time	1052-1310	1407-1624	1701-1911	--
Meter box number	CB-15	CB-15	CB-15	--
C_p (pitot coefficient), dimensionless	0.8400	0.8400	0.8400	0.8400
Y (meter calibration factor), dimensionless	1.020	1.020	1.020	1.020
Θ (sample time), min	125.0	123.0	123.8	123.9
Nozzle diameter, in	0.156	0.160	0.156	0.157
P_{bar} (barometric pressure), in. Hg	29.70	29.70	29.70	29.70
V_m (meter box volume), acf	41.984	42.184	41.853	42.007
V_{lc} (impinger liquid volume), ml	201.7	164.9	193.9	186.8
T_m (meter temperature), °F	50.9	49.3	50.0	50.1
ΔH (meter pressure), in. H_2O	0.410	0.410	0.410	0.410
ΔP (velocity head), in. H_2O	1.2786	1.2535	1.2612	1.2644
P_g (static pressure), in. Hg	0.95	0.95	0.95	0.95
T_s (stack temperature), °F	304.9	304.9	304.0	304.6
$\%O_2$ (oxygen stack gas), % volume dry	8.60	8.67	8.70	8.66
$\%CO_2$ (carbon dioxide stack gas), % volume dry	11.9	11.7	11.7	11.8
m_1 (F½ particulate matter catch - filter), mg	2.70	2.34	2.76	2.60
m_2 (F½ particulate matter catch - acetone rinse; >PM_{10}), mg	0.97	0.50	0.50	0.66
C_{tf} (total F½ particulate matter catch), mg	3.67	2.84	3.26	3.26
m_{cpm} (B½ particulate matter catch), mg	15.78	17.54	14.67	16.00
m_n (total particulate matter catch), mg	19.45	20.38	17.93	19.25
1a $V_{m(std)}$ (standard sample volume), dscf	43.975	44.329	43.916	44.073
1b $V_{w(std)}$ (water vapor volume), scf	9.510	7.775	9.142	8.809
1c B_{ws} (moisture fraction), non-dimensional	0.1778	0.1492	0.1723	0.1664
1c B_{ws} (moisture fraction), %	17.8	14.9	17.2	16.6
1d MW_{dry} (stack gas molecular weight), dry	30.246	30.220	30.218	30.228
1e MW_{wet} (stack gas molecular weight), wet	28.069	28.397	28.113	28.193
1f P_s (absolute stack pressure), in Hg	29.770	29.770	29.770	29.770
1g V_s (stack gas velocity), ft/sec	77.690	76.479	77.054	77.074
1h Q (stack flow rate), acfm	205,935	202,727	204,250	204,304
1i Q_{ws} (stack flow rate), wscfm	141,438	139,234	140,449	140,374
1j Q_{ds} (stack flow rate), dscfm	116,289	118,458	116,249	116,998
1k I (isokinetic ratio), %	100.71	96.29	101.63	99.54
μ (stack gas viscosity) new, micropoise	218.0	220.6	218.3	219.0
Q_s (cyclone flow rate), cfm	0.62	0.62	0.62	0.62
$D_{50(10)}$ (cut-off diameter), microns - **keep between 9 and 11**	9.77	9.89	9.77	9.81
3a G (Total F½ grain loading), gr/dscf	0.0013	0.0010	0.0011	0.0011
3b G_{12} (Total F½ grain loading), gr/dscf @ 12% CO_2 dry	0.0013	0.0010	0.0012	0.0012
3c M (Total F½ mass emissions), lb/hr	1.28	1.00	1.14	1.14
M (Total F½ mass emissions), lb/day	30.8	24.1	27.4	27.4
3a G (B½ grain loading), gr/dscf	0.006	0.006	0.005	0.006
3b G_{12} (B½ grain loading), gr/dscf @ 12% CO_2 dry	0.006	0.006	0.005	0.006
3c M (B½ mass emissions), lb/hr	5.52	6.20	5.14	5.62
M (B½ mass emissions), lb/day	132.5	148.8	123.3	134.8
3a G (total grain loading), gr/dscf	0.007	0.007	0.006	0.007
3b G_{12} (total grain loading), gr/dscf @ 12% CO_2 dry	0.007	0.007	0.006	0.007
3c M (total mass emissions), lb/hr	6.80	7.20	6.28	6.76
M (total mass emissions), lb/day	163.3	172.9	150.7	162.3

SOURCE TEST DATA SUMMARY

EPA METHOD 5

Client				Woodland Biomass
Unit / Location				Biomass Boiler
A (stack area), ft^2				44.179
T_{ref} (reference temperature), °F				68
F_d (fuel "F" factor @ 68°F), dscf/MMBtu				9,543
F_d (fuel "F" factor @ T_{ref}), dscf/MMBtu				9,543
Test number	1-PM/HCl	2-PM/HCl	3-PM/HCl	Average
Date	12/29/21	12/29/21	12/29/21	--
Start / Stop time	1052-1312	1407-1619	1701-1907	--
Meter box number	CB-19	CB-19	CB-19	--
C_p (pitot coefficient), dimensionless	0.84	0.84	0.84	0.84
Y (meter calibration factor), dimensionless	0.987	0.987	0.987	0.987
Θ (sample time), min	120.00	120.00	120.00	120.00
Nozzle diameter, in	0.210	0.210	0.210	0.210
P_{bar} (barometric pressure), in Hg	29.70	29.70	29.70	29.70
V_m (meter box volume), acf	77.227	76.490	76.930	76.882
V_{lc} (impinger liquid), gm	345.9	334.6	354.4	345.0
T_m (meter temperature), °F	55.0	56.3	56.9	56.1
ΔH (meter pressure), in. H_2O	1.375	1.367	1.383	1.375
ΔP (velocity head), in. H_2O	1.2700	1.2619	1.2779	1.2699
P_g (static pressure), in. H_2O	0.95	0.95	0.95	0.95
T_s (stack temperature), °F	301.0	296.8	299.1	299.0
$\%O_2$ (oxygen stack gas), % volume dry	8.60	8.67	8.70	8.66
$\%CO_2$ (carbon dioxide stack gas), % volume dry	11.89	11.71	11.69	11.76
PM				
m_f (F½ particulate matter catch - filter), mg	2.03	2.90	2.37	2.43
m_a (F½ particulate matter catch - acetone rinse), mg	0.90	1.88	0.90	1.23
m_n (F½ particulate matter catch - combined), mg	2.93	4.78	3.27	3.66
1a $V_{m(std)}$ (standard sample volume), dscf	77.837	76.906	77.251	77.331
1b $V_{w(std)}$ (water vapor volume), scf	16.309	15.776	16.710	16.265
1c B_{ws} (moisture fraction), non-dimensional	0.1732	0.1702	0.1778	0.1738
B_{ws} (moisture fraction saturated), non-dimensional	NA	NA	NA	NA
B_{ws} (moisture fraction applicable), non-dimensional	0.1732	0.1702	0.1778	0.1738
1d M_d (stack gas molecular weight), dry	30.246	30.220	30.218	30.228
1e M_s (stack gas molecular weight), wet	28.125	28.140	28.046	28.104
1f P_s (absolute stack pressure), in Hg	29.770	29.770	29.770	29.770
1g V_s (stack gas velocity), ft/sec	77.153	76.676	77.404	77.078
1h Q (stack flow rate), acf/min	204,513	203,248	205,177	204,313
1i Q_{sw} (stack flow rate), wscf/min	141,184	141,083	142,000	141,422
1j Q_{sd} (stack flow rate), dscf/min	116,726	117,068	116,747	116,847
I (isokinetic ratio), %	102.1	100.6	101.3	101.3
3a C_S (F½ grain loading), gr/dscf	0.0006	0.0010	0.0007	0.0007
3b $C_{S\text{-}CO2}$ (F½ grain loading), gr/dscf @ 12% CO_2 dry	0.0006	0.0010	0.0007	0.0007
3c E (F½ mass emissions), lb/hr	0.58	0.96	0.65	0.73
3d E (F½ mass emissions), lb/MMBtu	1.3E-03	2.2E-03	1.5E-03	1.7E-03

Appendix A.9
HCl Calculations/Results

SOURCE TEST DATA SUMMARY
Hydrochloric Acid by EPA 26

Client				Woodland Biomass
Unit / Location				Biomass Boiler
A (stack area), ft^2				44.179
T_{ref} (reference temperature), °F				68
F_d (fuel "F" factor @ 68°F), dscf/MMBtu				9,543
F_d (fuel "F" factor @ T_{ref}), dscf/MMBtu				9,543
Test number	1-PM/HCl	2-PM/HCl	3-PM/HCl	Average
Date	12/29/21	12/29/21	12/29/21	--
Start / Stop time	1052-1312	1407-1619	1701-1907	--
Meter box number	CB-19	CB-19	CB-19	--
C_p (pitot coefficient), dimensionless	0.84	0.84	0.84	0.84
Y (meter calibration factor), dimensionless	0.987	0.987	0.987	0.987
Θ (sample time), min	120.00	120.00	120.00	120.00
Nozzle diameter, in	0.210	0.210	0.210	0.210
P_{bar} (barometric pressure), in Hg	29.70	29.70	29.70	29.70
V_m (meter box volume), acf	77.227	76.490	76.930	76.882
V_{lc} (impinger liquid volume), ml	345.9	334.6	354.4	345.0
T_m (meter temperature), °F	55.0	56.3	56.9	56.1
ΔH (meter pressure), in. H_2O	1.375	1.367	1.383	1.375
ΔP (velocity head), in. H2O	1.2700	1.2619	1.2779	1.2699
P_g (static pressure), in. Hg	0.95	0.95	0.95	0.95
T_s (stack temperature), °F	301.0	296.8	299.1	299.0
$\%O_2$ (oxygen stack gas), % volume dry	8.60	8.67	8.70	8.66
$\%CO_2$ (carbon dioxide stack gas), % volume dry	11.9	11.7	11.7	11.8
Lab Results				
Impingers 1&2 (Sulfuric Acid Reagent)				
HCl, µg/sample	6,320	9,350	7,270	7,647
1a $V_{m(std)}$ (standard sample volume), dscf	77.837	76.906	77.251	77.331
1b $V_{w(std)}$ (water vapor volume), scf	16.309	15.776	16.710	16.265
1c B_{ws} (moisture fraction), non-dimensional	0.1732	0.1702	0.1778	0.1738
1d MW_{dry} (stack gas molecular weight), dry	30.246	30.220	30.218	30.228
1e MW_{wet} (stack gas molecular weight), wet	28.125	28.140	28.046	28.104
1f P_s (absolute stack pressure), in Hg	29.770	29.770	29.770	29.770
1g V_s (stack gas velocity), ft/sec	77.153	76.676	77.404	77.078
1h Q (stack flow rate), acfm	204,513	203,248	205,177	204,313
1i Q_{ws} (stack flow rate), wscfm	141,184	141,083	142,000	141,422
1j Q_{ds} (stack flow rate), dscfm	116,726	117,068	116,747	116,847
1k I (isokinetic ratio), %	102.09	100.57	101.30	101.32
Hydrochloric Acid (HCl) Emissions				
mg/sample as HCl	6.3	9.4	7.3	7.6
mg/dscm as HCl	2.9	4.3	3.3	3.5
ppmvd as HCl	1.9	2.8	2.2	2.3
lb/MMBtu as HCl	2.9E-03	4.4E-03	3.4E-03	3.6E-03

Appendix A.10
Gaseous Calculations/Results

GASEOUS EMISSIONS COMPLIANCE
Woodland Biomass
Main Stack

Test No.	Compliance Run 1 Runs 1, 2	Compliance Run 2 Runs 3, 4	Compliance Run 3 Runs 5, 6	Average
Date	12/30/21	12/30/21	12/30/21	--
Start Time	1024-1207	1224-1346	1407-1519	--
O2, % volume dry	8.63	8.50	8.44	**8.52**
CO2, % volume dry	11.74	11.85	11.92	**11.83**
Moisture content, % by volume	17.9	18.8	18.5	**18.4**
Stack temperature, °F	300.2	299.7	299.9	**299.9**
Stack flow rate - based on pitot, dscfm	113,689	112,149	112,380	**112,739**
CO, ppm volume dry	3.18	12.82	8.15	**8.05**
CO, ppm volume wet	2.61	10.40	6.66	**6.56**
CO, lb/hr	1.587	6.282	4.005	**3.958**
CO, lb/day (24 hours)	38.09	150.76	96.13	**94.99**
CO, lb/MMBtu	0.0038	0.0150	0.0095	**0.0094**
NOX, ppm volume dry	30.94	32.13	31.82	**31.63**
NOX, ppm volume wet	25.39	26.10	25.92	**25.80**
NOX, lb/hr as NO2	25.19	25.81	25.62	**25.54**
NOX, lb/day (24 hours) as NO2	604.7	619.5	614.8	**613.0**
NOX, lb/MMBtu as NO2	0.0602	0.0619	0.0610	**0.0610**
SO2, ppm volume dry	1.53	0.39	0.41	**0.78**
SO2, lb/hr	1.74	0.43	0.46	**0.88**
SO2, lb/day (24 hours)	41.68	10.41	10.98	**21.02**
SO2, lb/MMBtu	0.0042	0.0010	0.0011	**0.0021**

Appendix A.11
Ammonia Calculations/Results

SOURCE TEST DATA SUMMARY

Client				Woodland Biomass
Unit / Location				Main Stack
Stack area, square feet				44.179
Reference temperature, °F				68
Test number	1-NH3	2-NH3	3-NH3	Average
Date	12/30/21	12/30/21	12/30/21	--
Start / Stop time	1024-1054	1137-1207	1223-1253	--
FUEL DATA				
Fuel "F" factor @ 68°F, dscf/MMBtu	9,574	9,574	9,574	9,574
Fuel "F" factor @ T_{ref}, dscf/MMBtu	9,574	9,574	9,574	9,574
Fuel flow, Kscfh	124.8	125.1	124.4	124.8
Fuel flow, scfh	124,800	125,100	124,400	124,767
SAMPLE TRAIN DATA				
Meter box number/ID	CB-15	CB-15	CB-15	--
Meter calibration, Yd	1.020	1.020	1.020	1.020
Barometric pressure, in Hg	29.88	29.88	29.88	29.88
Meter box volume, acf	21.104	20.995	21.015	21.038
Impinger liquid, g	107.4	108.5	109.3	108.4
Meter temperature, °F	49.0	53.3	54.7	52.3
Meter pressure, (Delta H) iwg	1.9	1.9	1.9	1.900
ANALYZER DATA				
O_2, % volume dry	8.7	8.6	8.5	8.6
CO_2, % volume dry	11.7	11.8	11.9	11.8
VOLUMETRIC FLOW RATE				
1a Standard sample volume, dscf @ Tref	22.404	22.100	22.064	22.189
Standard sample volume, dscf @ 70 F	22.484	22.179	22.143	22.269
1b Water vapor volume, scf	5.0639	5.1158	5.1535	5.1111
1c Moisture fraction, nondimensional	0.1844	0.1880	0.1893	0.1872
1d Stack gas molecular weight, dry	30.220	30.227	30.236	30.228
1e Stack gas molecular weight, wet	27.967	27.929	27.919	27.938
NH_3 ION SELECTIVE ELECTRODE				
Audit sample concentration (measured), ppm	9.95	9.95	9.95	9.95
Audit sample concentration (actual), ppm	10.0	10.0	10.0	10.0
Audit sample, % recovery	100	100	100	100
Sample volume - fraction 1 - (total), ml	415.1	366.0	386.8	389.3
Sample concentration - fraction 1 - (measured),	13.7	13.90	15.2	14.27
Sample volume - fraction 2 - (total), ml	--	--	--	--
Sample concentration - fraction 2 - (measured),	--	--	--	--
Mass of ammonia, mg	5.69	5.09	5.88	5.55
EMISSIONS				
NH_3 concentrations, ppm volume dry	12.7	11.5	13.3	12.5

Appendix A.12
Mercury Calculations/Results

Montrose Air Quality Services
1711 W. Armitage Court
Addison, Illinois 60101
630-519-5135

Turn-Around Time	
☐	Standard
☐	24 Hour RUSH
☐	Other

30B Mercury Sorbent Trap Analysis Summary

Client Name:	Woodland Biomass	**Date:**	30-Dec-21
Location:	Main Stack	**Component ID:**	Montrose 30B Sampler
Unit Name, Serial #:	Biomass Boiler	**Analyzer ID:**	RA915+
Analyst Name:	B. Hilgendorf		
Reference Method:	EPA Method 30B		

IDs		Sampling Information								Analytical Information				
Sample ID	Trap I.D.	Date Sampled	Start Time (hh:mm)	Stop Time (hh:mm)	Meter Box Volume (L)	Meter Box Y-Factor	Barometric Pressure (in Hg)	Meter Box Temperature (°F)	Standard Temperature (°F)	Date Analyzed	Mass ng Sect. 1	Mass ng Sect. 2	Mass ng Sect. 3	Spike Level (ng)
1A	OLC124701	12/30/2021	14:49	15:19	30.097	1	29.88	55.25	68	1/10/2022	48.0	0.4	0	40
1B	OLC595687	12/30/2021	14:49	15:19	30.118	1	29.88	55.25	68	1/10/2022	8.0	0.0	0	0
2A	OLC125090	12/30/2021	15:30	16:00	30.025	1	29.88	55.00	68	1/10/2022	52.3	1.0	0	40
2B	OLC149912	12/30/2021	15:30	16:00	30.013	1	29.88	55.00	68	1/10/2022	12.4	1.0	0	0
3A	OLC125168	12/30/2021	16:09	16:39	30.506	1	29.88	54.00	68	1/10/2022	49.4	0.9	0	40
3B	OL595552	12/30/2021	16:09	16:39	30.463	1	29.88	54.00	68	1/10/2022	9.8	0.6	0	0

Emissions Calculations					QA\QC Calculations			
Standardized Sample Volume (sL)	Total Hg (ng/sample)	Total Hg (ug/m^3)	Average Hg per run (ug/m^3)	Average Hg per run (lb/MMBtu)	Break-through % (20%)	Spike Recovery % (85%-115%)	Tube A&B Correlation % (20%)	% of Recovery Study Sample Volume (80%-120%)
30.801	8.4	0.274			0.89%	99.9%	2.4%	99.5%
30.822	8.0	0.261	0.267	2.68E-07	0.00%	--	--	99.6%
30.742	13.3	0.432			1.87%	99.7%	0.4%	99.4%
30.729	13.4	0.435	0.434	4.37E-07	7.86%		--	99.3%
31.295	10.3	0.330			1.90%	98.9%	0.5%	101.1%
31.251	10.4	0.333	0.332	3.26E-07	5.86%		--	101.0%
			Average Field Spike Recovery >>			**100%**		

Less than 0.9 is considered "LDL". Sample concentration must be a minimum of 5 times the detection limit to constitute a valid test run

RESULTS SUMMARY									
Run	Total Hg (ng)	Sample Volume	Fd	O2	Total Hg (mg)	dscf	G	E	E avg
1-30B-A	8.4	30.801	9,574	8.5	0.000008	1.09	1.20E-07	2.74E-07	
1-30B-B	8.0	30.822	9,574	8.5	0.000008	1.09	1.14E-07	2.61E-07	2.7E-07
2-30B-A	13.3	30.742	9,574	8.5	0.000013	1.09	1.89E-07	4.35E-07	
2-30B-B	13.4	30.729	9,574	8.5	0.000013	1.09	1.90E-07	4.38E-07	4.4E-07
3-30B-A	10.3	31.295	9,574	8.2	0.000010	1.11	1.44E-07	3.25E-07	
3-30B-B	10.4	31.251	9,574	8.2	0.000010	1.10	1.46E-07	3.28E-07	3.3E-07
							Average:		3.4E-07
	272.1	268.2	265.1	268.4666667					5.70E-06
									6.0% of limit

Appendix A.13
RATA Calculations/Results

RELATIVE ACCURACY TEST AUDIT DETERMINATION
Woodland Biomass
Main Stack

Test No.	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6	Run 7	Run 8	Run 9	Run 10	Average
Date	12/30/21	12/30/21	12/30/21	12/30/21	12/30/21	12/30/21	12/30/21	12/30/21	12/30/21	12/30/21	Runs 1-10
Start Time	1024-1105	1137-1207	1224-1254	1316-1346	1407-1437	1449-1519	1530-1600	1609-1639	1652-1722	1730-1800	--
Stack area, ft^2	44.179	44.179	44.179	44.179	44.179	44.179	44.179	44.179	44.179	44.179	--
Reference temperature, °F	68.00	68.00	68.00	68.00	68.00	68.00	68.00	68.00	68.00	68.00	**68.00**
Pitot coefficient	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400	0.8400	--
Meter calibration, Yd	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	--
Barometric pressure, in. Hg	29.88	29.88	29.88	29.88	29.88	29.88	29.88	29.88	29.88	29.88	**29.88**
Meter box volume, acf	22.108	22.593	21.902	21.926	21.008	21.381	21.403	21.588	21.135	21.146	**21.619**
Impinger liquid, g	103.3	104.8	108.1	105.7	103.4	101.0	98.2	107.2	103.9	101.5	**103.7**
Meter temperature, °F	57.3	63.3	64.3	64.7	63.7	62.0	62.3	61.3	61.7	61.0	**62.2**
Meter pressure (Δ H), iwg	1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800	**1.800**
Velocity head (Δ P), iwg	1.2223	1.1976	1.2051	1.1880	1.1953	1.1983	1.2130	1.1962	1.1789	1.2054	**1.2000**
Static pressure, iwg	0.99	1.00	0.97	0.99	0.97	0.98	1.00	1.00	0.98	0.99	**0.99**
Stack temperature, °F	298.8	301.6	299.4	299.9	299.9	299.9	300.0	299.8	299.5	299.9	**299.9**
Standard sample volume, dscf	22.339	22.568	21.836	21.846	20.971	21.411	21.420	21.646	21.179	21.217	**21.643**
Water vapor volume, scf	4.8706	4.9413	5.0969	4.9838	4.8753	4.7621	4.6301	5.0545	4.8989	4.7857	**4.8899**
Moisture fraction, nondimensional	0.1790	0.1796	0.1892	0.1858	0.1886	0.1819	0.1777	0.1893	0.1879	0.1840	**0.1843**
Moisture fraction, % by volume	17.90%	17.96%	18.92%	18.58%	18.86%	18.19%	17.77%	18.93%	18.79%	18.40%	**18.43%**
Stack gas molecular weight, dry	30.220	30.227	30.236	30.234	30.246	30.242	30.238	30.269	30.261	30.268	**30.244**
Stack gas molecular weight, wet	28.033	28.031	27.920	27.962	27.936	28.015	28.062	27.946	27.958	28.010	**27.987**
Absolute stack pressure, in. Hg	29.953	29.954	29.951	29.953	29.951	29.952	29.954	29.954	29.952	29.953	**29.953**
Stack gas velocity, ft/sec	75.475	74.845	75.123	74.557	74.820	74.809	75.206	74.828	74.257	75.036	**74.896**
Stack flow rate, acfm	200,064	198,394	199,131	197,632	198,330	198,300	199,350	198,349	196,836	198,901	**198,529**
Stack flow rate, wscfm	139,358	137,699	138,595	137,467	137,946	137,929	138,651	137,985	136,986	138,351	**138,097**
Stack flow rate - based on pitot, dscfm	114,413	112,965	112,366	111,932	111,926	112,833	114,007	111,864	111,252	112,888	**112,645**
Standardization aliquot used, ml	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	**10.00**
Standardization titrant (measured), ml	9.93	9.93	9.93	9.93	9.93	9.93	9.93	9.93	9.93	9.93	**9.93**
Normality of titrant (measured), N	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	**0.0101**
Audit sample aliquot used, ml	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	**10.00**
Audit sample titrant (measured), ml	9.75	9.75	9.75	9.75	9.75	9.75	9.75	9.75	9.75	9.75	**9.75**
Audit sample concentration (actual), dscm	1525	1525	1525	1525	1525	1525	1525	1525	1525	1525	**1525**
Audit sample, % recovery	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%	**98.3%**
Sample aliquot used, ml	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	**10.00**
Sample volume (total), ml	357.1	446.8	394.4	396.8	406.5	401.2	404.8	413.7	422.2	397.8	**404.13**
Sample titrant (measured), ml	0.20	0.20	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	*0.05*	**0.08**
SO_2 emissions, ppm volume dry (titration)	1.37	1.70	0.39	0.39	0.42	0.40	0.40	0.41	0.43	0.40	**0.63**
"F_d" factor @ 68 °F, dscf/MMBtu	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	**9,574**
"F_d" factor @ T_{ref} °F, dscf/MMBtu	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	**9,574**
Stack flow rate - based on pitot, dscfm	114,413	112,965	112,366	111,932	111,926	112,833	114,007	111,864	111,252	112,888	112,645
O_2, % volume dry	8.66	8.59	8.50	8.50	8.42	8.45	8.50	8.20	8.33	8.26	**8.44**
O_2, % volume wet	7.11	7.05	6.89	6.92	6.84	6.91	6.99	6.64	6.77	6.74	**6.89**
CO_2, % volume dry	11.71	11.77	11.85	11.84	11.93	11.90	11.86	12.13	12.05	12.11	**11.92**
CO_2, % volume wet	9.61	9.66	9.61	9.64	9.68	9.73	9.75	9.83	9.79	9.88	**9.72**
CO, ppm volume dry	5.850	0.518	24.49	1.150	2.710	13.59	32.41	13.73	2.883	15.84	**11.32**
CO, ppm volume wet	4.803	0.425	19.86	0.936	2.199	11.12	26.65	11.131	2.341	12.925	**9.238**
CO, lb/hr	2.919	0.255	12.00	0.561	1.323	6.688	16.12	6.699	1.399	7.799	**5.576**
CO, lb/day (24 hours)	70.1	6.12	288.0	13.5	31.7	160.5	386.8	160.8	33.6	187.2	**133.8**
CO, lb/MMBtu	0.007	0.001	0.029	0.001	0.003	0.016	0.038	0.016	0.003	0.018	**0.013**
NO_X, ppm volume dry	30.66	31.21	32.46	31.79	32.70	30.94	32.04	32.11	31.39	31.88	**31.72**
NO_X, ppm volume wet	25.17	25.60	26.32	25.88	26.53	25.31	26.35	26.03	25.49	26.01	**25.87**
NO_X, lb/hr as NO_2	25.13	25.26	26.13	25.49	26.22	25.01	26.17	25.73	25.02	25.78	**25.59**
NO_X, lb/day (24 hours) as NO_2	603.1	606.2	627.1	611.8	629.3	600.2	628.1	617.6	600.4	618.8	**614.3**
NO_X, lb/MMBtu as NO_2	0.060	0.061	0.063	0.061	0.063	0.059	0.062	0.060	0.060	0.060	**0.061**
SO_2, ppm volume dry (titration)	1.369	1.696	0.387	0.389	0.415	0.401	0.405	0.409	0.427	0.401	**0.63**
SO_2, ppm volume wet	1.124	1.391	0.314	0.317	0.337	0.328	0.333	0.332	0.347	0.328	**0.515**
SO_2, lb/hr	1.563	1.911	0.433	0.434	0.463	0.452	0.460	0.457	0.474	0.452	**0.710**
SO_2, lb/day (24 hours)	37.500	45.857	10.404	10.422	11.121	10.837	11.044	10.959	11.368	10.849	**17.036**
SO_2, lb/MMBtu	0.004	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	**0.002**

RELATIVE ACCURACY TEST AUDIT DETERMINATION
EPA CFR 40, PART 60, APPENDIX B, PS 3
Woodland Biomass
Main Stack

O_2, % volume wet

Run #	Date	Time	RM	CEMS	Difference	n	$t_{0.975}$
~~Run 1~~	~~12/30/21~~	~~1024-1105~~	~~7.11~~	~~7.50~~	~~-0.39~~	1	100.00
Run 2	12/30/21	1137-1207	7.05	7.30	-0.25	2	12.706
Run 3	12/30/21	1224-1254	6.89	7.20	-0.31	3	4.303
Run 4	12/30/21	1316-1346	6.92	7.10	-0.18	4	3.182
Run 5	12/30/21	1407-1437	6.84	7.10	-0.26	5	2.776
Run 6	12/30/21	1449-1519	6.91	7.10	-0.19	6	2.571
Run 7	12/30/21	1530-1600	6.99	7.10	-0.11	7	2.447
Run 8	12/30/21	1609-1639	6.64	6.80	-0.16	8	2.365
Run 9	12/30/21	1652-1722	6.77	6.90	-0.13	9	2.306
Run 10	12/30/21	1730-1800	6.74	6.90	-0.16	10	2.262
AVERAGES:			6.86	7.06	-0.19		
STANDARD DEVIATION:					0.066		
CONFIDENCE COEFFICIENT:					0.051		
RELATIVE ACCURACY (BASED ON ABSOLUTE DIFFERENCE), %:							

Criteria	*Result*
≤1	0.19

Note: The relative accuracy (RA) of the CEMS must be no greater than 1.0 percent O_2.

RELATIVE ACCURACY TEST AUDIT DETERMINATION
EPA CFR 40, PART 60, APPENDIX B, PS 6
Woodland Biomass
Main Stack

Stack Flow, wscfm

Run #	Date	Time	RM	CEMS	Difference	n	$t_{0.975}$
~~Run 1~~	~~12/30/21~~	~~1024-1105~~	~~139358~~	~~124,800~~	~~14,558~~	1	100.00
Run 2	12/30/21	1137-1207	137699	125,100	12,599	2	12.706
Run 3	12/30/21	1224-1254	138595	124,400	14,195	3	4.303
Run 4	12/30/21	1316-1346	137467	123,000	14,467	4	3.182
Run 5	12/30/21	1407-1437	137946	123,400	14,546	5	2.776
Run 6	12/30/21	1449-1519	137929	125,100	12,829	6	2.571
Run 7	12/30/21	1530-1600	138651	124,300	14,351	7	2.447
Run 8	12/30/21	1609-1639	137985	125,700	12,285	8	2.365
Run 9	12/30/21	1652-1722	136986	128,000	8,986	9	2.306
Run 10	12/30/21	1730-1800	138351	128,100	10,251	10	2.262
AVERAGES:			137,957	125,233	12,723		
STANDARD DEVIATION:					1983.8		
CONFIDENCE COEFFICIENT:					1524.9		
RELATIVE ACCURACY (BASED ON REFERENCE METHOD), %:							

Criteria	***Result***
≤20	**10.33**

Relative accuracy (RA) shall be no greater than 20 percent of the mean value of the reference method (RM) test data.

RELATIVE ACCURACY TEST AUDIT DETERMINATION
EPA CFR 40, PART 60, APPENDIX B, PS 4(A) / 6
Woodland Biomass
Main Stack

CO, lb/hr

Run #	Date	Time	RM	CEMS	Difference	n	$t_{0.975}$
Run 1	12/30/21	1024-1105	2.92	3.30	-0.38	1	100.00
Run 2	12/30/21	1137-1207	0.26	0.80	-0.54	2	12.706
Run 3	12/30/21	1224-1254	12.00	7.50	4.50	3	4.303
Run 4	12/30/21	1316-1346	0.56	0.90	-0.34	4	3.182
Run 5	12/30/21	1407-1437	1.32	1.50	-0.18	5	2.776
Run 6	12/30/21	1449-1519	6.69	6.40	0.29	6	2.571
~~Run 7~~	~~12/30/21~~	~~1530-1600~~	~~16.12~~	~~11.00~~	~~5.12~~	7	2.447
Run 8	12/30/21	1609-1639	6.70	7.80	-1.10	8	2.365
Run 9	12/30/21	1652-1722	1.40	2.10	-0.70	9	2.306
Run 10	12/30/21	1730-1800	7.80	6.30	1.50	10	2.262
AVERAGES:			4.40	4.07	0.34		
EMISSION LIMIT:					49.50		
STANDARD DEVIATION:					1.727		
CONFIDENCE COEFFICIENT:					1.327		
RELATIVE ACCURACY (BASED ON APPLICABLE STANDARD), %:							

choose only one of the three available criteria

Criteria	*Result*
≤10	3.37

Note: Since this unit incorporates the total equipment required for the determining and recording the pollutant mass emission rate (in terms of mass per unit of time), the unit is technically defined as a continuous emissions rate monitoring system (CERMS) and is subject to Performance Specification (PS) 6. The relative accuracy (RA) of the CERMS shall be no greater than 20 percent of the mean value of the reference method (RM) test data in terms of the units of the emission standard, or 10 percent of the applicable standard (AS), whichever is greater.

RELATIVE ACCURACY TEST AUDIT DETERMINATION
EPA CFR 40, PART 60, APPENDIX B, PS 4(A) / 6
Woodland Biomass
Main Stack

CO, lb/MMBtu

Run #	Date	Time	RM	CEMS	Difference	n	$t_{0.975}$
Run 1	12/30/21	1024-1105	0.0070	0.0090	-0.0020	1	100.00
Run 2	12/30/21	1137-1207	0.0006	0.0020	-0.0014	2	12.706
~~Run 3~~	~~12/30/21~~	~~1224-1254~~	~~0.0287~~	~~0.0200~~	~~0.0087~~	3	4.303
Run 4	12/30/21	1316-1346	0.0013	0.0020	-0.0007	4	3.182
Run 5	12/30/21	1407-1437	0.0032	0.0040	-0.0008	5	2.776
Run 6	12/30/21	1449-1519	0.0159	0.0170	-0.0011	6	2.571
Run 7	12/30/21	1530-1600	0.0380	0.0300	0.0080	7	2.447
Run 8	12/30/21	1609-1639	0.0157	0.0210	-0.0053	8	2.365
Run 9	12/30/21	1652-1722	0.0033	0.0050	-0.0017	9	2.306
Run 10	12/30/21	1730-1800	0.0182	0.0170	0.0012	10	2.262
AVERAGES:			0.0115	0.0119	-0.0004		
EMISSION LIMIT:					0.1500		
STANDARD DEVIATION:					0.0036		
CONFIDENCE COEFFICIENT:					0.0028		
RELATIVE ACCURACY (BASED ON APPLICABLE STANDARD), %:							

choose only one of the two available criteria

Criteria	*Result*
≤10	2.12

Note: Performance Specification (PS) 4 is to be used on sources operating above 200 ppm analyzer span and PS 4A on sources operating below 200 ppm analyzer span. The relative accuracy (RA) of the CEMS must be no greater than 10 percent when the average reference method (RM) value is used to calculate RA and 5 percent when the applicable standard (AS) is used to calculate RA.

RELATIVE ACCURACY TEST AUDIT DETERMINATION
EPA CFR 40, PART 60, APPENDIX B, PS 2 / 6
Woodland Biomass
Main Stack

NO_X, lb/hr

Run #	Date	Time	RM	CEMS	Difference	n	$t_{0.975}$
Run 1	12/30/21	1024-1105	25.1	23.6	1.5	1	100.00
Run 2	12/30/21	1137-1207	25.3	23.6	1.7	2	12.706
Run 3	12/30/21	1224-1254	26.1	24.2	1.9	3	4.303
Run 4	12/30/21	1316-1346	25.5	23.6	1.9	4	3.182
Run 5	12/30/21	1407-1437	26.2	24.0	2.2	5	2.776
Run 6	12/30/21	1449-1519	25.0	23.2	1.8	6	2.571
~~Run 7~~	~~12/30/21~~	~~1530-1600~~	~~26.2~~	~~23.7~~	~~2.5~~	7	2.447
Run 8	12/30/21	1609-1639	25.7	23.9	1.8	8	2.365
Run 9	12/30/21	1652-1722	25.0	23.7	1.3	9	2.306
Run 10	12/30/21	1730-1800	25.8	24.3	1.5	10	2.262
AVERAGES:			25.5	23.8	1.7		
EMISSION LIMIT:					26.30		
STANDARD DEVIATION:					0.273		
CONFIDENCE COEFFICIENT:					0.210		
RELATIVE ACCURACY (BASED ON REFERENCE METHOD), %:							

> 50% of limit, must use RM criteria

Criteria	*Result*
≤20	7.6

Note: Since this unit incorporates the total equipment required for the determining and recording the pollutant mass emission rate (in terms of mass per unit of time), the unit is technically defined as a continuous emissions rate monitoring system (CERMS) and is subject to Performance Specification (PS) 6. The relative accuracy (RA) of the CERMS shall be no greater than 20 percent of the mean value of the reference method (RM) test data in terms of the units of the emission standard, or 10 percent of the applicable standard (AS), whichever is greater.

RELATIVE ACCURACY TEST AUDIT DETERMINATION
EPA CFR 40, PART 60, APPENDIX B, PS 2 / 6
Woodland Biomass
Main Stack

NO_X, lb/MMBtu

Run #	Date	Time	RM	CEMS	Difference	n	$t_{0.975}$
~~Run 1~~	~~12/30/21~~	~~1024-1105~~	~~0.0599~~	~~0.0660~~	~~-0.0061~~	1	100.00
Run 2	12/30/21	1137-1207	0.0606	0.0650	-0.0044	2	12.706
Run 3	12/30/21	1224-1254	0.0625	0.0670	-0.0045	3	4.303
Run 4	12/30/21	1316-1346	0.0612	0.0660	-0.0048	4	3.182
Run 5	12/30/21	1407-1437	0.0626	0.0670	-0.0044	5	2.776
Run 6	12/30/21	1449-1519	0.0594	0.0630	-0.0036	6	2.571
Run 7	12/30/21	1530-1600	0.0617	0.0650	-0.0033	7	2.447
Run 8	12/30/21	1609-1639	0.0604	0.0640	-0.0036	8	2.365
Run 9	12/30/21	1652-1722	0.0597	0.0620	-0.0023	9	2.306
Run 10	12/30/21	1730-1800	0.0603	0.0640	-0.0037	10	2.262
AVERAGES:			0.0609	0.0648	-0.0038	***> 50% of limit,***	
EMISSION LIMIT:					0.0800	***must use RM criteria***	
STANDARD DEVIATION:					0.0008		
CONFIDENCE COEFFICIENT:					0.0006		

Criteria	***Result***
≤20	**7.26**

RELATIVE ACCURACY (BASED ON REFERENCE METHOD), %:

Note: The relative accuracy (RA) of the CEMS must be no greater than 20 percent when the reference method (RM) is used in the denominator of Equation 2–6 (the average emissions during the test are greater than 50 percent of the emission standard) or 10 percent when the applicable standard (AS) is used in the denominator of Equation 2–6 (the average emissions during the test are less than 50 percent of the emission standard).

RELATIVE ACCURACY TEST AUDIT DETERMINATION
EPA CFR 40, PART 60, APPENDIX B, PS 2 / 6
Woodland Biomass
Main Stack

SO_2, lb/hr

Run #	Date	Time	RM	CEMS	Difference	n	$t_{0.975}$
Run 1	12/30/21	1024-1105	1.6	0.0	1.6	1	100.00
~~Run 2~~	~~12/30/21~~	~~1137-1207~~	~~1.9~~	~~0.0~~	~~1.9~~	2	12.706
Run 3	12/30/21	1224-1254	0.4	0.0	0.4	3	4.303
Run 4	12/30/21	1316-1346	0.4	0.0	0.4	4	3.182
Run 5	12/30/21	1407-1437	0.5	0.0	0.5	5	2.776
Run 6	12/30/21	1449-1519	0.5	0.0	0.5	6	2.571
Run 7	12/30/21	1530-1600	0.5	0.0	0.5	7	2.447
Run 8	12/30/21	1609-1639	0.5	0.0	0.5	8	2.365
Run 9	12/30/21	1652-1722	0.5	0.0	0.5	9	2.306
Run 10	12/30/21	1730-1800	0.5	0.0	0.5	10	2.262

AVERAGES:	0.6	0.0	0.6
EMISSION LIMIT:			13.2
STANDARD DEVIATION:			0.370
CONFIDENCE COEFFICIENT:			0.284
RELATIVE ACCURACY (BASED ON APPLICABLE STANDARD), %:			

< 50% of limit, you must use AS criteria

Criteria	*Result*
≤10	6.52

Note: Since this unit incorporates the total equipment required for the determining and recording the pollutant mass emission rate (in terms of mass per unit of time), the unit is technically defined as a continuous emissions rate monitoring system (CERMS) and is subject to Performance Specification (PS) 6. The relative accuracy (RA) of the CERMS shall be no greater than 20 percent of the mean value of the reference method (RM) test data in terms of the units of the emission standard, or 10 percent of the applicable standard (AS), whichever is greater.

RELATIVE ACCURACY TEST AUDIT DETERMINATION
EPA CFR 40, PART 60, APPENDIX B, PS 2 / 6
Woodland Biomass
Main Stack

SO_2, lb/MMBtu

Run #	Date	Time	RM	CEMS	Difference	n	$t_{0.975}$
Run 1	12/30/21	1024-1105	0.004	0.000	0.004	1	100.00
~~Run 2~~	~~12/30/21~~	~~1137-1207~~	~~0.005~~	~~0.000~~	~~0.005~~	2	12.706
Run 3	12/30/21	1224-1254	0.001	0.000	0.001	3	4.303
Run 4	12/30/21	1316-1346	0.001	0.000	0.001	4	3.182
Run 5	12/30/21	1407-1437	0.001	0.000	0.001	5	2.776
Run 6	12/30/21	1449-1519	0.001	0.000	0.001	6	2.571
Run 7	12/30/21	1530-1600	0.001	0.000	0.001	7	2.447
Run 8	12/30/21	1609-1639	0.001	0.000	0.001	8	2.365
Run 9	12/30/21	1652-1722	0.001	0.000	0.001	9	2.306
Run 10	12/30/21	1730-1800	0.001	0.000	0.001	10	2.262
AVERAGES:			0.0014	0.0000	0.001		
EMISSION LIMIT:					0.0400		
STANDARD DEVIATION:					0.0009		
CONFIDENCE COEFFICIENT:					0.0007		
RELATIVE ACCURACY (BASED ON APPLICABLE STANDARD), %:							

< 50% of limit, you must use AS criteria

Criteria	***Result***
≤20	**5.12**

Note: Since this unit incorporates the total equipment required for the determining and recording the pollutant mass emission rate (in terms of mass per unit of time), the unit is technically defined as a continuous emissions rate monitoring system (CERMS) and is subject to Performance Specification (PS) 6. The relative accuracy (RA) of the CERMS shall be no greater than 20 percent of the mean value of the reference method (RM) test data in terms of the units of the emission standard, or 10 percent of the applicable standard (AS), whichever is greater.

Appendix A.14
Example Calculations

MONTROSE AIR QUALITY SERVICES

EXAMPLE CALCULATIONS
STACK GAS VOLUMETRIC FLOW RATE

Project name:	Woodland Biomass	**Project number:**	005AS-003071
Computed by:	K Resch	**Calculation date:**	2021-12-29
Run number:	2-PM		

SAMPLE TRAIN DATA

Meter calibration factor, Y_d	1.02	Y
Stack area, square feet	44.179	A_s
Pitot Coefficient	0.84	C_p
Barometric pressure, in. Hg	29.70	P_{bar}
Meter box volume, acf	42.184	V_m
Impinger liquid volume, g	164.9	V_{lc}
Meter temperature, °R	509.3	T_m = (°F plus 460)
Meter pressure, (delta H) iwg	0.41	ΔH
Velocity head, (delta P) iwg	1.2535	ΔP
Static pressure, iwg	0.95	P_{sg}
Stack temperature, °R	764.9	T_s = (°F plus 460)
Stack O_2, % volume dry	8.667	O_2
Stack CO_2, % volume dry	11.71	CO_2
Stack N_2, % volume dry	79.623	$N_2 = (100 - \%O_2 - \%CO_2)$
Nozzle area, square feet	0.000133	$A_n = \pi (D_n / 2)^2 (1\ ft/ 12\ in)^2$
PM sampling time, minutes	125	Θ
Reference temperature, °R	528	T_{std} = (°F plus 460)

Note: The results calculated in the pages that follow may differ slightly from the results presented in the final report. This difference can be attributed to "significant digit round-off errors" common when comparing computer spreadsheets results with those derived from using a calculator.

1 VOLUMETRIC FLOW RATE

a. Standard sample gas volume, dscf

$$V_{m\,std} = (V_m)(Y)\frac{(T_{std})\left[P_{bar} + \left(\frac{\Delta H}{13.6}\right)\right]}{(T_m)(P_{std})}$$

$$V_{m\,std} = \frac{(42.184)(1.02)(528)[29.7+(0.41)/(13.6)]}{(509.3)(29.92)}$$

$V_{m\,std}$ = 44.324 dscf

b. Water vapor volume, scf

$$V_{w\,std} = (0.04715)(V_{lc})\left(\frac{T_{std}}{528}\right)$$

$$V_{w\,std} = \frac{(0.04715)(164.9)(528)}{(528)}$$

$V_{w\,std}$ = 7.775 scf

c. Moisture content, non-dimensional

$$B_{ws} = \left(\frac{V_{w\,std}}{V_{m\,std} + V_{w\,std}}\right)$$

$$B_{ws} = \frac{(7.775)}{(44.324 + 7.775)}$$

B_{ws} = 0.1492 moisture content (multiply by 100 for % by volume)

d. Stack gas molecular weight, lb/lb mole (dry)

MW_{dry} = [0.44(%CO_2)] + [0.32(%O_2)] + [0.28(%N_2)]

MW_{dry} = [0.44(11.71)] + [0.32(8.667)] + [0.28(79.623)]

MW_{dry} = 30.220 lb/lb mole

e. Stack gas molecular weight, lb/lb mole (wet)

MW_{wet} = [MW_{dry}(1-B_{ws})] + [18(B_{ws})]

MW_{wet} = [30.22(1-0.1492)] + [18(0.1492)]

MW_{wet} = 28.397 lb/lb mole

f. Absolute stack pressure, in Hg

$$P_s = P_{bar} + \left(\frac{P_{sg}}{13.6}\right)$$

P_s = 29.7 + (0.95/13.6)

P_s = 29.770 in. Hg

g. Stack velocity, ft/sec

$$v_s = (85.49)(C_p)(\sqrt{\Delta P})\sqrt{\frac{T_s}{(P_s)(MW_{wet})}}$$

v_s = $(85.49)(0.84)\sqrt{\frac{(1.2535)(764.9)}{(29.77)(28.397)}}$

v_s = 76.477 ft/sec

h. Actual stack flow rate, acfm

$$Q = (v_s)(A_s)(60\ min/hr)$$

$Q =$ $(76.477)(44.179)(60)$

$Q =$ 202,721 acfm

i. Standard stack gas flow rate, wscfm

$$Q_{ws} = (v_s)(A_s)(60\ min/hr)\left(\frac{T_{std}}{T_s}\right)\left(\frac{P_s}{P_{std}}\right)$$

$Q_{ws} =$ $(76.477)(44.179)(60)(528/764.9)(29.77/29.92)$

$Q_{ws} =$ 139,234 wscfm

j. Standard stack gas flow rate, dscfm

$$Q_{ds} = (v_s)(A_s)(60\ min/hr)(1 - B_{ws})\left(\frac{T_{std}}{T_s}\right)\left(\frac{P_s}{P_{std}}\right)$$

$Q_{ds} =$ $(76.477)(44.179)(60)(1-0.1492)(528/764.9)(29.77/29.92)$

$Q_{ds} =$ 118,460 dscfm

k. Percent Isokinetic, %

$$I = \frac{(T_s)(V_{m\,std})(P_{std})(100)}{(T_{std})(v_s)(\theta)(A_n)(P_s)(60)(1 - B_{ws})}$$

$I =$ $\dfrac{(764.9)(44.324)(29.92)(100)}{(528)(76.477)(125)(0.000133)(29.77)(60)(1\ -\ 0.1492)}$

$I =$ 99.4 %

MONTROSE AIR QUALITY SERVICES

EXAMPLE CALCULATIONS
GASEOUS EMISSIONS

Project name:	Woodland Biomass	**Project number:**	005AS-003071
Computed by:	K Resch	**Calculation date:**	2021-12-30
Run number:	Comp Run 3	**Gaseous Species:**	NO_X

EMISSIONS DATA

Reference temperature, °R	528	T_{ref} = (°F plus 460)
Concentration of gaseous species, ppmvd	31.8	C
Dry stack gas flow rate at standard conditions, dscfm	112,380	Q_{ds}
Stack O_2, % volume dry	8.44	O_2
"F" factor of fuel based on O_2, dscf/MMBtu @ 0% O_2	9,543	F_d
Molecular weight of gaseous species, lb/lb-mol	46.01	MW_S, where

MW_S = 28.01 for CO; 46.01 for NO_X as NO_2; 64.06 for SO_X as SO_2

Conversion factor from ppm to lb/scf	1.19E-07	CF where

1.194E-07 [(lb/scf) / ppm] for NO_X

1.660E-07 [(lb/scf) / ppm] for SO_2

1.194E-07 x MW_x/MW_{NOX} [(lb/scf) / ppm] for other compounds (x)

1 GASEOUS EMISSIONS

a. Concentration, ppm @ 15% O_2

$$C_{15} = C \frac{(20.9 - 15)}{(20.9 - \%O_2)}$$

C_{15} = 31.82 x $\frac{(20.9 - 15)}{(20.9 - 8.44)}$

C_{15} = 15.1 ppm @ 15% O_2

Note: The results calculated on these pages may differ slightly from the results presented in the final report. This difference can be attributed to "significant digit round-off errors" common when comparing computer spreadsheets results with those derived from using a calculator.

b. Mass emission rate, lb/hr

$$M = (C)(CF)(Q_{ds})(60\ min/hr)$$

M = $(31.82)(1.19E\text{-}07)(112{,}380)(60)$

M = 25.6 lb/hr

c. Mass emission rate, lb/day

$$M' = (M)(24\ hr/day)$$

M' = (25.6) x 24

M' = 614 lb/day

d. Emission rate, lb/MMBtu

$$E = (C)(CF)(F_d)\left(\frac{20.9}{20.9 - \%O_2}\right)$$

E = $\dfrac{(31.82)(1.19E\text{-}07)(9{,}543)(20.9)}{(20.9 - 8.44)}$

E = 0.0608 lb/MMBtu

MONTROSE AIR QUALITY SERVICES

EXAMPLE CALCULATIONS
HYDROGEN CHLORIDE

Project name:	Woodland Biomass	**Project number:**	005AS-003071
Computed by:	K Resch	**Calculation date:**	2022-02-17
Run number:	2-PM/HCl		

EMISSIONS DATA

Reference temperature, °R	528	T_{ref} = (°F plus 460)
Mass of measured compound in sample, mg/sample	9.35	F_t
Dry meter volume at standard conditions, dscf	76.906	$V_{m\,std}$
Dry stack gas flow rate at standard conditions, dscfm	117,068	Q_{ds}
Stack O_2, % volume dry	8.67	O_2
Molecular weight of gaseous species, lb/lb-mol	36.46	MW_S, where
36.46 for HCl	9543	Fd
Conversion factor from ppm to lb/scf	9.46E-08	CF where
9.462E-08 for HCl		

1 HCl

a. Concentration, ppm

$$C = \left(\frac{F_t}{V_{m\,std}}\right)\left(\frac{T_{ref}}{520}\right)\left(\frac{1g}{10^3\,mg}\right)\left(\frac{1\,lb}{454\,g}\right)\left(\frac{379.5\,dscf}{lb\cdot mol}\right)\left(\frac{lb\cdot mol}{MW\ g/mol}\right)10^6$$

$$C = \frac{(9.35 \times 528 \times 379.5 \times 1{,}000{,}000)}{(76.906 \times 520 \times 1000 \times 454 \times 36.46)}$$

C = 2.830 ppm

Note: The results calculated on these pages may differ slightly from the results presented in the final report. This difference can be attributed to "significant digit round-off errors" common when comparing computer spreadsheets results with those derived from using a calculator.

b. Concentration, ppm @ 15% O_2

$$C_{15} = C\,\frac{(20.9 - 15)}{(20.9 - \%O_2)}$$

C_{15} = 2.83 x $\frac{(20.9 - 15)}{(20.9 - 8.67)}$

C_{15} = 1.37 ppm @ 15% O_2

c. Mass emission rate, lb/hr

$$M = (C)(CF)(Q_{ds})(60\ min/hr)$$

M = (2.83)(9.46E-08)(117,068)(60)

M = 1.881 lb/hr

d. Emission rate, lb/MMBtu

$$E = (C)(CF)(F_d)\left(\frac{20.9}{20.9 - \%O_2}\right)$$

E = $\frac{(2.83)(9.46E\text{-}08)(9,543)(20.9)}{(20.9 - 8.67)}$

E = 0.004 lb/MMBtu

MONTROSE AIR QUALITY SERVICES

EXAMPLE CALCULATIONS
RELATIVE ACCURACY CALCULATIONS

Project name:	Woodland Biomass	**Project number:**	005AS-003071
Computed by:	K Resch	**Calculation date:**	2021-12-30
Analyzer, Units:	NOx lb/hr	**Equipment Unit:**	Bed Boiler

EMISSIONS DATA

RATA Results

Run #	RM	CEMS	Diff., d
Run 1	25.1	23.6	1.50
Run 2	25.3	23.6	1.70
Run 3	26.1	24.2	1.90
Run 4	25.5	23.6	1.90
Run 5	26.2	24	2.20
Run 6	25	23.2	1.80
~~Run 7~~	~~26.2~~	23.7	2.50
Run 8	25.7	23.9	1.80
Run 9	25	23.7	1.30
Run 10	25.8	24.30	1.50

Number of runs, n	9	n
t-valiue associated with n, $t_{0.975}$	2.306	$t_{0.975}$

Adapted from Figure 2-1 of 40 CFR 60 Appendix B, Performance Specification 2:

2	3	4	5	6	7	8	9	10	11	12
12.706	4.303	3.182	2.776	2.571	2.447	2.365	2.306	2.262	2.228	2.201

Note: The results calculated on these pages may differ slightly from the results presented in the final report. This difference can be attributed to "significant digit round-off errors" common when comparing computer spreadsheets results with those derived from using a calculator.

1. RELATIVE ACCURACY TEST AUDIT CALCULATIONS

a. Arithmetic Mean of Differences, $\bar{d}$

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

$\bar{d} =$ 1 / 9 (15.6)

$\bar{d} =$ 1.733

b. Standard Deviation, S_d

$$S_d = \left[\frac{\sum_{i-1}^{n} d_i^2 - \left(\frac{(\sum_{i-1}^{n} d_i)^2}{n}\right)}{n-1}\right]^{1/2}$$

$S_d = \left[\frac{27.620 - \frac{1}{9} \times (15.6)^2}{9 - 1} \right]^{1/2}$

$S_d =$ 0.269

c. 2.5% Error Confidence Coefficient (one-tailed), CC

$$CC = t_{0.975}\left(\frac{S_d}{\sqrt{n}}\right)$$

CC = (2.306) (0.269) / √ 9

CC = 0.207

d. Relative Accuracy (based on applicable standard), RA

$$RA = \frac{(|\bar{d}| + |CC|)}{AS} \times 100$$

RA = $\frac{(\ 1.733 + 0.207\ )}{26.3}$ x 100

RA = 7.4 %

e. Relative Accuracy (based on reference method data), RA

$$RA = \frac{(|\bar{d}| + |CC|)}{\overline{RM}} \times 100$$

RA = $\frac{(\ 1.733 + 0.207\ )}{25.522}$ x 100

RA = 7.6 %

PARTICULATE MATTER
SOURCE TEST DATA CALCULATIONS

Client: Woodland Biomass | Run name: 2-PM/HCl | Test Time: 1407-1619
Unit: Biomass Boiler | Test Date: 12/29/2021

Sample Train Data

Mass of collected matter, mg	4.78	G_m
Dry stack gas flow rate at standard conditions, dscfm	117,068	Q_{ds}
Dry meter volume at standard conditions, dscf	76.906	V_{mstd}
Stack O_2, % volume dry	8.67	O_2
Stack CO_2, % volume dry	11.71	CO_2
"F" factor of fuel based on O_2, dscf/MMBtu @ 0% O_2	9,543	F_d

Conversion factors

0.01543 gr/mg (K_3 in EPA Method 5)

1. Particulate Matter

a. Grain loading, gr/dscf

G = (0.01543) (G_m / V_{mstd})
G = (0.01543) (4.78 / 76.91)
G = 0.0010 gr/dscf

b. Grain loading corrected to 12% CO_2, gr/dscf @ 12% CO_2

G_{12} = (G) (12.0 / % CO_2)
G_{12} = (0.0010) (12.0 / % 11.71)
G_{12} = 0.0010 gr/dscf @ 12% CO_2

c. Mass emission rate, lb/hr

M = (G) (Q_{ds}) (60 min/hr / 7000 gr/lb)
M = (0.0010) (117068) (60 min/hr / 7000 gr/lb)
M = 0.96 lb/hr

d. Emission rate, lb/MMBtu

E = (G) (1 lb / 7000 gr) (F_d) (20.9 / (20.9 - %O_2))
E = (0.0010) (1 / 7000) (9543) (20.9 / (20.9 - % 8.67))
E = 0.0022 lb/MMBtu

Appendix A.15
General Equations

EMISSION CALCULATIONS

1. Volumetric Flow and Isokinetics

   a. Standard sample gas volume, dscf

   $$V_{m\,std} = (V_m)(Y)\frac{(T_{std} + 460)\left(P_{bar} + \frac{\Delta H}{13.6}\right)}{(T_m + 460)(P_{std})}$$

   b. Water vapor volume, scf

   $$V_{w\,std} = (0.04715)(V_{lc})\left(\frac{T_{std} + 460}{528}\right)$$

   c. Moisture content, non-dimensional

   $$B_{ws} = \frac{V_{w\,std}}{(V_{m\,std} + V_{w\,std})}$$

   d. Stack gas molecular weight, lb/lb mole (dry)

   $$MW_{dry} = [0.44(\%CO_2)] + [0.32(\%O_2)] + [0.28(\%N_2)]$$

   e. Stack gas molecular weight, lb/lb mole (wet)

   $$MW_{wet} = \left[MW_{dry}(1 - B_{ws})\right] + [18(B_{ws})]$$

   f. Absolute stack pressure, in Hg

   $$P_s = P_{bar} + \left(\frac{P_{sg}}{13.6}\right)$$

   g. Stack velocity, ft/sec

   $$v_s = (85.49)\left(C_p\right)\left(\sqrt{\Delta P}\right)\sqrt{\frac{T_s}{(P_s)(MW_{wet})}}$$

   h. Actual stack flow rate, acfm

   $$Q = (v_s)(A_s)(60\ min/hr)$$

   i. Standard stack gas flow rate, wscfm

   $$Q_{ws} = (v_s)(A_s)(60\ min/hr)\left(\frac{T_{std} + 460}{T_s + 460}\right)\left(\frac{P_s}{P_{std}}\right)$$

   j. Standard stack gas flow rate, dscfm

   $$Q_{ds} = (v_s)(A_s)(60\ min/hr)(1 - B_{ws})\left(\frac{T_{std} + 460}{T_s + 460}\right)\left(\frac{P_s}{P_{std}}\right)$$

   k. Percent isokinetic

   $$I = \frac{(T_s)(V_{m\,std})(P_{std})(100)}{(T_{std} + 460)(v_s)(\theta)(A_n)(P_s)(60)(1 - B_{ws})}$$

2. Gaseous Emissions

a. Concentration, ppm volume wet (i.e. to calculate wet ppm from dry ppm)

$$C_w = (C)(1 - B_{ws})$$

b. Concentration, ppm @ 3% O_2 dry

$$C_3 = (C)\left[\frac{(20.9 - 3.0)}{(20.9 - \%\ O_2)}\right]$$

c. Concentration, ppm @ 12% CO_2 dry

$$C_{12} = (C)\left(\frac{12.0}{\%\ CO_2}\right)$$

d. Concentration, ppm volume dry (i.e. to calculate dry ppm from wet ppm)

$$C = \left[\frac{C_w}{(1 - B_{ws})}\right]$$

e. Mass emission rate, lb/hr

$$M = (C)(CF)(Q_{ds})(60\ min/hr)$$

where,

CF = conversion factor from ppm to lb/scf:

$$CF_{NOx} = 1.194 \times 10^{-7}\left(\frac{lb/scf}{ppm}\right)$$

$$CF_{SO2} = 1.660 \times 10^{-7}\left(\frac{lb/scf}{ppm}\right)$$

$CF_X = CF_{NOX}\left(\frac{MW_X}{MW_{NOX}}\right)$ for other compounds (x)

f. Emission rate, lb/MMBtu

$$E = (C)(CF)(F_d)\left(\frac{20.9}{20.9 - \%\ O_2}\right)$$

g. Mass emission rate, grams/bhp-hr

$$M_j = (M)\left(\frac{453.59\ g/lb}{J}\right)$$

3. Particulate Emissions

   a. Grain loading, gr/dscf

   $$G = (0.0154)\left(\frac{G_m}{V_{m\,std}}\right)$$

   b. Grain loading corrected to 12% CO_2, gr/dscf @ 12% CO_2

   $$G_{12} = (G)\left(\frac{12.0}{\%\ CO_2}\right)$$

   c. Mass emission rate, lb/hr

   $$M = (G)(Q_{ds})\left(\frac{60\ min/hr}{7{,}000\ gr/lb}\right)$$

   d. Emission rate, lb/MMBtu

   $$E = (G)\left(\frac{1\ lb}{7{,}000\ gr}\right)(F_d)\left(\frac{20.9}{20.9 - \%\ O_2}\right)$$

4. Fuel Factor "F"

   a. Choice #1 – use the values for F_d provided in Method 19, Table 19-1
   Choice #2 – if you have fuel ultimate and proximate analysis, calculate F_d (need fuel weight %CHONS, HHV)
   Stoichiometric fuel factor at 68 °F, dscf/MMBtu at 0% O_2:

   $$F_d = \frac{(10^6)[3.64(\%\ H) + 1.53(\%\ C) + 0.14(\%\ N) + 0.57(\%\ S) - 0.46(\%\ O)]}{HHV, Btu/lb}$$

   b. Fuel factor at 60 °F (use if all your volumes and flows are at 60 °F)

   $$F_{d\,60} = F_d\left(\frac{520°R}{528°R}\right)$$

5. Miscellaneous Equations

a. Standard stack gas flow rate, calculated from fuel flow and F factor, dscfm

Note: Q_f and HHV need to be in units of either lb/hr and Btu/lb, or scf/hr and Btu/scf. *Do not mix units!*

(calculation based on stack $\%O_2$)

$$Q_{ds} = (Q_f)(HHV)(10^{-6})(F_d)\left(\frac{20.9}{20.9 - \%\ O_2}\right)/(60\ min/hr)$$

or (calculation based on stack $\%CO_2$ – see EPA Method 19 for values of F_c)

$$Q_{ds} = (Q_f)(HHV)(10^{-6})(F_c)\left(\frac{100}{\%\ CO_2}\right)/(60\ min/hr)$$

b. Destruction efficiency of emission control device, %

$EFF = \left(\frac{C_{in} - C_{out}}{C_{in}}\right)(100\%)$ based on concentrations

or

$EFF = \left(\frac{M_{in} - M_{out}}{M_{in}}\right)(100\%)$ based on mass emission rates

c. Cylinder gas audit, % accuracy

$$A_c = \left(\frac{C_m - C_a}{C_a}\right)(100\%)$$

Nomenclature:

A_c = accuracy of CEMS during cylinder gas audit (CGA), % difference
A_n = nozzle area, in^2 (πr^2), where π = 3.1416 and r = radius (½ diameter) in inches
A_s = stack area, ft^2 (πr^2), where π = 3.1416 and r = radius (½ diameter) in feet
B_{ws} = flue gas moisture content (multiply by 100 for % by volume)
C = concentration of gaseous species, ppm volume dry
C_a = concentration of audit gas, ppm (for CGA, equation 5c)
C_m = concentration measured by CEMS, ppm (for CGA, equation 5c)
C_p = calibration factor for pitot tube, dimensionless
C_w = concentration of gaseous species, ppm volume wet
C_3 = corrected concentration of gaseous species, ppm @ 3% O_2 dry
C_{12} = corrected concentration of gaseous species, ppm @ 12% CO_2 dry
E = mass emission rate, lb/MMBtu
EFF = destruction or removal efficiency of emission control device, % efficiency
F_c = stoichiometric "F" factor of fuel based on CO_2, dscf/MMBtu @ 100% CO_2
F_d = stoichiometric "F" factor of fuel based on O_2, dscf/MMBtu @ 0% O_2
G = particulate matter grain loading, grains/dscf
G_{12} = corrected particulate matter grain loading, grains/dscf @ 12% CO_2
G_m = mass of collected particulate matter, mg
HHV = higher heating value, Btu/cubic foot
I = % isokinetic sampling rate, %
J = brake horsepower, bhp
M_j = mass emission rate of measured species (s), g/hp-hr
M = mass emission rate, lb/hr
MW_{dry} = molecular weight of stack gas, dry basis
MW_{wet} = molecular weight of stack gas, wet basis
MW_s = molecular weight of gaseous species (s), lb/lb mole:

CO:	28.01	(can use 28)	NO_x as NO_2:	46.01	(can use 46)
SO_x as SO_2:	64.06	(can use 64)	Hydrocarbons as C:	12.01	(can use 12)
Hydrocarbons as CH_4:	16.04	(can use 16)	Hydrocarbons as C_3H_8:	44.10	(can use 44)
NH_3:	17.03	(can use 17)			

N_2 = nitrogen content of stack gas, % volume dry
P_{bar} = barometric pressure, in. Hg
P_s = stack absolute pressure, in. Hg
P_{sg} = stack static pressure, inches of water, gauge (iwg)
Q = wet stack gas flow rate at actual conditions, acfm
Q_f = fuel flow rate, scfh or lb/hr (be careful of units)
Q_{ds} = dry stack gas flow rate at standard conditions, dscfm
Q_{ws} = wet stack gas flow rate at standard conditions, wscfm
SV = specific molar volume of an ideal gas at standard conditions, ft^3/lb mole
T_m = meter temperature, °R
T_{std} = reference temperature, °R
T_s = stack gas temperature, °R
v_s = stack gas velocity, ft/sec
V_{lc} = volume of liquid collected in impingers, ml
V_m = dry meter volume uncorrected, acf
$V_{m\ std}$ = dry meter volume corrected to standard conditions, dscf
$V_{w\ std}$ = volume of water vapor at standard conditions, scf
Y = meter calibration coefficient, dimensionless
ΔH = average pressure differential across meter, inches water
ΔP = average velocity head of stack gas, inches water
Θ = sampling time, minutes

APPENDIX B
FACILITY CEMS AND PROCESS DATA

RATA Data Report

RUN 1

12/30/2021 10:24:00 AM - 12/30/2021 11:05:00 AM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
10:24:00	12984.0	0.027	244.5	9.0	0.0	1.5	24.6
10:25:00	12984.0	0.027	242.1	9.4	0.0	1.6	25.1
10:26:00	12984.0	0.027	236.4	9.8	0.0	1.0	25.3
10:27:00	12984.0	0.027	240.0	8.4	0.0	1.2	25.6
10:28:00	12984.0	0.027	241.7	7.8	0.0	1.9	24.5
10:29:00	12984.0	0.027	237.9	7.5	0.0	1.8	24.3
10:30:00	12984.0	0.027	239.3	7.6	0.0	1.7	26.3
10:31:00	12984.0	0.027	243.6	7.5	0.0	2.1	25.2
10:32:00	12984.0	0.027	238.4	7.6	0.0	1.7	24.2
10:33:00	12984.0	0.027	237.9	7.8	0.0	1.6	24.7
10:34:00	12984.0	0.027	243.1	7.3	0.0	2.0	25.2
10:35:00	12984.0	0.027	238.4	7.3	0.0	2.4	24.2
10:36:00	12984.0	0.027	237.5	7.7	0.0	2.5	21.1
10:37:00	12984.0	0.027	242.7	7.2	0.0	2.1	25.1
10:38:00	12984.0	0.027	240.9	6.3	0.0	2.4	26.0
10:39:00	12984.0	0.027	242.0	7.4	0.0	164.0	28.5
10:40:00	12984.0	0.027	243.2	7.4	0.0	16.1	28.6
10:41:00	12984.0	0.027	238.5	7.4	0.0	2.4	23.8
10:42:00	12984.0	0.027	243.4	7.5	0.0	2.2	24.0
10:43:00	12984.0	0.027	243.6	7.0	0.0	1.9	27.4
10:44:00	12984.0	0.027	241.3	6.8	0.0	2.3	28.5
10:45:00	12984.0	0.027	245.5	6.7	0.0	2.1	29.2
10:46:00	12984.0	0.027	245.5	7.1	0.0	2.2	29.0
10:47:00	12984.0	0.027	243.2	7.4	0.0	2.1	27.5
10:48:00	12984.0	0.027	247.2	7.4	0.0	2.3	29.8
10:49:00	12984.0	0.027	247.3	6.5	0.0	1.5	26.7
10:50:00	12984.0	0.027	247.1	6.5	0.0	2.6	31.5
10:51:00	12984.0	0.027	250.8	7.3	0.0	2.8	33.9
10:52:00	12984.0	0.027	249.9	6.8	0.0	2.0	25.3
10:53:00	12984.0	0.027	249.9	7.5	0.0	2.3	25.5
10:54:00	12984.0	0.027	252.2	7.6	0.0	1.6	26.1
10:55:00	12984.0	0.027	248.9	7.2	0.0	1.7	26.4
10:56:00	12984.0	0.027	249.2	7.5	0.0	1.3	24.4
10:57:00	12984.0	0.027	251.2	7.3	0.0	1.8	25.4
10:58:00	12984.0	0.027	248.3	7.2	0.0	1.6	26.6
10:59:00	12984.0	0.027	249.9	7.1	0.0	1.2	27.6
11:00:00	12984.0	0.027	251.7	7.3	0.0	1.5	26.3
11:01:00	12984.0	0.027	248.6	7.4	0.0	1.3	25.3

RATA Data Report

12/30/2021 10:24:00 AM - 12/30/2021 11:05:00 AM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
11:02:00	12984.0	0.027	249.9	7.7	0.0	1.2	25.9
11:03:00	12984.0	0.027	249.5	7.9	0.0	1.5	26.8
11:04:00	12984.0	0.027	246.6	6.8	0.0	1.4	25.5
11:05:00	12984.0	0.027	249.4	7.2	0.0	2.1	25.8
Average :	12984.0	0.027	244.7	7.5	0.0	6.1	26.3

* Invalid Status

RATA Run # 1
Verified By: _____

RATA Data Report

12/30/2021 10:24:00 AM - 12/30/2021 11:05:00 AM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
10:24:00	124.0	21.9	0.070	0.0	0.000	0.8	0.003
10:25:00	125.5	22.6	0.074	0.0	0.000	0.9	0.003
10:26:00	124.7	22.6	0.078	0.0	0.000	0.5	0.002
10:27:00	124.7	22.9	0.069	0.0	0.000	0.7	0.002
10:28:00	124.6	21.9	0.063	0.0	0.000	1.0	0.003
10:29:00	124.7	21.7	0.061	0.0	0.000	1.0	0.003
10:30:00	125.3	23.6	0.067	0.0	0.000	0.9	0.003
10:31:00	127.5	23.0	0.064	0.0	0.000	1.2	0.003
10:32:00	126.5	21.9	0.062	0.0	0.000	0.9	0.003
10:33:00	126.5	22.4	0.064	0.0	0.000	0.9	0.003
10:34:00	126.8	22.9	0.063	0.0	0.000	1.1	0.003
10:35:00	127.5	22.1	0.060	0.0	0.000	1.3	0.004
10:36:00	127.5 *	19.3 *	0.054	0.0 *	0.000	1.4 *	0.004
10:37:00	121.2	21.8	0.062	0.0	0.000	1.1	0.003
10:38:00	123.3	23.0	0.060	0.0	0.000	1.3	0.003
10:39:00	123.6	25.2	0.071	0.0	0.000	88.4	0.250
10:40:00	123.8	25.4	0.072	0.0	0.000	8.7	0.025
10:41:00	122.8	20.9	0.060	0.0	0.000	1.3	0.004
10:42:00	121.2	20.8	0.061	0.0	0.000	1.2	0.003
10:43:00	123.7	24.3	0.067	0.0	0.000	1.0	0.003
10:44:00	124.3	25.4	0.068	0.0	0.000	1.2	0.003
10:45:00	123.0	25.7	0.069	0.0	0.000	1.1	0.003
10:46:00	124.0	25.8	0.071	0.0	0.000	1.2	0.003
10:47:00	123.3	24.3	0.069	0.0	0.000	1.1	0.003
10:48:00	123.8	26.4	0.075	0.0	0.000	1.2	0.004
10:49:00	125.0	23.9	0.063	0.0	0.000	0.8	0.002
10:50:00	125.1	28.2	0.074	0.0	0.000	1.4	0.004
10:51:00	124.2	30.2	0.084	0.0	0.000	1.5	0.004
10:52:00	124.6	22.6	0.061	0.0	0.000	1.1	0.003
10:53:00	124.6	22.8	0.064	0.0	0.000	1.2	0.004
10:54:00	124.4	23.3	0.066	0.0	0.000	0.9	0.002
10:55:00	125.6	23.8	0.065	0.0	0.000	0.9	0.003
10:56:00	125.9	22.0	0.062	0.0	0.000	0.7	0.002
10:57:00	124.6	22.7	0.063	0.0	0.000	1.0	0.003
10:58:00	125.5	23.9	0.066	0.0	0.000	0.9	0.002
10:59:00	125.4	24.8	0.068	0.0	0.000	0.7	0.002
11:00:00	124.4	23.4	0.065	0.0	0.000	0.8	0.002
11:01:00	125.0	22.7	0.063	0.0	0.000	0.7	0.002

RATA Data Report

12/30/2021 10:24:00 AM - 12/30/2021 11:05:00 AM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
11:02:00	126.1	23.4	0.066	0.0	0.000	0.7	0.002
11:03:00	127.0	24.4	0.070	0.0	0.000	0.8	0.002
11:04:00	127.4	23.3	0.061	0.0	0.000	0.8	0.002
11:05:00	126.6	23.4	0.064	0.0	0.000	1.2	0.003
Average :	124.8	23.6	0.066	0.0	0.000	3.3	0.009

* Invalid Status

RATA Run # 1
Verified By: _____

Woodland Biomass Power Ltd.

RATA Data Report

Rw 2

Created on : Dec 30, 2021 12:08:43

Woodland, CA

12/30/2021 11:37:00 AM - 12/30/2021 12:07:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
11:37:00	12984.0	0.027	244.2	6.7	0.0	1.9	25.9
11:38:00	12984.0	0.027	244.8	7.1	0.0	1.7	28.7
11:39:00	12984.0	0.027	242.9	7.0	0.0	1.8	25.9
11:40:00	12984.0	0.027	242.4	7.1	0.0	1.7	23.5
11:41:00	12984.0	0.027	242.9	7.0	0.0	1.6	25.8
11:42:00	12984.0	0.027	242.3	6.9	0.0	1.5	27.9
11:43:00	12984.0	0.027	242.1	7.6	0.0	1.6	25.3
11:44:00	12984.0	0.027	243.0	7.4	0.0	1.0	25.5
11:45:00	12984.0	0.027	242.1	7.3	0.0	1.6	26.1
11:46:00	12984.0	0.027	242.5	7.1	0.0	1.4	25.7
11:47:00	12984.0	0.027	243.1	7.1	0.0	1.4	25.4
11:48:00	12984.0	0.027	243.9	6.8	0.0	1.4	25.4
11:49:00	12984.0	0.027	244.7	7.3	0.0	1.3	27.4
11:50:00	12984.0	0.027	243.5	7.4	0.0	1.1	26.7
11:51:00	12984.0	0.027	244.5	7.4	0.0	1.5	26.7
11:52:00	12984.0	0.027	245.5	6.8	0.0	1.1	26.1
11:53:00	12984.0	0.027	244.3	7.3	0.0	1.8	27.9
11:54:00	12984.0	0.027	242.6	7.7	0.0	1.5	25.3
11:55:00	12984.0	0.027	243.7	7.1	0.0	1.5	26.0
11:56:00	12984.0	0.027	243.7	7.5	0.0	1.9	26.9
11:57:00	12984.0	0.027	243.3	7.0	0.0	1.4	26.5
11:58:00	12984.0	0.027	243.0	7.5	0.0	1.1	25.3
11:59:00	12984.0	0.027	241.7	7.9	0.0	1.1	26.5
12:00:00	12984.0	0.027	241.1	7.4	0.0	1.2	27.4
12:01:00	12984.0	0.027	240.6	7.7	0.0	1.5	29.7
12:02:00	12984.0	0.027	239.9	7.8	0.0	1.5	25.1
12:03:00	12984.0	0.027	240.4	7.2	0.0	0.6	26.0
12:04:00	12984.0	0.027	239.9	7.5	0.0	1.3	27.8
12:05:00	12984.0	0.027	238.8	7.4	0.0	1.0	26.8
12:06:00	12984.0	0.027	240.0	7.4	0.0	1.0	25.3

RATA Data Report

12/30/2021 11:37:00 AM - 12/30/2021 12:07:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
12:07:00	12984.0	0.027	240.6	7.1	0.0	1.1	25.1
Average :	12984.0	0.027	242.5	7.3	0.0	1.4	26.3

* Invalid Status

RATA Run # 2
Verified By: _____

RATA Data Report

12/30/2021 11:37:00 AM - 12/30/2021 12:07:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
11:37:00	126.3	23.4	0.062	0.0	0.000	1.0	0.003
11:38:00	124.7	25.6	0.070	0.0	0.000	0.9	0.003
11:39:00	125.5	23.3	0.063	0.0	0.000	1.0	0.003
11:40:00	125.9	21.2	0.058	0.0	0.000	0.9	0.003
11:41:00	125.8	23.3	0.063	0.0	0.000	0.9	0.002
11:42:00	126.0	25.2	0.067	0.0	0.000	0.8	0.002
11:43:00	125.8	22.8	0.064	0.0	0.000	0.9	0.002
11:44:00	125.0	22.8	0.064	0.0	0.000	0.5	0.002
11:45:00	124.9	23.4	0.065	0.0	0.000	0.9	0.002
11:46:00	125.3	23.1	0.063	0.0	0.000	0.8	0.002
11:47:00	125.8	22.9	0.062	0.0	0.000	0.8	0.002
11:48:00	126.3	23.0	0.061	0.0	0.000	0.8	0.002
11:49:00	125.9	24.7	0.068	0.0	0.000	0.7	0.002
11:50:00	125.3	24.0	0.067	0.0	0.000	0.6	0.002
11:51:00	124.9	23.9	0.067	0.0	0.000	0.8	0.002
11:52:00	125.1	23.4	0.062	0.0	0.000	0.6	0.002
11:53:00	124.7	24.9	0.069	0.0	0.000	1.0	0.003
11:54:00	122.9	22.3	0.065	0.0	0.000	0.8	0.002
11:55:00	125.1	23.3	0.064	0.0	0.000	0.8	0.002
11:56:00	125.4	24.2	0.068	0.0	0.000	1.0	0.003
11:57:00	125.4	23.8	0.064	0.0	0.000	0.8	0.002
11:58:00	125.1	22.7	0.064	0.0	0.000	0.6	0.002
11:59:00	124.0	23.5	0.069	0.0	0.000	0.6	0.002
12:00:00	124.5	24.4	0.069	0.0	0.000	0.7	0.002
12:01:00	125.0	26.6	0.076	0.0	0.000	0.8	0.002
12:02:00	123.4	22.2	0.065	0.0	0.000	0.8	0.002
12:03:00	124.7	23.2	0.064	0.0	0.000	0.3	0.001
12:04:00	124.4	24.8	0.070	0.0	0.000	0.7	0.002
12:05:00	125.5	24.1	0.067	0.0	0.000	0.5	0.002
12:06:00	123.9	22.5	0.063	0.0	0.000	0.5	0.002

RATA Data Report

12/30/2021 11:37:00 AM - 12/30/2021 12:07:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
12:07:00	125.1	22.5	0.061	0.0	0.000	0.6	0.002
Average :	125.1	23.6	0.065	0.0	0.000	0.8	0.002

* Invalid Status

RATA Run # 2
Verified By: _____

Woodland Biomass Power Ltd.

Woodland, CA

RATA Data Report

Run #4

Created on : Dec 30, 2021 13:00:59

12/30/2021 12:24:00 PM - 12/30/2021 12:54:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
12:24:00	12984.0	0.027	238.5	7.6	0.0	1.1	26.0
12:25:00	12984.0	0.027	238.8	7.2	0.0	1.8	23.9
12:26:00	12984.0	0.027	237.7	7.5	0.0	1.3	26.1
12:27:00	12984.0	0.027	236.9	7.3	0.0	1.0	26.1
12:28:00	12984.0	0.027	237.8	7.3	0.0	1.4	27.9
12:29:00	12984.0	0.027	236.6	7.4	0.0	1.9	25.1
12:30:00	12984.0	0.027	237.8	7.0	0.0	2.0	25.2
12:31:00	12984.0	0.027	236.9	7.6	0.0	2.1	26.6
12:32:00	12984.0	0.027	235.2	7.5	0.0	1.6	26.4
12:33:00	12984.0	0.027	237.7	6.7	0.0	1.3	28.0
12:34:00	12984.0	0.027	237.5	7.0	0.0	1.8	28.8
12:35:00	12984.0	0.027	237.5	7.1	0.0	1.5	26.1
12:36:00	12984.0	0.027	232.5	9.6	0.0	2.1	26.7
12:37:00	12984.0	0.027	233.8	6.6	0.0	1.1	33.7
12:38:00	12984.0	0.027	237.5	6.0	0.1	89.7	24.9
12:39:00	12984.0	0.027	237.7	7.0	0.2	179.2	31.2
12:40:00	12984.0	0.027	236.6	6.7	0.0	10.0	25.4
12:41:00	12984.0	0.027	239.5	7.1	0.0	2.8	27.2
12:42:00	12984.0	0.027	238.9	7.3	0.0	2.2	27.2
12:43:00	12984.0	0.027	238.2	7.3	0.0	2.0	24.4
12:44:00	12984.0	0.027	240.5	7.2	0.0	1.5	24.5
12:45:00	12984.0	0.027	240.1	7.3	0.0	1.5	27.5
12:46:00	12984.0	0.027	241.5	6.7	0.0	1.0	27.3
12:47:00	12984.0	0.027	242.9	7.0	0.0	2.0	26.7
12:48:00	12984.0	0.027	242.9	7.1	0.0	1.5	27.5
12:49:00	12984.0	0.027	244.5	6.1	0.0	1.9	30.0
12:50:00	12984.0	0.027	247.2	6.3	0.1	78.4	32.0
12:51:00	12984.0	0.027	246.3	7.6	0.1	19.7	33.3
12:52:00	12984.0	0.027	243.3	7.8	0.0	3.6	24.1
12:53:00	12984.0	0.027	243.6	7.9	0.0	1.5	23.2

RATA Data Report

12/30/2021 12:24:00 PM - 12/30/2021 12:54:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
12:54:00	12984.0	0.027	244.3	7.1	0.0	1.7	26.7
Average :	12984.0	0.027	239.4	7.2	0.0	13.6	27.1

* Invalid Status

RATA Run # 3

Verified By: _____

RATA Data Report

12/30/2021 12:24:00 PM - 12/30/2021 12:54:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
12:24:00	124.2	23.1	0.066	0.0	0.000	0.6	0.002
12:25:00	123.6	21.2	0.059	0.0	0.000	1.0	0.003
12:26:00	123.8	23.1	0.066	0.0	0.000	0.7	0.002
12:27:00	124.8	23.3	0.065	0.0	0.000	0.5	0.002
12:28:00	123.6	24.7	0.069	0.0	0.000	0.8	0.002
12:29:00	123.0	22.1	0.063	0.0	0.000	1.0	0.003
12:30:00	123.3	22.3	0.061	0.0	0.000	1.1	0.003
12:31:00	123.1	23.5	0.068	0.0	0.000	1.1	0.003
12:32:00	123.9	23.4	0.067	0.0	0.000	0.9	0.002
12:33:00	124.4	25.0	0.067	0.0	0.000	0.7	0.002
12:34:00	125.5	25.9	0.070	0.0	0.000	1.0	0.003
12:35:00	125.6	23.5	0.064	0.0	0.000	0.8	0.002
12:36:00	121.7	23.3	0.081	0.0	0.000	1.1	0.004
12:37:00	124.4	30.0	0.079	0.0	0.000	0.6	0.002
12:38:00	126.4	22.5	0.056	0.1	0.000	49.4	0.123
12:39:00	125.7	28.1	0.076	0.3	0.001	98.2	0.265
12:40:00	126.1	22.9	0.060	0.0	0.000	5.5	0.014
12:41:00	124.7	24.3	0.067	0.0	0.000	1.5	0.004
12:42:00	125.1	24.4	0.068	0.0	0.000	1.2	0.003
12:43:00	123.7	21.6	0.061	0.0	0.000	1.1	0.003
12:44:00	125.4	22.0	0.060	0.0	0.000	0.8	0.002
12:45:00	124.0	24.4	0.068	0.0	0.000	0.8	0.002
12:46:00	125.2	24.5	0.065	0.0	0.000	0.5	0.001
12:47:00	124.3	23.8	0.065	0.0	0.000	1.1	0.003
12:48:00	125.0	24.6	0.067	0.0	0.000	0.8	0.002
12:49:00	126.0	27.1	0.068	0.0	0.000	1.0	0.003
12:50:00	125.6	28.8	0.074	0.1	0.000	42.9	0.110
12:51:00	126.3	30.1	0.085	0.1	0.000	10.8	0.031
12:52:00	123.2	21.3	0.062	0.0	0.000	1.9	0.006
12:53:00	121.6	20.2	0.060	0.0	0.000	0.8	0.002

RATA Data Report

12/30/2021 12:24:00 PM - 12/30/2021 12:54:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
12:54:00	123.9	23.7	0.065	0.0	0.000	0.9	0.003
Average :	124.4	24.2	0.067	0.0	0.000	7.5	0.020

* Invalid Status

RATA Run # 3
Verified By: _____

Woodland Biomass Power Ltd.

Woodland, CA

RATA Data Report

Run #4

Created on : Dec 30, 2021 13:49:33

12/30/2021 1:16:00 PM - 12/30/2021 1:46:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
13:16:00	12984.0	0.027	245.6	7.3	0.0	2.9	26.5
13:17:00	12984.0	0.027	247.8	7.1	0.0	1.9	23.6
13:18:00	12984.0	0.027	246.6	7.1	0.0	1.9	26.5
13:19:00	12984.0	0.027	245.6	7.4	0.0	1.6	28.2
13:20:00	12984.0	0.027	246.6	7.1	0.0	1.4	28.4
13:21:00	12984.0	0.027	245.4	7.5	0.0	1.4	26.0
13:22:00	12984.0	0.027	244.6	6.9	0.0	1.1	25.4
13:23:00	12984.0	0.027	246.5	6.9	0.0	1.4	25.3
13:24:00	12984.0	0.027	246.5	6.7	0.0	1.4	26.5
13:25:00	12984.0	0.027	247.9	6.5	0.0	1.9	29.3
13:26:00	12984.0	0.027	247.2	7.1	0.0	2.7	31.7
13:27:00	12984.0	0.027	246.3	7.6	0.0	1.9	26.5
13:28:00	12984.0	0.027	246.5	7.0	0.0	1.3	25.8
13:29:00	12984.0	0.027	246.3	6.9	0.0	1.3	26.7
13:30:00	12984.0	0.027	246.0	7.0	0.0	1.4	26.1
13:31:00	12984.0	0.027	246.3	6.8	0.0	1.7	26.3
13:32:00	12984.0	0.027	246.9	6.8	0.0	2.0	28.9
13:33:00	12984.0	0.027	244.4	7.2	0.0	1.8	29.9
13:34:00	12984.0	0.027	243.1	7.3	0.0	1.4	25.3
13:35:00	12984.0	0.027	243.4	7.2	0.0	1.5	27.0
13:36:00	12984.0	0.027	241.5	7.4	0.0	1.4	26.0
13:37:00	12984.0	0.027	242.5	6.9	0.0	1.7	27.9
13:38:00	12984.0	0.027	242.6	7.3	0.0	1.9	29.0
13:39:00	12984.0	0.027	241.0	7.1	0.0	1.6	28.5
13:40:00	12984.0	0.027	241.2	7.6	0.0	1.7	26.1
13:41:00	12984.0	0.027	240.5	7.4	0.0	1.2	24.0
13:42:00	12984.0	0.027	238.9	7.6	0.0	1.6	24.9
13:43:00	12984.0	0.027	239.4	7.7	0.0	1.4	25.4
13:44:00	12984.0	0.027	238.4	7.5	0.0	0.9	25.5
13:45:00	12984.0	0.027	240.0	6.7	0.0	1.0	24.7

RATA Data Report

12/30/2021 1:16:00 PM - 12/30/2021 1:46:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
13:46:00	12984.0	0.027	241.4	6.7	0.0	1.8	27.1
Average :	12984.0	0.027	244.1	7.1	0.0	1.6	26.7

* Invalid Status

RATA Run # 4

Verified By: _____

RATA Data Report

12/30/2021 1:16:00 PM - 12/30/2021 1:46:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
13:16:00	120.4	22.9	0.066	0.0	0.000	1.5	0.004
13:17:00	120.0	20.3	0.058	0.0	0.000	1.0	0.003
13:18:00	120.3	22.8	0.065	0.0	0.000	1.0	0.003
13:19:00	121.2	24.5	0.071	0.0	0.000	0.8	0.002
13:20:00	120.2	24.5	0.070	0.0	0.000	0.7	0.002
13:21:00	120.6	22.5	0.066	0.0	0.000	0.7	0.002
13:22:00	121.6	22.1	0.061	0.0	0.000	0.6	0.002
13:23:00	122.1	22.1	0.061	0.0	0.000	0.7	0.002
13:24:00	123.2	23.4	0.063	0.0	0.000	0.8	0.002
13:25:00	122.5	25.7	0.069	0.0	0.000	1.0	0.003
13:26:00	122.8	27.9	0.078	0.0	0.000	1.4	0.004
13:27:00	123.4	23.4	0.067	0.0	0.000	1.0	0.003
13:28:00	123.1	22.8	0.063	0.0	0.000	0.7	0.002
13:29:00	123.9	23.7	0.064	0.0	0.000	0.7	0.002
13:30:00	123.1	23.0	0.063	0.0	0.000	0.8	0.002
13:31:00	123.5	23.3	0.063	0.0	0.000	0.9	0.002
13:32:00	123.3	25.5	0.069	0.0	0.000	1.1	0.003
13:33:00	123.4	26.4	0.074	0.0	0.000	1.0	0.003
13:34:00	124.0	22.5	0.063	0.0	0.000	0.8	0.002
13:35:00	123.1	23.8	0.067	0.0	0.000	0.8	0.002
13:36:00	123.9	23.1	0.065	0.0	0.000	0.8	0.002
13:37:00	124.6	24.9	0.067	0.0	0.000	0.9	0.002
13:38:00	125.2	26.0	0.072	0.0	0.000	1.0	0.003
13:39:00	123.7	25.3	0.070	0.0	0.000	0.9	0.002
13:40:00	125.7	23.5	0.066	0.0	0.000	0.9	0.003
13:41:00	124.1	21.3	0.060	0.0	0.000	0.6	0.002
13:42:00	122.1	21.8	0.063	0.0	0.000	0.9	0.002
13:43:00	124.8	22.7	0.065	0.0	0.000	0.8	0.002
13:44:00	124.8	22.8	0.064	0.0	0.000	0.5	0.001
13:45:00	124.4	22.0	0.059	0.0	0.000	0.5	0.001

RATA Data Report

12/30/2021 1:16:00 PM - 12/30/2021 1:46:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
13:46:00	125.3	24.3	0.064	0.0	0.000	1.0	0.003
Average :	123.0	23.6	0.066	0.0	0.000	0.9	0.002

* Invalid Status

RATA Run # 4
Verified By: _____

Woodland Biomass Power Ltd.

RATA Data Report

Run #5

Created on : Dec 30, 2021 14:39:44

Woodland, CA

12/30/2021 2:07:00 PM - 12/30/2021 2:37:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
14:07:00	12984.0	0.027	242.7	7.7	0.0	1.2	29.1
14:08:00	12984.0	0.027	242.0	7.1	0.0	1.0	28.3
14:09:00	12984.0	0.027	243.0	6.9	0.0	1.2	27.2
14:10:00	12984.0	0.027	242.1	7.8	0.0	0.9	27.2
14:11:00	12984.0	0.027	240.3	7.4	0.0	0.8	26.9
14:12:00	12984.0	0.027	241.5	7.5	0.0	0.7	26.5
14:13:00	12984.0	0.027	240.7	7.2	0.0	1.5	27.1
14:14:00	12984.0	0.027	240.7	6.8	0.0	1.3	27.7
14:15:00	12984.0	0.027	241.7	7.3	0.0	13.4	27.8
14:16:00	12984.0	0.027	240.0	6.9	0.0	16.4	26.6
14:17:00	12984.0	0.027	242.2	6.2	0.0	2.1	27.9
14:18:00	12984.0	0.027	241.8	7.5	0.0	4.4	29.8
14:19:00	12984.0	0.027	240.5	7.2	0.0	0.9	26.5
14:20:00	12984.0	0.027	241.9	6.7	0.0	2.1	26.1
14:21:00	12984.0	0.027	240.3	7.6	0.0	5.4	26.8
14:22:00	12984.0	0.027	240.0	7.2	0.0	1.5	28.3
14:23:00	12984.0	0.027	240.3	7.6	0.0	2.1	26.1
14:24:00	12984.0	0.027	239.0	7.4	0.0	1.8	25.9
14:25:00	12984.0	0.027	238.5	7.1	0.0	2.1	26.1
14:26:00	12984.0	0.027	240.7	6.8	0.0	2.3	25.6
14:27:00	12984.0	0.027	240.5	7.2	0.0	2.7	31.1
14:28:00	12984.0	0.027	240.2	7.2	0.0	2.1	27.1
14:29:00	12984.0	0.027	242.4	6.7	0.0	1.8	22.5
14:30:00	12984.0	0.027	242.0	6.9	0.0	1.6	26.2
14:31:00	12984.0	0.027	242.0	6.9	0.0	1.9	29.2
14:32:00	12984.0	0.027	243.2	6.6	0.0	1.7	26.8
14:33:00	12984.0	0.027	243.6	7.1	0.0	2.1	30.9
14:34:00	12984.0	0.027	242.4	7.0	0.0	2.6	27.2
14:35:00	12984.0	0.027	244.3	6.8	0.0	2.0	24.5
14:36:00	12984.0	0.027	243.5	7.2	0.0	2.0	26.2

RATA Data Report

12/30/2021 2:07:00 PM - 12/30/2021 2:37:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
14:37:00	12984.0	0.027	242.8	6.8	0.0	2.3	27.5
Average :	12984.0	0.027	241.5	7.1	0.0	2.8	27.2

* Invalid Status

RATA Run # 5

Verified By: _____

RATA Data Report

12/30/2021 2:07:00 PM - 12/30/2021 2:37:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
14:07:00	120.9	25.2	0.075	0.0	0.000	0.6	0.002
14:08:00	120.1	24.3	0.069	0.0	0.000	0.5	0.001
14:09:00	120.3	23.4	0.066	0.0	0.000	0.6	0.002
14:10:00	120.1	23.4	0.070	0.0	0.000	0.5	0.001
14:11:00	119.9	23.1	0.067	0.0	0.000	0.4	0.001
14:12:00	119.5	22.7	0.067	0.0	0.000	0.4	0.001
14:13:00	122.8	23.8	0.067	0.0	0.000	0.8	0.002
14:14:00	120.6	23.9	0.066	0.0	0.000	0.7	0.002
14:15:00	121.2	24.1	0.069	0.0	0.000	7.1	0.020
14:16:00	122.4	23.3	0.064	0.0	0.000	8.8	0.024
14:17:00	121.9	24.4	0.064	0.0	0.000	1.1	0.003
14:18:00	123.4	26.3	0.075	0.0	0.000	2.4	0.007
14:19:00	124.1	23.6	0.065	0.0	0.000	0.5	0.001
14:20:00	123.7	23.1	0.062	0.0	0.000	1.1	0.003
14:21:00	123.0	23.6	0.068	0.0	0.000	2.9	0.008
14:22:00	124.0	25.1	0.070	0.0	0.000	0.8	0.002
14:23:00	125.1	23.4	0.066	0.0	0.000	1.1	0.003
14:24:00	123.5	22.9	0.065	0.0	0.000	1.0	0.003
14:25:00	124.2	23.2	0.064	0.0	0.000	1.1	0.003
14:26:00	126.0	23.1	0.061	0.0	0.000	1.3	0.003
14:27:00	126.5	28.2	0.077	0.0	0.000	1.5	0.004
14:28:00	124.6	24.2	0.067	0.0	0.000	1.1	0.003
14:29:00	124.6	20.1	0.053	0.0	0.000	1.0	0.003
14:30:00	126.2	23.7	0.063	0.0	0.000	0.9	0.002
14:31:00	125.8	26.3	0.070	0.0	0.000	1.0	0.003
14:32:00	125.6	24.1	0.063	0.0	0.000	0.9	0.002
14:33:00	125.0	27.7	0.076	0.0	0.000	1.1	0.003
14:34:00	124.8	24.3	0.066	0.0	0.000	1.4	0.004
14:35:00	126.2	22.2	0.059	0.0	0.000	1.1	0.003
14:36:00	125.4	23.5	0.065	0.0	0.000	1.1	0.003

RATA Data Report

12/30/2021 2:07:00 PM - 12/30/2021 2:37:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
14:37:00	124.8	24.6	0.066	0.0	0.000	1.3	0.003
Average :	123.4	24.0	0.067	0.0	0.000	1.5	0.004

* Invalid Status

RATA Run # 5
Verified By: _____

Woodland Biomass Power Ltd.

RATA Data Report

Run # 6

Created on : Dec 30, 2021 15:20:47

Woodland, CA

12/30/2021 2:49:00 PM - 12/30/2021 3:19:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
14:49:00	12984.0	0.027	246.1	7.1	0.0	2.5	26.1
14:50:00	12984.0	0.027	247.5	6.5	0.0	22.0	25.8
14:51:00	12984.0	0.027	247.6	6.6	0.0	163.5	28.1
14:52:00	12984.0	0.027	247.2	7.1	0.0	8.0	27.9
14:53:00	12984.0	0.027	248.2	6.2	0.0	9.6	26.9
14:54:00	12984.0	0.027	248.7	6.7	0.0	37.9	27.0
14:55:00	12984.0	0.027	249.0	6.7	0.0	3.4	25.5
14:56:00	12984.0	0.027	249.6	6.6	0.0	3.7	27.4
14:57:00	12984.0	0.027	250.3	6.5	0.0	63.5	28.1
14:58:00	12984.0	0.027	248.6	7.6	0.0	12.2	29.0
14:59:00	12984.0	0.027	246.2	7.7	0.0	3.5	23.5
15:00:00	12984.0	0.027	246.3	7.5	0.0	1.3	23.3
15:01:00	12984.0	0.027	244.5	7.6	0.0	1.7	24.2
15:02:00	12984.0	0.027	243.1	7.4	0.0	1.3	25.9
15:03:00	12984.0	0.027	243.4	7.6	0.0	1.5	27.5
15:04:00	12984.0	0.027	240.0	7.9	0.0	1.5	24.7
15:05:00	12984.0	0.027	241.7	6.7	0.0	0.8	23.9
15:06:00	12984.0	0.027	241.4	7.5	0.0	1.7	23.5
15:07:00	12984.0	0.027	240.2	6.8	0.0	1.7	24.6
15:08:00	12984.0	0.027	242.6	6.9	0.0	1.5	26.5
15:09:00	12984.0	0.027	241.9	7.0	0.0	1.5	24.5
15:10:00	12984.0	0.027	240.1	7.6	0.0	1.2	23.5
15:11:00	12984.0	0.027	240.8	7.4	0.0	1.7	26.3
15:12:00	12984.0	0.027	239.4	7.4	0.0	1.3	26.3
15:13:00	12984.0	0.027	239.3	7.3	0.0	1.7	24.8
15:14:00	12984.0	0.027	240.4	7.1	0.0	2.0	24.5
15:15:00	12984.0	0.027	239.6	6.9	0.0	1.9	25.9
15:16:00	12984.0	0.027	242.1	6.8	0.0	1.7	26.5
15:17:00	12984.0	0.027	242.6	7.1	0.0	2.1	25.1
15:18:00	12984.0	0.027	241.9	6.8	0.0	2.1	25.9

RATA Data Report

12/30/2021 2:49:00 PM - 12/30/2021 3:19:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
15:19:00	12984.0	0.027	244.6	6.5	0.0	2.1	28.5
Average :	12984.0	0.027	244.0	7.1	0.0	11.7	25.8

* Invalid Status

RATA Run # 6
Verified By: _____

RATA Data Report

12/30/2021 2:49:00 PM - 12/30/2021 3:19:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
14:49:00	126.6	23.7	0.064	0.0	0.000	1.4	0.004
14:50:00	125.7	23.2	0.060	0.0	0.000	12.1	0.031
14:51:00	125.1	25.2	0.066	0.0	0.000	89.2	0.235
14:52:00	126.3	25.2	0.068	0.0	0.000	4.4	0.012
14:53:00	127.5	24.6	0.062	0.0	0.000	5.3	0.013
14:54:00	126.7	24.5	0.064	0.0	0.000	20.9	0.055
14:55:00	126.2	23.1	0.061	0.0	0.000	1.9	0.005
14:56:00	126.6	24.9	0.065	0.0	0.000	2.0	0.005
14:57:00	125.2	25.2	0.066	0.0	0.000	34.7	0.091
14:58:00	123.7	25.7	0.074	0.0	0.000	6.6	0.019
14:59:00	124.0	20.9	0.060	0.0	0.000	1.9	0.005
15:00:00	124.7	20.8	0.059	0.0	0.000	0.7	0.002
15:01:00	124.3	21.5	0.062	0.0	0.000	0.9	0.003
15:02:00	124.7	23.1	0.065	0.0	0.000	0.7	0.002
15:03:00	124.1	24.4	0.070	0.0	0.000	0.8	0.002
15:04:00	125.4	22.2	0.064	0.0	0.000	0.8	0.002
15:05:00	125.3	21.5	0.057	0.0	0.000	0.4	0.001
15:06:00	123.7	20.8	0.059	0.0	0.000	0.9	0.003
15:07:00	125.7	22.2	0.059	0.0	0.000	0.9	0.002
15:08:00	125.0	23.7	0.064	0.0	0.000	0.8	0.002
15:09:00	125.4	22.0	0.060	0.0	0.000	0.8	0.002
15:10:00	125.9	21.2	0.060	0.0	0.000	0.7	0.002
15:11:00	124.7	23.5	0.066	0.0	0.000	0.9	0.003
15:12:00	123.1	23.2	0.066	0.0	0.000	0.7	0.002
15:13:00	125.6	22.3	0.062	0.0	0.000	0.9	0.003
15:14:00	125.6	22.0	0.060	0.0	0.000	1.1	0.003
15:15:00	125.1	23.2	0.062	0.0	0.000	1.0	0.003
15:16:00	124.8	23.7	0.063	0.0	0.000	0.9	0.002
15:17:00	124.9	22.5	0.061	0.0	0.000	1.1	0.003
15:18:00	124.2	23.0	0.062	0.0	0.000	1.1	0.003

RATA Data Report

12/30/2021 2:49:00 PM - 12/30/2021 3:19:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
15:19:00	123.6	25.2	0.067	0.0	0.000	1.1	0.003
Average :	125.1	23.2	0.063	0.0	0.000	6.4	0.017

* Invalid Status

RATA Run # 6
Verified By: _____

Woodland Biomass Power Ltd.

RATA Data Report

Run #7

Created on : Dec 30, 2021 16:00:39

Woodland, CA

12/30/2021 3:30:00 PM - 12/30/2021 4:00:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
15:30:00	12984.0	0.027	248.3	6.4	0.0	36.1	24.7
15:31:00	12984.0	0.027	249.3	7.0	0.0	129.5	28.1
15:32:00	12984.0	0.027	249.7	6.4	0.0	5.9	30.1
15:33:00	12984.0	0.027	250.5	6.5	0.0	167.4	26.8
15:34:00	12984.0	0.027	247.9	8.1	0.0	191.3	25.6
15:35:00	12984.0	0.027	246.2	7.7	0.0	13.5	27.5
15:36:00	12984.0	0.027	245.9	7.6	0.0	2.3	27.1
15:37:00	12984.0	0.027	243.6	7.4	0.0	2.4	25.9
15:38:00	12984.0	0.027	244.5	7.2	0.0	2.1	26.6
15:39:00	12984.0	0.027	244.4	7.2	0.0	2.1	25.8
15:40:00	12984.0	0.027	242.5	7.6	0.0	2.2	26.1
15:41:00	12984.0	0.027	242.6	7.4	0.0	2.1	27.7
15:42:00	12984.0	0.027	240.6	8.1	0.0	1.4	25.4
15:43:00	12984.0	0.027	238.6	7.5	0.0	1.7	26.5
15:44:00	12984.0	0.027	240.2	7.5	0.0	1.2	24.8
15:45:00	12984.0	0.027	238.6	7.3	0.0	1.9	24.7
15:46:00	12984.0	0.027	240.5	6.6	0.0	1.3	24.7
15:47:00	12984.0	0.027	242.2	6.8	0.0	18.9	27.8
15:48:00	12984.0	0.027	241.0	7.1	0.0	5.3	28.9
15:49:00	12984.0	0.027	241.6	6.9	0.0	1.8	24.2
15:50:00	12984.0	0.027	243.0	7.1	0.0	1.7	22.6
15:51:00	12984.0	0.027	241.9	7.1	0.0	1.6	25.5
15:52:00	12984.0	0.027	243.3	7.1	0.0	1.5	27.0
15:53:00	12984.0	0.027	244.4	6.9	0.0	0.8	26.3
15:54:00	12984.0	0.027	243.7	6.6	0.0	1.7	26.5
15:55:00	12984.0	0.027	245.6	7.0	0.0	1.9	31.2
15:56:00	12984.0	0.027	244.8	7.4	0.0	1.7	30.8
15:57:00	12984.0	0.027	244.9	6.4	0.0	1.9	26.4
15:58:00	12984.0	0.027	247.6	7.1	0.0	1.8	29.1

RATA Data Report

12/30/2021 3:30:00 PM - 12/30/2021 4:00:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
15:59:00	12984.0	0.027	246.3	6.9	0.0	1.4	25.1
Average :	12984.0	0.027	244.1	7.1	0.0	20.2	26.7

* Invalid Status

RATA Run # 7
Verified By: _____

RATA Data Report

12/30/2021 3:30:00 PM - 12/30/2021 4:00:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
15:30:00	125.0	22.1	0.057	0.0	0.000	19.7	0.051
15:31:00	124.1	25.0	0.068	0.0	0.000	70.1	0.191
15:32:00	126.8	27.3	0.070	0.0	0.000	3.3	0.008
15:33:00	125.9	24.2	0.063	0.0	0.000	91.9	0.239
15:34:00	123.8	22.7	0.068	0.0	0.000	103.3	0.308
15:35:00	122.1	24.1	0.071	0.0	0.000	7.2	0.021
15:36:00	122.8	23.8	0.069	0.0	0.000	1.2	0.004
15:37:00	126.3	23.4	0.065	0.0	0.000	1.3	0.004
15:38:00	125.0	23.8	0.066	0.0	0.000	1.1	0.003
15:39:00	125.3	23.2	0.064	0.0	0.000	1.1	0.003
15:40:00	123.7	23.1	0.066	0.0	0.000	1.2	0.003
15:41:00	124.6	24.7	0.069	0.0	0.000	1.1	0.003
15:42:00	124.1	22.6	0.067	0.0	0.000	0.8	0.002
15:43:00	123.9	23.5	0.067	0.0	0.000	0.9	0.003
15:44:00	123.3	21.9	0.063	0.0	0.000	0.6	0.002
15:45:00	124.0	21.9	0.061	0.0	0.000	1.0	0.003
15:46:00	125.7	22.2	0.058	0.0	0.000	0.7	0.002
15:47:00	124.7	24.8	0.067	0.0	0.000	10.3	0.028
15:48:00	124.2	25.7	0.071	0.0	0.000	2.9	0.008
15:49:00	125.0	21.7	0.058	0.0	0.000	1.0	0.003
15:50:00	123.2	19.9	0.055	0.0	0.000	0.9	0.003
15:51:00	124.2	22.7	0.062	0.0	0.000	0.9	0.002
15:52:00	122.2	23.6	0.066	0.0	0.000	0.8	0.002
15:53:00	123.1	23.2	0.063	0.0	0.000	0.4	0.001
15:54:00	124.4	23.6	0.063	0.0	0.000	0.9	0.002
15:55:00	122.7	27.4	0.076	0.0	0.000	1.0	0.003
15:56:00	124.0	27.4	0.077	0.0	0.000	0.9	0.003
15:57:00	126.0	23.8	0.061	0.0	0.000	1.0	0.003
15:58:00	122.7	25.6	0.071	0.0	0.000	1.0	0.003

RATA Data Report

12/30/2021 3:30:00 PM - 12/30/2021 4:00:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
15:59:00	124.9	22.5	0.061	0.0	0.000	0.8	0.002
Average :	124.3	23.7	0.065	0.0	0.000	11.0	0.030

* Invalid Status

RATA Run # 7

Verified By: _____

Woodland Biomass Power Ltd.

RATA Data Report

Run #8

Created on : Dec 30, 2021 16:40:33

Woodland, CA

12/30/2021 4:09:00 PM - 12/30/2021 4:39:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
16:09:00	12984.0	0.027	243.4	6.7	0.0	2.1	27.7
16:10:00	12984.0	0.027	246.2	6.0	0.0	2.4	23.8
16:11:00	12984.0	0.027	246.2	6.4	0.0	7.3	28.7
16:12:00	12984.0	0.027	246.6	6.3	0.0	5.0	28.7
16:13:00	12984.0	0.027	246.4	7.2	0.0	3.9	27.3
16:14:00	12984.0	0.027	246.0	7.3	0.0	2.2	26.5
16:15:00	12984.0	0.027	245.2	7.2	0.0	1.8	27.4
16:16:00	12984.0	0.027	245.2	7.0	0.0	2.0	25.6
16:17:00	12984.0	0.027	243.9	7.0	0.0	2.0	24.5
16:18:00	12984.0	0.027	245.6	6.8	0.0	1.5	27.9
16:19:00	12984.0	0.027	245.6	6.6	0.0	2.3	26.6
16:20:00	12984.0	0.027	246.6	6.1	0.0	2.5	25.2
16:21:00	12984.0	0.027	247.9	6.9	0.0	3.3	26.4
16:22:00	12984.0	0.027	246.3	7.2	0.0	2.2	27.3
16:23:00	12984.0	0.027	246.2	6.9	0.0	1.8	26.3
16:24:00	12984.0	0.027	248.1	6.3	0.0	2.7	25.8
16:25:00	12984.0	0.027	246.8	7.0	0.0	21.2	27.3
16:26:00	12984.0	0.027	246.7	6.4	0.0	3.1	25.8
16:27:00	12984.0	0.027	249.4	6.7	0.0	25.0	24.2
16:28:00	12984.0	0.027	247.7	6.5	0.0	8.2	27.8
16:29:00	12984.0	0.027	247.1	6.9	0.0	64.6	27.9
16:30:00	12984.0	0.027	248.0	7.0	0.0	58.6	26.3
16:31:00	12984.0	0.027	246.9	7.0	0.0	3.9	26.2
16:32:00	12984.0	0.027	247.6	6.8	0.0	2.3	25.7
16:33:00	12984.0	0.027	248.7	6.3	0.0	2.4	25.2
16:34:00	12984.0	0.027	249.4	6.3	0.0	17.2	27.4
16:35:00	12984.0	0.027	247.3	7.3	0.0	140.6	24.2
16:36:00	12984.0	0.027	247.8	7.4	0.0	5.7	26.7
16:37:00	12984.0	0.027	245.6	7.2	0.0	2.2	28.5
16:38:00	12984.0	0.027	244.3	7.2	0.0	12.0	26.9

RATA Data Report

12/30/2021 4:09:00 PM - 12/30/2021 4:39:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
16:39:00	12984.0	0.027	247.9	6.2	0.0	25.4	26.9
Average :	12984.0	0.027	246.7	6.8	0.0	14.1	26.5

* Invalid Status

RATA Run # 8

Verified By: _____

RATA Data Report

12/30/2021 4:09:00 PM - 12/30/2021 4:39:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
16:09:00	121.8	24.2	0.066	0.0	0.000	1.1	0.003
16:10:00	124.4	21.2	0.054	0.0	0.000	1.3	0.003
16:11:00	124.4	25.6	0.067	0.0	0.000	4.0	0.010
16:12:00	125.6	25.8	0.066	0.0	0.000	2.7	0.007
16:13:00	124.3	24.3	0.067	0.0	0.000	2.1	0.006
16:14:00	122.8	23.3	0.066	0.0	0.000	1.2	0.003
16:15:00	121.7	23.9	0.068	0.0	0.000	1.0	0.003
16:16:00	122.5	22.5	0.062	0.0	0.000	1.1	0.003
16:17:00	124.2	21.8	0.060	0.0	0.000	1.1	0.003
16:18:00	123.6	24.7	0.067	0.0	0.000	0.8	0.002
16:19:00	126.4	24.1	0.063	0.0	0.000	1.3	0.003
16:20:00	125.5	22.7	0.057	0.0	0.000	1.4	0.003
16:21:00	125.9	23.8	0.064	0.0	0.000	1.8	0.005
16:22:00	125.4	24.5	0.067	0.0	0.000	1.2	0.003
16:23:00	124.6	23.5	0.063	0.0	0.000	1.0	0.003
16:24:00	127.2	23.5	0.060	0.0	0.000	1.5	0.004
16:25:00	126.2	24.7	0.066	0.0	0.000	11.7	0.031
16:26:00	126.8	23.4	0.060	0.0	0.000	1.7	0.004
16:27:00	127.5	22.1	0.058	0.0	0.000	13.9	0.036
16:28:00	127.5	25.4	0.065	0.0	0.000	4.6	0.012
16:29:00	126.5	25.3	0.067	0.0	0.000	35.6	0.095
16:30:00	126.7	23.9	0.064	0.0	0.000	32.4	0.087
16:31:00	128.1	24.0	0.064	0.0	0.000	2.2	0.006
16:32:00	127.4	23.5	0.062	0.0	0.000	1.3	0.003
16:33:00	127.6	23.0	0.058	0.0	0.000	1.3	0.003
16:34:00	128.3	25.2	0.063	0.0	0.000	9.6	0.024
16:35:00	127.5	22.1	0.060	0.0	0.000	78.2	0.213
16:36:00	126.6	24.2	0.067	0.0	0.000	3.1	0.009
16:37:00	125.2	25.6	0.070	0.0	0.000	1.2	0.003
16:38:00	126.3	24.3	0.066	0.0	0.000	6.6	0.018

RATA Data Report

12/30/2021 4:09:00 PM - 12/30/2021 4:39:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
16:39:00	128.5	24.8	0.062	0.0	0.000	14.2	0.035
Average :	125.7	23.9	0.064	0.0	0.000	7.8	0.021

* Invalid Status

RATA Run # 8
Verified By: _____

Woodland Biomass Power Ltd.

Woodland, CA

RATA Data Report

RW #9

12/30/2021 4:52:00 PM - 12/30/2021 5:22:00 PM

Created on : Dec 30, 2021 17:22:20

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
16:52:00	12984.0	0.027	247.7	6.9	0.0	1.8	26.2
16:53:00	12984.0	0.027	247.6	6.7	0.0	1.7	25.7
16:54:00	12984.0	0.027	248.0	7.1	0.0	2.0	25.6
16:55:00	12984.0	0.027	245.4	7.6	0.0	1.8	26.3
16:56:00	12984.0	0.027	246.0	7.0	0.0	1.3	27.5
16:57:00	12984.0	0.027	246.8	6.5	0.0	1.5	25.4
16:58:00	12984.0	0.027	246.5	6.3	0.0	2.1	27.3
16:59:00	12984.0	0.027	247.5	6.5	0.0	2.1	24.4
17:00:00	12984.0	0.027	246.0	7.7	0.0	2.3	27.3
17:01:00	12984.0	0.027	245.5	6.6	0.0	1.4	28.5
17:02:00	12984.0	0.027	247.2	6.7	0.0	1.4	23.7
17:03:00	12984.0	0.027	245.8	7.3	0.0	2.3	25.3
17:04:00	12984.0	0.027	243.8	7.3	0.0	1.4	27.0
17:05:00	12984.0	0.027	244.9	7.0	0.0	1.6	26.1
17:06:00	12984.0	0.027	243.0	7.0	0.0	1.2	26.3
17:07:00	12984.0	0.027	244.1	6.7	0.0	1.8	26.2
17:08:00	12984.0	0.027	242.8	7.9	0.0	2.4	23.7
17:09:00	12984.0	0.027	242.3	6.2	0.0	2.3	28.4
17:10:00	12984.0	0.027	245.4	6.6	0.0	48.6	25.8
17:11:00	12984.0	0.027	243.4	7.2	0.0	4.6	25.4
17:12:00	12984.0	0.027	242.9	6.8	0.0	2.6	26.5
17:13:00	12984.0	0.027	244.0	7.2	0.0	2.9	23.5
17:14:00	12984.0	0.027	242.0	7.0	0.0	2.3	25.5
17:15:00	12984.0	0.027	241.9	6.9	0.0	2.0	25.6
17:16:00	12984.0	0.027	241.5	7.4	0.0	4.0	24.1
17:17:00	12984.0	0.027	241.7	6.5	0.0	2.1	26.8
17:18:00	12984.0	0.027	242.3	7.2	0.0	2.7	26.8
17:19:00	12984.0	0.027	242.1	6.5	0.0	1.8	25.8
17:20:00	12984.0	0.027	242.8	6.6	0.0	1.7	23.0

RATA Data Report

12/30/2021 4:52:00 PM - 12/30/2021 5:22:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
17:21:00	12984.0	0.027	243.0	7.0	0.0	2.2	24.9
Average :	12984.0	0.027	244.5	6.9	0.0	3.7	25.8

* Invalid Status

RATA Run # 9
Verified By: _____

RATA Data Report

12/30/2021 4:52:00 PM - 12/30/2021 5:22:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
16:52:00	127.8	24.0	0.063	0.0	0.000	1.0	0.003
16:53:00	128.4	23.6	0.061	0.0	0.000	1.0	0.002
16:54:00	128.3	23.5	0.063	0.0	0.000	1.1	0.003
16:55:00	126.7	23.9	0.067	0.0	0.000	1.0	0.003
16:56:00	126.6	24.9	0.067	0.0	0.000	0.7	0.002
16:57:00	126.7	23.1	0.059	0.0	0.000	0.8	0.002
16:58:00	128.1	25.1	0.063	0.0	0.000	1.2	0.003
16:59:00	128.1	22.4	0.057	0.0	0.000	1.2	0.003
17:00:00	127.4	24.9	0.070	0.0	0.000	1.3	0.004
17:01:00	127.7	26.1	0.067	0.0	0.000	0.8	0.002
17:02:00	127.2	21.6	0.056	0.0	0.000	0.8	0.002
17:03:00	127.1	23.0	0.063	0.0	0.000	1.3	0.003
17:04:00	127.4	24.6	0.067	0.0	0.000	0.8	0.002
17:05:00	125.2	23.4	0.063	0.0	0.000	0.9	0.002
17:06:00	127.1	23.9	0.064	0.0	0.000	0.7	0.002
17:07:00	128.5	24.1	0.062	0.0	0.000	1.0	0.003
17:08:00	126.6	21.5	0.062	0.0	0.000	1.3	0.004
17:09:00	128.9	26.2	0.065	0.0	0.000	1.3	0.003
17:10:00	128.3	23.7	0.061	0.0	0.000	27.2	0.070
17:11:00	128.7	23.4	0.063	0.0	0.000	2.6	0.007
17:12:00	128.7	24.4	0.063	0.0	0.000	1.5	0.004
17:13:00	127.5	21.5	0.058	0.0	0.000	1.6	0.004
17:14:00	129.1	23.6	0.062	0.0	0.000	1.3	0.003
17:15:00	129.4	23.7	0.062	0.0	0.000	1.1	0.003
17:16:00	127.7	22.0	0.060	0.0	0.000	2.2	0.006
17:17:00	129.4	24.8	0.063	0.0	0.000	1.2	0.003
17:18:00	128.3	24.6	0.066	0.0	0.000	1.5	0.004
17:19:00	130.5	24.1	0.060	0.0	0.000	1.0	0.003
17:20:00	130.1	21.4	0.054	0.0	0.000	1.0	0.002

RATA Data Report

12/30/2021 4:52:00 PM - 12/30/2021 5:22:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
17:21:00	129.1	23.0	0.060	0.0	0.000	1.2	0.003
Average :	128.0	23.7	0.062	0.0	0.000	2.1	0.005

* Invalid Status

RATA Run # 9
Verified By: _____

Woodland Biomass Power Ltd.

RATA Data Report

Run #10

Created on : Dec 30, 2021 18:00:59

Woodland, CA

12/30/2021 5:30:00 PM - 12/30/2021 6:00:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
17:30:00	12984.0	0.027	244.4	6.6	0.0	3.7	25.2
17:31:00	12984.0	0.027	244.1	6.7	0.0	4.6	26.4
17:32:00	12984.0	0.027	244.2	7.9	0.0	2.2	28.5
17:33:00	12984.0	0.027	243.0	7.1	0.0	1.8	26.9
17:34:00	12984.0	0.027	246.7	6.5	0.0	2.1	24.0
17:35:00	12984.0	0.027	247.0	6.7	0.0	3.4	26.2
17:36:00	12984.0	0.027	245.5	7.1	0.0	3.2	26.5
17:37:00	12984.0	0.027	247.8	6.5	0.0	1.7	26.1
17:38:00	12984.0	0.027	248.7	6.6	0.0	2.0	28.8
17:39:00	12984.0	0.027	247.8	6.9	0.0	2.8	30.1
17:40:00	12984.0	0.027	247.3	7.4	0.0	2.1	24.8
17:41:00	12984.0	0.027	247.6	7.3	0.0	1.8	24.0
17:42:00	12984.0	0.027	245.8	7.6	0.0	1.6	25.3
17:43:00	12984.0	0.027	247.3	6.8	0.0	1.7	27.6
17:44:00	12984.0	0.027	248.2	6.8	0.0	2.1	26.9
17:45:00	12984.0	0.027	247.0	7.1	0.0	1.9	26.0
17:46:00	12984.0	0.027	249.2	6.6	0.0	4.7	27.7
17:47:00	12984.0	0.027	249.8	7.5	0.0	5.0	25.8
17:48:00	12984.0	0.027	247.6	7.1	0.0	2.0	25.2
17:49:00	12984.0	0.027	250.2	6.6	0.0	1.7	27.7
17:50:00	12984.0	0.027	250.4	6.9	0.0	13.7	27.7
17:51:00	12984.0	0.027	249.3	6.9	0.0	8.2	27.0
17:52:00	12984.0	0.027	250.6	6.7	0.0	1.9	26.3
17:53:00	12984.0	0.027	251.1	7.0	0.0	2.0	24.2
17:54:00	12984.0	0.027	250.3	7.2	0.0	2.0	26.0
17:55:00	12984.0	0.027	252.8	6.2	0.0	7.9	26.6
17:56:00	12984.0	0.027	254.4	6.1	0.0	64.3	29.2
17:57:00	12984.0	0.027	253.6	7.2	0.1	174.2	28.9
17:58:00	12984.0	0.027	252.0	7.4	0.0	8.7	24.1

RATA Data Report

12/30/2021 5:30:00 PM - 12/30/2021 6:00:00 PM

Boiler # 1

Time	Fw FACTOR, SCF/mmBTU	BWA AMBIENT MST, %	STEAM FLOW, KLB/HR	O2, %	SO2, PPM	CO, PPM	NOX, PPM
17:59:00	12984.0	0.027	252.8	7.2	0.0	2.2	23.5
Average :	12984.0	0.027	248.6	6.9	0.0	11.2	26.4

* Invalid Status

RATA Run # 10
Verified By: _____

RATA Data Report

12/30/2021 5:30:00 PM - 12/30/2021 6:00:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
17:30:00	129.2	23.3	0.059	0.0	0.000	2.1	0.005
17:31:00	128.0	24.2	0.063	0.0	0.000	2.6	0.007
17:32:00	127.2	26.0	0.074	0.0	0.000	1.2	0.003
17:33:00	128.6	24.8	0.066	0.0	0.000	1.0	0.003
17:34:00	128.3	22.1	0.056	0.0	0.000	1.2	0.003
17:35:00	128.6	24.1	0.062	0.0	0.000	1.9	0.005
17:36:00	128.3	24.4	0.065	0.0	0.000	1.8	0.005
17:37:00	128.2	24.0	0.061	0.0	0.000	1.0	0.002
17:38:00	128.0	26.4	0.068	0.0	0.000	1.1	0.003
17:39:00	127.9	27.6	0.073	0.0	0.000	1.6	0.004
17:40:00	127.8	22.7	0.062	0.0	0.000	1.2	0.003
17:41:00	127.1	21.9	0.060	0.0	0.000	1.0	0.003
17:42:00	127.2	23.1	0.064	0.0	0.000	0.9	0.002
17:43:00	128.0	25.3	0.066	0.0	0.000	0.9	0.002
17:44:00	128.4	24.7	0.064	0.0	0.000	1.2	0.003
17:45:00	128.0	23.8	0.064	0.0	0.000	1.1	0.003
17:46:00	127.9	25.4	0.065	0.0	0.000	2.6	0.007
17:47:00	126.9	23.5	0.065	0.0	0.000	2.8	0.008
17:48:00	127.1	22.9	0.062	0.0	0.000	1.1	0.003
17:49:00	128.0	25.4	0.065	0.0	0.000	0.9	0.002
17:50:00	128.6	25.5	0.067	0.0	0.000	7.7	0.020
17:51:00	126.8	24.5	0.065	0.0	0.000	4.5	0.012
17:52:00	128.8	24.3	0.062	0.0	0.000	1.1	0.003
17:53:00	129.2	22.4	0.059	0.0	0.000	1.1	0.003
17:54:00	127.9	23.8	0.064	0.0	0.000	1.1	0.003
17:55:00	128.7	24.5	0.061	0.0	0.000	4.4	0.011
17:56:00	129.1	27.0	0.066	0.0	0.000	36.2	0.089
17:57:00	127.9	26.5	0.071	0.1	0.000	97.1	0.262
17:58:00	129.0	22.3	0.060	0.0	0.000	4.9	0.013

RATA Data Report

12/30/2021 5:30:00 PM - 12/30/2021 6:00:00 PM

Boiler # 1

Time	STACK FLOW, KSCFM	NOX, LB/HR	NOX, LB/mmBTU	SO2, LB/HR	SO2, LB/mmBTU	CO, LB/HR	CO, LB/mmBTU
17:59:00	127.0	21.4	0.058	0.0	0.000	1.2	0.003
Average :	128.1	24.3	0.064	0.0	0.000	6.3	0.017

* Invalid Status

RATA Run # 10
Verified By: _____

APPENDIX C
LABORATORY ANALYSIS DATA

Appendix C.1
PM Analyses

PARTICULATE MATTER RESULTS - EPA 5
Client: Woodland Biomass
Project: PROJ-003071

Test No.:		1-PM	2-PM	3-PM
Front-Half Particulate Catch				
m_f	Filter catch, net mg	2.03	2.90	2.37
m_a	Probe / nozzle rinse (acetone), net mg	0.90	1.88	0.90
	Total filterable particulate matter catch, net mg	*2.93*	*4.78*	*3.27*
Total Particulate Matter Catch, net mg		**2.93**	**4.78**	**3.27**

Notes: The front-half acetone fractions were blank-corrected according to EPA Methods 5 / 17.

Prepared by: Echetty Date: 01 / 11 / 2022

Esha Chetty
Laboratory Manager

Reviewed by: Date: 01 / 11 / 2022

Katie Resch
QC/Reporting Specialist

PARTICULATE MATTER RESULTS - EPA 5
Client: Woodland Biomass
Project: PROJ-003071

Test Number	Sample Fraction	Sample Amount (g)	Lab Number (ID)	Tare Sequence (#)	Tare Weight (g)	Final Weight (g)	Raw Gain Weight (mg)	Blank Residue (%)	Blank Correction (mg)	Maximum Correction (mg)	Final Results (mg)
FB-PM	**Filter**	N/A	1379	Tare 1	0.3561	0.3570	--	--	--	--	--
	(F½)			Tare 2	0.3561	0.3570	--	--	--	--	--
				Tare 3	0.3562	0.3570	--	--	--	--	--
				Average	**0.3561**	**0.3570**	**0.87**	N/A	N/A	N/A	N/A
1-PM	**Filter**	N/A	2182	Tare 1	0.3394	0.3414	--	--	--	--	--
	(F½)			Tare 2	0.3394	0.3415	--	--	--	--	--
				Tare 3	0.3394	0.3414	--	--	--	--	--
				Average	**0.3394**	**0.3414**	**2.03**	N/A	N/A	N/A	**2.03**
2-PM	**Filter**	N/A	1879	Tare 1	0.3544	0.3573	--	--	--	--	--
	(F½)			Tare 2	0.3545	0.3574	--	--	--	--	--
				Tare 3	0.3544	0.3573	--	--	--	--	--
				Average	**0.3544**	**0.3573**	**2.90**	N/A	N/A	N/A	**2.90**
3-PM	**Filter**	N/A	1855	Tare 1	0.3534	0.3557	--	--	--	--	--
	(F½)			Tare 2	0.3533	0.3557	--	--	--	--	--
				Tare 3	0.3533	0.3557	--	--	--	--	--
				Average	**0.3533**	**0.3557**	**2.37**	N/A	N/A	N/A	**2.37**

Note: The filters were not blank-corrected according to EPA Methods 5 / 17.

FB-PM	**Probe/Nozzle**	30.6	AA029	Tare 1	2.25375	2.25395	--	--	--	--	--
	Acetone			Tare 2	2.25382	2.25410	--	--	--	--	--
	(F½)			Tare 3	2.25379	2.25398	--	--	--	--	--
				Average	**2.25379**	**2.25401**	**0.22**	0.0007%	N/A	N/A	N/A
1-PM	**Probe/Nozzle**	97.9	AA030	Tare 1	2.23926	2.24088	--	--	--	--	--
	Acetone			Tare 2	2.23936	2.24101	--	--	--	--	--
	(F½)			Tare 3	2.23939	2.24097	--	--	--	--	--
				Average	**2.23934**	**2.24095**	**1.62**	0.0007%	0.71	0.98	**0.90**
2-PM	**Probe/Nozzle**	91.8	AA033	Tare 1	2.22245	2.22495	--	--	--	--	--
	Acetone			Tare 2	2.22246	2.22507	--	--	--	--	--
	(F½)			Tare 3	2.22249	2.22504	--	--	--	--	--
				Average	**2.22247**	**2.22502**	**2.55**	0.0007%	0.67	0.92	**1.88**
3-PM	**Probe/Nozzle**	79.0	AA034	Tare 1	2.23033	2.23195	--	--	--	--	--
	Acetone			Tare 2	2.23033	2.23186	--	--	--	--	--
	(F½)			Tare 3	2.23050	2.23179	--	--	--	--	--
				Average	**2.23039**	**2.23187**	**1.48**	0.0007%	0.58	0.79	**0.90**

Note: The acetone fractions were blank-corrected according to EPA Methods 5 / 17. Blank values of greater than 0.001 percent of the weight of acetone used cannot be subtracted from the sample weight.

LABORATORY NARRATIVE
EPA METHOD 5
Client: Woodland Biomass
Project: PROJ - 003071

Custody

Three sets of samples were received on January 4th, 2022. Each set consisted of a filter and probe/nozzle rinse. Field blanks for the filter and probe/nozzle rinse were also received. According to the chain-of-custody, these samples were collected on December 29th, 2021. Sample bottles were marked with no evident sample loss.

Analysis

Samples were analyzed for particulate matter using the analytical procedures in EPA Method 5 (Determination of Particulate Matter Emissions from Stationary Sources). Samples were analyzed from January 7th, 2022 to January 10th, 2022 after desiccating for at least 24 hours. The results were blank corrected according to the test methods.

Front-Half Analysis

The filters were beige in color. The probe/nozzle rinses appeared as white residues.

QC Notes

Prior to analysis, the accuracy of the balance was checked using 500 mg, 2 g, and 100 g ASTM E617-97 Class 1 Stainless Steel weights. Results below detection limits are reported as the detection limit.

MONTROSE
AIR QUALITY SERVICES

SAMPLE ACCEPTANCE CHECKLIST

Section 1
Client: Woodland Biomass
Date Received: 1/04/22
Project: PROJ-003071 via 1/04 Test Method: EPA 5
Sampler's Name Present: ☑ Yes ☐ No

Section 2
Sample Temperature (°C) : Ambient
Testing: ☐ Compliance ☐ RATA ☐ Engineering ☐ NA

Section 3	Yes	No	NA
Was a COC included with the samples?	✓		
Are sample IDs present on the COC?	✓		
Are sampling dates present on the COC?	✓		
Is a relinquished signature present?	✓		
Are the test methods required clearly indicated on the COC?	✓		
Were the samples kept cold during transport?			✓
Were the samples placed under refrigeration for storage?			✓
Are the level of liquid marked on the sample bottle?	✓		
If the sample bottles are marked, was there in visible loss of sample?		✓	
Are the caps/seals intact?	✓		
Did all the bottle labels agree with the COC? (Sample IDs, content)	✓		
Did the samples labels include the project number?	✓		
Did the samples labels include the collection date?	✓		
Were the samples collected in the correct containers for the required tests.	✓		
Are the containers label with the correct preservatives?	✓		
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 4 Explanations/Comments

Section 5
For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials:_____ Date: _____
☐ Email (email sent to/on): _____/_____
Project Manager's response:

Completed By: Victor Garcia Date: 1/04/22

Montrose Air Quality Services
2825 Verne Roberts Circle, Antioch, CA 94509
T: (925) 680-4300 F: (925) 680-4416

MONTROSE AIR QUALITY SERVICES

CHAIN OF CUSTODY

Antioch Location
2825 Verne Roberts Circle
Antioch, CA 94509
(925) 680-4300

Lab info:
2825 Verne Robert Circle
Antioch, CA 94509

Client / Project: Woodland Biomass	**Project / Sample Location:**	**Test / Analytical Method:** EPA 5
Project No.: PROJ-003071	**Purchase Order No:**	**Special Analysis / Reporting Instructions:** Do not analyze RB at this time. Analyze only if there are abnormality of other samples
Send Analytical Report To: Antioch QA/QC: : AntiochQA-QC@montrose-env.com rodell@montrose-env.com	**Sampler or PM Signature:**	

Run / Sample No.	Date	Time	Containers	Sample Fraction	Reagent	Lab / Sample ID No.
1-PM	12/29/21		1	Container 1 - filter	--	
"	12/29/21		1	Container 2 - filterable PM rinse	acetone	
2-PM	12/29/21		2	Same as Run 1	"	
3-PM	12/29/21		2	Same as Run 1	"	
FB-PM	12/29/21		2	Field blank - same containers as Run 1	"	
RB-PM	12/29/21		1	Reagent blank	acetone	
Total Containers			**9**			

Relinquished by	Date	Time	Received by	Date	Time	Temp.
	12/31/21	0940	Victor Garcia	1/04/22	1800	
Relinquished by	Date	Time	Received by	Date	Time	Temp.
Relinquished by	Date	Time	Received by	Date	Time	Temp.

Key: FB = Field Blank, RB = Reagent Blank

PARTICULATE MATTER RESULTS - EPA 201A/202
Client: Woodland Biomass
Project: PROJ-003071

Test No.:		1-PM		2-PM		3-PM
Front-Half Particulate Catch						
m_f	Filter catch, net mg	2.70		2.34		2.76
m_{a1}	< PM_{10} rinse (acetone), net mg	0.97	<	0.50	<	0.50
	Total filterable PM_{10} particulate matter catch, net mg	*3.67*		*2.84*		*3.26*
Back-Half Particulate Catch						
m_i	Aqueous rinse (ASTM Type II water), net mg	16.29		18.23		15.43
m_o	Organic rinse (hexane and acetone), net mg	0.80		0.62		0.55
	Uncorrected condensible particulate matter catch, net mg	*17.09*		*18.85*		*15.98*
Back-Half Blank Catch						
m_{ib}	Field blank aqueous rinse (ASTM Type II water), net mg	0.51		0.51		0.51
m_{ob}	Field blank organic rinse (hexane and acetone), net mg	0.81		0.81		0.81
m_{fb}	*Total condensible particulate matter blank catch, net mg*	*1.31*		*1.31*		*1.31*
m_{cpm}	*Corrected condensible particulate matter catch, net mg*	*15.78*		*17.54*		*14.67*
PM_{10} Catch, net mg		**19.45**		**20.38**		**17.93**

Notes: The front-half acetone fractions were blank-corrected according to EPA Method 201A.
The back-half fractions were blank corrected according to EPA Method 202 Section 12.2. $m_{cpm} = m_i + m_o - (m_{ib} + m_{ob})$ (Eqs. 2 & 4)
The back-half fractions blank correction values is $(m_{ib} + m_{ob})$ or 2.0mg, whichever is lesser, according to EPA Method 202 Section 12.2.

Prepared by: Echetty _____ Date: 01 / 11 / 2022

Esha Chetty
Laboratory Manager

Reviewed by: _____ Date: 01 / 11 / 2022

Katie Resch
QC/Reporting Specialist

PARTICULATE MATTER RESULTS - EPA 201A/202
Client: Woodland Biomass
Project: PROJ-003071

Test Number	Sample Fraction	Sample Amount (g)	Lab Number (ID)	Tare Sequence (#)	Tare Weight (g)	Final Weight (g)	Raw Gain Weight (mg)	Blank Residue (%)	Blank Correction (mg)	Maximum Correction (mg)	Final Results (mg)
FRB-PM	**Filter**	N/A	2158	Tare 1	0.26277	0.26314	--	--	--	--	--
	(F½)			Tare 2	0.26280	0.26313	--	--	--	--	--
				Tare 3	0.26279	0.26313	--	--	--	--	--
				Average	**0.26279**	**0.26313**	**0.35**	N/A	N/A	N/A	N/A
1-PM	**Filter**	N/A	2148	Tare 1	0.26174	0.26445	--	--	--	--	--
	(F½)			Tare 2	0.26173	0.26444	--	--	--	--	--
				Tare 3	0.26174	0.26443	--	--	--	--	--
				Average	**0.26174**	**0.26444**	**2.70**	N/A	N/A	N/A	**2.70**
2-PM	**Filter**	N/A	2154	Tare 1	0.26231	0.26466	--	--	--	--	--
	(F½)			Tare 2	0.26232	0.26467	--	--	--	--	--
				Tare 3	0.26233	0.26465	--	--	--	--	--
				Average	**0.26232**	**0.26466**	**2.34**	N/A	N/A	N/A	**2.34**
3-PM	**Filter**	N/A	2161	Tare 1	0.26023	0.26299	--	--	--	--	--
	(F½)			Tare 2	0.26023	0.26302	--	--	--	--	--
				Tare 3	0.26024	0.26298	--	--	--	--	--
				Average	**0.26023**	**0.26300**	**2.76**	N/A	N/A	N/A	**2.76**

Note: The filters were not blank-corrected according to EPA Methods 5 / 17.

FRB-PM	**Probe/Nozzle**	11.8	AA034Z	Tare 1	2.20170	2.20198	--	--	--	--	--
	Acetone			Tare 2	2.20185	2.20190	--	--	--	--	--
	(F½)			Tare 3	2.20168	2.20189	--	--	--	--	--
				Average	**2.20174**	**2.20192**	**0.18**	0.0015%	N/A	N/A	N/A
1-PM	**Probe/Nozzle**	17.2	AA035	Tare 1	2.23008	2.23111	--	--	--	--	--
	Acetone			Tare 2	2.23012	2.23105	--	--	--	--	--
	(F½)			Tare 3	2.23000	2.23099	--	--	--	--	--
				Average	**2.23007**	**2.23105**	**0.98**	0.0015%	0.26	0.02	**0.97**
2-PM	**Probe/Nozzle**	22.2	AA036	Tare 1	2.22925	2.22958	--	--	--	--	--
	Acetone			Tare 2	2.22920	2.22964	--	--	--	--	--
	(F½)			Tare 3	2.22910	2.22959	--	--	--	--	--
				Average	**2.22918**	**2.22960**	**0.42**	0.0015%	0.34	0.02	**0.40**
3-PM	**Probe/Nozzle**	19.6	AA037	Tare 1	2.23170	2.23213	--	--	--	--	--
	Acetone			Tare 2	2.23166	2.23199	--	--	--	--	--
	(F½)			Tare 3	2.23165	2.23200	--	--	--	--	--
				Average	**2.23167**	**2.23204**	**0.37**	0.0015%	0.30	0.02	**0.35**

Note: The acetone fractions were blank-corrected according to EPA Method 201A. Blank values of greater than 0.0001 percent of the weight of acetone used cannot be subtracted from the sample weight.

PARTICULATE MATTER RESULTS - EPA 201A/202
Client: Woodland Biomass
Project: PROJ-003071

Test Number	Sample Fraction	Total Volume (ml)	Lab Number (ID)	Tare Sequence (#)	Tare Weight (g)	Final Weight (g)	Raw Gain Weight (mg)	Blank Residue (%)	Final Results (mg)
FRB-PM	**Organic Rinse (B½)**	140.9	AA038	Tare 1	2.23087	2.23162	--	--	--
				Tare 2	2.23084	2.23171	--	--	--
				Tare 3	2.23088	2.23168	--	--	--
				Average	**2.23086**	**2.23167**	**0.81**	0.0006%	0.81
1-PM	**Organic Rinse (B½)**	280.7	AA039	Tare 1	2.23752	2.23845	--	--	--
				Tare 2	2.23752	2.23828	--	--	--
				Tare 3	2.23756	2.23826	--	--	--
				Average	**2.23753**	**2.23833**	**0.80**	0.0006%	0.80
2-PM	**Organic Rinse (B½)**	278.2	AA040	Tare 1	2.23931	2.23980	--	--	--
				Tare 2	2.23921	2.23993	--	--	--
				Tare 3	2.23928	2.23993	--	--	--
				Average	**2.23927**	**2.23989**	**0.62**	0.0006%	0.62
3-PM	**Organic Rinse (B½)**	282.9	AA043	Tare 1	2.24523	2.24568	--	--	--
				Tare 2	2.24505	2.24574	--	--	--
				Tare 3	2.24515	2.24566	--	--	--
				Average	**2.24514**	**2.24569**	**0.55**	0.0006%	0.55
FRB-PM	**Aqueous Water (B½)**	124.6	AA044	Tare 1	2.24640	2.24681	--	--	--
				Tare 2	2.24625	2.24691	--	--	--
				Tare 3	2.24640	2.24685	--	--	--
				Average	**2.24635**	**2.24686**	**0.51**	0.0004%	0.51
1-PM	**Aqueous Water (B½)**	403.6	AA049	Tare 1	2.22100	2.23719	--	--	--
				Tare 2	2.22089	2.23722	--	--	--
				Tare 3	2.22080	2.23714	--	--	--
				Average	**2.22090**	**2.23718**	**16.29**	0.0004%	16.29
2-PM	**Aqueous Water (B½)**	345.4	AA053	Tare 1	2.22492	2.24316	--	--	--
				Tare 2	2.22485	2.24321	--	--	--
				Tare 3	2.22505	2.24314	--	--	--
				Average	**2.22494**	**2.24317**	**18.23**	0.0004%	18.23
3-PM	**Aqueous Water (B½)**	340.2	AA048	Tare 1	2.23911	2.25444	--	--	--
				Tare 2	2.23894	2.25446	--	--	--
				Tare 3	2.23899	2.25444	--	--	--
				Average	**2.23901**	**2.25445**	**15.43**	0.0004%	15.43

LABORATORY NARRATIVE
EPA METHOD 201A/202
Client: Woodland Biomass
Project: PROJ - 003071

Custody

Three sets of samples were received on January 4th, 2022. Each set consisted of a filter, probe/nozzle rinse, condensable particulate matter filter, impinger water and organic rinse. A set of field blanks, two sets of proof blanks, and a set of reagent blanks were also received. According to the chain-of-custody, these samples collected from December 28th, 2021 to December 29th, 2021. Sample bottles were marked with no evident sample loss.

Analysis

Samples were analyzed for particulate matter using the analytical procedures in EPA Methods 201A (Determination of PM_{10} Emissions) and 202 (Determination of Condensable Particulate Matter Emissions from Stationary Sources). Samples were analyzed from January 7th, 2022 to January 10th, 2022 after desiccating for at least 24 hours. The results were blank corrected according to the test methods.

Front-Half Analysis

The filters were light brown in color. The probe/nozzle rinses appeared as white residues.

Back-Half Analysis

The organic fractions appeared as white residues. The aqueous fractions appeared as white residues upon evaporation.

QC Notes

Prior to analysis, the accuracy of the balance was checked using 500 mg, 2 g, and 100 g ASTM E617-97 Class 1 Stainless Steel weights. Results below detection limits are reported as the detection limit.

MONTROSE
AIR QUALITY SERVICES

SAMPLE ACCEPTANCE CHECKLIST

Section 1
Client: Woodland Biomass
Project: PROJ-003071
Test Method: EPA 201A/202
Date Received: 1/04/22
Sampler's Name Present: ☑ Yes ☐ No

Section 2
Sample Temperature (°C) : Ambient
Testing: ☐ Compliance ☐ RATA ☐ Engineering ☐ NA

Section 3	Yes	No	NA
Was a COC included with the samples?	✓		
Are sample IDs present on the COC?	✓		
Are sampling dates present on the COC?	✓		
Is a relinquished signature present?	✓		
Are the test methods required clearly indicated on the COC?	✓		
Were the samples kept cold during transport?			✓
Were the samples placed under refrigeration for storage?			✓
Are the level of liquid marked on the sample bottle?	✓		
If the sample bottles are marked, was there in visible loss of sample?		✓	
Are the caps/seals intact?	✓		
Did all the bottle labels agree with the COC? (Sample IDs, content)	✓		
Did the samples labels include the project number?	✓		
Did the samples labels include the collection date?	✓		
Were the samples collected in the correct containers for the required tests.	✓		
Are the containers label with the correct preservatives?	✓		
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 4 Explanations/Comments

Section 5
For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials:_____ Date: _____
☐ Email (email sent to/on): _____/_____
Project Manager's response:

Completed By: Victor Garcia Date: 1/04/22

MONTROSE AIR QUALITY SERVICES

CHAIN OF CUSTODY

Antioch Location
2825 Verne Roberts Circle
Antioch, CA 94509
Phone (925) 680-4300 | Fax (925) 680-4416

Lab info:
2825 Verne Robert Circle
Antioch, CA 94509

Client / Project:	**Project / Sample Location:**	**Test / Analytical Method:**
Woodland Biomass		EPA 201A/202 (PM10 only)
Project No.:	**Purchase Order No:**	**Special Analysis / Reporting Instructions:**
PROJ-003071		Hold RB & TPB samples - analyze only if abnormality w/ samples.
Send Analytical Report To:	**Sampler or PM Signature:**	
Antioch QA/QC: AntiochQA-QC@montrose-env.com rodell@montrose-env.com		

Run / Sample No.	Date	Time	Containers	Sample Fraction	Reagent	Lab / Sample ID No.
1-PM	12/29/21		1	FPM Container 1 - filter, PM ≤ 10µm	--	
"	12/29/21		1	FPM Cont. 3 - cyclone rinses, PM ≤ 10µm	acetone	
"	12/29/21		1	CPM Cont. 1 - aqueous liquid impinger contents	water	
"	12/29/21		1	CPM Container 2 - organic rinses	acetone & hexane	
"	12/29/21		1	CPM Container 3 - CPM filter	--	
2-PM	12/29/21		5	Same as Run 1	"	
3-PM	12/29/21		5	Same as Run 1	"	
FRB-PM	12/29/21		5	Field Recovery Blank - FPM C1, CPM C1-C3	"	
RB-PM-A	12/29/21		1	FPM C7 / CPM C6 - acetone reagent blank	acetone	
RB-PM-B	12/29/21		1	CPM Container 7 - water reagent blank	water	
RB-PM-C	12/29/21		1	CPM Container 8 - hexane reagent blank	hexane	
1,2,3-TPB-PM	12/28/21		3	CPM Cont. 9 - train proof blank, inorganic rinses	water	
1,2,3-TPB-PM	12/28/21		3	CPM Cont. 10 - train proof blank, organic rinses	acetone & hexane	
Total Containers			29			

Relinquished by	Date	Time	Received by	Date	Time	Temp.
	12/31/21	0940	Victor Garcia	1/04/22	0800	
Relinquished by	Date	Time	Received by	Date	Time	Temp.
Relinquished by	Date	Time	Received by	Date	Time	Temp.

Key: FPM = Filterable Particulate Matter, CPM = Condensable Particulate Matter, RB = Reagent Blank, FRB = Field Recovery Blank, TPB = Train Proof Blank

Appendix C.2
Ammonia Analyses

AMMONIA RESULTS
Client: Woodland Biomass
Project: PROJ - 003071

NH_3 Calibration:
Standards: 1.216 ppm, 12.16 ppm, 121.6 ppm NH_3
Slope: -57.4
pH Calibration Check (pH = 5.00): 5.03

NH_3 Audit (Ricca Chemical):
Lot No. 1107613
Recovery: 100%

Test Number	Reagent	Sample Volume (mL)	pH	Dilution Factor	Meter Reading (ppm NH_3)	Blank Corrected (ppm NH_3)	Average
Lab Blank (0.1 N HCl)		--	--	1	0.01	--	0.01
					0.01	--	
NH_3 Audit (10.00 ppm)		--	--	1	9.94	9.93	9.95
					9.99	9.98	
FB-NH_3	0.1 N HCl	260.6	1.5	1	0.02	--	< 0.5
					0.02	--	
1-NH_3	0.1 N HCl	415.1	1.6	1	13.7	13.7	13.7
					13.8	13.8	
2-NH_3	0.1 N HCl	366.0	1.6	1	13.9	13.9	13.9
					14.0	14.0	
3-NH_3	0.1 N HCl	386.8	1.6	1	15.2	15.2	15.2
					15.2	15.2	

NOTES: Reporting Limits: 0.5 ppm (mg/L) ammonia
Units: ppm = mg/L

Meter: Orion 4-Star, S/N G12980
Ammonia Probe: Orion TY1-18435

Analyzed by: Echetty
Esha Chetty
Laboratory Manager

Date: 01 / 07 / 2022

Reviewed by:
Katie Resch
QC/Reporting Specialist

Date: 01 / 07 / 2022

LABORATORY NARRATIVE
BAAQMD METHOD ST-1B
Client: Woodland Biomass
Project: PROJ - 003071

Custody

Three samples collected in 0.1 N HCl were received on January 4th, 2022. One field blank and one reagent blank was also received. According to the Chain of Custody, these samples were collected on December 30th, 2021. Sample bottles were marked with no evident loss.

Sample Analysis Notes

Samples were analyzed for ammonia based on the analytical procedures in BAAQMD ST-1A (Determination of Ammonia Effluents Collected in Acid Media using the Specific Ion Electrode). These samples were analyzed on January 7th, 2022 (within 5 days of sample receipt). All samples had a pH measurement below 1.7. Immediately before ammonia analysis, the pH of each sample was raised above 11 using a pH/ionic strength adjusting solution.

Calibration Notes

Prior to analysis, the calibration was checked with a 10.00 ppm audit sample. The measured value was within 5% of the certified concentration.

MONTROSE
AIR QUALITY SERVICES

SAMPLE ACCEPTANCE CHECKLIST

Section 1
Client: Woodland Biomass
Project: PROJ-003071 Test Method: BAAQMD ST-13
Date Received: 1/04/22
Sampler's Name Present: ☐ Yes ☐ No

Section 2
Sample Temperature (°C) : Ambient
Testing: ☐ Compliance ☐ RATA ☐ Engineering ☐ NA

Section 3	Yes	No	NA
Was a COC included with the samples?	✓		
Are sample IDs present on the COC?	✓		
Are sampling dates present on the COC?	✓		
Is a relinquished signature present?	✓		
Are the test methods required clearly indicated on the COC?	✓		
Were the samples kept cold during transport?			✓
Were the samples placed under refrigeration for storage?			✓
Are the level of liquid marked on the sample bottle?	✓		
If the sample bottles are marked, was there in visible loss of sample?		✓	
Are the caps/seals intact?	✓		
Did all the bottle labels agree with the COC? (Sample IDs, content)	✓		
Did the samples labels include the project number?	✓		
Did the samples labels include the collection date?	✓		
Were the samples collected in the correct containers for the required tests.	✓		
Are the containers label with the correct preservatives?	✓		
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 4 Explanations/Comments

Section 5
For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials:_____ Date: _____
☐ Email (email sent to/on): _____/_____
Project Manager's response:

Completed By: Victor Garcia Date: 1/04/22

MONTROSE AIR QUALITY SERVICES

CHAIN OF CUSTODY

Antioch Location
2825 Verne Roberts Circle
Antioch, CA 94509
(925) 680-4300

Lab info:
2825 Verne Robert Circle
Antioch, CA 94509

Client / Project: Woodland Biomass	**Project / Sample Location:**	**Test / Analytical Method:** BAAQMD ST-1B (combine impingers)
Project No.: PROJ-003071	**Purchase Order No:**	**Special Analysis / Reporting Instructions:** Do not analyze RB at this time. Analyze only if abnormality of samples
Send Analytical Report To: Antioch QA/QC: : AntiochQA-QC@montrose-env.com rodell@montrose-env.com	**Sampler or PM Signature:**	

Run / Sample No.	Date	Time	Containers	Sample Fraction	Reagent	Lab / Sample ID No.
1-NH3	12/30/21		1	Container 1 - Impingers 1 & 2 contents and rinses	0.1N HCl	
2-NH3	12/30/21		1	Same as Run 1	"	
3-NH3	12/30/21		1	Same as Run 1	"	
FB-NH3	12/30/21		1	Field blank - same as Run 1	"	
RB-NH3	12/31/21		1	Reagent Blank	"	Hold
Total Containers			5			

	Date	Time	Received by	Date	Time	Temp.
Relinquished by	12/31/21	0940	Victor Garcia	1/04/22	0800	
Relinquished by	Date	Time	Received by	Date	Time	Temp.
Relinquished by	Date	Time	Received by	Date	Time	Temp.

Key: FB = Field Blank

Appendix C.3
SO_2 Analysis

SOx RESULTS - EPA 6

Client: Woodland Biomass

Project: PROJ - 003071

Test Number	Reagent	Total Volume (g)	Total Volume (mL)	Aliquot Volume (mL)	Dilution Factor	Titrant Volume (mL)	Blank Correction (mL)	Average (mL)	Comments	mg H_2SO_4*2H_2O
Laboratory Blank: (80% IPA)				100	1	0.05 0.10	-- --	0.08		
Titrant Standardization: 0.01 N H_2SO_4 RICCA Lot# 4111A91				10	1	10.0 10.0	9.93 9.93	9.93	Titrant Used: 0.01008 N $BaCl_2$	
Audit Sample: 0.0097 N H_2SO_4 Aqua Solutions Lot No.# 1042949				10	1	9.85 9.80	9.78 9.73	9.75	98.3% Recovery	
FB-SOx	3% H_2O_2	192.3	192.3	10	1	0.00 0.00	-- --	0.00	--	--
1-SOx	3% H_2O_2	357.1	357.1	10	1	0.18 0.23	0.18 0.23	0.20	--	4.83
2-SOx	3% H_2O_2	446.8	446.8	10	1	0.20 0.20	0.20 0.20	0.20	--	6.04
3-SOx	3% H_2O_2	394.4	394.4	10	1	0.00 0.00	0.00 0.00	< 0.05	DL	1.33
4-SOx	3% H_2O_2	396.8	396.8	10	1	0.00 0.00	0.00 0.00	< 0.05	DL	1.34
5-SOx	3% H_2O_2	406.5	406.5	10	1	0.00 0.00	0.00 0.00	< 0.05	DL	1.37
6-SOx	3% H_2O_2	401.2	401.2	10	1	0.00 0.00	0.00 0.00	< 0.05	DL	1.36
7-SOx	3% H_2O_2	404.8	404.8	10	1	0.00 0.00	0.00 0.00	< 0.05	DL	1.37
8-SOx	3% H_2O_2	413.7	413.7	10	1	0.00 0.00	0.00 0.00	< 0.05	DL	1.40
9-SOx	3% H_2O_2	422.2	422.2	10	1	0.00 0.00	0.00 0.00	< 0.05	DL	1.43
10-SOx	3% H_2O_2	397.8	397.8	10	1	0.00 0.00	0.00 0.00	< 0.05	DL	1.34

Analyzed by: Echetty Date: 01 / 11 / 2022

Esha Chetty
Laboratory Manager

Reviewed by: Date: 01 / 11 / 2022

Katie Resch
QC/Reporting Specialist

LABORATORY NARRATIVE
EPA METHOD 6
Client: Woodland Biomass
Project: PROJ - 003071

Custody

Ten samples collected in 3% hydrogen peroxide were received on January 4th, 2022. One field blank was also received. According to the Chain of Custody, these samples were collected on December 30th, 2021. Sample bottles were marked with no evident loss.

Sample Analysis Notes

Samples were analyzed for SO_x based on the analytical procedures in EPA Method 6 (Determination of Sulfur Dioxide Emissions from Stationary Sources). These samples were analyzed on January 11th, 2022. Samples were run through Amberlite IR 120H ion exchange resin.

Quality Assurance Notes

Prior to analysis, the 0.01 N $BaCl_2$ titrant was standardized using a 0.01 N sulfuric acid standard. Titrations with this 0.01 N $BaCl_2$ were also checked with a 0.0097 N sulfuric acid audit sample. The measured value was within 5% of the standardized concentration.

MONTROSE
AIR QUALITY SERVICES

SAMPLE ACCEPTANCE CHECKLIST

Section 1
Client: Woodland Bio Mass
Project: PROJ-003071 Test Method: EPA 6
Date Received: 1/04/22
Sampler's Name Present: ☑ Yes ☐ No

Section 2
Sample Temperature (°C): Ambient
Testing: ☐ Compliance ☐ RATA ☐ Engineering ☐ NA

Section 3	Yes	No	NA
Was a COC included with the samples?	✓		
Are sample IDs present on the COC?	✓		
Are sampling dates present on the COC?	✓		
Is a relinquished signature present?	✓		
Are the test methods required clearly indicated on the COC?	✓		
Were the samples kept cold during transport?			✓
Were the samples placed under refrigeration for storage?			✓
Are the level of liquid marked on the sample bottle?	✓		
If the sample bottles are marked, was there in visible loss of sample?		✓	
Are the caps/seals intact?	✓		
Did all the bottle labels agree with the COC? (Sample IDs, content)	✓		
Did the samples labels include the project number?	✓		
Did the samples labels include the collection date?	✓		
Were the samples collected in the correct containers for the required tests.	✓		
Are the containers label with the correct preservatives?	✓		
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 4 Explanations/Comments

Section 5
For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials:_____ Date:_____
☐ Email (email sent to/on):_____/_____
Project Manager's response:

Completed By: Victor Garcia Date: 1/04/22

MONTROSE AIR QUALITY SERVICES

CHAIN OF CUSTODY

Antioch Location
2825 Verne Roberts Circle
Antioch, CA 94509
(925) 680-4300

Lab info:
2825 Verne Robert Circle
Antioch, CA 94509

Client / Project: Woodland Biomass	**Project / Sample Location:**	**Test / Analytical Method:** EPA 6
Project No.: PROJ-003071	**Purchase Order No:**	**Special Analysis / Reporting Instructions:**
Send Analytical Report To: Antioch QA/QC: : AntiochQA-QC@montrose-env.com rodell@montrose-env.com	**Sampler or PM Signature:**	Do not dilute to 1000ml

Run / Sample No.	Date	Time	Containers	Sample Fraction	Reagent	Lab / Sample ID No.
1-SOX	12/30/21		1	Impinger Contents & Rinses	3% H2O2	
2-SOX	12/30/21		1	Impinger Contents & Rinses	3% H2O2	
3-SOX	12/30/21		1	Impinger Contents & Rinses	3% H2O2	
4-SOX	12/30/21		1	Impinger Contents & Rinses	3% H2O2	
5-SOX	12/30/21		1	Impinger Contents & Rinses	3% H2O2	
6-SOX	12/30/21		1	Impinger Contents & Rinses	3% H2O2	
7-SOX	12/30/21		1	Impinger Contents & Rinses	3% H2O2	
8-SOX	12/30/21		1	Impinger Contents & Rinses	3% H2O2	
9-SOX	12/30/21		1	Impinger Contents & Rinses	3% H2O2	
10-SOX	12/30/21		1	Impinger Contents & Rinses	3% H2O2	
FB-SOX	12/30/21		1	Impinger Contents & Rinses	3% H2O2	
RB-SOX	12/30/21		1	H2O2 reagent blank	3% H2O2	Hold
Total Containers			**12**			

Relinquished by	Date 12/31/21	Time 0940	Received by Victor Garcia	Date 1/04/22	Time 0800	Temp.
Relinquished by	Date	Time	Received by	Date	Time	Temp.
Relinquished by	Date	Time	Received by	Date	Time	Temp.

Key: SOX = Oxides of Sulfur, FB = Field Blank, RB = Reagent Blank

Appendix C.4
HCl Analysis

MONTROSE AIR QUALITY SERVICES

PROJECT: PROJ-003071
WOODLAND BIOMASS

CLIENT # M039
REPORT # 22-006

SUBMITTED BY:
CHESTER LabNet
12242 S.W. GARDEN PLACE
TIGARD, OR 97223
(503)624-2183/FAX (503)624-2653
www.ChesterLab.Net

CHESTER LabNet

12242 SW Garden Place ❖ Tigard, OR 97223-8246 ❖ USA
Telephone 503-624-2183 ❖ Fax 503-624-2653 ❖ www.chesterlab.net

Case Narrative

Date: January 7, 2022

General Information

Client:	Montrose Air Quality Services
Client Number:	M039
Report Number:	22-006
Sample Description:	Impinger Solutions
Sample Numbers:	22-S1 – 22-S5

Analysis

Analytes:	HCl
Analytical Protocols:	EPA Method 26A (1/14/19 version)
Analytical Notes:	No problems were encountered during the analyses. All samples were analyzed in duplicate. The average of the two measurements have been reported. The results are not blank corrected.
QA/QC Review:	All of the data have been reviewed by the analysts performing the analyses and the project manager. All of the quality control and sample-specific information in this package is complete and meets or exceeds the minimum requirements for acceptability.
Comments:	If you have any questions or concerns regarding this analysis, please feel free to contact the project manager.
Disclaimer:	This report shall not be reproduced, except in full, without the written approval of the laboratory. The results only represent that of the samples as received into the laboratory. All data are reported to the detection limit. Results <5x DL must be considered to have a higher degree of uncertainty associated with them. Due to the statistical process of detection limit determination, data in this report should not be used for statistical analysis as the data has been censored in such a manner as to bias statistical analyses high.

Paul Duda 1/7/22

Project Manager Date
Paul Duda

Client: M039 - Montrose Air Quality Services
Report Number: 22-006

Lab ID: 22-S1
Client ID: 1-HCl
Site: Woodland Biomass
Sample Date: 12/29/21
Sample Volume: 585. mL

Analyte	mg/L Conc.	mg/L DL	µg/sample Conc.	µg/sample DL
HCl	10.8	0.010	6,320	6.01

Lab ID: 22-S2
Client ID: 2-HCl
Site: Woodland Biomass
Sample Date: 12/29/21
Sample Volume: 635. mL

Analyte	mg/L Conc.	mg/L DL	µg/sample Conc.	µg/sample DL
HCl	14.7	0.010	9,350	6.53

Lab ID: 22-S3
Client ID: 3-HCl
Site: Woodland Biomass
Sample Date: 12/29/21
Sample Volume: 645. mL

Analyte	mg/L Conc.	mg/L DL	µg/sample Conc.	µg/sample DL
HCl	11.3	0.010	7,270	6.63

Lab ID: 22-S4
Client ID: FB-HCl
Site: Woodland Biomass
Sample Date: 12/29/21
Sample Volume: 275. mL

Analyte	mg/L Conc.	mg/L DL	µg/sample Conc.	µg/sample DL
HCl	< DL	0.010	< DL	2.83

Lab ID: 22-S5
Client ID: RB-HCl
Site: Woodland Biomass
Sample Date: 12/29/21
Sample Volume: 154. mL

Analyte	mg/L Conc.	mg/L DL	µg/sample Conc.	µg/sample DL
HCl	< DL	0.010	< DL	1.58

QA/QC Report

Client Name: Montrose Air Quality Services
Project Number: M039
Analytical Technique: Ion Chromatography
Instrument: Thermo ICS-5000
Sample Description: EPA 26A
Report Number: 22-006

Blank Data

Analyte	Sample ID	Measured Conc. µg/L	DL Conc. µg/L
Cl	ICB	< DL	0.010
Cl	CCB	< DL	0.010
Cl	CCB	< DL	0.010
Cl	CCB	< DL	0.010

ICB: Initial Calibration Blank CCB: Continuing Calibration Blank
*: Sample Media Blank (SM_Blk) concentration in µg/filter
Method Blank is in control if Method Blank results are <10% of sample results

Calibration QC

Analyte	Sample ID	Standard Conc. µg/L	Measured Conc. µg/L	Percent Recovery
Cl	ICV	0.500	0.540	108.0
Cl	LL-LCS	0.030	0.030	100.0
Cl	CCV	0.500	0.542	108.4
Cl	CCV	0.500	0.539	107.8
Cl	CCV	0.500	0.538	107.6

ICV: Initial Calibration Verification CCV: Continuing Calibration Verification
Calibration Verification Limits: 90% - 110% Recovery
Low Level-LCS Limits: 50% - 150% Recovery
LL-LCS results are insignificant if sample results are >10x LL-LCS concentration

Duplicate Data

All samples analyzed in duplicate. The reported concentrations are the average of the two measurements.

Laboratory Control Sample/Matrix Spike Analysis

Analyte	Sample ID	Sample Conc. µg/L	Spike Conc. µg/L	Spike Amount µg/L	Percent Recovery
Cl	22-S1	10.5	16.1	5.00	112.

LCS Limit: 80% - 120% Recovery Spike Limit: 75% - 125% Recovery
*: per EPA CLP protocol, control limits do not apply if spike concentration is less than 25% of the sample concentration

CHESTER LABNET
SOURCE SAMPLE RECEIPT CHECKLIST

Client	Montrose Air Quality Services	Date	1/5/22
# Runs	3 + Blanks	Report #	22-006

Package intact?	✓	
Chain-of-Custody form inspected	✓	
CoC present with samples?	✓	
CoC indicates analytical methodology to be used? (eg M29, etc.)	M26A	!!
Has CoC been signed by client?	✓	
Custody release date and time noted on CoC?	✓	
All sample containers inspected	✓	
Does number of samples match number on CoC form?	✓	!!
Do all sample ID numbers match those on the CoC form?	✓	!!
Did client mark sample volumes prior to shipment?	✓	
Sample temperature recorded?	NA	
Are the sample containers intact?	✓	!!
If present, Audit Sample intact?	NA	!!
Are signs of leakage present?	NO	*
Chain-of-Custody form signed and dated by CLN	✓	
Corrective actions		
Client contacted due to mismatching sample ID numbers		
Client contacted due to broken sample container(s)		
Client contacted due to leaking sample container(s)		
Client contacted for verification of methodology?		
Corrective actions documented?		
Corrective actions accomplished?		

Items marked !! shall be addressed ***prior to any analytical work being started****.*
*Items marked * shall be* ***noted in case narrative*** *upon reporting of results to client.*

Signed _____

Notes _____

MONTROSE
AIR QUALITY SERVICES

CHAIN OF CUSTODY

22-006

Antioch Location
2825 Verne Roberts Circle
Antioch, CA 94509
(925) 680-4300

Lab info:

Chester Labnet
12242 SW Garden Pl,
Tigard, OR 97223

Client / Project: Woodland Biomass	**Project / Sample Location:**	**Test / Analytical Method:** EPA 26A (halides)
Project No.: PROJ-003071	**Purchase Order No:**	**Special Analysis / Reporting Instructions:**
Send Analytical Report To: Antioch QA/QC: : AntiochQA-QC@montrose-env.com; rodell@montrose-env.com	**Sampler or PM Signature:**	

Run / Sample No.	Date	Time	Containers	Sample Fraction	Reagent	Lab / Sample ID No.
1-HCl	12/29/21		1	Container 3 - [KO], Impingers 1 & 2 contents, rinses	0.1N H2SO4	22-S1
2-HCl	12/29/21		1	Same as Run 1	"	S2
3-HCl	12/29/21		1	Same as Run 1	"	S3
FB-HCl	12/29/21		1	Field blank - same containers as Run 1	"	S4
						~~S5~~
RB-HCl	12/29/21		1	H2SO4 reagent blank	0.1N H2SO4	~~S6~~ S5
Total Containers			**5**			

Relinquished by	Date	Time	Received by	Date	Time	Temp.
	12/31/21	0940	Victor Garcia	1/04/22	0800	
Relinquished by: Esha to Fedex	1/4/22	1230	Received by: Jon Ball	1/5/22	~~10:~~ 9:55	Ambient
Relinquished by	Date	Time	Received by	Date	Time	Temp.

Key: [KO] = Knockout impinger, "[ ]" denotes an option in the method, FB = Field Blank, RB = Reagent Blank

RAW DATA

Available upon request

Appendix C.5
Mercury Analysis

ANALYTICAL REPORT
METHOD 30B MERCURY
WOODLAND BIOMASS
MAIN STACK

Prepared By:

Montrose Air Quality Services, LLC
1371 Brummel Avenue
Elk Grove Village, Illinois

Document Number: MW005AS-003071-LR-66
Document Date: January 19, 2022

TABLE OF CONTENTS

1.0 PROJECT SUMMARY 4

1.1 General 4
Table 1-1 Project Information 4
Table 1-2 Analytical Equipment 4
1.2 Methodology 4
1.3 QA/QC 4
Table 1-3 Summary of Calibration Standards 5
1.4 Condition of Samples When Received 5
Table 1-4 Sample Summary 5

APPENDIX A CALIBRATION DATA

APPENDIX B RESULTS

APPENDIX C CHAIN OF CUSTODY

REPORT CERTIFICATION

STATEMENT OF CONFORMANCE AND LABORATORY REPORT CERTIFICATION

The following data has been reviewed for completeness, accuracy, adherence to method protocol and compliance with quality assurance guidelines.

Performance data is available upon request.



Benjamin Hilgendorf, National Laboratory Director
Montrose Air Quality Services, LLC

Henry M. Taylor 01 / 20 / 2022

Henry Taylor, Senior Reporting Specialist
Montrose Air Quality Services, LLC

1.0 PROJECT SUMMARY

1.1 GENERAL

TABLE 1-1
PROJECT INFORMATION

Project Information	
Date Collected	12/30/2021
Date Received	1/10/2022
Analytical Protocol	EPA Method 30B
Number of Sample Runs Received	3

TABLE 1-2
ANALYTICAL EQUIPMENT

Equipment Information	Manufacturer	Model	Serial No.
Zeeman Mercury Spectrometer	Ohio Lumex	RA-915+	996

1.2 METHODOLOGY

All samples were analyzed according to the EPA Method 30B procedures found in 40 CFR Part 60 Appendix A. The samples were analyzed at the Montrose Laboratory in Elk Grove Village, Illinois.

1.3 QA/QC

The mercury calibration curve was generated using five calibration standards. The standards were prepared by using a micro pipette to transfer a known amount of NIST traceable mercury standards to a bed of activated carbon and covered with sodium carbonate.

The preparation of the mercury standards used for this project is detailed in the table below. All standards where supplied by Ohio Lumex, Cleveland, Ohio.

TABLE 1-3
SUMMARY OF CALIBRATION STANDARDS

Concentration (µg/ml)	Volume (µl)	Final Hg (ng)
0.1	30	3
0.1	100	10
1.0	50	50
1.0	100	100
10.0	25	250
10.0	50	500

1.4 CONDITION OF SAMPLES WHEN RECEIVED

Samples were received in good condition.

TABLE 1-4
SAMPLE SUMMARY

Sample Description	Trap ID	Spike Level (ng)	Mass Hg (ng) Front Section	Mass Hg (ng) Back Section	Breakthrough (%)
Run 1 A	OLC124701	40	48.0	0.427	0.889
Run 1 B	OLC595687	NA	8.03	0.00	0.00
Run 2 A	OLC125090	40	52.3	0.980	1.87
Run 2 B	OLC149912	NA	12.4	0.975	7.89
Run 3 A	OLC125168	40	49.4	0.938	1.90
Run 3 B	OL595552	NA	9.84	0.577	5.86

APPENDIX A
CALIBRATION DATA

GENERAL INFORMATION

Date:	1/18/2021
Analyzer:	996
Analyst:	BRH
Furnace Temp (°C):	680
Flow Rate (L/min):	2
Pipette ID:	H45939B
Standard Set ID:	2

INITIAL CALIBRATION

Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
1	500	97,800	0.00511	465	-7.06	Yes
2	250	52,100	0.00480	248	-0.973	Yes
3	100	22,100	0.00452	105	5.01	Yes
4	50	11,500	0.00435	54.6	9.29	Yes
5	10	2,010	0.00498	9.55	-4.49	Yes

Average Response Factor (ng/area)	0.00475
R-Squared	0.999

LOW LEVEL STANDARD - FOR QUANTIFICATION BELOW 5 NG

Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
NA	3	640	0.00469	3.04	1.37	NA

SECOND SOURCE CHECK STANDARD ANALYSIS

Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
NA	100	21,000	0.00476	100	-0.213	Yes

CONTINUING CALIBRATION VERIFICATION STANDARDS

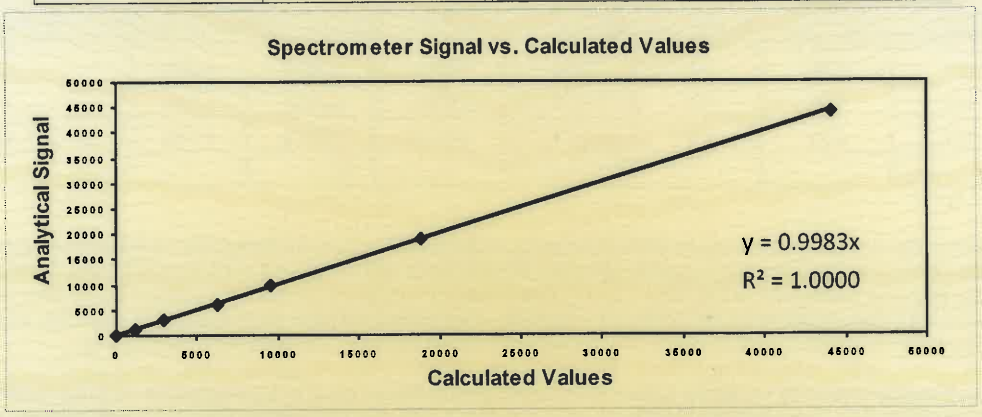
Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
NA	10	2,000	0.00500	9.50	-4.96	Yes
NA	10	2,220	0.00450	10.5	5.49	Yes
NA	10	2,230	0.00448	10.6	5.96	Yes

No	Description	M, mg	C, ng/g	Area	Maximum	Time
1	Std__500	1	465	97800	9680	2:56:23 PM
2	Std__250	1	248	52100	2810	2:58:45 PM
3	Std__100	1	105	22100	1810	3:00:43 PM
4	Std__50	1	55	11500	1090	3:02:58 PM
5	Std__10	1	10	2010	186	3:05:05 PM
6	Std__3	1	4.0	640	72	3:07:14 PM
7	Std__Sec Src 100	1	100	21000	1440	3:09:39 PM
8	Blank	1	0.9	-19	6	3:12:02 PM
19	Std__10	1	10	2000	250	3:41:52 PM
22	124701_R1_A_F	1	48	10100	750	4:01:32 PM
23	124701_R1_A_B	1	1.4	91	9	4:03:45 PM
24	595687_R1_B_F	1	9.0	1690	148	4:07:02 PM
25	595687_R1_B_B	1	0.8	-38	6	4:09:23 PM
26	125090_R2_A_F	1	53	11000	868	4:11:46 PM
27	125090_R2_A_B	1	2.0	209	8	4:14:00 PM
28	149912_R2_B_F	1	13	2600	196	4:16:40 PM
29	149912_R2_B_B	1	2.0	208	9	4:18:53 PM
30	Std__10	1	11	2220	162	4:22:16 PM
31	125168_R3_A_F	1	50	10400	803	4:25:41 PM
32	125168_R3_A_B	1	1.9	200	10	4:27:46 PM
33	595552_R3_B_F	1	10	2070	118	4:30:13 PM
34	595552_R3_B_B	1	1.6	123	9	4:33:03 PM
35	Std__10	1	11	2230	184	4:35:05 PM

Spectrometer Calibration Certificate

RA-915+ 996

Standard No.	Temp (°C)	Calculated Value	Signal (10m cell)
1	24	0	0
2	24	1131	1087
3	24	2896	2938
4	24	6214	6193
5	24	9531	9777
6	24	18814	18875
7	24	44150	44071



Calibration Gas certified value: 2.6 µg/m³ **Reading observed: 2.6 µg/m³**

Calibration Parameter A: 1002 **Calibration Parameter B: 45000**

CALIBRATION DATE: 1/25/2021 **NEXT CALIBRATION DUE: 1/26/2022**

ON THE DATE CALIBRATED, THIS UNIT OPERATED WITHIN SPECIFIED TOLERANCES

Digital Barometer:	**Cert. 1081-8782151**	**Cal. Due 6/22/2021**
Digital Thermometer:	**Cert. 1081-8782151**	**Cal. Due 6/22/2021**
Gas NIST Traceable Standard:	**Themo Hg Calibrator Serial # 0722923640**	

Concentration: 2.6 µg/m³, Analytical Accuracy: +/- 10%, Recertification Date: 6/23/2022

Service Technician: _____

QA/QC Check: _____

Jonathan Cross (Jan 25, 2021 13:24 EST)

RECOMMENDATION NOTE: INSTRUMENT SHOULD BE RECALIBRATED EVERY 12 MONTHS OR SOONER, IF EXPOSED TO EXTREME CONDITIONS OR DAMAGE IS SUSPECTED

Ohio Lumex Co. Inc. 30350 Bruce Industrial Parkway, Solon, OH 44139

mail@ohiolumex.com **1.888.876.2611**

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Air Quality Instruments
27 Forge Parkway
Franklin, MA 02038 USA
(866) 282-0430
(508) 520-0430
www.thermoscientific.com/AQI

ThermoFisher SCIENTIFIC

Thermo Scientific Model 81i Calibrator Certification Report

Certification Date: 6/23/2020

	Candidate		*Reference*
Location:	THERMO	ID:	Vendor Prime
Device:	81i-Ohio Lumex Company	S/N:	0712322224
S/N:	0722923640		
RA# SE-2005290899	Chiller Temp 7 Deg C		Chiller S/N 202

As Found Data: *As Left Data:*

Candidate User Information		Candidate User Generator Certification					Reference Generator
		Certification Values		Certifications Uncertainties			Uncertainties
Setpoint	Value	Setpoint	Certified	1σ	2σ	Relative	Expanded
µg/scm	µg/scm	µg/scm	µg/scm	µg/scm	µg/scm	2σ, %	2σ, %
2.7	2.74	2.7	2.70	0.0264	0.0528	1.95%	2.11%
5.7	6.03	5.7	5.74	0.0359	0.0719	1.25%	2.05%
8.1	8.73	8.1	8.17	0.0468	0.0935	1.14%	1.98%

At each concentration level, the results of the bracketing certification procedure are acceptable if the expanded uncertainty of the elemental mercury generator concentration, calculated in accordance with Section 6.3 in the Interim EPA Traceability Protocol for Qualification and Certification of Elemental Mercury Gas Generators, does not exceed 5.0 percent of the certified value, or is not more than 2.0 percent above the Vendor Prime uncertainty at the closest set point, whichever is less restrictive. (Source Interim EPA Traceability Protocol for Qualification and Certification of Elemental Mercury Gas Generators: Section 6.4)

Protocol applies only to Hg monitoring system span values greater than or equal to 5.0 micrograms per cubic meter (µg/m3). (Source Interim EPA Traceability Protocol for Qualification and Certification of Elemental Mercury Gas Generators: Section 1.0)

This document certifies that the above instrument has been calibrated and tested in accordance with Thermo Fisher Scientific procedure conducted under the conditions noted with standards, which are certified traceable to the National Institute of Standards and Technology (NIST). This Calibration Certificate may not be reproduced expect in full, without written permissions from Thermo Fisher Scientific. The results of this report relate only to the instrument tested and calibrated as identified on this certificate.

Calibration

Certification

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Registered to ISO 9001

109842-00 REV C ECN XXXXXX

Ohio Lumex Company, Inc.
30350 Bruce Industrial Parkway
Solon, OH 44139
Toll Free (888) 876 2611, (440) 264 2500, Fax. (440) 264 2501
www.ohiolumex.com

Certified Reference Material (Mercury Standard) Certificate of Analysis

1.0 ACCREDITATION / REGISTRATION

The certified reference material manufacturer is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" (A2LA certificate number 883.02) and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories" (A2LA certificate number 883.01) and it is also ISO 9001 registered (CSR Certificate Number QSR-1034).

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	RPM-039
Lot Number:	P2-MEB686962
Matrix:	10% (v/v) HCl
Value / Analyte(s):	0.1 µg/mL ea: Mercury

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Mercury, Hg	0.1000 ± 0.0005 µg/mL		

Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \Sigma(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char\ i}^2) / (\Sigma 1/(u_{char\ i}^2))$$

CRM/RM Expended Uncertainty (±) $= U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = (\Sigma(w_i)^2 u_{char\ i}^2))^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a)\,(u_{char\ a})$$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expended Uncertainty (±) $= U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed outer bag.

- While stored in the sealed outer bag, transpiration of this CRM/RM is negligible. After opening the sealed outer bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed outer bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 19, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- November 19, 2023

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed outer Bag Open Date: 12/1/20

- This CRM/RM should not be used longer than one year from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Ohio Lumex Company, Inc.
30350 Bruce Industrial Parkway
Solon, OH 44139
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Certified Reference Material (Mercury Standard) Certificate of Analysis

1.0 ACCREDITATION / REGISTRATION

The certified reference material manufacturer is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" (A2LA certificate number 883.02) and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories" (A2LA certificate number 883.01) and it is also ISO 9001 registered (QSR Certificate Number QSR-1034).

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	RPM-043QC
Lot Number:	P2-HG681569
Matrix:	10% (v/v) HCl
Value / Analyte(s):	1 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1.0016 ± 0.0043 µg/mL

Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 01, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 01, 2023

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.000001	M	Eu	<	0.000201	O	Na		0.000001	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000001	O	Fe		0.000001	M	Nb	<	0.000201	O	Si		0.000001	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000001	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.000002	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000001	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000001	M	Sc	<	0.000201	M	Yb	<	0.000201				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed outer bag.

- While stored in the sealed outer bag, transpiration of this CRM/RM is negligible. After opening the sealed outer bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed outer bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

11.3 Period of Validity

- Sealed outer Bag Open Date: 12/1/20

- This CRM/RM should not be used longer than one year from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Ohio Lumex Company, Inc.
30350 Bruce Industrial Parkway
Solon, OH 44139
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Certified Reference Material (Mercury Standard) Certificate of Analysis

1.0 ACCREDITATION / REGISTRATION

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2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	RPM-043
Lot Number:	R2-MEB691338
Matrix:	10% (v/v) HCl
Value / Analyte(s):	1 µg/mL ea: Mercury

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Mercury, Hg	1.000 ± 0.005 µg/mL		

Density: 1.019 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed outer bag.

- While stored in the sealed outer bag, transpiration of this CRM/RM is negligible. After opening the sealed outer bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed outer bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 06, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 06, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed outer Bag Open Date: 12/1/20

- This CRM/RM should not be used longer than one year from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

Ohio Lumex Company, Inc.
30350 Bruce Industrial Parkway
Solon, OH 44139
Toll Free (888) 876 2611, (440) 264 2500, Fax. (440) 264 2501
www.ohiolumex.com

Certified Reference Material (Mercury Standard) Certificate of Analysis

1.0 ACCREDITATION / REGISTRATION

The certified reference material manufacturer is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" (A2LA certificate number 883.02) and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories" (A2LA certificate number 883.01) and it is also ISO 9001 registered (QSR Certificate Number QSR-1034).

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	RPM-042
Lot Number:	P2-HG683300
Matrix:	10% (v/v) HCl
Value / Analyte(s):	10 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.004 ± 0.066 µg/mL

Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.000011	M	Eu	<	0.000201	O	Na		0.000004	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000001	O	Fe		0.000001	M	Nb	<	0.000201	O	Si		0.000005	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.000020	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000001	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000009	M	Sc	<	0.000201	M	Yb	<	0.000201				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed outer bag.

- While stored in the sealed outer bag, transpiration of this CRM/RM is negligible. After opening the sealed outer bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed outer bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA, Telephone: 800.669.6799, 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 28, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 28, 2023

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed outer Bag Open Date: 12/1/20

- This CRM/RM should not be used longer than one year from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Michael J Booth

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Paul R Gaines

STATEMENT OF PIPETTE CALIBRATION

Certificate Number: 376300

MONTROSE AIR QUALITY SERVICES

BEN HILGENDORF
1371 BRUMMEL AVE
ELK GROVE IL 60070

Calibrated by
BIOTEK SERVICES Inc.
LABORATORY CALIBRATIONS
www.biotekservices.com
800-792-3625

Asset ID#	Description	Nominal	Service Comments	Service Date	Due Date	Cal Result	Tech
149019Z	EPPENDORF	100 UL	*Requires Replacement Micrometer*			FAIL	JAK
H45939B	EPPENDORF	100 UL	*PM/CAL*	01/04/2021	01/31/2022	PASS	JAK
H46145B	EPPENDORF	100 UL	*PM/CAL*	01/04/2021	01/31/2022	PASS	JAK
L34592C	EPPENDORF	100 UL	*PM/CAL*	01/04/2021	01/31/2022	PASS	JAK

The instrument(s) listed above in this report that have passed all maintenance and calibration procedures. Each was verified, tested and calibrated using the gravimetric process with high resolution, analytical or micro-balances. All equipment and standards maintain a current calibration schedule and directly traceable to N.I.S.T. Documentation available upon request.

Bias Test Results (Pass/Fail): Pass

Low Level Parameters

Trap Spike Level (ng)	10			
	Run 1	**Run 2**	**Run 3**	
Trap ID	**OL577417**	**OL577397**	**OL577396**	
Front Half (area)	2,320	2,220	2,320	
Back Half (area)	11	51	0	
RESULTS				**Average**
Front Half (ng)	10.6	10.1	10.6	
Back Half (ng)	0.046	0.214	0.00	
Breakthrough (%)	0.438	2.12	0.00	
Total Mercury (ng)	10.6	10.3	10.6	
Error (%)	5.99	3.12	5.53	**4.88**
Validity	Yes	Yes	Yes	

Standard Level (ng)	10			
	Run 1	**Run 2**	**Run 3**	
Area Count	2,100	2,410	2,040	
RESULTS				**Average**
Calculated Value (ng)	9.55	11.0	9.28	**9.93**
Error (%)	-4.48	9.62	-7.21	**-0.688**
Validity				**Yes**

High Level Parameters

Trap Spike Level (ng)	1,000			
	Run 1	**Run 2**	**Run 3**	
Trap ID	**OL577423**	**OL577411**	**OL577281**	
Front Half (area)	216,000	218,000	217,000	
Back Half (area)	98	113	0	
RESULTS				**Average**
Front Half (ng)	983	992	987	
Back Half (ng)	0.412	0.475	0.00	
Breakthrough (%)	0.042	0.048	0.00	
Total Mercury (ng)	983	992	987	
Error (%)	-1.71	-0.792	-1.29	**-1.26**
Validity	Yes	Yes	Yes	

Standard Level (ng)	1,000			
	Run 1	**Run 2**	**Run 3**	
Area Count	216,000	217,000	218,000	
RESULTS				**Average**
Calculated Value (ng)	983	987	992	**987**
Error (%)	-1.75	-1.29	-0.84	**-1.294**
Validity				**Yes**

Bias Test Results (Pass/Fail): Pass

Low Level Parameters

Trap Spike Level (ng) 10

	Run 1	Run 2	Run 3	
Trap ID	**OL577417**	**OL577397**	**OL577396**	
Front Half (area)	2,320	2,220	2,320	
Back Half (area)	11	51	0	
RESULTS				**Average**
Front Half (ng)	10.6	10.1	10.6	
Back Half (ng)	0.046	0.214	0.00	
Breakthrough (%)	0.438	2.12	0.00	
Total Mercury (ng)	10.6	10.3	10.6	
Error (%)	5.99	3.12	5.53	**4.88**
Validity	Yes	Yes	Yes	**Yes**

Mid Level Parameters

Trap Spike Level (ng) 100

	Run 1	Run 2	Run 3	
Trap ID	**OL566815**	**OL566965**	**OL566999**	
Front Half (area)	21,900	20,500	21,100	
Back Half (area)	257	377	67	
RESULTS				**Average**
Front Half (ng)	100	93.2	96.0	
Back Half (ng)	1.08	1.58	0.282	
Breakthrough (%)	1.08	1.70	0.293	
Total Mercury (ng)	101	94.8	96.3	
Error (%)	0.695	-5.17	-3.74	**-2.74**
Validity	Yes	Yes	Yes	**Yes**

High Level Parameters

Trap Spike Level (ng)	1,000		
	Run 1	**Run 2**	**Run 3**
Trap ID	**OL577423**	**OL577411**	**OL577281**
Front Half (area)	216,000	218,000	217,000
Back Half (area)	98	113	0

RESULTS				**Average**
Front Half (ng)	983	992	987	
Back Half (ng)	0.412	0.475	0.00	
Breakthrough (%)	0.042	0.048	0.00	
Total Mercury (ng)	983	992	987	
Error (%)	-1.71	-0.792	-1.29	**-1.26**
Validity	Yes	Yes	Yes	**Yes**

APPENDIX B
RESULTS

Sample Parameters	Run 1 Spike	Run 2 Spike	Run 3 Spike
Trap ID	**OLC124701**	**OLC125090**	**OLC125168**
Front Half (area)	10,100	11,000	10,400
Back Half (area)	91	209	200
RESULTS			
Front Half (ng)	48.0	52.3	49.4
Back Half (ng)	0.427	0.980	0.938
Breakthrough (%)	0.889	1.87	1.90
Total Mercury (ng)	**48.4**	**53.2**	**50.4**

Sample Parameters	Run 1	Run 2	Run 3
Trap ID	**OLC595687**	**OLC149912**	**OL595552**
Front Half (area)	1,690	2,600	2,070
Back Half (area)	0	208	123
RESULTS			
Front Half (ng)	8.03	12.4	9.84
Back Half (ng)	0.00	0.975	0.577
Breakthrough (%)	0.00	7.89	5.86
Total Mercury (ng)	**8.03**	**13.3**	**10.4**

APPENDIX C
CHAIN OF CUSTODY

MONTROSE
AIR QUALITY SERVICES

CHAIN OF CUSTODY

Antioch Location
2825 Verne Roberts Circle
Antioch, CA 94509
(925) 680-4300

Lab info:
Montrose , Chicago
1371 Brummel Ave., Elk Grove Village, IL 60007
630.860.4740 x14209

Client / Project: Woodland Biomass	**Project / Sample Location:** Main Stack	**Test / Analytical Method:** EPA 30B (vapor-phase mercury)
Project No.: PROJ-003071	**Purchase Order No:**	**Special Analysis / Reporting Instructions:**
Send Analytical Report To: Antioch QA/QC: : AntiochQA-QC@montrose-env.com; rodell@montrose-env.com	**Sampler or PM Signature:**	

Run / Sample No.	Date	Time	Containers	Sample Fraction	Reagent	Lab / Sample ID No.
1-Hg-A	12/30/21		1	Trap A (40ng spiked)	activated charcoal	
1-Hg-B	12/30/21		1	Trap B (unspiked)	activated charcoal	
2-Hg-A	12/30/21		1	Trap A (40ng spiked)	activated charcoal	
2-Hg-B	12/30/21		1	Trap B (unspiked)	activated charcoal	
3-Hg-A	12/30/21		1	Trap A (40ng spiked)	activated charcoal	
3-Hg-B	12/30/21		1	Trap B (unspiked)	activated charcoal	
Total Containers			6			

Relinquished by	Date	Time	Received by	Date	Time	Temp.
	12/31/21	1030	Esha	01/4/22	1100	
Esha to Fedex	01/4/22	1230	Ben Hilgendorf	1/10/22	11:00	

OHIO LUMEX

Ohio Lumex Co., Inc.
Sorbent Trap Chain of Custody Form

Trap ID A

OLC124701

☐ **Unspiked** ☒ **Spiked At:** 40ng

Spiking Method Cold Vapor Adsorption Via Impinger Sparging
Certified Accuracy ± 10%, Traceable to NIST

QA/QC Signature (Trap Assembly) Emily

QA/QC Signature (Spike) [signature]

Production Lot: S-489F Carbon Lot: 4C

☐High Flow ☐Coil Pre-filter ☐240 mm
☐Static Pre-filter ☐AGS ☐300 mm
☐Fluffy Pre-filter ☒185 mm ☐450 mm

Spike Date: 9/22/2021 Spike Time: 1234

Type of Trap: 30B

TO BE FILLED OUT BY SAMPLING TECHNICIAN

Plant/Source: _____

Boiler ID: _____

Sampling Location: _____ *(stack, FGD inlet, etc.)*

Run Number (optional): _____

Sampling Train (circle one): **A** **B**

PRE-Run Leak Check (circle one): **PASS** **FAIL**

Run START: _____ Date _____ Time

Run END: _____ Date _____ Time

POST-Run Leak Check (circle one): **PASS** **FAIL**

Notes: _____

SAMPLING CONDITIONS AND PARAMETERS

Ave Duct Temp (F°): _____

Ave Trap Temp (F°): _____

Ave Flow Rate (cc/min): _____

Total Volume (L) _____ or (dscm): _____

Estimated Ave Hg Concentration (µg/dscm): _____

Circle Event if Occurred During Sampling:

STARTUP **SHUTDOWN**

For CEMENT KILNS Only

No. of RAW MILL OFF Events During Sampling: _____

REQUIRED IF RETURNING TO OHIO LUMEX FOR ANALYSIS

Estimated Hg Mass in Section 1 of Sorbent Trap (ng): _____

Note: Analyzer calibration range will be set based on this value. Leaving this blank may result in out-of-calibration analysis. Please contact us if you require assistance estimating this value.

Chain Of Custody

Signatures along with Date/Time required for insertion, removal, lab receiving and lab analysis of trap.

	Signature	Date	Time	Security Seal
Trap inserted by				**If Applicable** Place Chain of Custody seal here (See Security Seal Instruction Sheet)
Trap removed and sealed by				
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Trap received by lab				Seal intact as received Yes ☐ No ☐
Trap analyzed by				Seal intact as received Yes ☐ No ☐

Make sure all of your sampling conditions prevent moisture condensation in the trap media. Moisture condensation is a major cause of breakthrough and spike loss in sorbent traps and should be prevented at all costs. Deactivated glass and glass wool Impregnated Activated Carbon – Refer to SDS

Best Before: September 2024

1 440 264 2500 office
1 888 876 2611 toll free
www.ohiolumex.com
mail@ohiolumex.com
30350 Bruce Industrial Pkwy.
Cleveland, OH 44139 USA

OHIO LUMEX

Ohio Lumex Co., Inc.
Sorbent Trap Chain of Custody Form

Trap ID B

OL595687

☒ **Unspiked** ☐ **Spiked At:**_____

Spiking Method Cold Vapor Adsorption Via Impinger Sparging
Certified Accuracy ± 10%, Traceable to NIST

QA/QC Signature (Trap Assembly)_____

QA/QC Signature (Spike)_____

Production Lot: U-1013 Carbon Lot: 4C

☐High Flow ☐Coil Pre-filter ☐240 mm
☐Static Pre-filter ☐AGS ☐300 mm
☐Fluffy Pre-filter ☒185 mm ☐450 mm

Spike Date:_____ Spike Time:_____

Type of Trap: 30B

TO BE FILLED OUT BY SAMPLING TECHNICIAN

Plant/Source:_____

Boiler ID:_____

Sampling Location:_____
(stack, FGD inlet, etc.)

Run Number (optional):_____

Sampling Train (circle one): **A** **B**

PRE-Run Leak Check (circle one): **PASS** **FAIL**

Run START: _____ Date _____ Time

Run END: _____ Date _____ Time

POST-Run Leak Check (circle one): **PASS** **FAIL**

Notes:_____

SAMPLING CONDITIONS AND PARAMETERS

Ave Duct Temp (F°):_____

Ave Trap Temp (F°):_____

Ave Flow Rate (cc/min):_____

Total Volume (L)_____or (dscm):_____

Estimated Ave Hg Concentration (µg/dscm):_____

Circle Event if Occurred During Sampling:

STARTUP **SHUTDOWN**

For CEMENT KILNS Only

No. of RAW MILL OFF Events During Sampling:_____

REQUIRED IF RETURNING TO OHIO LUMEX FOR ANALYSIS

Estimated Hg Mass in Section 1 of Sorbent Trap (ng):_____

Note: Analyzer calibration range will be set based on this value. Leaving this blank may result in out-of-calibration analysis. Please contact us if you require assistance estimating this value.

Chain Of Custody

Signatures along with Date/Time required for insertion, removal, lab receiving and lab analysis of trap.

	Signature	Date	Time	Security Seal
Trap inserted by				**If Applicable** Place Chain of Custody seal here (See Security Seal Instruction Sheet)
Trap removed and sealed by				
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Trap received by lab				Seal intact as received Yes ☐ No ☐
Trap analyzed by				Seal intact as received Yes ☐ No ☐

Make sure all of your sampling conditions prevent moisture condensation in the trap media. Moisture condensation is a major cause of breakthrough and spike loss in sorbent traps and should be prevented at all costs. Deactivated glass and glass wool Impregnated Activated Carbon – Refer to SDS

Best Before: August 2024

1 440 264 2500 office
1 888 876 2611 toll free
www.ohiolumex.com
mail@ohiolumex.com
30350 Bruce Industrial Pkwy.
Cleveland, OH 44139 USA

OHIO LUMEX

Ohio Lumex Co., Inc.
Sorbent Trap Chain of Custody Form

2 Trap ID A

OLC125090

☐ **Unspiked** ☒ **Spiked At:** 40ng

Spiking Method Cold Vapor Adsorption Via Impinger Sparging
Certified Accuracy ± 10%, Traceable to NIST

QA/QC Signature (Trap Assembly) Emily

QA/QC Signature (Spike) _____

Production Lot: S-489F Carbon Lot: 4C

☐High Flow ☐Coil Pre-filter ☐240 mm
☐Static Pre-filter ☐AGS ☐300 mm
☐Fluffy Pre-filter ☒185 mm ☐450 mm

Spike Date: 9/22/2021 Spike Time: 1234

Type of Trap: 30B

TO BE FILLED OUT BY SAMPLING TECHNICIAN

Plant/Source: _____

Boiler ID: _____

Sampling Location: _____ *(stack, FGD inlet, etc.)*

Run Number (optional): _____

Sampling Train (circle one): **A** **B**

PRE-Run Leak Check (circle one): **PASS** **FAIL**

Run START: _____ Date _____ Time

Run END: _____ Date _____ Time

POST-Run Leak Check (circle one): **PASS** **FAIL**

Notes: _____

SAMPLING CONDITIONS AND PARAMETERS

Ave Duct Temp (F°): _____

Ave Trap Temp (F°): _____

Ave Flow Rate (cc/min): _____

Total Volume (L) _____ or (dscm): _____

Estimated Ave Hg Concentration (µg/dscm): _____

Circle Event if Occurred During Sampling:

STARTUP **SHUTDOWN**

For CEMENT KILNS Only

No. of RAW MILL OFF Events During Sampling: _____

REQUIRED IF RETURNING TO OHIO LUMEX FOR ANALYSIS

Estimated Hg Mass in Section 1 of Sorbent Trap (ng): _____

Note: Analyzer calibration range will be set based on this value. Leaving this blank may result in out-of-calibration analysis. Please contact us if you require assistance estimating this value.

Chain Of Custody

Signatures along with Date/Time required for insertion, removal, lab receiving and lab analysis of trap.

	Signature	Date	Time	Security Seal
Trap inserted by				**If Applicable** Place Chain of Custody seal here (See Security Seal Instruction Sheet)
Trap removed and sealed by				
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Trap received by lab				Seal intact as received Yes ☐ No ☐
Trap analyzed by				Seal intact as received Yes ☐ No ☐

Make sure all of your sampling conditions prevent moisture condensation in the trap media. Moisture condensation is a major cause of breakthrough and spike loss in sorbent traps and should be prevented at all costs. Deactivated glass and glass wool Impregnated Activated Carbon – Refer to SDS

Best Before: September 2024

1 440 264 2500 office
1 888 876 2611 toll free
www.ohiolumex.com
mail@ohiolumex.com
30350 Bruce Industrial Pkwy.
Cleveland, OH 44139 USA

OHIO LUMEX

Ohio Lumex Co., Inc.
Sorbent Trap Chain of Custody Form

2 Trap ID B

OLC149912

☒ **Unspiked** ☐ **Spiked At:**_____

Spiking Method Cold Vapor Adsorption Via Impinger Sparging
Certified Accuracy ± 10%, Traceable to NIST

QA/QC Signature (Trap Assembly) Emily

QA/QC Signature (Spike)_____

Production Lot: U-F89 Carbon Lot: 4C

☐High Flow ☐Coil Pre-filter ☐240 mm
☐Static Pre-filter ☐AGS ☐300 mm
☐Fluffy Pre-filter ☒185 mm ☐450 mm

Spike Date:_____ Spike Time:_____

Type of Trap: 30B

TO BE FILLED OUT BY SAMPLING TECHNICIAN

Plant/Source:_____

Boiler ID:_____

Sampling Location:_____
(stack, FGD inlet, etc.)

Run Number (optional):_____

Sampling Train (circle one): **A** **B**

PRE-Run Leak Check (circle one): **PASS** **FAIL**

Run START: _____ Date _____ Time

Run END: _____ Date _____ Time

POST-Run Leak Check (circle one): **PASS** **FAIL**

Notes:_____

SAMPLING CONDITIONS AND PARAMETERS

Ave Duct Temp (F°):_____

Ave Trap Temp (F°):_____

Ave Flow Rate (cc/min):_____

Total Volume (L)_____or (dscm):_____

Estimated Ave Hg Concentration (µg/dscm):_____

Circle Event if Occurred During Sampling:

STARTUP **SHUTDOWN**

For CEMENT KILNS Only

No. of RAW MILL OFF Events During Sampling:_____

REQUIRED IF RETURNING TO OHIO LUMEX FOR ANALYSIS

Estimated Hg Mass in Section 1 of Sorbent Trap (ng):_____

Note: Analyzer calibration range will be set based on this value. Leaving this blank may result in out-of-calibration analysis. Please contact us if you require assistance estimating this value.

Chain Of Custody

Signatures along with Date/Time required for insertion, removal, lab receiving and lab analysis of trap.

	Signature	Date	Time	Security Seal
Trap inserted by				**If Applicable** Place Chain of Custody seal here (See Security Seal Instruction Sheet)
Trap removed and sealed by				
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Trap received by lab				Seal intact as received Yes ☐ No ☐
Trap analyzed by				Seal intact as received Yes ☐ No ☐

Make sure all of your sampling conditions prevent moisture condensation in the trap media. Moisture condensation is a major cause of breakthrough and spike loss in sorbent traps and should be prevented at all costs. Deactivated glass and glass wool Impregnated Activated Carbon – Refer to SDS

Best Before: March 2024

1 440 264 2500 office
1 888 876 2611 toll free
www.ohiolumex.com
mail@ohiolumex.com
30350 Bruce Industrial Pkwy.
Cleveland, OH 44139 USA

OHIO LUMEX

Ohio Lumex Co., Inc.
Sorbent Trap Chain of Custody Form

3 Trap ID A

OLC125168

☐ **Unspiked** ☒ **Spiked At:** 40ng

Spiking Method Cold Vapor Adsorption Via Impinger Sparging
Certified Accuracy ± 10%, Traceable to NIST

QA/QC Signature (Trap Assembly) Emily

QA/QC Signature (Spike) [signature]

Production Lot: S-489F Carbon Lot: 4C

☐High Flow ☐Coil Pre-filter ☐240 mm
☐Static Pre-filter ☐AGS ☐300 mm
☐Fluffy Pre-filter ☒185 mm ☐450 mm

Spike Date: 9/22/2021 Spike Time: 1234

Type of Trap: 30B

TO BE FILLED OUT BY SAMPLING TECHNICIAN

Plant/Source: _____

Boiler ID: _____

Sampling Location: _____ *(stack, FGD inlet, etc.)*

Run Number (optional): _____

Sampling Train (circle one): **A** **B**

PRE-Run Leak Check (circle one): **PASS** **FAIL**

Run START: _____ Date _____ Time

Run END: _____ Date _____ Time

POST-Run Leak Check (circle one): **PASS** **FAIL**

Notes: _____

SAMPLING CONDITIONS AND PARAMETERS

Ave Duct Temp (F°): _____

Ave Trap Temp (F°): _____

Ave Flow Rate (cc/min): _____

Total Volume (L) _____ or (dscm): _____

Estimated Ave Hg Concentration (µg/dscm): _____

Circle Event if Occurred During Sampling:

STARTUP **SHUTDOWN**

For CEMENT KILNS Only

No. of RAW MILL OFF Events During Sampling: _____

REQUIRED IF RETURNING TO OHIO LUMEX FOR ANALYSIS

Estimated Hg Mass in Section 1 of Sorbent Trap (ng): _____

Note: Analyzer calibration range will be set based on this value. Leaving this blank may result in out-of-calibration analysis. Please contact us if you require assistance estimating this value.

Chain Of Custody

Signatures along with Date/Time required for insertion, removal, lab receiving and lab analysis of trap.

	Signature	Date	Time	Security Seal
Trap inserted by				**If Applicable** Place Chain of Custody seal here (See Security Seal Instruction Sheet)
Trap removed and sealed by				
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Trap received by lab				Seal intact as received Yes ☐ No ☐
Trap analyzed by				Seal intact as received Yes ☐ No ☐

Make sure all of your sampling conditions prevent moisture condensation in the trap media. Moisture condensation is a major cause of breakthrough and spike loss in sorbent traps and should be prevented at all costs. Deactivated glass and glass wool Impregnated Activated Carbon – Refer to SDS

Best Before: September 2024

1 440 264 2500 office
1 888 876 2611 toll free
www.ohiolumex.com
mail@ohiolumex.com
30350 Bruce Industrial Pkwy.
Cleveland, OH 44139 USA

3

Trap ID B

OL595552

Ohio Lumex Co., Inc.
Sorbent Trap Chain of Custody Form

☒ **Unspiked** ☐ **Spiked At:**_____

Spiking Method Cold Vapor Adsorption Via Impinger Sparging
Certified Accuracy ± 10%, Traceable to NIST

QA/QC Signature (Trap Assembly)_____

QA/QC Signature (Spike)_____

Production Lot: U-1013 Carbon Lot: 4C

☐High Flow ☐Coil Pre-filter ☐240 mm
☐Static Pre-filter ☐AGS ☐300 mm
☐Fluffy Pre-filter ☒185 mm ☐450 mm

Spike Date:_____ Spike Time:_____ Type of Trap: 30B

TO BE FILLED OUT BY SAMPLING TECHNICIAN

Plant/Source:_____

Boiler ID:_____

Sampling Location:_____ *(stack, FGD inlet, etc.)*

Run Number (optional):_____

Sampling Train (circle one): **A** **B**

PRE-Run Leak Check (circle one): **PASS** **FAIL**

Run START: _____ Date _____ Time

Run END: _____ Date _____ Time

POST-Run Leak Check (circle one): **PASS** **FAIL**

Notes:_____

SAMPLING CONDITIONS AND PARAMETERS

Ave Duct Temp (F°):_____

Ave Trap Temp (F°):_____

Ave Flow Rate (cc/min):_____

Total Volume (L)_____ or (dscm):_____

Estimated Ave Hg Concentration (µg/dscm):_____

Circle Event if Occurred During Sampling:

STARTUP **SHUTDOWN**

For CEMENT KILNS Only

No. of RAW MILL OFF Events During Sampling:_____

REQUIRED IF RETURNING TO OHIO LUMEX FOR ANALYSIS

Estimated Hg Mass in Section 1 of Sorbent Trap (ng):_____

Note: Analyzer calibration range will be set based on this value. Leaving this blank may result in out-of-calibration analysis. Please contact us if you require assistance estimating this value.

Chain Of Custody

Signatures along with Date/Time required for insertion, removal, lab receiving and lab analysis of trap.

	Signature	Date	Time	Security Seal
Trap inserted by				**If Applicable** Place Chain of Custody seal here (See Security Seal Instruction Sheet)
Trap removed and sealed by				
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Courier/Other (If Applicable)				Seal intact as received Yes ☐ No ☐
Trap received by lab				Seal intact as received Yes ☐ No ☐
Trap analyzed by				Seal intact as received Yes ☐ No ☐

Make sure all of your sampling conditions prevent moisture condensation in the trap media. Moisture condensation is a major cause of breakthrough and spike loss in sorbent traps and should be prevented at all costs. Deactivated glass and glass wool Impregnated Activated Carbon – Refer to SDS

Best Before: August 2024

1 440 264 2500 office
1 888 876 2611 toll free
www.ohiolumex.com
mail@ohiolumex.com
30350 Bruce Industrial Pkwy.
Cleveland, OH 44139 USA

THIS IS THE LAST PAGE OF THIS LAB REPORT

If you have any questions, please contact the following individual by email or phone.

Name: Mr. Benjamin Hilgendorf
Title: National Laboratory Director
Email: bhilgendorf@Montrose-env.com
Phone: (630) 860-4740

MONTROSE AIR QUALITY SERVICES

Appendix C.6
VOC Analysis

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

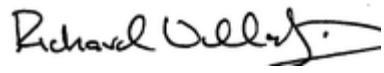
Lab Job Number: 456257
Report Level: II
Report Date: 01/18/2022

Analytical Report *prepared for:*

Robert Odell
MAQS ANTIOCH, CA
2825 Verne Roberts Circle
Antioch, CA 94509

Location: Woodland Biomass, (PROJ-003071)

Authorized for release by:



Richard Villafania, Project Manager
richard.villafania@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Robert Odell MAQS ANTIOCH, CA 2825 Verne Roberts Circle Antioch, CA 94509	Lab Job #: Location: Date Received:	456257 Woodland Biomass, (PROJ-003071) 01/04/22

Sample ID	Lab ID	Collected	Matrix
1-VOC	456257-001	12/30/21 13:30	Air
2-VOC	456257-002	12/30/21 14:15	Air
3-VOC	456257-003	12/30/21 15:00	Air
4-VOC	456257-004	12/30/21 15:45	Air

ENTHALPY ANALYTICAL

Case Narrative

MAQS ANTIOCH, CA 2825 Verne Roberts Circle Antioch, CA 94509 Robert Odell	Lab Job Number: 456257 Location: Woodland Biomass, (PROJ-003071) Date Received: 01/04/22

This data package contains sample and QC results for four air samples, requested for the above referenced project on 01/04/22. The samples were received intact.

EPA 18 and EPA 18M (EPA 18M):

No analytical problems were encountered.

MONTROSE AIR QUALITY SERVICES

CHAIN OF CUSTODY

456257

Antioch Location
2825 Verne Roberts Circle
Antioch, CA 94509
(925) 680-4300

Lab info:
Enthalpy Orange
931 W. Barkely Ave., Orange, CA 92868
714.771.9917

Client / Project:	**Project / Sample Location:**	**Test / Analytical Method:**
Woodland Biomass	Exhaust Stack	EPA 18 (Tedlar Bag)
Project No.:	**Purchase Order No:**	**Special Analysis / Reporting Instructions:**
PROJ-003071		
Send Analytical Report To:	**Sampler or PM Signature:**	Methane, Ethane, Total Hydrocarbons
Antioch QA/QC: : AntiochQA-QC@montrose-env.com rodell@montrose-env.com		

Run / Sample No.	Date	Time	Containers	Sample Fraction	Reagent	Lab / Sample ID No.
1-VOC	12/30/21	1330	1	Tedlar Bag Sample	--	
2-VOC	12/30/21	1415	1	"	--	
3-VOC	12/30/21	1500	1	"	--	
4-VOC	12/30/21	1545	1	"	--	
Total Containers			**4**			

Relinquished by	Date	Time	Received by	Date	Time	Temp.
	12/31/21	0930	Esha	12/31/21	0945	
Relinquished by	Date	Time	Received by	Date	Time	Temp.
Esha to Fedex	12/31/21	0951	Deena Sylvestri	1/4/22	11:40	
Relinquished by	Date	Time	Received by	Date	Time	Temp.

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: MAQS Antioch Project: Woodland Biomass

Date Received: 1/4/22 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☐ Yes, How many? _____ ☑ No (skip section 2) Sample Temp (°C) (No Cooler): Amb.

Sample Temp (°C), One from each cooler: #1: _____ #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☐ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: _____ #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)		✔	
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?			✔
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Tedlars ambient. Sample 001 received mostly deflated. There is a low amount of volume left for testing. Samples also were recieved out of holding time.

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☑ Email (email sent to/on): RMV / 1/4/22

Project Manager's response:

Completed By: Heare Sylvester Date: 01/4/22

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ENTHALPY ANALYTICAL

Analysis Results for 456257

Robert Odell
MAQS ANTIOCH, CA
2825 Verne Roberts Circle
Antioch, CA 94509

Lab Job #: 456257
Location: Woodland Biomass, (PROJ-003071)
Date Received: 01/04/22

Sample ID: 1-VOC **Lab ID: 456257-001** **Collected: 12/30/21 13:30**
Matrix: Air

456257-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 18M									
Methane	**2.3**	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD
Ethane	ND	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD
TNMNEOC/C3+ as Methane	ND	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD

Sample ID: 2-VOC **Lab ID: 456257-002** **Collected: 12/30/21 14:15**
Matrix: Air

456257-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 18M									
Methane	**2.9**	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD
Ethane	ND	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD
TNMNEOC/C3+ as Methane	**0.78**	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD

Sample ID: 3-VOC **Lab ID: 456257-003** **Collected: 12/30/21 15:00**
Matrix: Air

456257-003 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 18M									
Methane	**0.92**	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD
Ethane	ND	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD
TNMNEOC/C3+ as Methane	ND	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD

Sample ID: 4-VOC **Lab ID: 456257-004** **Collected: 12/30/21 15:45**
Matrix: Air

456257-004 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 18M									
Methane	**0.83**	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD
Ethane	ND	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD
TNMNEOC/C3+ as Methane	ND	H	ppmv	0.50	1	281141	01/04/22	01/04/22	MPD

H Holding time was exceeded
ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	**Lab ID:** QC964519	**Batch:** 281141
Matrix: Air	**Method:** EPA 18M	

QC964519 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Methane	ND		ppmv	0.50	01/04/22	01/04/22
Ethane	ND		ppmv	0.50	01/04/22	01/04/22
TNMNEOC/C3+ as Methane	ND		ppmv	0.50	01/04/22	01/04/22

Type: Lab Control Sample	**Lab ID:** QC964520	**Batch:** 281141
Matrix: Air	**Method:** EPA 18M	

QC964520 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Methane	100.7	100.0	ppmv	101%		85-115
Ethane	102.5	100.0	ppmv	103%		85-115

Type: Sample Duplicate	**Lab ID:** QC964521	**Batch:** 281141
Matrix (Source ID): Air (456257-002)	**Method:** EPA 18M	

QC964521 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Methane	3.150	2.890	ppmv		9	25	1
Ethane	ND	ND	ppmv			25	1
TNMNEOC/C3+ as Methane	0.8310	0.7806	ppmv		6	25	1

Type: Matrix Spike	**Lab ID:** QC964522	**Batch:** 281141
Matrix (Source ID): Air (456257-002)	**Method:** EPA 18M	

QC964522 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Methane	184.7	2.890	200.0	ppmv	91%		75-125	2
Ethane	185.1	ND	200.0	ppmv	93%		75-125	2

Type: Matrix Spike Duplicate	**Lab ID:** QC964523	**Batch:** 281141
Matrix (Source ID): Air (456257-002)	**Method:** EPA 18M	

QC964523 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Methane	184.2	2.890	200.0	ppmv	91%		75-125	0	25	2
Ethane	185.2	ND	200.0	ppmv	93%		75-125	0	25	2

ND Not Detected

Appendix C.7
Fuel Analysis

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Lab Control ID: 22H01018
Received: Jan 10, 2022
Reported: Feb 22, 2022
PO# None Received

Customer ID: 38817H
Account ID: H00670
Project #: Proj-003071

Robert Odell
Montrose Air Quality Services
2825 Verne Roberts Circle
Antioch, CA 94509

REVISED ANALYTICAL REPORT

Analytical services provided by:
Huffman Hazen Laboratories
A Division of Hazen Research, Inc.
4630 Indiana Street, Golden, CO 80403
phone: 303-278-4455

This report is intended only for the named customer and/or recipient approved by the customer. If you have received this report in error please return it to Huffman Hazen Laboratories.

By: Brendon Hofsetz
Laboratory Manager

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Lab Control ID: 22H01018
Received: Jan 10, 2022
Reported: Feb 22, 2022
PO# None Received

Customer ID: 38817H
Account ID: H00670
Project #: Proj-003071

REVISED ANALYTICAL REPORT

Robert Odell
Montrose Air Quality Services

Lab Sample ID	Customer Sample ID	Drying Loss % w/w	Carbon % w/w	Hydrogen % w/w	Nitrogen % w/w
22H01018-001	1-Fuel	47.38	48.59	6.06	0.19
22H01018-002	2-Fuel	44.97	47.58	6.01	0.26

Lab Sample ID	Customer Sample ID	Oxygen (diff) % w/w	Sulfur % w/w	Ash % w/w	HHV BTU/lb
22H01018-001	1-Fuel	39.12	0.03	6.01	8221
22H01018-002	2-Fuel	38.90	0.05	7.21	8026

The samples were ground prior to analysis.

Samples were dried in air at 105 degrees C overnight prior to analysis. All results are reported on a dried sample basis.

Hydrogen and oxygen as reported include contributions from any water that may be contained in the samples at the time of analysis.

Oxygen by difference is calculated as (100 - C - H - N - S - ash)% and may be in error due to oxidation of inorganic components during ashing, double subtraction of components such as sulfur remaining in the ash, or volatilization of other species (such as halogens) not measured or subtracted.

Ash percentage was determined after stage ashing to 750 degrees C in air and holding at temperature for 8 hours.

The BTU/lb results are the gross heating values and have been corrected for sulfur content according to ASTM D5865.

2/22/2022 Report revised with corrected HHV results after a transcription error was discovered on the original report.

EPA Fuel "F" factor calculations

Woodland Biomass

December 29-30, 2021

	1-Fuel	2-Fuel
Composition by wt, %:		
Carbon	48.59	47.58
Hydrogen	6.060	6.010
Nitrogen	0.190	0.260
Sulfur	0.030	0.050
Oxygen	39.12	38.90
Ash	6.010	7.210
Heating value, btu/lb:	8,221	8,026
F factor, dscf/MMBtu @ 0% O_2 (Ref. Temp. 60 °F):	9,398	9,429
F factor, dscf/MMBtu @ 0% O_2 (Ref. Temp. 65 °F):	9,488	9,520
F factor, dscf/MMBtu @ 0% O_2 (Ref. Temp. 68 °F):	9,543	9,574
F factor, dscf/MMBtu @ 0% O_2 (Ref. Temp. 70 °F):	9,579	9,611
Ash content, lb/MMBtu:	7.311	8.983

APPENDIX D
QUALITY ASSURANCE/QUALITY CONTROL

Appendix D.1
Units and Abbreviations

UNITS AND ABBREVIATIONS

@ X% O_2	corrected to X% oxygen (corrected for dilution air)
|CC|	absolute value of the confidence coefficient
|d|	absolute value of the mean differences
ºC	degrees Celsius (centrigade)
ºF	degrees Fahrenheit
ºR	degrees Rankine
" H_2O	inches of water column
13.6	specific gravity of mercury
ΔH	pressure drop across orifice meter, inches H_2O
ΔP	velocity head of stack gas, inches H_2O
θ	total sampling time, minutes
µg	microgram
ρ_a	density of acetone, mg/ml
ρ_w	density of water, 0.9982 g/ml or 0.002201 lb/ml
acfm	actual cubic feet of gas per minute at stack conditions
A_n	cross-sectional area of nozzle, ft^2
A_s	cross-sectional area of stack, square feet (ft^2)
Btu	British thermal unit
B_{ws}	proportion by volume of water vapor in gas stream
C_a	particulate matter concentration in stack gas, gr/acf
C_{Avg}	average unadjusted gas concentration, ppmv
C_{Dir}	measured concentration of calibration gas, ppmv
cf or ft^3	cubic feet
cfm	cubic feet per minute
C_{Gas}	average gas concentration adjusted for bias, ppmv
C_M	average of initial and final system bias check responses from upscale calibration gas, ppmv
cm or m^3	cubic meters
C_{MA}	actual concentration of the upscale calibration gas, ppmv
C_O	average of initial and final system bias check responses from low-level calibration gas, ppmv
C_p	pitot tube coefficient
C_s	particulate matter concentration in stack gas, gr/dscf
CS	calibration span, % or ppmv
C_S	measured concentration of calibration gas, ppmv
C_V	manufactured certified concentration of calibration gas, ppmv
D	drift assessment, % of span
dcf	dry cubic feet
dcm	dry cubic meters
D_n	diameter of nozzle, inches
D_s	diameter of stack, inches
dscf	dry standard cubic feet
dscfm	dry standard cubic feet per minute
dscm	dry standard cubic meters
F_d	F-factor, dscf/MMBtu of heat input
fpm	feet per minute
fps	feet per second
ft	feet
ft^2	square feet
g	gram
gal	gallons
gr	grains (7000 grains per pound)

UNITS AND ABBREVIATIONS

gr/dscf	grains per dry standard cubic feet
hr	hour
I	percent of isokinetic sampling
in	inch
k	kilo or thousand (metric units, multiply by 10^3)
K	kelvin (temperature)
K_3	conversion factor 0.0154 gr/mg
K_4	conversion factor 0.002669 ((in. Hg)(ft^3))/((ml)(°R))
kg	kilogram
K_p	pitot tube constant (85.49 ft/sec)
kwscfh	thousand wet standard cubic feet per hour
l	liters
lb/hr	pounds per hour
lb/MMBtu	pounds per million Btu
lpm	liters per minute
m	meter or milli
M	thousand (English units) or mega (million, metric units)
m^3	cubic meters
m_a	mass of residue of acetone after evaporation, mg
M_d	molecular weight of stack gas; dry basis, lb/lb-mole
meq	milliequivalent
mg	milligram
Mg	megagram (10^6 grams)
min	minute
ml or mL	milliliter
mm	millimeter
MM	million (English units)
MMBtu/hr	million Btu per hour
m_n	total amount of particulate matter collected, mg
mol	mole
mol. wt. or MW	molecular weight
M_s	molecular weight of stack gas; wet basis, lb/lb-mole
MW	molecular weight or megawatt
n	number of data points
ng	nanogram
nm	nanometer
P_{bar}	barometric pressure, inches Hg
pg	picogram
P_g	stack static pressure, inches H_2O
P_m	barometric pressure of dry gas meter, inches Hg
ppb	parts per billion
ppbv	parts per billion, by volume
ppbvd	parts per billion by volume, dry basis
ppm	parts per million
ppmv	parts per million, by volume
ppmvd	parts per million by volume, dry basis
P_s	absolute stack gas pressure, inches Hg
psi	pounds per square inch
psia	pounds per square inch absolute
psig	pounds per square inch gauge
P_{std}	standard absolute pressure, 29.92 inches Hg
Q_a	volumetric flow rate, actual conditions, acfm

MONTROSE
AIR QUALITY SERVICES

UNITS AND ABBREVIATIONS

Q_s	volumetric flow rate, standard conditions, scfm
Q_{std}	volumetric flow rate, dry standard conditions, dscfm
R	ideal gas constant 21.85 ((in. Hg) ($ft^{3)}$)/((°R) (lbmole))
SB_{final}	post-run system bias check, % of span
SB_i	pre-run system bias check, % of span
scf	standard cubic feet
scfh	standard cubic feet per hour
scfm	standard cubic feet per minute
scm	standard cubic meters
scmh	standard cubic meters per hour
sec	second
sf, sq. ft., or ft^2	square feet
std	standard
t	metric ton (1000 kg)
$T_{0.975}$	t-value
T_a	absolute average ambient temperature, ºR (+460 for English)
T_m	absolute average dry gas meter temperature, ºR (+460 for English)
ton or t	ton = 2000 pounds
tph or tons/hr	tons per hour
tpy or tons/yr	tons per year
T_s	absolute average stack gas meter temperature, ºR (+460 for English)
T_{std}	absolute temperature at standard conditions
V	volt
V_a	volume of acetone blank, ml
V_{aw}	volume of acetone used in wash, ml
V_{lc}	total volume H_2O collected in impingers and silica gel, grams
V_m	volume of gas sampled through dry gas meter, ft^3
$V_{m(std)}$	volume of gas measured by the dry gas meter, corrected to standard conditions, dscf
V_{ma}	stack gas volume sampled, acf
V_n	volume collected at stack conditions through nozzle, acf
V_s	average stack gas velocity, feet per second
$V_{wc(std)}$	volume of water vapor condensed, corrected to standard conditions, scf
$V_{wi(std)}$	volume of water vapor in gas sampled from impingers, scf
$V_{wsg(std)}$	volume of water vapor in gas sampled from silica gel, scf
W	watt
W_a	weight of residue in acetone wash, mg
W_{imp}	total weight of impingers, grams
W_{sg}	total weight of silica gel, grams
Y	dry gas meter calibration factor, dimensionless

ACRONYMS

AAS	atomic absorption spectroscopy
ACDP	air contaminant discharge permit
ACE	analyzer calibration error, percent of span
AD	absolute difference
ADL	above detection limit
AETB	Air Emissions Testing Body
AS	applicable standard (emission limit)
ASTM	American Society For Testing And Materials
BACT	best achievable control technology
BDL	below detection limit
BHP	brake horsepower
BIF	boiler and industrial furnace
BLS	black liquor solids
CC	confidence coefficient
CD	calibration drift
CE	calibration error
CEM	continuous emissions monitor
CEMS	continuous emissions monitoring system
CERMS	continuous emissions rate monitoring system
CET	calibration error test
CFR	Code of Federal Regulations
CGA	cylinder gas audit
CHNOS	elemental analysis for determination of C, H, N, O, and S content in fuels
CNCG	concentrated non-condensable gas
CO	catalytic oxidizer
COC	chain of custody
COMS	continuous opacity monitoring system
CPM	condensible particulate matter
CPMS	continuous parameter monitoring system
CT	combustion turbine
CTM	conditional test method
CTO	catalytic thermal oxidizer
CVAAS	cold vapor atomic absorption spectroscopy
D_e	equivalent diameter
DE	destruction efficiency
Dioxins	polychlorinated dibenzo-p-dioxins (pcdd's)
DLL	detection level limited
DNCG	dilute non-condensable gas
ECD	electron capture detector
EIT	Engineer In Training
ELCD	electoconductivity detector (hall detector)
EMPC	estimated maximum possible concentration
EPA	US Environmental Protection Agency
EPRI	Electric Power Research Institute
ES	emission standard (applicable limit)
ESP	electrostatic precipitator
EU	emission unit
FCCU	fluid catalytic cracking unit
FGD	flue gas desulfurization
FI	flame ionization
FIA	flame ionization analyzer
FID	flame ionization detector
FPD	flame photometric detector
FPM	filterable particulate matter

ACRONYMS

FTIR	Fourier-transform infrared spectroscopy
FTPB	field train proof blank
FTRB	field train recovery blank
Furans	polychlorinated dibenzofurans (pcdf's)
GC	gas chromatography
GC/MS	gas chromatography/mass spectroscopy
GFAAS	graphite furnace atomic absorption spectroscopy
GFC	gas filter correlation
GHG	greenhouse gas
HAP	hazardous air pollutant
HC	hydrocarbons
HHV	higher heating value
HPLC	high performance liquid chromatography
HRGC/HRMS	high-resolution gas chromatography/high-resolution mass spectroscopy
HRSG	heat recovery steam generator
IC	ion chromatography
ICAP	inductively-coupled argon plasmography
ICPCR	ion chromatography with a post-column reactor
IR	infrared radiation
ISO	International Standards Organization
kW	kilowatts
LFG	landfill gas
LHV	lower heating value
LPG	liquified petroleum gas
MACT	maximum achievable control technology
MDI	methylene diphyenyl diisocyanate
MDL	method detection limit
MNOC	maximum normal operating conditions
MRL	method reporting limit
MS	mass spectrometry
NA	not applicable or not available
NCASI	National Council For Air And Steam Improvement
NCG	non-condensable gases
NDIR	non-dispersive infrared
NESHAP	National Emissions Standards For Hazardous Air Pollutants
NG	natural gas
NIOSH	National Institute For Occupational Safety And Health
NIST	National Institute Of Standards And Technology
NMC	non-methane cutter
NMOC	non-methane organic compounds
NMVOC	non-methane volatile organic compounds
NPD	nitrogen phosphorus detector
NSPS	New Source Performance Standards
OSHA	Occupational Safety And Health Administration
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl compounds
PCWP	plywood and composite wood products
PE	Professional Engineer
PFAS	per- and polyfluoroalkyl substances (PFAS)
PI	photoionization
PID	photoionization detector
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in aerodynamic diameter

ACRONYMS

POM	polycyclic organic matter
PS	performance specification
PSD	particle size distribution
PSEL	plant site emission limits
PST	performance specification test
PTE	permanent total enclosure
PTM	performance test method
QA/QC	quality assurance and quality control
QI	Qualified Individual
QSTI	Qualified Source Testing Individual
RA	relative accuracy
RAA	relative accuracy audit
RACT	reasonably available control technology
RATA	relative accuracy test audit
RCTO	rotary concentrator thermal oxidizer
RICE	stationary reciprocating internal combustion engine
RM	reference method
RTO	regenerative thermal oxidizer
SAM	sulfuric acid mist
SCD	sulfur chemiluminescent detector
SCR	selective catalytic reduction system
SD	standard deviation
Semi-VOST	semivolatile organic compounds sample train
SRM	standard reference material
TAP	toxic air pollutant
TBD	to be determined
TCA	thermal conductivity analyzer
TCD	thermal conductivity detector
TGNENMOC	total gaseous non-ethane non-methane organic compounds
TGNMOC	total gaseous non-methane organic compounds
TGOC	total gaseous organic compounds
THC	total hydrocarbons
TIC	tentatively identified compound
TO	thermal oxidizer
TO	toxic organic (as in EPA Method TO-15)
TPM	total particulate matter
TSP	total suspended particulate matter
TTE	temporary total enclosure
ULSD	ultra-low sulfur diesel
UV	ultraviolet radiation range
VE	visible emissions
VOC	volatile organic compounds
VOST	volatile organic sample train
WC	water column
WWTP	waste water treatment plant

CHEMICAL NOMENCLATURE

Ag	silver
As	arsenic
Ba	barium
Be	beryllium
C	carbon
Cd	cadmium
CdS	cadmium sulfide
CH_2O	formaldehyde
CH_3CHO	acetaldehyde
CH_3OH	methanol
CH_4	methane
C_2H_4O	ethylene oxide
C_2H_6	ethane
C_3H_4O	acrolein
C_3H_6O	propionaldehyde
C_3H_8	propane
C_6H_5OH	phenol
Cl_2	chlorine
ClO_2	chlorine dioxide
CO	carbon monoxide
Co	cobalt
CO_2	carbon dioxide
Cr	chromium
Cu	copper
EtO	ethylene oxide
EtOH	ethyl alcohol (ethanol)
H_2	hydrogen
H_2O	water
H_2O_2	hydrogen peroxide
H_2S	hydrogen sulfide
H_2SO_4	sulfuric acid
HCl	hydrogen chloride
Hg	mercury
IPA	isopropyl alcohol
MDI	methylene diphyenyl diisocyanate
MEK	methyl ethyl ketone
MeOH	methanol
Mn	manganese
N_2	nitrogen
NH_3	ammonia
Ni	nickel
NO	nitric oxide
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
O_2	oxygen
P	phosphorus
Pb	lead
PCDD	polychlorinated dibenzo-p-dioxins
PCDF	polychlorinated dibenzofurans
Sb	antimony
Se	selenium
SO_2	sulfur dioxide
SO_3	sulfur trioxide
SO_x	sulfur oxides
TCDD	tetrachlorodibenzodioxin
TCDF	tetrachlorodibenzofuran
TGOC	total gaseous organic concentration
THC	total hydrocarbons
Tl	thallium
TRS	total reduced sulfur compounds
Zn	zinc

Appendix D.2
Manual Test Method QA/QC Data

MONTROSE
ENVIRONMENTAL

EPA Method 5

Meter Box Calibration by Calibrated Critical Orifice, Leak Check, and Thermocouple Calibration Check
English Meter Box Units, English K' Factor

Meter box ID:	CB 19
Meter ID (if applicable):	CB 19
Orifice set ID:	Antioch
Calibrated by:	RM
Expires:	4/7/22

Date:	10/7/21
Location:	Antioch
No. of orifices used (min. 3)	5
Barometric pressure (in. Hg):	29.99 in. Hg
Theoretical critical vacuum	14.15 in. Hg

Yd:	**0.987**
ΔH@:	**1.851**

Meter Box Orifice Calibration

IMPORTANT For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above
IMPORTANT The Critical Orifice Coefficient, K', must be entered in English units, (ft)^3*(deg R)^0.5/((in.Hg)*(min)).

		Volume			Initial Temps.		Final Temps.		Orifice	K' Orifice		– Ambient Temperature –		
ΔH (in H2O)	Time (min)	Initial (cu ft)	Final (cu ft)	Net (cu ft)	Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)	Serial# (number)	Coefficient (see above)	Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.32	17.00	115.100	120.360	5.260	66.0	66.0	67.0	67.0	RG-40	0.2355	16.0	71.0	71.0	71.0
0.67	12.00	120.360	125.830	5.470	67.0	67.0	69.0	69.0	RG-48	0.3461	16.0	71.0	71.0	71.0
1.10	9.00	125.830	130.925	5.095	69.0	69.0	70.0	70.0	RG-55	0.4320	16.0	71.0	71.0	71.0
1.90	7.00	130.925	136.397	5.472	70.0	70.0			RG-63	0.5959	16.0	71.0	71.0	71.0
3.20	5.00	110.000	115.100	5.100	65.0	65.0	66.0	66.0	RG-73	0.7849	16.0	71.0	71.0	71.0

— SAMPLE RATE —
INDICATED VS. ACTUAL

ΔH (in. H2O)	Sample Rate (scfm)
0.32	0.306
0.67	0.450
1.10	0.562
1.90	0.776
3.20	1.022

— DRY GAS METER —
VOLUME CORRECTED

Vm(std) (cu ft)
5.289
5.490
5.104
5.487
5.174

— ORIFICE —

VOLUME CORRECTED Vcr(std) (cu ft)	VOLUME NOMINAL Vcr (cu ft)
5.210	5.230
5.405	5.425
5.060	5.079
5.429	5.449
5.108	5.127

– DRY GAS METER –
CALIBRATION FACTOR Yd

Value (number)	Variation (number)
0.9851	-0.002
0.9846	-0.003
0.9914	0.004
0.989	0.002
0.987	0.000

— ORIFICE —
CALIBRATION FACTOR ΔH@

Value (in H2O)	Variation (in H2O)
1.926	0.075
1.862	0.011
1.956	0.105
1.774	-0.077
1.737	-0.114

For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +/-0.02.

For Orifice Calibration Factor ΔH@, the orifice differential pressure in inches of H20 that equetes to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is +/-0.2.

QA Criteria:	
Average Yd	0.9875
Average ΔH@	1.8512
Variation of Yd's	PASS
Variation of ΔH@	PASS
Vacuum Criteria	PASS

Meter Box Pressure Leak Check

Test Pressure, (in H_2O):	6	Should be 5-7 in. H_2O
Leak Rate, (in H_2O/min):	0	Must be zero (manometer level stable for 1 minute)

Meter Box Vacuum Leak Check

Test Vacuum, (in. Hg):	25	Coarse adjust valve fully open, fine adjust fully closed, sample inlet plugged
Leak Rate, (cfm):	0	Must be zero (meter dial stable for 1 minute)

Meter Box Thermocouple Readout Calibration Check

Input Temperature	Allowable Temp. Dev.*	Low	High
30	7	23	37
70	8	62	78
120	9	111	129
250	11	239	261
350	12	338	362
500	14	486	514
700	17	683	717
900	20	880	920

Stack	Probe	Filter	Exit	Aux.
27	29	27	27	27
66	69	66	66	66
116	119	116	116	116
248	248	248		
348	349	348		
496				
699				
899				

Thermocouple simulator	
Make:	Omega
Model:	CL125
Serial Numbe	16200736
Cal Date:	12/18/2020

* Reading values must be within 1.5% of reference thermometer values (based on absolute temperature scale) for calibration to be acceptable.

Performed by: Name: Raul Moreno Signature: Raul Date: 10/7/21

Approved by: Name: Nishad Patel Signature: [signature] Date: 10/8/21

Meter box 6-month calibration form (orifices) R0

Alternative Method 5
Post-Test Calibration
(ALT-009)

Meter box ID:	CB-19
Calibrated by:	Antioch
Date Calibrated:	**12/29/21**

Yd:	**0.987**
ΔH@:	**1.851**

Parameter	Run 1	Run 2	Run 3	Average
Yqa (dry gas meter calibration check value), dimensionless	0.9716	0.9798	0.9804	0.9773
Total run time, min	120.0	120.0	120.0	120.0
Vm (meter box volume), acf	77.227	76.490	76.930	76.882
Tm (absolute average dry gas meter temperature), °R	515.0	516.3	516.9	516.1
P_{bar} (barometric pressure), in. Hg	29.70	29.70	29.70	29.70
0.0319 = (29.92/(460+Tref))*(0.75*0.75), in. Hg/°R * cfm2	0.032	0.032	0.032	0.032
ΔH_{avg} (average orifice meter differential), in. H2O	1.375	1.367	1.383	1.375
$v\Delta H_{avg}$ (average sq. rt. orifice meter differential), in. H2O	1.171	1.167	1.174	1.171
ΔH@ (orifice meter calibration coefficient), in. H2O	1.851	1.851	1.851	1.851
MW_{dry} (dry molecular weight of stack gas), lb/lb-mole	30.246	30.220	30.218	30.2
29 (dry molecular weight of air), lb/lb-mole	29.0	29.0	29.0	29.0
13.6 (specific gravity of mercury)	13.6	13.6	13.6	13.6

Note: If the average Yqa does not meet the +5 percent criterion, recalibrate the meter over the full range of orifice settings, as detailed in Section 5.3.1 of Method 5. Then follow the procedure in Section 5.3.3 of Method 5.

QA Criteria:	
Y_d (meter calibration factor)	0.987
Y_{qa} (meter check value)	0.977
Difference, %	0.010
	PASS

Performed by: Katie Resch Signature _____ Date: 2/22/2022

Meter box Alternative Post-Test calibration form (ALT-009) R2

MONTROSE ENVIRONMENTAL

EPA Method 5

Meter Box Calibration by Calibrated Critical Orifice, Leak Check, and Thermocouple Calibration Check

English Meter Box Units, English K' Factor

Meter box ID:	CB 15
Meter ID (if applicable):	CB 15
Orifice set ID:	Antioch
Calibrated by:	RM
Expires:	4/7/22

Date:	10/7/21
Location:	Antioch
No. of orifices used (min. 3)	5
Barometric pressure (in. Hg):	29.99 in. Hg
Theoretical critical vacuum	14.15 in. Hg

Yd:	1.020
ΔH@:	1.910

Meter Box Orifice Calibration

IMPORTANT For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above
IMPORTANT The Critical Orifice Coefficient, K', must be entered in English units, (ft)^3*(deg R)^0.5/((in.Hg)*(min)).

		Volume			Initial Temps.		Final Temps.		Orifice	K' Orifice		– Ambient Temperature –		
ΔH (in H2O)	Time (min)	Initial (cu ft)	Final (cu ft)	Net (cu ft)	Inlet (deg F)	Outlet (deg F)	Inlet (deg F)	Outlet (deg F)	Serial# (number)	Coefficient (see above)	Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.33	17.00	252.222	257.314	5.092	65.0	65.0	66.0	66.0	RG-40	0.2355	16.0	71.0	71.0	71.0
0.68	12.00	257.314	262.570	5.256	66.0	66.0	67.0	67.0	RG-48	0.3461	16.0	71.0	71.0	71.0
1.10	11.00	235.112	241.095	5.983	62.0	62.0	63.0	63.0	RG-55	0.4320	16.0	70.0	71.0	70.5
2.00	7.00	241.095	246.334	5.239	63.0	63.0	64.0	64.0	RG-63	0.5959	16.0	71.0	71.0	71.0
3.30	6.00	246.334	252.222	5.888	64.0	64.0	65.0	65.0	RG-73	0.7849	16.0	71.0	71.0	71.0

— SAMPLE RATE — INDICATED VS. ACTUAL

ΔH (in. H2O)	Sample Rate (scfm)
0.33	0.306
0.68	0.450
1.10	0.562
2.00	0.776
3.30	1.022

— DRY GAS METER — VOLUME CORRECTED

Vm(std) (cu ft)
5.130
5.290
6.074
5.320
5.967

— ORIFICE — VOLUME CORRECTED / VOLUME NOMINAL

Vcr(std) (cu ft)	Vcr (cu ft)
5.210	5.230
5.405	5.425
6.187	6.205
5.429	5.449
6.129	6.152

– DRY GAS METER – CALIBRATION FACTOR Yd

Value (number)	Variation (number)
1.0156	-0.004
1.0218	0.002
1.0187	-0.001
1.020	0.000
1.024	0.004

— ORIFICE — CALIBRATION FACTOR ΔH@

Value (in H2O)	Variation (in H2O)
1.990	0.080
1.895	-0.015
1.981	0.070
1.891	-0.019
1.795	-0.115

For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +/-0.02.

For Orifice Calibration Factor ΔH@, the orifice differential pressure in inches of H20 that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is +/-0.2.

QA Criteria:	
Average Yd	1.0200
Average ΔH@	1.9103
Variation of Yd's	PASS
Variation of ΔH@	PASS
Vacuum Criteria	PASS

Meter Box Pressure Leak Check

Test Pressure, (in H_2O):	6	Should be 5-7 in. H_2O
Leak Rate, (in H_2O/min):	0	Must be zero (manometer level stable for 1 minute)

Meter Box Vacuum Leak Check

Test Vacuum, (in. Hg):	25	Coarse adjust valve fully open, fine adjust fully closed, sample inlet plugged
Leak Rate, (cfm):	0	Must be zero (meter dial stable for 1 minute)

Meter Box Thermocouple Readout Calibration Check

Input Temperature	Allowable Temp. Dev.*	Low	High
30	7	23	37
70	8	62	78
120	9	111	129
250	11	239	261
350	12	338	362
500	14	486	514
700	17	683	717
900	20	880	920

Stack	Probe	Filter	Exit	Aux.
27	27	28	27	27
67	67	68	67	67
117	117	118	117	117
249	249	249		
348	348	348		
496				
699				
899				

Thermocouple simulator	
Make:	Omega
Model:	CL125
Serial Numbe	16200736
Cal Date:	12/18/2020

* Reading values must be within 1.5% of reference thermometer values (based on absolute temperature scale) for calibration to be acceptable.

Performed by: Name: Raul Moreno Signature: [signature] Date: 10/7/21

Approved by: Name: Nicholas Patel Signature: [signature] Date: 10/8/21

Alternative Method 5
Post-Test Calibration
(ALT-009)

Meter box ID:	CB-15
Calibrated by:	Antioch
Date Calibrated:	**12/30/21**

Yd:	**1.020**
ΔH@:	**1.910**

Parameter	Run 1	Run 2	Run 3	Average
Yqa (dry gas meter calibration check value), dimensionless	1.0211	1.0306	1.0308	1.0275
Total run time, min	30.0	30.0	30.0	30.0
Vm (meter box volume), acf	21.104	20.995	21.015	21.038
Tm (absolute average dry gas meter temperature), °R	509.0	513.3	514.7	512.3
P_{bar} (barometric pressure), in. Hg	29.88	29.88	29.88	29.88
0.0319 = (29.92/(460+Tref))*(0.75*0.75), in. Hg/°R * cfm2	0.032	0.032	0.032	0.032
ΔH_{avg} (average orifice meter differential), in. H2O	1.900	1.900	1.900	1.900
$v\Delta H_{avg}$ (average sq. rt. orifice meter differential), in. H2O	1.378	1.378	1.378	1.378
ΔH@ (orifice meter calibration coefficient), in. H2O	1.910	1.910	1.910	1.910
MW_{dry} (dry molecular weight of stack gas), lb/lb-mole	30.220	30.227	30.236	30.2
29 (dry molecular weight of air), lb/lb-mole	29.0	29.0	29.0	29.0
13.6 (specific gravity of mercury)	13.6	13.6	13.6	13.6

Note: If the average Yqa does not meet the +5 percent criterion, recalibrate the meter over the full range of orifice settings, as detailed in Section 5.3.1 of Method 5. Then follow the procedure in Section 5.3.3 of Method 5.

QA Criteria:	
Y_d (meter calibration factor)	1.020
Y_{qa} (meter check value)	1.027
Difference, %	-0.007
	PASS

Performed by: Katie Resch Signature [signature] Date: 2/22/2022

Meter box Alternative Post-Test calibration form (ALT-009) R2

MONTROSE
ENVIRONMENTAL

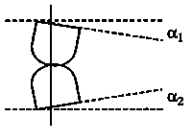
Pitot Tube Calibration Data Sheet

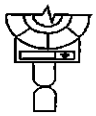
Calibration Date:	10/4/2021	**Performed by:**	RV	**Expiration Date:**	April 4, 2022
		ID No.:	154	**No obstructions:**	YES
Calibrated Pitot Tube:	S-type	**Probe/Pitot ID No:**	154-NP-10	**No damage:**	YES
Probe Description:	NP	**Effective Length (ft):**	10	**Level and Perpendicular:**	YES
Thermocouple calibration performed?		Yes	**Thermocouple passed calibration?**		YES

Protractor or Digital Angle Finder ID: 1-APR-OAK
Measuring Tape ID: 1-TM-OAK
Caliper ID: SN#151008A

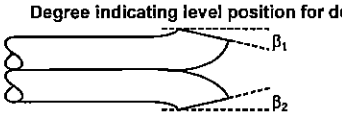
Calibration performed using the procedures of EPA Method 2, Section 10.1

Alignment and Tubing Dimensions



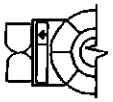


Degree indicating level position for determining α_1 and α_2.



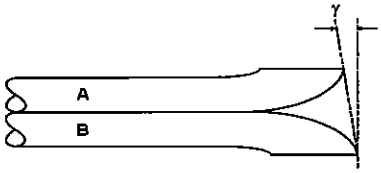


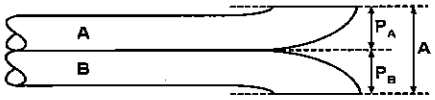




Degree indicating level position for determining θ.

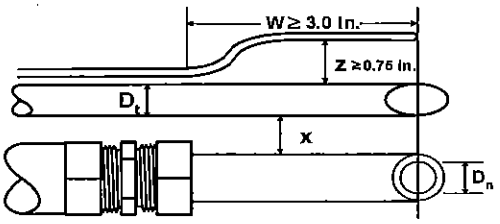
α_1 ($-10° < \alpha_1 < +10°$)	1.000	
α_2 ($-10° < \alpha_2 < +10°$)	0.000	
β_1 ($-5° < \beta_1 < +5°$)	0.000	
β_2 ($-5° < \beta_2 < +5°$)	0.000	
γ	0.000	
θ	1.000	
A	0.889	
$z = A \tan \gamma$ ($\pm$ 0.125")	0.000	Pass
$w = A \tan \theta$ ($\pm$ 0.03125")	0.016	Pass
D_t (0.1875" < D_t < 0.375")	0.374	Pass
P_A ($1.05D_t < P_A < 1.5D_t$)	0.432	Pass
P_B ($1.05D_t < P_B < 1.5D_t$)	0.421	Pass
$\lvert P_A - P_B \rvert \leq 0.0625$	0.011	Pass

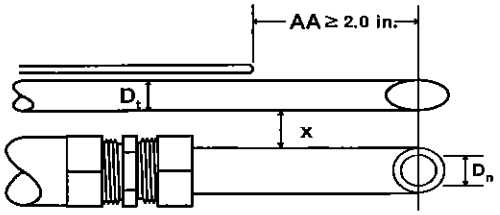




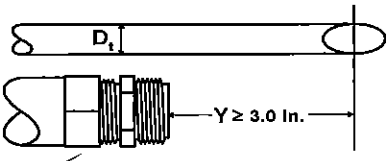
Degree indicating level position for determining γ then calculating Z.

Assembly Inter-Component Spacing Requirements





W (≥ 3.0")	7.000	Pass	Offset TC only
-or- AA (≥ 2.0")			Setback TC only
X	0.931		
D_n	0.500		
X / D_n (≥ 1.5)	1.862	Pass	
Y (≥ 3.0")	4.000	Pass	
Z ≥ 0.75"	1.626	Pass	Offset TC only



Performed By: R. Vogler
Approved By: H. Vanyo

Signature: [signature] Date: 10/4/21
Signature: [signature] Date: 10/6/21

MONTROSE
ENVIRONMENTAL

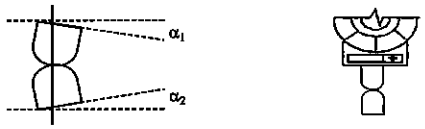
Pitot Tube Calibration Data Sheet

Calibration Date:	10/4/2021	**Performed by:**	RV	**Expiration Date:**	April 4, 2022
		ID No.:	153	**No obstructions:**	YES
Calibrated Pitot Tube:	S-type	**Probe/Pitot ID No:**	153-NP-10	**No damage:**	YES
Probe Description:	NP	**Effective Length (ft):**	10	**Level and Perpendicular:**	YES
Thermocouple calibration performed?		Yes	**Thermocouple passed calibration?**		YES

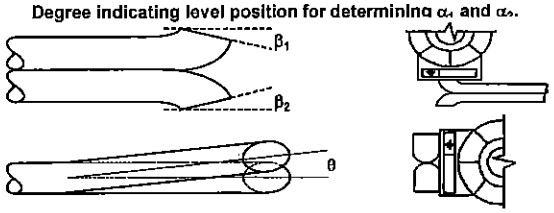
Protractor or Digital Angle Finder ID: 1-APR-OAK
Measuring Tape ID: 1-TM-OAK
Caliper ID: SN#151008A

Calibration performed using the procedures of EPA Method 2, Section 10.1

Alignment and Tubing Dimensions

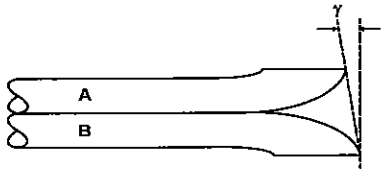


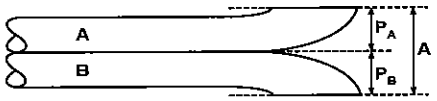
Degree indicating level position for determining α_1 and α_2.



Degree indicating level position for determining θ.

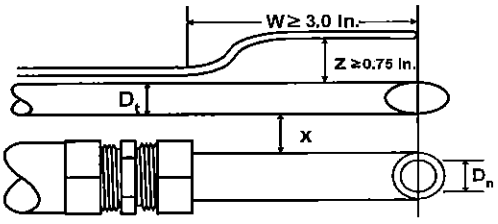
α_1 $(-10° < \alpha_1 < +10°)$	0.000	
α_2 $(-10° < \alpha_2 < +10°)$	0.000	
β_1 $(-5° < \beta_1 < +5°)$	0.000	
β_2 $(-5° < \beta_2 < +5°)$	0.000	
γ	0.000	
θ	0.000	
A	0.873	
z= A tan γ (± 0.125")	0.000	Pass
w= A tan θ (± 0.03125")	0.000	Pass
D_t (0.1875" < D_t < 0.375")	0.372	Pass
P_A (1.05D_t < P_A < 1.5D_t)	0.456	Pass
P_B (1.05D_t < P_B < 1.5D_t)	0.449	Pass
$\lvert P_A - P_B \rvert \leq 0.0625$	0.007	Pass

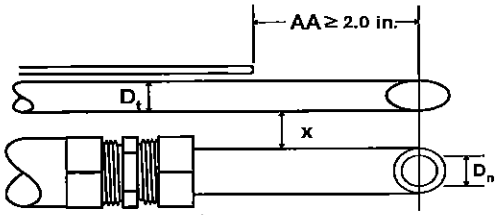




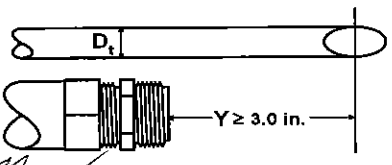
Degree indicating level position for determining γ then calculating Z.

Assembly Inter-Component Spacing Requirements





W (≥ 3.0")	7.000	Pass	Offset TC only
-or- AA (≥ 2.0")			Setback TC only
X	0.932		
D_n	0.500		
X / D_n (≥ 1.5)	1.864	Pass	
Y (≥ 3.0")	3.750	Pass	
Z ≥ 0.75"	1.432	Pass	Offset TC only



Performed By: R. Vosler
Approved By: D. Johnson

Signature:
Signature:

Date: 10/4/21
Date: 10/6/21

MONTROSE

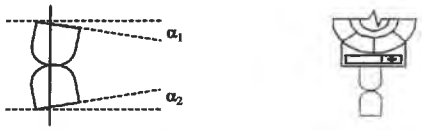
Pitot Tube Calibration Data Sheet

Calibration Date:	11/10/2021	**Performed by:**	AK	**Expiration Date:**	May 10, 2022
		ID No.:	202	**No obstructions:**	YES
Calibrated Pitot Tube:	S-type	**Probe/Pitot ID No:**	202-TP-10	**No damage:**	YES
Probe Description:	TP	**Effective Length (ft):**	10	**Level and Perpendicular:**	YES
Thermocouple calibration performed?	Yes	**Thermocouple passed calibration?**			YES

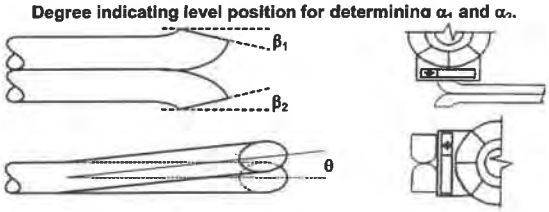
Protractor or Digital Angle Finder ID: 1-APR-OAK
Measuring Tape ID: 1-TM-OAK
Caliper ID: SN#151008A

Calibration performed using the procedures of EPA Method 2, Section 10.1

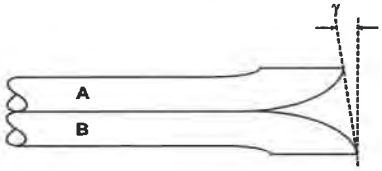
Alignment and Tubing Dimensions

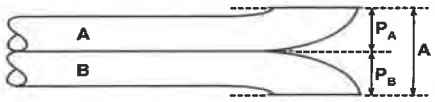


Degree indicating level position for determining α_1 and α_2.



Degree indicating level position for determining θ.

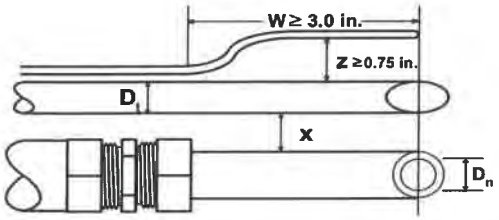


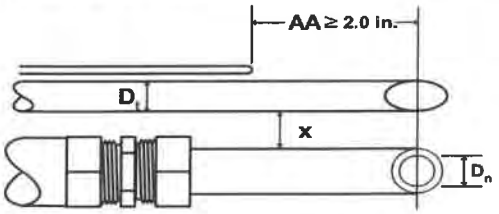


Degree indicating level position for determining γ then calculating Z.

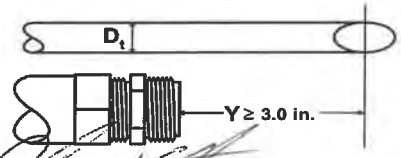
α_1 ($-10° < \alpha_1 < +10°$)	0	
α_2 ($-10° < \alpha_2 < +10°$)	0	
β_1 ($-5° < \beta_1 < +5°$)	1	
β_2 ($-5° < \beta_2 < +5°$)	0	
γ	-3	
θ	2	
A	0.8410	
z= A tan γ (± 0.125")	-0.0441	Pass
w= A tan θ (± 0.03125")	0.0294	Pass
D_t (0.1875" < D_t < 0.375")	0.3670	Pass
P_A ($1.05D_t < P_A < 1.5D_t$)	0.4190	Pass
P_B ($1.05D_t < P_B < 1.5D_t$)	0.4210	Pass
$\lvert P_A - P_B \rvert \leq 0.0625$	-0.0020	Pass

Assembly Inter-Component Spacing Requirements





W (≥ 3.0")			Offset TC only
-or- AA (≥ 2.0")	2.000	Pass	Setback TC only
X			
D_n			
X / D_n (≥ 1.5)			
Y (≥ 3.0")			
Z ≥ 0.75"			Offset TC only



Performed By: A. Kobayashi
Approved By: E. Hernandez

Signature:
Signature:

Date: 11/10/21
Date:

APEX SOURCE TESTING EQUIPMENT INSTRUMENTS

Revised: 2021/07/26

Certificate of Calibration

Method 30B Pre-Test Console Pulse Calibration - Liters (L)

UUT Meter Console Information

Model #: XC-260-A
Serial #: 1206020
DGM Model #: SK25EX
DGM Serial #: 20216834 A

Calibration Conditions

	Day 1	Day 2
Bar. Pressure (in Hg):	29.96	30.01
Ambient Temp (°F):	79.8	77.7
Relative Humidity (%):	54	55
Altitude (ft):	414.0	414.0
Corr. Bar. Pressure (in Hg):	29.55	29.60

Factors/Conversions

Std Temp (K): 293.15
Std Press (mm Hg): 760.0
K_1 (K/mm Hg): 0.3857

Reference Equipment

WTM Model: W-NKoDa-1A
WTM Cal. Due Date: Aug. 2021
WTM Thermometer: Hg
WTM Serial: 544380
Gamma: 0.9992

Side A

			UUT Meter (DGM)						Reference Meter (WTM)					
	Run Time (minutes)	Rotameter Setting	Pulse Count			Meter Temperature (°F)		Meter Pressure ($mm H_2O$)	Volume (L)			Outlet Temperature (°C)		
			Initial	Final	Total	Initial	Final		Initial	Final	Total	Initial	Final	
	θ	R_s	C_{init}	C_{fin-i}	C_{total}	t_{mi}	t_{mf}	P_w	V_{wi}	V_{wf}	V_w	t_{wi}	t_{wf}	
Day 1	12	0.90	0	6665	6666	78.0	78.0	-0.50	26.849	38.645	11.796	27.0	26.8	
Day 1	14	0.75	6666	13165	6499	78.0	78.0	-0.50	38.645	50.195	11.550	26.8	26.8	
Day 1	18	0.60	13165	20149	6984	78.0	78.0	-0.50	50.195	62.541	12.346	26.8	26.8	
Day 1	24	0.45	20149	26610	6461	78.0	78.0	0.00	62.541	73.966	11.425	26.8	26.9	
Day 2	36	0.30	31234	37235	6001	74.0	76.0	0.00	82.220	92.859	10.639	25.2	25.4	

Standardized Data			Scaling Factor			Calibration Results	
Reference Meter		Test Meter	Volume Conversion			Correction Factor	
Std. Volume	Std. Flow Rate	Totalizer	Scaling Factor	Std. Volume	Flow Rate	Value	Variation
Vw_{std} (L)	Qw_{std} (L/min)	$counts_{std}$	Y_{sf}	Vm_{std} (L)	Qm_{std} (L/min)	Y	ΔY
11.371	0.948	6460	1.76E-03	11.382	0.949	0.9990	-0.001
11.137	0.796	6298	1.77E-03	11.097	0.793	1.0036	0.004
11.905	0.661	6768	1.76E-03	11.925	0.663	0.9983	-0.002
11.015	0.459	6261	1.76E-03	11.032	0.460	0.9985	-0.002
10.328	0.287	5858	1.76E-03	10.322	0.287	1.0006	0.001
			1.76E-03	= Avg.		1.0000	= Y Avg.

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +-0.02.

Pass/Fail Result: Pass

Note: The Redlion totalizer scaling factor input value is determined by the desired decimal point position as set in the Redlion totalizer.

Decimal Point Setting: 3
Totalizer Input Value: 1.7619 cc/pulse

Technician: Tracy Wilson Signature: Date: July 27, 2021

The instruments listed and described on this certificate have been calibrated against standards traceable to the National Institute of Standards and Technology (N.I.S.T.) and in reference to EPA Method 30B.

Apex Instruments - Address: 204 Technology Park Ln., Fuquay-Varina, NC 27526 USA | Tel: (919) 557-7300 Web: www.apexinst.com

APEX SOURCE TESTING EQUIPMENT INSTRUMENTS

Revised: 2021/07/26

Certificate of Calibration

Method 30B Pre-Test Console Pulse Calibration - Liters (L)

UUT Meter Console Information

Model #:	XC-260-A
Serial #:	1206020
DGM Model #:	SK25EX
DGM Serial #:	20216841 B

Calibration Conditions

	Day 1	Day 2
Bar. Pressure (in Hg):	29.96	30.01
Ambient Temp (°F):	79.8	77.70
Relative Humidity (%):	54	55.00
Altitude (ft):	414.0	414.0
Corr. Bar. Pressure (in Hg):	29.55	29.60

Factors/Conversions

Std Temp (K):	293.15
Std Press (mm Hg):	760.0
K_1 (K/mm Hg):	0.3857

Reference Equipment

WTM Model:	W-NKDa-1A
WTM Cal. Due Date:	Aug. 2021
WTM Thermometer:	Traceable
WTM Serial:	540593
Gamma:	0.9993

Side B

	Run Time (minutes)	Rotameter Setting	UUT Meter (DGM) Pulse Count			UUT Meter (DGM) Meter Temperature (°F)		Meter Pressure (mm H_2O)	Reference Meter (WTM) Volume (L)			Reference Meter (WTM) Outlet Temperature (°C)	
			Initial	Final	Total	Initial	Final		Initial	Final	Total	Initial	Final
	θ	R_s	C_{init}	C_{final}	C_{total}	t_{mi}	t_{mf}	P_w	V_{wi}	V_{wf}	V_w	t_{wi}	t_{wf}
Day 1	12	0.90	0	6767	6767	77.0	77.0	-0.50	441.248	453.176	11.928	27.0	27.1
Day 1	14	0.75	6767	13512	6745	77.0	77.0	-0.50	453.176	465.063	11.887	27.1	27.1
Day 1	18	0.60	13512	20640	7128	77.0	78.0	-0.50	465.063	477.598	12.535	27.1	27.1
Day 1	24	0.45	20640	27117	6477	78.0	79.0	0.00	477.598	488.992	11.394	27.1	27.1
Day 2	36	0.30	31744	37870	6126	74.0	77.0	0.00	497.189	507.969	10.780	25.3	25.5

Standardized Data | **Scaling Factor** | **Calibration Results**

Reference Meter		Test Meter	Volume Conversion			Correction Factor	
Std. Volume	Std. Flow Rate	Totalizer	Scaling Factor	Std. Volume	Flow Rate	Value	Variation
Vw_{std} (L)	Qw_{std} (L/min)	$counts_{std}$	Y_{sf}	Vm_{std} (L)	Qm_{std} (L/min)	Y	ΔY
11.493	0.958	6570	1.75E-03	11.493	0.958	1.0000	0.000
11.452	0.818	6549	1.75E-03	11.455	0.818	0.9997	0.000
12.076	0.671	6914	1.75E-03	12.095	0.672	0.9985	-0.002
10.977	0.457	6271	1.75E-03	10.970	0.457	1.0007	0.001
10.463	0.291	5974	1.75E-03	10.451	0.290	1.0011	0.001
			1.75E-03	= Avg.		1.0000	= Y Avg.

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +-0.02.

Pass/Fail Result: Pass

Note: The Redlion totalizer scaling factor input value is determined by the desired decimal point position as set in the Redlion totalizer.

Decimal Point Setting: 3

Totalizer Input Value: 1.7493 cc/pulse

Technician: Tracy Wilson Signature: Date: July 27, 2021

The instruments listed and described on this certificate have been calibrated against standards traceable to the National Institute of Standards and Technology (N.I.S.T.) and in reference to EPA Method 30B.

Apex Instruments - Address: 204 Technology Park Ln., Fuquay-Varina, NC 27526 USA | Tel: (919) 557-7300 Web: www.apexinst.com

TRAILER 9

Calibration complies with ISO/IEC 17025, ANSI/NCSL Z540-1, and 9001

ACCREDITED
A2LA Certificate No. 1750.01
Calibration

Cert. No.: 4371-11567667

Traceable® Certificate of Calibration for Lollipop Thermometer

Manufactured for and distributed by : Traceable® Products 12554 Galveston Rd B230, Webster, TX 77598

Instrument Identification:

Model: 4371,90205-05 S/N: 200571515 Manufacturer: Control Company

Standards/Equipment:

Description	Serial Number	Due Date	NIST Traceable Reference
Thermistor Module	A27129	04 Feb 2021	1000451212
Temperature Calibration Bath	B16388		
Temperature Probe	5267	21 Feb 2021	C0220028
Temperature Calibration Bath	B3A444		
Thermistor Module	B96381	21 Aug 2021	1000457544
Temperature Probe	5398	04 Aug 2021	C0804051

Certificate Information:

Technician: 420 Procedure: CAL-03 Cal Date: 24 Sep 2020 Cal Due Date: 24 Sep 2022

Test Conditions: 46.08%RH 23.25°C 1012mBar

Calibration Data: (New Instrument)

Unit(s)	Nominal	As Found	In Tol	Nominal	As Left	In Tol	Min	Max	±U	TUR
°C	N.A.	N.A.		0.00	0.1	Y	-1	1	0.058	>4:1
°C	N.A.	N.A.		100.00	99.9	Y	99	101	0.058	>4:1

This certificate indicates Traceability to standards provided by (NIST) National Institute of Standards and Technology and/or a National Standards Laboratory.

A Test Uncertainty Ratio of at least 4:1 is maintained unless otherwise stated and is calculated using the expanded measurement uncertainty. Uncertainty evaluation includes the instrument under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement : (GUM). The uncertainty represents an expanded uncertainty using a coverage factor k=2 to approximate a 95% confidence level. In tolerance conditions are based on test results falling within specified limits with no reduction by the uncertainty of the measurement. The results contained herein relate only to the item calibrated. This certificate shall not be reproduced except in full, without written approval of Control Company.

Nominal=Standard's Reading; As Left=Instrument's Reading; In Tol=In Tolerance; Min/Max=Acceptance Range; ± U=Expanded Measurement Uncertainty; TUR=Test Uncertainty Ratio; Accuracy=±(Max-Min)/2; Min=As Left Nominal(Rounded) – Tolerance; Max= As Left Nominal(Rounded) + Tolerance;

Nicol Rodriguez

Nicol Rodriguez, Quality Manager

Marisa Elms

Marisa Elms, Technical Manager

Note :

Maintaining Accuracy:

In our opinion once calibrated your Lollipop Thermometer should maintain its accuracy. There is no exact way to determine how long calibration will be maintained. Lollipop Thermometer change little, if any at all, but can be affected by aging, temperature, shock, and contamination.

Recalibration:

For factory calibration and re-certification traceable to National Institute of Standards and Technology contact Control Company.

Issue Date : 24 Sep 2020

CONTROL COMPANY 12554 Galveston RD Suite B230 Webster TX USA 77598
Phone 281 482-1714 Fax 281 482-9448 sales@control3.com www.traceable.com

Control Company is an ISO/IEC 17025:2017 Calibration Laboratory Accredited by (A2LA) American Association for Laboratory Accreditation, Certificate No. 1750.01.
Control Company is ISO 9001:2015 Quality Certified by DNV GL, Certificate No. CERT-01805-2006-AQ-HOU-ANAB.
International Laboratory Accreditation Cooperation - Multilateral Recognition Arrangement (ILAC-MRA).

Traceable® is a registered trademark of Control Company
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Appendix D.3
Instrumental Test Method QA/QC Data

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Analyzer Configuration

Name:	O2 (OX-8)	CO2 (CD-9)						
Make/Model:								
25A or 7E:	7E	7E						
Voltage max:	10	10						
Voltage offset:	0	0						
Range:	25	25						
Upscale:								
Downscale:								

Cylinder Information

Zero Number:	CC338451	CC338451						
Zero Conc:	0	0						
Low Number:								
Low Conc:								
Mid Number:	CC503554	CC503554						
Mid Conc:	10.01	9.914						
High Number:	CC708782	CC708782						
High Conc:	23.07	22.74						
Bias Number:	CC503554	CC503554						
Bias Conc:	10.01	9.914						

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 120	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: False	Ports: N/A	Points per port: N/A	DAQ Device: DT9803(00)

Calibration

	Name:	O2 (OX-8)	CO2 (CD-9)						
	Make/Model:								
	25A or 7E:	7E	7E						

Cylinder Concentrations									
	Zero:	0.000	0.000						
	Low:								
	Mid:	10.01	9.914						
	High:	23.07	22.74						

Calibration Readings									
	Zero reading:	0.034	-0.018						
	Low reading:	0.000	0.000						
	Mid reading:	10.01	10.24						
	High reading:	22.97	22.75						

EPA Method 7E Error Calculations									
Zero %Err:	**<2.0**	0.147	-0.079						
Mid %Err:	**<2.0**	0.000	1.434						
High %Err:	**<2.0**	-0.433	0.044						

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 36	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 2	Points per port: 6	DAQ Device: DT9803(00)

Analyzer Configuration

Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
Make/Model:								
25A or 7E:	7E	7E	7E	7E	7E			
Voltage max:	10	10	10	10	10			
Voltage offset:	0	0	0	0	0			
Range:	25	25	100	100	1000			
Upscale:								
Downscale:								

Cylinder Information

Zero Number:	CC338451	CC338451	CC338451	CC338451	CC338451			
Zero Conc:	0	0	0	0	0			
Low Number:								
Low Conc:								
Mid Number:	CC503554	CC503554	EB0107526	EB0107526	CC147623			
Mid Conc:	10.01	9.914	55.56	55.78	471.4			
High Number:	CC708782	CC708782	EB0067562	EB0067562	EB0071267			
High Conc:	23.07	22.74	94.77	95.75	944.6			
Bias Number:	CC503554	CC503554	EB0107526	EB0107526	CC147623			
Bias Conc:	10.01	9.914	55.56	55.78	471.4			

MAQDAQ 1.0			
Project Name: Woodland Biomass	Project Number: 003071	CEMS Operator: R.Odell	Unit/Condition: Stack
Run Length: 36	Record Interval: 6	Average Interval: 60	Triplicate Sampling: False
Traverse: True	Ports: 2	Points per port: 6	DAQ Device: DT9803(00)

Calibration

	Name:	O2 (OX-8)	CO2 (CD-9)	CO-L (CO-6)	NOx (NO-8)	CO-H (CO-6)			
	Make/Model:								
	25A or 7E:	7E	7E	7E	7E	7E			

Cylinder Concentrations									
	Zero:	0.000	0.000	0.000	0.000	0.000			
	Low:								
	Mid:	10.01	9.914	55.56	55.78	471.4			
	High:	23.07	22.74	94.77	95.75	944.6			

Calibration Readings									
	Zero reading:	0.050	0.002	1.245	0.000	1.950			
	Low reading:	0.000	0.000	0.000	0.000	0.000			
	Mid reading:	10.04	10.23	56.31	55.96	465.8			
	High reading:	23.09	22.78	95.11	96.20	957.7			

EPA Method 7E Error Calculations									
Zero %Err:	**<2.0**	0.217	0.009	1.314	0.000	0.206			
Mid %Err:	**<2.0**	0.130	1.390	0.791	0.188	-0.593			
High %Err:	**<2.0**	0.087	0.176	0.359	0.470	1.387			

Airgas Specialty Gases
Airgas USA, LLC
525 North Industrial Loop Road
Tooele, UT 84074
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: CEM-CAL ZERO

Part Number:	NI CZ15A	Reference Number:	153-402213295-1
Cylinder Number:	EB0086823	Cylinder Volume:	142.0 CF
Laboratory:	124 - Tooele (SAP) - UT	Cylinder Pressure:	2000 PSIG
Analysis Date:	Sep 01, 2021	Valve Outlet:	580
Lot Number:	153-402213295-1		

Expiration Date: Sep 01, 2029

ANALYTICAL RESULTS

Component	Requested Purity		Certified Concentration
NITROGEN	99.9995 %		99.9995 %
CARBON DIOXIDE	< 1.0 PPM	<LDL	0.03 PPM
NOx	< 0.1 PPM	<LDL	0.02 PPM
SO2	< 0.1 PPM	<LDL	0.1 PPM
THC	< 0.1 PPM	<LDL	0.04 PPM
CARBON MONOXIDE	< 0.5 PPM	<LDL	0.03 PPM

Permanent Notes: Airgas certifies that the contents of this cylinder meet the requirements of 40 CFR 72.2

Impurities verified against analytical standards traceable to NIST by weight and/or analysis.

Signature on file
Approved for Release

Airgas Specialty Gases
Airgas USA LLC
525 North Industrial Loop Road
Tooele, UT 84074
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: EPA PROTOCOL STANDARD

Part Number:	E03NI80E15A0138	Reference Number:	153-402283923-1
Cylinder Number:	CC503554	Cylinder Volume:	150.9 CF
Laboratory:	124 - Tooele (SAP) - UT	Cylinder Pressure:	2015 PSIG
PGVP Number:	B72021	Valve Outlet:	590
Gas Code:	CO2,O2,BALN	Certification Date:	Nov 16, 2021

Expiration Date: Nov 16, 2029

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON DIOXIDE	10.00 %	9.914 %	G1	+/- 0.7% NIST Traceable	11/16/2021
OXYGEN	10.00 %	10.01 %	G1	+/- 1.0% NIST Traceable	11/16/2021
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	13060405	CC411744	7.489 % CARBON DIOXIDE/NITROGEN	0.6%	May 14, 2025
NTRM	98051010	SG9161286BAL	12.05 % OXYGEN/NITROGEN	0.7%	Dec 14, 2023

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Horiba VIA-510 SV4MEUTJ CO2	CO2 NDIR (Dixon)	Oct 28, 2021
Horiba MPA-510 W603MM58 O2	O2 Paramagnetic (Mason)	Nov 03, 2021

Triad Data Available Upon Request

Signature on file

Approved for Release

Airgas Specialty Gases
Airgas USA, LLC
525 North Industrial Loop Road
Tooele, UT 84074
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number:	E03NI54E15A3808	Reference Number:	153-402060139-1
Cylinder Number:	CC708782	Cylinder Volume:	162.7 CF
Laboratory:	124 - Tooele (SAP) - UT	Cylinder Pressure:	2015 PSIG
PGVP Number:	B72021	Valve Outlet:	590
Gas Code:	CO2,O2,BALN	Certification Date:	Mar 15, 2021

Expiration Date: Mar 15, 2029

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON DIOXIDE	23.00 %	22.74 %	G1	+/- 0.9% NIST Traceable	03/15/2021
OXYGEN	23.00 %	23.07 %	G1	+/- 0.3% NIST Traceable	03/15/2021
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	13060802	CC415397	24.04 % CARBON DIOXIDE/NITROGEN	0.6%	Dec 11, 2025
NTRM	12062008	CC367433	22.883 % OXYGEN/NITROGEN	0.2%	May 14, 2024

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Horiba VIA-510 SV4MEUTJ CO2	CO2 NDIR (Dixon)	Feb 25, 2021
Horiba MPA-510 W603MM58 O2	O2 Paramagnetic (Mason)	Feb 18, 2021

Triad Data Available Upon Request

Signature on file

Approved for Release

Airgas Specialty Gases
Airgas USA, LLC
525 North Industrial Loop Road
Tooele, UT 84074
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number:	E03NI99E15A0980	Reference Number:	153-402220286-1
Cylinder Number:	EB0107526	Cylinder Volume:	144.3 CF
Laboratory:	124 - Tooele (SAP) - UT	Cylinder Pressure:	2015 PSIG
PGVP Number:	B72021	Valve Outlet:	660
Gas Code:	CO,NO,NOX,BALN	Certification Date:	Sep 24, 2021

Expiration Date: Sep 24, 2029

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	55.00 PPM	55.78 PPM	G1	+/- 1.0% NIST Traceable	09/17/2021, 09/24/2021
CARBON MONOXIDE	55.00 PPM	55.56 PPM	G1	+/- 0.7% NIST Traceable	09/17/2021
NITRIC OXIDE	55.00 PPM	55.70 PPM	G1	+/- 1.0% NIST Traceable	09/17/2021, 09/24/2021
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12011236	KAL004576	49.24 PPM CARBON MONOXIDE/NITROGEN	0.6%	Aug 31, 2024
PRM	12386	D685025	9.91 PPM NITROGEN DIOXIDE/AIR	2.0%	Feb 20, 2020
NTRM	200611	CC707998	49.82 PPM NITRIC OXIDE/NITROGEN	1.0%	Feb 02, 2025
NTRM	20061042	CC733400	98.61 PPM NITRIC OXIDE/NITROGEN	0.9%	Oct 06, 2026
GMIS	401648675102	CC500959	5.074 PPM NITROGEN DIOXIDE/NITROGEN	2.1%	Feb 01, 2023

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet iS50 AUP2010228 CO LCO	FTIR	Aug 18, 2021
Nicolet iS50 AUP2010228 NO LNO	FTIR	Sep 01, 2021
Nicolet iS50 AUP2010228 NO2 impurity	FTIR NO2 impurity	Sep 01, 2021

Triad Data Available Upon Request

Signature on file

Approved for Release

Airgas Specialty Gases
Airgas USA LLC
525 North Industrial Loop Road
Tooele, UT 84074
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: EPA PROTOCOL STANDARD

Part Number:	E03NI99E15AC354	Reference Number:	153-402016174-1
Cylinder Number:	EB0067562	Cylinder Volume:	144.3 CF
Laboratory:	124 - Tooele (SAP) - UT	Cylinder Pressure:	2015 PSIG
PGVP Number:	B72021	Valve Outlet:	660
Gas Code:	CO,NO,NOX,BALN	Certification Date:	Feb 05, 2021

Expiration Date: Feb 05, 2029

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	95.00 PPM	95.75 PPM	G1	+/- 0.9% NIST Traceable	01/29/2021, 02/05/2021
CARBON MONOXIDE	95.00 PPM	94.77 PPM	G1	+/- 0.9% NIST Traceable	01/29/2021
NITRIC OXIDE	95.00 PPM	95.68 PPM	G1	+/- 0.9% NIST Traceable	01/29/2021, 02/05/2021
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	09010252	KAL004920	98.48 PPM CARBON MONOXIDE/NITROGEN	0.5%	Oct 16, 2024
PRM	12386	D685025	9.91 PPM NITROGEN DIOXIDE/AIR	2.0%	Feb 20, 2020
NTRM	13010403	KAL003411	97.6 PPM NITRIC OXIDE/NITROGEN	0.8%	Jul 23, 2025
GMIS	401203436105	CC513880	4.732 PPM NITROGEN DIOXIDE/NITROGEN	2.1%	May 02, 2022

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801550 CO LCO	FTIR	Jan 20, 2021
Nicolet 6700 AHR0801550 NO LNO	FTIR	Jan 27, 2021
Nicolet 6700 AHR0801550 NO2 impurity	FTIR NO2 impurity	Jan 28, 2021

Triad Data Available Upon Request

Signature on file

Approved for Release

Airgas Specialty Gases
Airgas USA, LLC
525 North Industrial Loop Road
Tooele, UT 84074
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number:	E02NI99E15A02S7	Reference Number:	153-400971976-1
Cylinder Number:	CC147623	Cylinder Volume:	144.3 CF
Laboratory:	124 - Tooele (SAP) - UT	Cylinder Pressure:	2015 PSIG
PGVP Number:	B72017	Valve Outlet:	350
Gas Code:	CO,BALN	Certification Date:	Aug 15, 2017

Expiration Date: Aug 15, 2025

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON MONOXIDE	470.0 PPM	471.4 PPM	G1	+/- 0.7% NIST Traceable	08/15/2017
NITROGEN	Balance			-	

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NRTM	15060557	CC454240	491.9 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6	Jan 08, 2021

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AMP0900119 CO MCO	FTIR	Aug 09, 2017

Triad Data Available Upon Request

Signature on file

Approved for Release

Airgas Specialty Gases
Airgas USA, LLC
525 North Industrial Loop Road
Tooele, UT 84074
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0305	Reference Number:	153-402073378-1
Cylinder Number:	EB0071267	Cylinder Volume:	144.4 CF
Laboratory:	124 - Tooele (SAP) - UT	Cylinder Pressure:	2015 PSIG
PGVP Number:	B72021	Valve Outlet:	350
Gas Code:	CO,BALN	Certification Date:	Mar 29, 2021

Expiration Date: Mar 29, 2029

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON MONOXIDE	950.0 PPM	944.6 PPM	G1	+/- 0.5% NIST Traceable	03/29/2021
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	09010357	KAL004691	970.0 PPM CARBON MONOXIDE/NITROGEN	0.4%	May 14, 2021

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Horiba VIA-510 46E0F8YY LCO	CO NDIR (Dixon)	Mar 19, 2021

Triad Data Available Upon Request

Signature on file

Approved for Release

Appendix D.4
Accreditation Information/Certifications

STACK TESTING ACCREDITATION COUNCIL

American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 11th day of February 2020.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 28, 2022

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

State of California

California Air Resources Board

Approved Independent Contractor

Montrose Air Quality Services, LLC

This is to certify that the company listed above has been approved by the California Air Resources Board to conduct compliance testing pursuant to California Code of Regulations, title 17, section 91207, through June 30, 2022, for those test methods listed below:

CARB Source Test Methods:
1, 2, 3, 4, 5, 6, 8, 17, 20
100 (CO, CO_2, NO_x, O_2, SO_2, THC)

Catherine Dunwoody, Chief
Monitoring and Laboratory Division

State of California

California Air Resources Board

Approved Independent Contractor

Montrose Air Quality Services, LLC

This is to certify that the company listed above has been approved by the California Air Resources Board to conduct compliance testing pursuant to California Code of Regulations, title 17, section 91207, through June 30, 2022, for those test methods listed below:

U.S. EPA Source Test Methods 201A, 202 and 205
Visible Emissions Evaluation

Catherine Dunwoody, Chief
Monitoring and Laboratory Division

SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

ROBERT M. ODELL

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

GASEOUS POLLUTANTS INSTRUMENTAL SAMPLING METHODS

ISSUED THIS 11TH DAY OF FEBRUARY 2017 AND EFFECTIVE UNTIL FEBRUARY 10TH, 2022

Peter R. Westlin, QSTI/QSTO Review Board

Peter S. Pakalnis, QSTI/QSTO Review Board

Theresa Lowe, QSTI/QSTO Review Board

J. Wade Bice, QSTI/QSTO Review Board

Karen D. Kajiya-Mills , QSTI/QSTO Review Board

Bruce Randall QSTI/QSTO Review Board

CERTIFICATE NO. 2012-642

SOURCE EVALUATION SOCIETY

Qualified Source Testing Individual

LET IT BE KNOWN THAT

ROBERT M. ODELL

HAS SUCCESSFULLY PASSED A COMPREHENSIVE EXAMINATION AND SATISFIED EXPERIENCE REQUIREMENTS IN ACCORDANCE WITH THE GUIDELINES ISSUED BY THE SES QUALIFIED SOURCE TEST INDIVIDUAL REVIEW BOARD FOR

MANUAL GAS VOLUME MEASUREMENTS AND ISOKINETIC PARTICULATE SAMPLING METHODS

ISSUED THIS 11TH DAY OF FEBRUARY 2017 AND EFFECTIVE UNTIL FEBRUARY 10TH, 2022

Peter R. Westlin, QSTI/QSTO Review Board

Peter S. Pakalnis, QSTI/QSTO Review Board

Theresa Lowe, QSTI/QSTO Review Board

J. Wade Bice, QSTI/QSTO Review Board

Karen D. Kajiya-Mills , QSTI/QSTO Review Board

Bruce Randall QSTI/QSTO Review Board

CERTIFICATE NO. 2012-642

Appendix D.5
Quality Assurance Program Summary and Equipment Calibration Schedule

QUALITY ASSURANCE PROGRAM SUMMARY AND CERTIFICATIONS

Montrose Air Quality Services, LLC (Montrose) ensures the quality and validity of its emission measurement and reporting procedures through a rigorous quality assurance (QA) program. The program is developed and administered by internal QA personnel and encompasses seven major areas:

1. Development and use of an internal QA manual
2. QA reviews of reports, laboratory work, and field testing
3. Equipment calibration and maintenance
4. Chain of custody
5. Continuous training
6. Knowledge of current test methods
7. Audit program

Each of these areas is discussed individually below.

Quality Assurance Manual. Montrose has prepared a QA Manual according to EPA guidelines and ASTM D-7036. The manual serves to document and formalize all of Montrose's QA efforts. The manual is constantly updated, and each employee involved in technical services for emission measurements is required to read, understand its contents, and sign a statement that all work they perform will conform to its practices. The manual includes details on the other seven QA areas discussed below.

QA Reviews. Montrose 's review procedure includes review of each source test report by the QA Manager or equivalent position including data input, calculations and averages, and report text. The laboratory manager or equivalent reviews all laboratory work, and the qualified individual on-site reviews all field work and data sheets.

The most important review is the one that takes place before a test program begins. The QA Manager works with testing personnel to prepare and review test protocols. Test protocol review includes selection of appropriate test procedures, evaluation of any interferences or other restrictions that might preclude use of standard test procedures, and evaluation and/or development of alternate procedures.

Equipment Calibration and Maintenance. The equipment used to conduct the emission measurements is maintained according to the manufacturer's instructions to ensure proper operation. In addition to the maintenance program, calibrations are carried out on each measurement device according to the schedule outlined below. The schedules for maintenance and calibrations are given in Tables A-1 and A-2.

Quality control checks are also conducted in the field for each test program. A partial list of checks made as part of each continuous analyzer system test series is included below as an example of the field QA procedures.

- Sample acquisition and conditioning system leak check
- 3-point analyzer calibrations (all analyzers)
- Complete system calibration check ("dynamic calibration" through entire sample system)

- Periodic analyzer calibration checks are conducted at the start and end of each test run. Any change between pre- and post-test readings are recorded.
- All calibrations are conducted using EPA Protocol gases certified by the manufacturer
- Calibration and continuous analyzer performance data are fully documented, and are included in each source test report

Chain of Custody. Montrose maintains full chain of custody documentation on all samples and data sheets. In addition to normal documentation of changes between field sample custodians, laboratory personnel, and field test personnel, Montrose documents every individual who handles any test component in the field (e.g., probe wash, impinger loading and recovery, filter loading and recovery, etc.).

Samples are stored in a locked area to which only laboratory personnel have access. Neither other Montrose employees nor cleaning crews have keys to this area.

Training. Personnel training is essential to ensure quality testing. Montrose has formal and informal training programs which may include some or all of the following:

1. Attendance at EPA-sponsored training courses
2. A requirement for all technicians to read, understand, and sign Montrose 's QA Manual
3. In-house training and Montrose meetings on a regular basis
4. Maintenance of training records
5. Administration of internal qualified individual (QI) tests for all methods performed
6. Participation in the Qualified Source Testing Individual (QSTI) program administered by the Source Evaluation Society (SES)

Knowledge of Current Test Methods. With the constant updating of standard test methods and the wide variety of emerging test methods, it is essential that any qualified source tester keep abreast of new developments. Montrose subscribes to services which provide updates on EPA reference methods, and on EPA and local agency rules and regulations. Additionally, source test personnel regularly attend and present papers at testing and emission-related seminars and conferences.

Audit Program. Montrose participates in the TNI Stationary Source Audit Sample (SSAS) audit program for all methods for which audit samples are available.

TABLE A-1
SAMPLING INSTRUMENTS AND
EQUIPMENT CALIBRATION SCHEDULE

Instrument Type	Frequency of Calibration[1]	Standard of Comparison or Method of Calibration	Acceptance Limits
Orifice Meter(large)	12 months	Calibrated dry test meter	± 2% of volume measured
Dry Gas Meter	6 months or when repaired	Calibrated dry test meter	± 2% of volume measured
Critical Orifice	6 months	Calibrated dry test meter	± 0.5% of average K’
S-Type Pitot (for use with EPA-type sampling train)	6 months	EPA Method 2	Geometric measurements within method-specified ranges
Vacuum Gauges	12 months	NIST-traceable gauge	≤ 1.0 in Hg difference
Temperature Measurement (thermocouples)	12 months	NBS mercury thermometer or NBS calibrated platinum RTD	±4 °F for <400 °F ± 1.5% for >400 °F
Temperature Readout Devices	6 months	Thermocouple simulator	± 2% full scale reading
Analytical Balance	12 months (check prior to each use)	NIST-traceable weights	± 0.5 mg of stated weight
Probe Nozzles	12 months	Nozzle diameter check	Range <± 0.10 mm for micrometer three measurements
Continuous Analyzers	Every field day, Depends upon use, frequency and performance	As specified by manufacturers’ operating manuals, EPA NBS gases and/or reference methods	Satisfy all limits specified in operating specifications

[1] The tabulated calibration frequencies are minimum standards. In certain instances, calibrations are performed more frequently.

TABLE A-2
EQUIPMENT MAINTENANCE SCHEDULE
Based on Manufacturer's Specifications and Montrose's Experience

Equipment	Performance Requirement	Maintenance Interval[2]	Corrective Action
Pumps	1. Absence of leaks 2. Ability to draw manufacturer required vacuum and flow	6 months	1. Visual inspection 2. Clean 3. Replace worn parts 4. Leak check
Flow Measuring Device	1. Free mechanical movement 2. Absence of malfunction	6 months	1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	1. Absence of malfunction 2. Proper response to zero, span gas	As required by the manufacturer	As recommended by manufacturer
Mobile Van Sampling Systems	Absence of leaks	Depends on nature of use	1. Change filters 2. Leak check 3. Check for system contamination
Sampling Lines	Sample degradation less than 2%	After each test or test series	Blow filtered air through line until dry

[2] The tabulated maintenance intervals are minimum standards. In certain instances, maintenance is performed more frequently.

APPENDIX E
REGULATORY INFORMATION

Appendix E.1
Permit Excerpts

Identification Number:	**P-105-90(t)**
Equipment Description:	330 MMBtu/hr Gotaverken circulating fluidized bed boiler (Model No. 722-118), total air fan (700 hp), primary air fan (400 hp), seal air blower (2 at 150 hp each), recirculating air fan (60 hp), induced draft fan (1,250 hp)
Control Equipment:	Baghouse, 6-cell, 342 bags/cell, 6" D x 168" L each, 156,500 acfm; 20,000 gallon ammonia tank, variable flow, for use in the Thermal De-NOx system; and limestone SOx control
Identification Number:	**P-12-11(a1)**
Equipment Description:	1,200 BHP (maximum) diesel fired IC engine, EPA Certified Tier IV Interim engine (minimum)
Control Equipment:	Various combinations of aftercooler, turbocharger, exhaust gas recirculation, oxidation catalyst, and selective catalytic reduction according to EPA Tier IV Interim or Tier IV Final certification
Identification Number:	**P-31-94(t)**
Equipment Description:	Screening of Bottom Boiler Sand for Reuse: One (1) 30 foot belt conveyor, 3 HP; one (1) Smico shaker screen, 1 HP; one (1) air separator with 10' belt conveyor, 1 HP
Control Equipment:	None
Identification Number:	**P-34-94(t)**
Equipment Description:	Rice Hull Receiving, Storage, and Shipping: Twenty (20) screw conveyors, 16" O.D. x 16' long, 5 HP each; one (1) screw conveyor, 30" O.D. x 17' long, 15 HP; one (1) Hance Corp. bucket elevator, 15 HP; one (1) screw conveyor, 24" diameter x 22' long, 7.5 HP; one (1) silo reclaimer screw conveyor, 50 HP; one (1) Hance Corp. bucket elevator, 7.5 HP; one (1) belt tube conveyor, 18" O.D. x 122' long; 15 HP; four (4) pneumatic boiler feed conveyors, 10" O.D. x 55' long, with four (4) blowers, 20 HP each; 30' x 80' concrete storage silo, ~200 tons capacity; four (4) rotary air locks, 1.5 HP each
Control Equipment:	MAC Equipment Company bag house, model 36 AV 59 with a 0.5 HP fan (530 CFM), serving the metering bin vent

Identification Number:	**P-50-94(t)**
Equipment Description:	Hydrated Lime Storage and Mixing: One (1) Metalfab, model DB 1 screw feeder, 0.75 HP; one (1) Lightin, model XJ 30 slurry mixer, 0.3 HP; two (2) Wilfley, model K Slurry Pumps, 3 HP each
Control Equipment:	Griffin Environmental Company bag house, model JV-24-6X, with a 2 HP fan (920 CFM)
Identification Number:	**P-51-94(t)**
Equipment Description:	Emergency Generator: 890 BHP diesel fired Caterpillar IC engine, Model No. 3412, Serial No. 81Z07888, Model year 1989, EPA Non-Certified Engine
Control Equipment:	None
Identification Number:	**P-52-94(t)**
Equipment Description:	Emergency Fire Pump: 185 BHP diesel fired Caterpillar IC engine, Model No.3208, Serial No. 90N71122, Model year 1989, EPA Non-Certified Engine
Control Equipment:	None
Identification Number:	**P-61-89(a1)**
Equipment Description:	Fuel Material Receiving, Processing, Grinding and Storage Operation (excluding rice hulls): One (1) 400 HP electric drive fuel grinder, two (2) 120 HP unloading truck tippers, one (1) 20 HP unloading truck tipper drag chain, one (1) 30 HP fuel stacking conveyor; one (1) 8 HP fuel stacking conveyor B, one (1) 40 HP fuel feed conveyor E, two (2) 20 HP each fuel reclaimers (primary and secondary), one (1) 15 HP boiler fuel feed conveyor C, two (2) 5 HP each disc type fuel sizing screens, one (1) 200 HP hog type wood sizing mill, one (1) 5 HP spike roller, one (1) 10 HP belt, one (1) 20 HP boiler feed conveyor D
Control Equipment:	Six (6) dust suppression sprays (at outlet chute of stacking conveyors A and B, discharge from secondary fuel reclaimer, fuel unloading tippers #1 and 2, and dust suppression truck), one (1) Mikro-Pulsaire baghouse 1130 CFM, Model #81S-8-40 C, serving the boiler surge bin; one (1) Mikro-Pulsaire baghouse 1200 CFM, Model #25S6-30 B, serving the hog tower

Identification Number:	**P-74-94(t)**
Equipment Description:	20,765 gallon/minute Hammon cooling tower, Model HUC-3448, with two (2) fans 125 HP each, air rate 2,776 klb/h
Control Equipment:	Mist eliminators for drift control
Identification Number:	**P-90-89(a1)**
Equipment Description:	Hydrated lime/sodium bicarbonate receiving and storage unit with injection system to boiler exhaust gas for SO2 and HCl control: One (1) bag unloader, one (1) rotary air lock, one (1) screw conveyor, and one (1) exhaust blower, 1500 CFM (or equivalent equipment). Total electric motor horsepower not to exceed 49 HP.
Control Equipment:	Fabric filters serving the bag unloader and screw conveyor
Identification Number:	**P-91-89(a2)**
Equipment Description:	Flyash out-loading and transfer system; transfer of ash from boiler baghouse to silo for loading to tractor trailers: Storage silo (3500 cubic feet storage capacity); Calcium Chloride Storage Tank (30,000 gallon); Rotary Valve; Drag Conveyor , and Centrifugal Pump
Control Equipment:	Ash/Water Mixer for out loading to tractor trailer (10 hp)
Identification Number:	**P-92-89(t)**
Equipment Description:	Clay/Limestone receiving and storage unit with injection system to boiler combustor: One (1) storage silo (1,230 cubic feet capacity) and one (1) pneumatic conveyor system to batch feed to boiler combustor
Control Equipment:	Baghouse serving storage silo
Identification Number:	**P-93-89(t)**
Equipment Description:	Sand receiving and storage unit with injection system for batch loading to boiler combustor: One (1) storage silo (1,230 cubic feet capacity) and one (1) pneumatic conveyor system to batch feed sand to boiler combustor
Control Equipment:	Baghouse serving storage silo

II. SPECIFIC UNIT REQUIREMENTS

A. Emission Limits

A.1 For the flyash out-loading system (P-91-89(a2)), the Permit Holder shall not discharge into the atmosphere from any equipment associated with this process any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:

a. As dark or darker in shade than No. 1/2 on the Ringelmann Chart; or

b. Equal to or greater than 10% opacity. [District Rule 3.1, §402 / C-17-28]

A.2 The VOC emissions from the boiler (P-105-90(t)) shall not exceed 420.0 lb/day, 37,800 lb/1st calendar quarter, 38,220 lb/2nd calendar quarter, 38,640 lb/3rd calendar quarter, 38,640 lb/4th calendar quarter, and 65.60 tons/year. [District Rule 3.4, §409.1/C-00-19]

A.3 The CO emissions from the boiler (P-105-90(t)) shall not exceed 1,188.0 lb/day, 106,920 lb/1st calendar quarter, 108,108 lb/2nd calendar quarter, 109,296 lb/3rd calendar quarter, 109,296 lb/4th calendar quarter, and 185.60 tons/year. [District Rule 3.4, §409.1/C-00-19]

A.4 The NOx emissions from the boiler (P-105-90(t)) shall not exceed 631.2 lb/day, 56,808 lb/1st calendar quarter, 57,439 lb/2nd calendar quarter, 58,070 lb/3rd calendar quarter, 58,070 lb/4th calendar quarter, and 98.60 tons/year. [District Rule 3.4, §409.1/C-00-19]

A.5 The SOx emissions from the boiler (P-105-90(t)) shall not exceed 316.8 lb/day, 28,512 lb/1st calendar quarter, 28,829 lb/2nd calendar quarter, 29,146 lb/3rd calendar quarter, 29,146 lb/4th calendar quarter, and 49.50 tons/year. [District Rule 3.4, §409.1/C-00-19]

A.6 The PM10 emissions from the boiler (P-105-90(t)) shall not exceed 172.8 lb/day, 15,552 lb/1st calendar quarter, 15,725 lb/2nd calendar quarter, 15,898 lb/3rd calendar quarter, 15,898 lb/4th calendar quarter, and 27.00 tons/year. [District Rule 3.4, §409.1/C-00-19]

A.7 Except during periods of start-up or shut-down, the permit holder shall operate the fluidized bed combustion system (P-105-90(t)) in a manner such that the exhaust stack emissions are less than the following values, as determined either by the average value of three one-hour source test runs and based upon the measured heat input during the source test runs, or as measured by the CEMS:

VOC (as methane)	0.05 lb/MMBtu;
CO	0.15 lb/MMBtu;
NOx (as NO_2)	0.08 lb/MMBtu;
SOx (as SO_2)	0.04 lb/MMBtu;
PM10 (front and back half)	0.010 gr/dscf (referenced to 12% CO_2);
PM10 (front half)	0.007 gr/dscf (referenced to 12% CO_2); and
Ammonia slip	50 parts per million by volume dry (ppmvd) [District Rule 3.4, §409.1/C-00-19].

A.8 Except during periods of start-up or shut-down, the permit holder shall operate the fluidized bed combustion system (P-105-90(t)) in a manner such that the exhaust stack emissions are less than the following values, as determined either by the average value of three one-hour source test runs, or as measured by the CEMS:

VOC (as methane)	17.5 lb/hr;
CO	49.5 lb/hr;
NOx (as NO_2)	26.3 lb/hr;
SOx (as SO_2)	13.2 lb/hr;
PM10 (front and back half)	7.2 lb/hr; and

PM10 (front half) 5.0 lb/hr. [District Rule 3.4, §409.1/C-00-19]

A.9 For the boiler (P-105-90(t)), for in-stack opacity purposes, except during periods of startup, shutdown, and malfunction, the source shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20% opacity (6-minute average), except for one 6-minute period per hour of not more than 27% opacity. [40 CFR 60.43b(f) and (g)]

A.10 For the boiler (P-105-90(t)), for visible opacity purposes, the Permit Holder shall not discharge into the atmosphere from any single source of emissions whatsoever, any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:

a. As dark or darker in shade than No. 1 on the Ringelmann Chart; or
b. Equal to or greater than 20% opacity. [District Rule2.3]

A.11 For the boiler (P-105-90(t)), at all times including periods of startup, shutdown, and malfunction, the Permit Holder shall operate the fluidized bed combustion system in a manner such that the exhaust stack emission are less than the following values, as determined by the CEMS system:

NOx (as NO2) 0.30 lb/MMBtu (30 day rolling average) [40 CFR 60.44b(d)]

A.12 For the boiler (P-105-90(a2)), HCl emissions shall not exceed a limit of 2.2E-02 lb/MMBtu heat input (or alternative output-based limit of 0.27 lb/MWh) except during periods of startup or shutdown. [40 CFR 63.7500(a)(1)]

A.13 For the boiler (P-105-90(a2)), mercury emissions shall not exceed a limit of 5.7E-06 lb/MMBtu heat input (or alternative output-based limit of 7.3E-05 lb/MWh) except during periods of startup or shutdown. [40 CFR 63.7500(a)(1)]

A.14 The PM10 emissions from the sand screening operation (P-31-94(t)) shall not exceed 2.6 lb/day, 234 lb/1st calendar quarter, 237 lb/2nd calendar quarter, 239 lb/3rd calendar quarter, 239 lb/4th calendar quarter, and 0.47 tons/year. [District Rule 3.4/C-94-85]

A.15 The PM10 emissions from the rice hull processing operation (P-34-94(t)) shall not exceed 6.4 lb/day, 576 lb/1st calendar quarter, 582 lb/2nd calendar quarter, 589 lb/3rd calendar quarter, 589 lb/4th calendar quarter, and 0.40 tons/year. [District Rule 3.4/P-34-94(t)]

A.16 The PM10 emissions from the hydrated lime storage and mixing operation (P-50-94(t)) shall not exceed 3.0 lb/day, 60 lb/1st calendar quarter, 60 lb/2nd calendar quarter, 60 lb/3rd calendar quarter, 60 lb/4th calendar quarter, and 0.03 tons/year. [District Rule 3.4/P-50-94(t)]

A.17 The VOC emissions from the emergency engine (P-51-94(t)) shall not exceed 47.1 lb/day, 393 lb/1st calendar quarter, 393 lb/2nd calendar quarter, 393 lb/3rd calendar quarter, 393 lb/4th calendar quarter, and 0.20 tons/year. [District Rule 3.4/P-51-94(t)]

A.18 The CO emissions from the emergency engine (P-51-94(t)) shall not exceed 108.0 lb/day, 900 lb/1st calendar quarter, 900 lb/2nd calendar quarter, 900 lb/3rd calendar quarter, 900 lb/4th calendar quarter, and 0.45 tons/year. [District Rule 3.4/P-51-94(t)]

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If you have any questions, please contact one of the following individuals by email or phone.

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Region: West
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Name: Max Jakovleski
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Facility Name: Woodland Biomass Power, LLC

Facility ARB ID: 101493
Facility Reporting Year: 2021

Confidential Data Indication Set to "No" by Reporter

Certification Statement:

The designated representative or alternate designated representative must sign (i.e., agree to) this certification statement. If you are an agent and you click on "SUBMIT", you are not agreeing to the certification statement, but are submitting the certification statement on behalf of the designated representative or alternate designated representative who is agreeing to the certification statement. An agent is only authorized to make the electronic submission on behalf of the designated representative, not to sign (i.e., agree to) the certification statement.

Facility Representatives

Designated Representative:	Scott Klipa
Agent:	Mary Nydam
Agent:	Dioni Araza

Facility Location

Physical Address:	1786 E Kentucky Ave
City:	Woodland
State / Province:	CA
ZIP / Postal Code:	95776
Country:	USA
Latitude:	38.691
Longitude:	-121.738
County:	YOLO
Air Basin:	SACRAMENTO VALLEY
District:	YOLO/SOLANO AQMD
Mailing Address:	P.O.Box 1560
City:	Woodland
State / Province:	CA
ZIP / Postal Code:	95776
Country:	USA

Payment Information (required if subject to AB 32 Cost of Implementation Fee Regulation)

Responsible Party for Payment:	Yvonne Ackley
Responsible Party Email:	yvonne.ackley@dteenergy.com
Responsible Party Phone:	530-661-6095
Billing Address:	PO Box 1560
City:	Woodland
State / Province:	CA
ZIP / Postal Code:	95776
Country:	USA

Owners / Operators

Name: DTE Energy Services

Facility or Entity Total GHG Emissions Summary

CO2 equivalent emissions, excluding biogenic (subparts C – AA):	1,171.634471 Metric Tons
Exempt biogenic CO2 emissions (subparts C – AA):	49,741.493693 Metric Tons
CO2 equivalent emissions from fuel supplier categories, excluding biogenic (subparts MM – NN):	0 Metric Tons
Exempt biogenic CO2 emissions from fuel supplier categories (subparts MM – NN):	0 Metric Tons
CO2 emissions from CO2 Suppliers (excluding biogenic) (subpart PP):	0 Metric Tons
Exempt biogenic CO2 emissions from CO2 Suppliers (subpart PP):	0 Metric Tons
CO2 equivalent emissions from electric power entities:	0 Metric Tons
Covered CO2 equivalent emissions:	**1,171.634471 Metric Tons**
De Minimis CO2 equivalent emissions:	0 Metric Tons
Maximum allowable De Minimis emissions:	1,527.393845 Metric Tons

General Facility Reporting Information

NAICS Codes

Primary:	221117 (Biomass Electric Power Generation)
Second Primary:	
Additional:	

U.S. Parent Companies

Parent Company Name:	DTE Energy Services
Address:	414 S Main St, Ann Arbor, MI 48104
Percentage of Ownership Interest:	100%

GHG Report Start Date:	2021-01-01
GHG Report End Date:	2021-12-31
Explanation of any calculation methodology changes during the reporting year:	

EPA e-GGRT Facility IDs

Full or Abbreviated GHG Report:	Full
Company or Entity qualifies for Small Business Status:	No

Electricity Purchases/Acquisitions for Reporting Facilities (95104(d))

Electricity Provider's Name:	Pacific Gas and Electric Company (PG&E)
Provider's ARB ID:	3002
Purchases/Acquisitions:	1,438.344 MWh

Natural Gas Purchases/Acquisitions for Reporting Facilities [95115(k), 95103(a)(1)]

Natural Gas Supplier Name:

Pacific Gas and Electric Company (PG&E) - Supplier of Natural Gas

Supplier's ARB ID: 104024

Customer Number:	4376764629-2
Purchases/Acquisitions:	3,644.2 MMBtu
Was this natural gas received directly from an interstate pipeline?	No
Do you grant CARB staff permission to share confidential annual natural gas fuel purchase data with your identified natural gas fuel supplier?	No

Cap-and-Trade Facilities: Increases and Decreases in Facility Emissions [95104(f)]:

For facilities subject to Cap-and-Trade requirements: Have total facility emissions increased or decreased more than 5% in relation to the previous data year? [Not applicable for fuel suppliers, CO2 suppliers, electric power entities, and abbreviated reporters.]	Yes
Provide a brief narrative description of what caused the increase or decrease in emissions. Include in this description any changes in your air permit status.	Facility operated Sep-Dec in 2021

Note: This section is not subject to the third-party verification requirements

Electricity Generation

Facility has the capacity to generate electricity:	Yes
CEC ID (if applicable):	E0105
EIA ID (if applicable):	10836
FERC QFID (if applicable):	06P022
CAISO ID (if applicable):	040109
Total Facility Nameplate Generating Capacity:	28 MW
Facility Type:	Stand-alone electricity generating facility
Facility's Energy Disposition:	Grid-dedicated facility

Disposition of Generated Electricity [95112(a)(4)]

Generated Electricity for Grid Disposition [95112(a)(4)(A)]

Unit, System Or Group Name	Woodland Biomass Power, LLC
Retail Provider/Marketer Name	Pacific Gas and Electric Company (PG&E)
Electricity Provided or Sold (MWh)	33,574

Generated electricity used for other on-site industrial processes that are not in support of or a part of the power generation system:	
Reported emissions include emissions from a cogeneration/bigeneration unit:	No
Parasitic Steam Use: Generated thermal energy used for supporting power production (excluding steam used directly for generating	

electricity) [95112(a)(5)(B)]:

Generated thermal energy for on-site industrial applications not related to electricity generation [95112(a)(5)(C)]:

Subpart C: General Stationary Fuel Combustion

Gas Information Details

Gas Name	**Gas Quantity** (Metric Tons)
Methane	15.087071
Exempt Biogenic Carbon dioxide	49,741.493693
Nitrous Oxide	1.980064
Carbon Dioxide	204.398584
Total CO2e	50,913.128164

Total Covered CO2e Emissions: 1,171.634471 (Metric Tons)

Emissions shown above that are claimed as De Minimis (CO2e): 0 Metric Tons

Unit Details

Unit Name: Boiler 1
Configuration Type: Single Unit Using Tiers 1, 2, or 3
Unit Type: CFB (Boiler, circulating fluidized bed)
Unit Description:
Individual Unit Details
Maximum Rated Heat Input Capacity: 330 mmBtu/hr

Electricity Generation Unit Information

Does this configuration have the capacity to generate electricity? Yes
Is this configuration a Part 75 unit? No
Nameplate Generating Capacity: 28 MW
Prime Mover Technology: Steam Turbine
Type of Thermal Energy Generation: Electricity only EGU
95112(b)(2): Gross Generation: 37,588 MWh
95112(b)(2): Net Generation: 33,574 MWh
95112(b)(3): Total Thermal Output (for Cogeneration or Bigeneration):
95112(b)(8): Other Steam Used for Electricity Generation:
95112(b)(8): Input Steam to the Steam Turbine (for bottoming cycle cogeneration units only)
95112(b)(8): Output of the Heat Recovery Steam Generator (for bottoming cycle cogeneration units only)
95112(e): Geothermal Steam

Utilized:
The source of geothermal generation:
95112(f): Stationary Hydrogen Fuel Cell: Fuel Type and Provider (if not reported elsewhere)
Additional Comments and Information

Emission Details: Configuration-Level Summary (User entered values)

Total exempt annual biogenic CO2 mass emissions (must equal the sum of calculated annual exempt biogenic CO2) (metric tons):	49,741.493693
Annual CO2 emissions from sorbent (metric tons):	11.1831

Fuel-Specific Emissions Information

Fuel:

Agricultural Waste - Biomass-Derived Fuels - Solid

Calculation Methodology:	Tier 2 (Equation C-2c, steam generation)
Methodology Start Date:	2015-01-01
Methodology End Date:	2021-12-31
Percentage of Fuel that is Biogenic:	100%
Frequency of HHV determinations:	

Fuel Emission Details

Total CO2 emissions:	26,806.210501 Metric Tons
Total CH4 emissions:	7.259023 Metric Tons
Total N2O emissions:	0.952747 Metric Tons
Total CH4 emissions CO2e:	181.475572 Metric Tons
Total N2O emissions CO2e:	283.918533 Metric Tons

Equation Inputs

Mass of steam generated by MSW or solid fuel combustion:	170,130,456.99 Pounds
Ratio of the boiler's max rated heat input capacity to its design rated steam output capacity:	0.001333 mmBtu/lb steam
Fuel Specific CO2 Emissions Factor:	118.17 kg CO2/MMBtu
Fuel Specific CH4 Emissions Factor:	0.032 kg CH4/MMBtu
Fuel Specific N2O Emissions Factor:	0.0042 kg N2O/MMBtu
Annual Mass or Volume of Fuel Combusted:	23,146.736 short tons

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
N	N	N	N	N	N	N	N	N	N	N	N

Fuel: **Natural Gas - Natural Gas**

Calculation Methodology:	Tier 1 (Equation C-1a, natural gas billing in therms)
Methodology Start Date:	2013-01-01
Methodology End Date:	2021-12-31
Percentage of Fuel that is Biogenic:	0%

Fuel Emission Details

Total CO2 emissions:	193.215484 Metric Tons
Total CH4 emissions:	0.003644 Metric Tons

Total N2O emissions:	0.000364 Metric Tons
Total CH4 emissions CO2e:	0.091105 Metric Tons
Total N2O emissions CO2e:	0.108597 Metric Tons

Equation Inputs

Annual Natural Gas Usage:	36,442 therms
Fuel Specific CO2 Emissions Factor:	53.02 kg CO2/MMBtu
Fuel Specific CH4 Emissions Factor:	0.001 kg CH4/MMBtu
Fuel Specific N2O Emissions Factor:	0.0001 kg N2O/MMBtu

Fuel:	**Urban Waste - Biomass-Derived Fuels - Solid**
Calculation Methodology:	Tier 2 (Equation C-2c, steam generation)
Methodology Start Date:	2015-01-01
Methodology End Date:	2021-12-31
Percentage of Fuel that is Biogenic:	100%
Frequency of HHV determinations:	

Fuel Emission Details

Total CO2 emissions:	22,935.283192 Metric Tons
Total CH4 emissions:	7.824404 Metric Tons
Total N2O emissions:	1.026953 Metric Tons
Total CH4 emissions CO2e:	195.610091 Metric Tons
Total N2O emissions CO2e:	306.031988 Metric Tons

Equation Inputs

Mass of steam generated by MSW or solid fuel combustion:	183,381,343.01 Pounds
Ratio of the boiler's max rated heat input capacity to its design rated steam output capacity:	0.001333 mmBtu/lb steam
Fuel Specific CO2 Emissions Factor:	93.8 kg CO2/MMBtu
Fuel Specific CH4 Emissions Factor:	0.032 kg CH4/MMBtu
Fuel Specific N2O Emissions Factor:	0.0042 kg N2O/MMBtu
Annual Mass or Volume of Fuel Combusted:	24,949.557 short tons

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
N	N	N	N	N	N	N	N	N	N	N	N

Time And Date Report Generated: 03/31/2022 13:08

2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-105-90(t)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
30 MW power production facility burning biomass and supplemental fuel	Justin S. Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530.661.6095	justin.crook@dteenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
VOC	ø	lbs	ø	lbs	368.17	lbs	144.73	lbs	512.90	lbs
CO	6	lbs	ø	lbs	21550.70	lbs	5361.90	lbs	26912.60	lbs
NOx	ø	lbs	ø	lbs	17382.10	lbs	17613.90	lbs	34996.00	lbs
SOx	ø	lbs	ø	lbs	724.80	lbs	308.40	lbs	1033.20	lbs
PM10	ø	lbs	ø	lbs	4076.16	lbs	4920.94	lbs	8997.10	lbs

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

- Please fill out the throughput form completely. The District will not accept throughput forms with blank spaces. If there was no throughput for a specific quarter, please indicate by entering "0" or "-" in the designated space.
- Please do not change the pre-populated throughput units. The units displayed here are tied to permitted throughputs and/or emission calculations. If you require assistance in converting units, please reach out to District staff at throughput@ysaqmd.org.

2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-12-11(a1)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
IC Engine, Diesel, Limited Use powering a portable wood grinder	Justin S Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530.661.6095	justin.crookedtreenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Engine Operation	0	**horsepower-hours**	0	**horsepower-hours**	0	**horsepower-hours**	0	**horsepower-hours**	0	**horsepower-hours**
Wood Processed	0	**tons**	0	**tons**	0	**tons**	0	**tons**	0	**tons**

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-31-94(t)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
Sand Screening	Justin S Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530. 661-6095	justin.crooke dteenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Sand	0	**Tons**	0	**Tons**	7.20	**Tons**	1.80	**Tons**	9.00	**Tons**

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-34-94(t)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
Rice Hull Receiving, Storage, and Shipping	Justin S Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530.661.6095	justin.crook@dteenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Receiving	Ø	**tons**	Ø	**tons**	Ø	**tons**	Ø	**tons**	Ø	**tons**
Metering and conveying	Ø	**tons**	Ø	**tons**	Ø	**tons**	Ø	**tons**	Ø	**tons**

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-50-94(t)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
Hydrated Lime Storage and Mixing	Justin S Crook	Justin Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530.661.6095	Justin.crook@dteenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Lime Loading	Ø	**tons**	Ø	**tons**	Ø	**tons**	Ø	**tons**	Ø	**tons**
Lime Blending	Ø	**tons**	Ø	**tons**	Ø	**tons**	Ø	**tons**	Ø	**tons**

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT - EMERGENCY ENGINE

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-51-94(t)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
IC Engine, Diesel, Emergency	Justin S Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530. 661. 6095	justin.crook@dteenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Testing/maintenance use	0.75	**Hours**	0.92	**Hours**	0.83	**Hours**	0.50	**Hours**	2.50	**Hours**
Emergency use	Ø	**Hours**	33.70	**Hours**	Ø	**Hours**	Ø	**Hours**	33.70	**Hours**
Total use	0.75	**Hours**	34.12	**Hours**	0.83	**Hours**	0.50	**Hours**	36.20	**Hours**

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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- Please do not change the pre-populated throughput units. The units displayed here are tied to permitted throughputs and/or emission calculations. If you require assistance in converting units, please reach out to District staff at throughput@ysaqmd.org.

2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT - EMERGENCY ENGINE

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-52-94(t)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
IC Engine, Diesel, Emergency Fire Pump	Justin S Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530.661.6095	Justin.crook@dteenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Testing/maintenance use	0.65	**Hours**	0.42	**Hours**	0.83	**Hours**	1.75	**Hours**	3.65	**Hours**
Emergency use	Ø	**Hours**	Ø	**Hours**	Ø	**Hours**	Ø	**Hours**	Ø	**Hours**
Total use	0.65	**Hours**	0.42	**Hours**	0.83	**Hours**	1.75	**Hours**	3.65	**Hours**

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	1786 East Kentucky Avenue, Woodland	P-61-89(a1)

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
Fuel material receiving, processing, and storage operation (excluding rice hulls)	Justin S Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530.661.6095	justin.crook@dteenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Fuel Handling (total fuel includes fuel grinding)	Ø	tons	Ø	tons	26622.82	tons	46821.19	tons	73444.01	tons
Fuel Grinding	Ø	tons	Ø	tons	Ø	tons	Ø	tons	Ø	tons

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-74-94(t)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
Cooling Tower	Justin S Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530.661.6095	justin.crook@dteenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Circulation Rate	0	**million gallons**	0	**million gallons**	878.36	**million gallons**	933.18	**million gallons**	1811.54	**million gallons**
Make-up Rate	0	**million gallons**	0	**million gallons**	1.94	**million gallons**	1.63	**million gallons**	3.57	**million gallons**

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-90-89(a1)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
Hydrated Lime Storage & Receiving	Justin S Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530.661.6095	justin.crooked teenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Hydrated Lime/Sodium Bicarbonate injection to baghouse	Ø	**tons**	Ø	**tons**	1.28	**tons**	Ø	**tons**	1.28	**tons**

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-91-89(a2)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
Fly Ash-Outloading	Justin S Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530. 661. 6095	Justin.crook@dteenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Flyash	Ø	**tons**	Ø	**tons**	1073.05	**tons**	1489.71	**tons**	2562.76	**tons**

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-92-89(t)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
Lime Handling Process	Justin S Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530.661.6095	Justin.crook@dteenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Clay/Limestone Handling	Ø	**tons**	Ø	**tons**	26.43	**tons**	Ø	**tons**	26.43	**tons**

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103, Davis CA 95618 (530) 757-3650
CALENDAR YEAR THROUGHPUT/PRODUCTION REPORT

1. COMPANY NAME LISTED ON PERMIT:	2. EQUIPMENT LOCATION:	3. PERMIT #:
Woodland Biomass Power Ltd.	**1786 East Kentucky Avenue, Woodland**	**P-93-89(t)**

4. PROCESS DESCRIPTION:	5. RESPONSIBLE PERSON NAME: (Print)	(Signature)
Sand Receiving & Storage	Justin S Crook	Justin S Crook

6. TITLE:	7. PHONE NUMBER:	8. EMAIL ADDRESS:
Plant Manager	530-661-6045	justin.crook@dteenergy.com

9. **Actual** Permitted Process Usage:

Type	1st Qtr (Jan-Mar)	Units	2nd Qtr (Apr-Jun)	Units	3rd Qtr (Jul-Sep)	Units	4th Qtr (Oct-Dec)	Units	Total Annual Product	Units
Sand Silo Fill Rate Batch Feed To Boiler	0	tons	0	tons	80.19	tons	134.21	tons	214.40	tons

THIS FORM IS DUE BY MARCH 31, 2022

EMAIL: THROUGHPUT@YSAQMD.ORG (PREFERRED) | FAX: (530)757-3670 | MAIL: 1947 Galileo Court, Suite 103; Davis, CA 95618

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YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103; Davis, CA 95618
Phone - (530)757-3650 Fax - (530)757-3670

BREAKDOWN FOLLOW-UP REPORT

This Breakdown Follow-up Report must be submitted subsequent to submitting an Initial Breakdown Report (Form 1015) and after corrections/repairs are completed.

See District Rule 5.2 for additional information/requirements

BREAKDOWN INFORMATION

Company: Woodland Biomass Power, LLC.

Address: 1786 E. Kentucky Ave. City Woodland

Name or person submitting this report: Mary Nydam Phone: 734-740-8152

Equipment involved: CEMS SO2 Analyzer Permit to Operate #: P-105-90(t)

CAUSE OF BREAKDOWN CONDITION

Flash lamp failure.

CORRECTIVE MEASURES TAKEN

Swapped sample line to heated umbilical.
Replaced flash tube,lamp and input board.

ESTIMATED EMISSIONS DURING BREAKDOWN CONDITION (not required for Phase II Vapor Recovery Systems)

None. Part 60 rules state CEMS it not out of control until five consecutive daily Calibration Drift checks are in excess of allowable limits. CEMS data shows SO2 under permitted limits.

Date Received: _____ Time: _____ [ ] AM [ ] PM Rec'd by _____ Ref'd to _____

District Use Only

I, Justin Crook (Print Name) hereby certify that the breakdown condition described above was corrected at 11 : 53 [X] AM [ ] PM on 12/27/ 21 and that the facility is now in compliance with Y-SAQMD Rules.

Justin S Crook (Signature) Date: 1/4/2022

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103; Davis, CA 95618
Phone - (530)757-3650 Fax - (530)757-3670

BREAKDOWN FOLLOW-UP REPORT

This Breakdown Follow-up Report must be submitted subsequent to submitting an Initial Breakdown Report (Form 1015) and after corrections/repairs are completed.

See District Rule 5.2 for additional information/requirements

BREAKDOWN INFORMATION

Company: Woodland Biomass Power, LLC.

Address: 1786 E. Kentucky Ave. City Woodland

Name or person submitting this report: Mary Nydam Phone: 734-740-8152

Equipment involved: CEMS SO2 Analyzer Permit to Operate #: P-105-90(t)

CAUSE OF BREAKDOWN CONDITION

Flash lamp failure.

CORRECTIVE MEASURES TAKEN

Swapped sample line to heated umbilical.
Replaced flash tube,lamp and input board.

ESTIMATED EMISSIONS DURING BREAKDOWN CONDITION (not required for Phase II Vapor Recovery Systems)

None. Part 60 rules state CEMS it not out of control until five consecutive daily Calibration Drift checks are in excess of allowable limits. CEMS data shows SO2 under permitted limits.

Date Received: _____ Time: _____ [ ] AM [ ] PM Rec'd by _____ Ref'd to _____

District Use Only

I, Justin Crook (Print Name) hereby certify that the breakdown condition described above was corrected at 7:29 [ ] AM [X] PM on 12/30/21 and that the facility is now in compliance with Y-SAQMD Rules.

Justin S Crook (Signature) Date: 1/4/2022

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103; Davis, CA 95618
Phone - (530)757-3650 Fax - (530)757-3670

BREAKDOWN FOLLOW-UP REPORT

This Breakdown Follow-up Report must be submitted subsequent to submitting an Initial Breakdown Report (Form 1015) and after corrections/repairs are completed.

See District Rule 5.2 for additional information/requirements

BREAKDOWN INFORMATION

Company: Woodland Biomass Power, LLC.

Address: 1786 E. Kentucky Ave. City Woodland

Name or person submitting this report: Mary Nydam Phone: 734-740-8152

Equipment involved: CEMS SO2 Analyzer Permit to Operate #: P-105-90(t)

CAUSE OF BREAKDOWN CONDITION

Flash lamp failure.

CORRECTIVE MEASURES TAKEN

Swapped sample line to heated umbilical.
Replaced flash tube,lamp and input board.

ESTIMATED EMISSIONS DURING BREAKDOWN CONDITION (not required for Phase II Vapor Recovery Systems)

None. Part 60 rules state CEMS it not out of control until five consecutive daily Calibration Drift checks are in excess of allowable limits. CEMS data shows SO2 under permitted limits.

Date Received: _____ Time: _____ [ ] AM [ ] PM Rec'd by _____ Ref'd to _____

District Use Only

I, Justin Crook (Print Name) hereby certify that the breakdown condition described above was corrected at 10:21 AM on 12/21/2021 and that the facility is now in compliance with Y-SAQMD Rules.

Justin S Crook (Signature) Date: 12/29/2021

YOLO-SOLANO AIR QUALITY MANAGEMENT DISTRICT
1947 Galileo Court, Suite 103; Davis, CA 95618
Phone - (530)757-3650 Fax - (530)757-3670

BREAKDOWN FOLLOW-UP REPORT

This Breakdown Follow-up Report must be submitted subsequent to submitting an Initial Breakdown Report (Form 1015) and after corrections/repairs are completed.

See District Rule 5.2 for additional information/requirements

BREAKDOWN INFORMATION

Company: Woodland Biomass Power, LLC

Address: 1786 E. Kentucky City Woodland

Name or person submitting this report: Mary Nydam Phone: (734)740-8152

Equipment involved: CEMS Analyzers Permit to Operate #: P-105-90(t)

CAUSE OF BREAKDOWN CONDITION

Suspected capillary and flash lamp failures.

CORRECTIVE MEASURES TAKEN

Replaced capillary and flash lamp. Adjusted pmt and lamp voltage
Cycled between calibration gas bottle and zero air, readings were stable. Ran daily calibration and passed.

ESTIMATED EMISSIONS DURING BREAKDOWN CONDITION (not required for Phase II Vapor Recovery Systems)

None. Part 60 rules state CEMS is not out of control until five consecutive daily Calibration Drift checks are in excess of allowable limits. CEMS data shows SO2 under permitted limits.

Date Received: _____ Time: _____ [ ] AM [ ] PM Rec'd by _____ Ref'd to _____

District Use Only

I, Justin Crook (Print Name) hereby certify that the breakdown condition described above was corrected at 10:21 AM on 12/21/2021 and that the facility is now in compliance with Y-SAQMD Rules.

Justin S Crook (Signature) Date: 12/29/2021

WOODLAND
Biomass Power Ltd.

January 10, 2022

Mr. Hernan Lopez-Aguilar
Air Quality Specialist
Yolo-Solano AQMD
1947 Galileo Court, Suite 103
Davis, CA 95616

RE: Woodland Biomass Power, LLC. Deviation Report

Mr. Lopez-Aguilar,

Please find a Deviation Report for the Q4 2021 Offsets attached and submitted on behalf of Woodland Biomass Power, Ltd. (WBP).

The following is a summary of the events that took place surrounding the Q4 2021 offsets:

- WBP Resource Recovery Specialist procured approximately 1600 tons of agricultural (ag) offsets (peach and walnut) from suppliers during Q4 2021.
- Approximately 1500 tons of forest material were procured from a new supplier in support of the facility's new contact. These tons were counted as forest offset fuel and used in the calculation of quarterly offsets.
- Due to the facility being in an extended outage, the amount of offset fuel needed was significantly less than a fully operational quarter. The amount of ag offsets and forest offsets procured were enough to cover the enter Q4 2021 VOC and PM10 emissions.
- After a review of the new supplier and location, it was identified late into the quarter, on December 27, 2021, that the new forest fuel supplier fell just outside of the Sacramento Valley Air Basin and that the 1500 tons of forest fuel could not count as offset fuel. It was at this point, WBP realized the facility was short of the projected Q4 2021 offsets.
- WBP Resource Recovery Specialist contacted ag suppliers to determine how much, if any, tons of ag could be brought to the facility before the end of the quarter. They found that either the tons were already slated for other facilities, the personnel was not available to deliver any tons to the facility due to the holiday weeks, and that the heavy rains over the previous weeks would make it hard to get the ag tons out of the fields within the last few days of the quarter.

- WBP Resource Recovery Specialist contacted a wheat straw supplier to purchase 500 tons of wheat straw offsets to cover the difference in the offset shortage. It was then determined that the tons could not be brought across the facility scales until after the end of the quarter.
- A Purchase Order was issued on December 30, 2021 for 500 tons of wheat straw offsets, showing that the offsets were paid for during Q4 2021.

After a review of the events, the following corrective actions have been identified:

- Utilize a published map showing Sacramento Valley Air Basin boundaries to determine offset procurement locations.
- Acquire additional ag suppliers for offset fuel procurement.
- Create an Administrative Instruction (AI) outlining the entire offset process, from fuel procurement to emission and offset tracking. This AI would identify roles and responsibilities for each step in the process and will clearly outline how offset fuel is determined and documented.

WBP is committed to maintaining compliance with all air permit conditions and believes these enhancements to the offset procurement and tracking process will ensure we meet all future quarterly offset requirements.

If you have any questions, please contact me at 209-573-5974, justin.crook@dteenergy.com or Mary Nydam at 734-740-8152, mary.nydam@dteenergy.com .

Thank you,

Justin Crook
Plant Manager

CC: Mary Nydam, DTE Energy Resources
Dioni Araza, Woodland Biomass Power
File

DEVIATION REPORT
(FORM 3.8-L)

DISTRICT: Yolo-Solano Air Quality Management District	▸ DISTRICT USE ONLY ◂ DISTRICT ID:
COMPANY NAME: Woodland Biomass Power, LTD	FACILITY NAME: Woodland Biomass Power, LTD.

I. DEVIATION INFORMATION

1. Permit number(s) of emission unit or control unit affected: P-105-91(t)

2. Description of deviation: Q4 2021 offsets were purchased but not all came across scales within the quarter.

3. Description and identification of permit condition(s) deviated: 45. The Permit Holder shall demonstrate on a continuous basis that there is a suitable mix of qualified biomass material to satisfy VOC and PM10 offset requirements and as necessary to offset other emissions as might be required by the APCO. (ATC C2148)

4. Associated equipment and equipment operation (if any): P-105-90(t) Circulating fluidized bed boiler

5. Date and time when deviation was discovered: 12/27/2021

6. Date, time and duration of deviation: 00:00 1/1/2022 - Estimated 00:00 1/20/2022

7. Probable cause of deviation: Discovered late into the quarter that new forestry source accounted in offset procurement did not come from Sacramento Valley Air Basin.

8. Preventive or corrective action taken: Purchased Wheat Straw offsets to make up difference. Creating Administrative Instruction to cover entire offset fuel procurement and tracking.

PG&E Gas and Electric
Advice Submittal List
General Order 96-B, Section IV

AT&T
Albion Power Company

Alta Power Group, LLC
Anderson & Poole

Atlas ReFuel
BART

Barkovich & Yap, Inc.
Braun Blaising Smith Wynne, P.C.
California Cotton Ginners & Growers Assn
California Energy Commission

California Hub for Energy Efficiency Financing

California Alternative Energy and Advanced Transportation Financing Authority
California Public Utilities Commission
Calpine

Cameron-Daniel, P.C.
Casner, Steve
Center for Biological Diversity

Chevron Pipeline and Power
City of Palo Alto

City of San Jose
Clean Power Research
Coast Economic Consulting
Commercial Energy
Crossborder Energy
Crown Road Energy, LLC
Davis Wright Tremaine LLP
Day Carter Murphy

Dept of General Services
Don Pickett & Associates, Inc.
Douglass & Liddell

East Bay Community Energy Ellison Schneider & Harris LLP
Engineers and Scientists of California

GenOn Energy, Inc.
Goodin, MacBride, Squeri, Schlotz & Ritchie
Green Power Institute
Hanna & Morton
ICF
International Power Technology

Intertie

Intestate Gas Services, Inc.
Kelly Group
Ken Bohn Consulting
Keyes & Fox LLP
Leviton Manufacturing Co., Inc.

Los Angeles County Integrated Waste Management Task Force
MRW & Associates
Manatt Phelps Phillips
Marin Energy Authority
McClintock IP
McKenzie & Associates

Modesto Irrigation District
NLine Energy, Inc.
NRG Solar

OnGrid Solar
Pacific Gas and Electric Company
Peninsula Clean Energy

Pioneer Community Energy

Public Advocates Office

Redwood Coast Energy Authority
Regulatory & Cogeneration Service, Inc.
SCD Energy Solutions
San Diego Gas & Electric Company

SPURR
San Francisco Water Power and Sewer
Sempra Utilities

Sierra Telephone Company, Inc.
Southern California Edison Company
Southern California Gas Company
Spark Energy
Sun Light & Power
Sunshine Design
Stoel Rives LLP

Tecogen, Inc.
TerraVerde Renewable Partners
Tiger Natural Gas, Inc.

TransCanada
Utility Cost Management
Utility Power Solutions
Water and Energy Consulting Wellhead Electric Company
Western Manufactured Housing Communities Association (WMA)
Yep Energy